

Presenting Pompeii: Steps towards Reconciling Conservation and Tourism at an Ancient Site

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Mass tourism can have many negative impacts on archaeological sites. As tourism increases, so does the need to actively manage these concerns. At the archaeological site of Pompeii this is particularly evident as tourism and its physical impact increase each year. This paper begins with a historical overview of the development of Pompeii as an archaeological site and heritage attraction and goes on to present the preliminary results of research into how presentation and interpretation can be used as a tool for site conservation and preservation at Pompeii. In 2011, extensive visitor observations and movement mapping were carried out to understand how visitor behaviours impact the site and how visitors move throughout the site. In depth interviews were also conducted with visitors to understand why they visit Pompeii and what they want from the experience. The results have provided a starting point for understanding how to develop a sustainable interpretation and presentation strategy that utilises the vast site more effectively and provides a better visitor experience.

Introduction

In November 2010, the archaeological site of Pompeii became the centre of international scrutiny after the collapse of the building the Schola Armaturarum (House of the Gladiators). The collapse has been tied to a variety of causes: unusually heavy rain fall, inadequate maintenance, and previous conservation work that is incompatible with the ancient material (UNESCO 2011). A number of smaller collapses followed, sparking an international discussion on the state of conservation at Pompeii and the management of the site, and illuminating the problems that have plagued all the Vesuvian sites throughout their long history. Due to

a lack of regular maintenance, extraordinary events such as the 2010 collapses have become more common (UNESCO 2011). The use of inappropriate materials in the past has made current conservation more challenging, and the severe lack of funds has made it difficult to carry out the work necessary to maintain the vast site (UNESCO 2011). Pompeii is one of the most popular archaeological sites in the world, and the site draws more and more visitors every year. During May 2012 Pompeii received more than 20,000 visitors in one day alone, making it clear that the problems with the site's conservation cannot be ignored (anon a 2012; anon b 2012).

Presentation and interpretation have always played a role in archaeological site management but are often considered secondary to conservation as the physical preservation of archaeological sites is at

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the core of site management (Castellanos and Descamps 2009; Cunliffe 2006; Demas 2002; Silberman and Callebaut 2006). The principal use of presentation is to communicate the history, values and significance of a site with its various audiences, but it can also help mitigate the negative impacts caused by visitors (Jones and Maurer Longstreath 2002). The relationship between tourism and conservation is, however, often antagonistic. Much of the decay caused by visitors comes from overcrowding and damaging behaviours, both intentional and unintentional, such as leaning on walls or bags rubbing against fragile frescoes in crowded areas. Many of these factors can be addressed with appropriate communication and visitor management, as well as improved presentation and interpretation of sites.

This paper presents the preliminary results of my PhD research investigating how presentation and interpretation can be used as a tool for the conservation and preservation of archaeological sites. Through an in-depth case study of Pompeii, I explore if it is possible to improve the visitor experience in a sustainable manner while mitigating negative impacts on the site. During the summer of 2011, I collected data on visitor habits through observation and interviews. Analysis of this data can help understand: 1) how Pompeii is currently used and experienced by visitors, 2) what is missing from the visitor experience, and 3) the relationship between the visitor experience and conservation of the site. By developing an understanding of the visitor-conservation relationship at Pompeii, I can identify a starting place for the creation of a presentation and interpretation strategy that preserves the site and utilizes its strengths.

The Making of Pompeii

Pompeii is one of the most well-known and well-studied archaeological sites in the world. However, in some ways this fame is also a curse. From the earliest excavations in the 18th century, Pompeii and Herculaneum have

been in the spotlight, and excavation and conservation decisions have been directly linked to the public perception and the presentation of the sites. While many past decisions regarding the presentation of the sites are criticized today, those decisions are still an important aspect of the sites' histories.

Pompeii is located in the Bay of Naples, a densely populated area in Southern Italy. While it is most commonly known for its destruction during the eruption of Vesuvius in 79 AD, prior to this tragedy the region had a long and rich history, which is evident in the archaeological evidence. There is still much debate about the age of the earliest settlement (see Beard 2008, 33), but it is generally accepted that Pompeii was founded by the Etruscans in the late seventh or early sixth century BC (Ling 2005, 34; Jashemski 2002b, 6, Beard 2008, 31-33). The Samnites ruled Pompeii from around the 5th century BC until the 3rd century BC, when Rome gained control of the region (Ling 2005, 35; Jashemski 2002b, 7). The Samnites built temples and monumental buildings in the city, as well as large, luxurious villas, including the House of the Faun, the House of the Sallust and others still present on-site (Amery and Curran 2011, 17, a 2005, 46). In 89 BC, the Roman general L. Cornelius Sulla successfully besieged the city, and afterwards Pompeii was settled as a veteran's colony called *Colonia Cornelia Veneria Pompeianorum*. At this time the city was embellished with key structures like the Amphitheatre, the Theatre complex, and an aqueduct that brought running water into the city through a complex system of lead pipes (Amery and Curran 2011, 18). Pompeii was not an important city in antiquity, and it is mentioned rarely in historical texts. One event that is noted is the devastating earthquake on 5 February 62 AD (Ling 2005, 88; Jashemski 2002b, 7). Archaeological evidence indicates that despite the earthquake damage, by the time of the eruption in 79 AD Pompeii was again a thriving city. An estimated 15,000 to 20,000 people lived within the city of Pompeii, but the population of the surrounding region is unknown.

The 62 AD earthquake may have been a sign that Vesuvius was re-awakening; Seneca reports that at the time of the earthquake, hundreds of sheep died on the slopes of Vesuvius, probably due to emission of volcanic gasses (Sigurdsson 2002, 35). Prior to the eruption the city experienced earthquakes increasing in size and frequency, and springs and wells dried up. It is unlikely, as commonly assumed, that the Pompeians were caught completely unaware, but it is unclear if they understood the magnitude of the warning signs. There is evidence that many people left the city before the eruption, but there is no doubt that the eruption was catastrophic in terms of destruction and loss of human life.

According to the letters of Pliny the Younger, the eruption began around noon on 24 August in 79 AD, although the exact date has come into question in recent years. As described by Pliny, the first stage consisted of a large eruptive column, which stretched nearly 27 km into the air (Wallace-Hadrill 2011, 26). For 18 to 20 hours, lapilli (pumice stones) and ash rained down on Pompeii and areas to the south, including Stabia and the Sorrentina peninsula. At Pompeii up to 15 cm of lapilli fell every hour, resulting in a total depth of 2.8 meters (Berry 2007, 25). As material began to accumulate the citizens of Pompeii faced danger from collapsing buildings and conditions would have been ominous. There would have been a cloud of material darkening the sky and loud rumblings from the volcano. Because of the winds, this stage of the eruption did not affect the inhabitants of Herculaneum. As a result, Herculaneum only received 20cm of lapilli, versus Pompeii where they received 15 cm an hour reaching the depth of 2.8 meters (Berry 2007, 25).

In the second stage of the eruption, the "glowing cloud" (*nuée ardente*) of hot gasses and volcanic material travelled down the volcano as pyroclastic flows and surges. It was these highly pressurized flows and surges that destroyed Herculaneum hours before

the destruction of Pompeii. These reached up to 500°C, and had horrific effects on the inhabitants; the skeletons found at Herculaneum showed deformation caused by the intense heat (Wallace-Hadrill 2011, 31-36). In total there were six pyroclastic surges and flows; the final three buried Pompeii. Including the lapilli and ash, the volcanic material covering the city reached a depth of approximately 1.8 meters in the northern sectors and up to 0.6 m in the south.

Pompeii and the Vesuvian sites are often thought of as time-capsules that remained untouched from their burial until their rediscovery and excavation in the 19th century, but in fact this is far from the truth. Immediately after the eruption, Emperor Titus implemented relief programs to rebuild the area, salvage material from the ruins, and provide financial assistance to the cities facing an influx of refugees (Ling 2005, 155). There is extensive evidence of Roman era "excavations" which are linked to both salvage efforts and early treasure hunters (Wallace-Hadrill 2011, 44). Tunnels crisscross houses and buildings in the city, some dating to as late as the fourth century AD (Ling 2005, 156). There is later mention of Pompeii and Herculaneum in documents from the 12th to 17th centuries, and from 1592-1600 a canal was built directly through Pompeii (Wallace-Hadrill 2011, 44-45). There is no way the canal builders could have missed the ruins as they dug, although it is not clear if they knew what city it was.

The past 250 years of excavation and conservation work at the Vesuvian sites has been directly linked to the presentation of the sites and their public image. Herculaneum and Pompeii were unique at the time of their rediscovery because they provided a direct and unprecedented look into the past. Previously, the public's perception of antiquity had been informed by museums and individual ruins, rather than complete, well-preserved cities. Official excavations began at Herculaneum in 1738 by the newly appointed King Charles of Bourbon (Berry

2007, 36-38). These early excavations were unscientific and focused on acquiring artefacts which would enhance the image and prestige of Charles's newly developed kingdom. Ten years later excavations began at Pompeii and were initially disappointing, as Pompeii had been pillaged throughout the years. At Pompeii, the Bourbons implemented a policy of leaving excavated buildings uncovered and open to the visitors (Wallace-Hadrill 2011, 156), and frescos and mosaics were left in situ. These decisions played a role in creating the open-air visitor attraction that Pompeii is today. Unfortunately, they were also the beginning of many of the site's conservation problems. Exposed to the elements, the site began to erode and exposed frescos faded quickly. Faded frescoes were often "freshened-up" for visitors by having water thrown on them and varnishes applied to protect them (Wallace-Hadrill 2011, 70). The early excavation records are minimal, making it difficult to know the state of the cities as they emerged and the extent of early reconstructions. Those first reconstructions were heavily influenced by the visions of artists and architects, and not by archaeological evidence (Wallace-Hadrill 2011, 73). Many of these reconstructions still stand today, and their history and presence is an important but often overlooked aspect of understanding the authenticity of the sites.

In 1863 Giuseppe Fiorelli became the director of the Vesuvian sites. In an attempt to make Pompeii easier to navigate, he introduced the "postal system" in which the city was divided into nine *Regio* (city regions), which were in turn divided into *Insula* (city blocks), and each doorway was assigned a numerical address (Ling 2005, 164). Houses and other properties were named to reflect the artefacts or paintings found inside. Fiorelli is best remembered for the plaster casts of voids left by decayed materials, including the famous human forms that have become synonymous with public image of Pompeii (Ling 2005, 165). The mid-nineteenth century also marked the beginnings of mass tourism at the city. In 1839, a

railway opened to transport visitors directly to the entrance of the site (Beard 2008, 23) and the first guide books were published. At first these books, such as Murray's *Handbook for Travellers in Southern Italy* (1853), were used only by the wealthy who had access to the site, but they grew more popular when Fiorelli opened the site to the public for the first time shortly thereafter (Berry 2007, 53). Visitors from across Italy and beyond were able to pay a fee to witness the excavations in person.

Amedeo Maiuri became the director of Pompeii and the Vesuvian sites in 1924, and the excavations at Pompeii benefited greatly from increased funding, state support, and a workforce that at times reached 500 persons. Under Maiuri's command, the workers completed extensive reconstructions in order to create a "living museum," an approach which, in theory, meant leaving items on display in situ and restoring the excavated buildings to their original style. However, many of his reconstructions were indeed false, largely due to his desire to tell a story and recreate the feel and spirit of the city, disregarding archaeological evidence and often relocating artefacts to displays far from where they were found (Wallace-Hadrill 2011, 74-80).

After World War Two, priorities for the management of Pompeii and the Vesuvian sites changed. It became evident that the sites faced numerous conservation problems, and continual maintenance that was no longer possible in post-war Italy. The emphasis in the latter half of the 20th century shifted to conservation and excavations slowed drastically. In 1980, a massive earthquake struck the region and damaged a large portion of the site. At this same time, the Italian government became a centralized system divided into smaller Ministries. The ministry that controls cultural heritage is currently *Il Ministero per i Beni Culturali e Ambientali* (The Ministry of Culture and the Environment [MiBAC]). Under the system administered by MiBAC cultural heritage, including archaeological sites, is managed by regional *Soprintendenza*. The *Soprintendenza*

Speciale per i Beni Archeologici di Napoli e Pompei (Special Superintendency of the Cultural Heritage of Naples and Pompeii [SANP]) manages the archaeological sites of Pompeii, Herculaneum and the surrounding Villas and, as of 2008, Naples and surrounding areas. The SANP is responsible for excavations, research and maintenance of the sites, in addition to providing assistance to new building and construction projects that uncover archaeological material (Zan 2003, 94). Larger decisions regarding financial and human resources are still controlled directly by MiBAC.

In 1997, Pompeii, Herculaneum and the Villas at Oplontis became UNESCO (United Nations Educational, Scientific and Cultural Organization) World Heritage Sites, further enhancing their international recognition and importance, and providing guidelines for the type of work that could be carried out on the sites and in the surrounding areas. In the advisory board evaluation, UNESCO flagged numerous problems requiring attention: staffing shortages, inadequately trained staff, and the lack of a management plan (UNESCO 1997). Pompeii has since been twice included on the World Monuments Heritage Watch List, and the increasingly poor state of conservation has led to a declaration of a State of Emergency by the Italian government. The aforementioned collapse of the Schola Armarum is only one in a series of conservation disasters troubling the site. In order to address the decaying state of conservation and rehabilitate the site, the Italian government has launched Il Grande Progetto Pompeii (The Grand Plan for Pompeii). Officially implemented on April 2012, this 105 million Euro plan aims to address a number of the key concerns at the site, including conservation and restoration of a number of areas. It is unclear how successful this plan has been so far, or what the long-term results will be (MiBAC 2012, SANP 2012).

Methods

The data presented in this paper was collected in three field sessions in April, July-August,

and November of 2011. Data was collected through a review of site-specific literature, observational studies, and interviews.

The literature review included studying various interpretation aids, guide and travel books, audio guides and on-site signs. Around fifteen guide and travel books were examined. I identified through preliminary observations the materials most commonly used by visitors. The themes covered in the interpretation were compared to the interview and observational data to establish how the site is currently being presented and experienced.

Observational studies were conducted using three primary methods: ethnographic observations, visitor movement tracking, and recording linger-time (how long visitors stayed or 'lingered' in a certain area or property). Ethnographic observations were documented using notes and photography. Visitor movement was tracked using GPS and Google Earth to show visitation patterns throughout the site. In total, 100 visitors (twenty visitors from five key intersections) were tracked for thirty minutes of their visit. This also allowed for close observation of visitor behaviours and experiences on-site. These results were recorded using shorthand notes at the end of the thirty minutes and were written up fully at a later stage. General observations of group composition, age and nationality were also recorded, as well as the use of guidebooks and maps. In order to establish how long visitors spent in certain properties and determine how busy properties became throughout the day, linger-time observations were carried out at eight properties for a total of five hours each, distributed throughout the day. These properties included both those that are heavily visited like the Fullonica di Stephanus (The Laundry of Stephaus), and those that are rarely visited like the Casa del Forno (The House of the Oven). During slow times, every visitor group that entered the properties were timed, and during peak times one in every five or ten groups were timed, including guided tours and large groups. Observations were also made of interpretation

aids and how they were used, as well as behavioural observations.

A series of semi-structured interviews were conducted with visitors at Pompeii in order to get an in-depth understanding of their motivations for visiting, their expectations of their visit, and their experiences while at the site. In total, 66 in-depth interviews were conducted on-site and in the local town. The visitors were chosen at random (although they were limited to English- and Italian-speaking visitors) and asked about their experiences while at Pompeii and their reasons for visiting. The interviews were recorded and later transcribed. Semi-structured interviews were also conducted with local tour guides, either through prior arrangement or on-site. To date, ten tour guide interviews have been conducted. The interviews with the tour guides were aimed at understanding how they developed their tours and the relationship between their tours and the conservation of the site. When possible, a guided tour by the same tour guide was observed as well to record both guide and visitor behaviours. Most of the guides interviewed preferred to

remain anonymous and are referred to by number to protect their identities.

Visiting Pompeii Today

In 2011, UNESCO and ICOMOS (International Council on Monuments and Sites) carried out a number of visits to Pompeii to assess the current situation. In the subsequent mission report, they highlighted six major conservation problems: ordinary decay, inadequate water management, damage from ultraviolet radiation, overgrown vegetation, incompatible conservation and restoration work from earlier generations, and visitor impacts (UNESCO 2011, 18-26). The visitor impacts at the Vesuvian sites are difficult to isolate and monitor as the SANP has no effective condition assessment or monitoring system in place at this time. The Herculaneum Conservation Project (HCP) was set up with support of the Packard Humanities Institute as a public-private venture aimed at supporting the SANP's conservation and preservation efforts at Herculaneum. The HCP has worked to document and understand the conservation problems, and their research finds that visi-



Fig. 1: Schematic map of Pompeii indicating areas presented to the public in the Soprintendenza Archeologica di Napoli e Pompei (SANP) interpretation aids, including the audio guide, in the official guide book, the Brief Guide, and on-site interpretation panels. It does not include sites named in outside guide books or other sources. Green indicates areas accessible to the public, yellow areas are occasionally accessible, and red are areas included in the interpretation but are not accessible to the public. White represents areas that are not included in the official SANP interpretation.

tor impacts primarily enhance decay that is already present, either through direct physical damage or by limiting the resources available for conservation work. The conservation problems are a vicious circle that results in closure of more areas each year, thereby concentrating the growing number of visitors in smaller areas and thus accelerating the rate of attrition. Furthermore, areas not open to the public tend to be neglected as the limited resources are diverted towards those areas accessible to visitors (Thompson 2007, 193). In the past forty years, the number of properties, roads, and areas accessible to the public at Vesuvian sites has decreased by 1/3 (see Figure 1 for a map of the current distribution of open and closed areas in Pompeii). As visitation to the Vesuvian sites increases and the available resources decrease, it is necessary to identify ways to mitigate the conservation needs in open areas in order to free up funds for the neglected areas.

Aids to interpretation

For visitors that are not a part of an excursion or bus tour, there are four main interpretation options available when visiting the site:

- using only the information provided with the purchase price (map, Brief Guide, signs and panels)
- using a guide book or travel book

- purchasing an audio guide
- joining a guided tour (either on-site or pre-booked before arrival)

Visitors who choose to visit the site with only the materials provided with the purchase of a ticket receive only limited information. The Brief Guide offers a short paragraph, photos of sixty-nine properties, and a glossary. There are interpretation and directional signs on-site which communicate information, but they are minimal and the map does not provide any additional information. Visitors can also use a range of guide and travel books to help them navigate the site, although the books vary in quality and quantity of information (Table 1). General travel books with sections on Pompeii tend to provide a small amount of information about the ‘must-see’ spots. Some include small maps while others, like the Rick Steve’s book (2010), can be complemented by an audio podcast. Observations made during this field work revealed that the most common travel books used were various editions of *Michelin Italy*, *Lonely Planet*, *Rick Steve’s*, *Rough Guide* and *Fodor’s*.

In general, the site-specific guide books provide detail about a larger number of properties, but many are not updated regularly and many of the properties in these books have never been open to the public. For example, the House of the Silver Wed-

Site-specific Guide Books: These are available to purchase on-site or at the outside vendors nearby the site entrances	General Travel Books: These contain sections on Pompeii
Pompeii: A guide to the Site (SANP, 2010) How to Visit Pompeii (2008) Pompeii: A day in the Past (2011) Pompeii Reconstructed (n.d) Pompeii, Herculaneum, Vesuvius (n.d) Pompeii: 2000 years ago and Today (n.d)	Rick Steve’s Italy (2011) Lonely Planet Italy (2010) Fodor’s Italy (2010) Frommer’s Italy (2010) Michelin Italy (2010) Eyewitness Travel- Naples and the Amalfi Coast (2009) Rough Guide Italy (2009)

Table 1: A list of the most common guide and travel books used by visitors to Pompeii. Many have multiple editions and the publication dates above represent the version analysed in this research.

ding appears in the Pompeii 2000 Years and Beyond and How to Visit Pompeii books, but is in a part of the site that is inaccessible to visitors (n.d; 70, 2010; 46). Also, while many of these books also provide a map, the names and numbers on the map do not always correspond to those on site. There was also much confusion due to the marble numbers put in by Fiorelli in the 1800's (Figure 2) and the translation of property names, as the names on properties are in Italian.

This was also a problem with the audio guide, as a number of visitors indicated difficulty following the numbers:

Visitor: The thing I found quite confusing [was] when you were first coming up the hill it wasn't clear what numbers corresponded to [the audio guide]. We saw quite a few people listening to the wrong ones.

The official audio guide is provided by the audio-media company D'Uva Workshop and directs visitors to a large number of locations on-site. It provides options to learn about other topics, such as history, architecture and art; it is available in a number of languages and there is even a version for children. It is more in-depth than many of the guide books or the Brief Guide and allows visitors to go at their own pace, but it is rarely updated and includes a number of properties that are not open to the public or that have changed due to conservation work.

Finally, guided tours are a common way for visitors to experience the site. These tours are formed at the entrances and are advertised as being to be limited to ten people, but in reality are often larger. A guided tour tends to be the most personal experience for visitors as it allows them to communicate with the guide and other visitors, asking questions and addressing specific topics that interest them. The tours last for about two hours and the material presented depends on the guide. All the guides are licensed by the *Regione Campania* but there is no regulation of the content, which means in some cases the guides

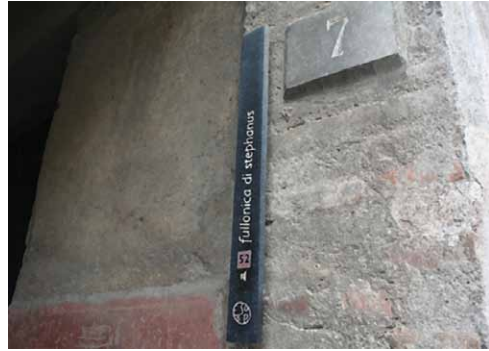


Fig. 2: Sign and numbering scheme by the SANP. The location corresponds to item 52 in the audio guide, but the earlier number 7 put in place by Fiorelli and his postal system is confusing to visitors.

provide information that is not necessarily true or based on legitimate sources.

Visitor movement

The current presentation and interpretation at Pompeii should, in theory, encourage visitors to visit all areas of the site (Figure 3). The on-site interpretation and recommended itineraries -including interpretation aids like the guide book, audio guide and Brief Guide (see above) - cover a large portion of the site, but actual visitor movement does not reflect this. Visitors often confine themselves to only a small portion of the site (Figure 4). As a result, there is excessive overcrowding in certain areas of the city, while others are overlooked and virtually empty. In order to determine where visitors spend their time while on-site, I tracked the movements of 100 visitors for 30 minutes using GPS. I chose five key locations to begin following visitor movements : the exit of the Forum to the North (location 1 in Figure 4), the intersection of Via Stabia of Via Abbondanza (2) going north, the intersection of the Forum and Via Abbondanza going east (3), the Theatre entrance (4), and Amphitheatre entrance (5). These points represent places where visitors must make a decision regarding where to go next. The tracking revealed a number of key areas with high, medium,



Fig. 3: GPS mapping of all on-site interpretation at Pompeii. Includes audio guide, guide book and recommended itineraries provided on the map, signs and interpretation panels.



Fig. 4: Visitor tracking data with start points indicated by red numbers. Purple indicates the routes taken by visitors from the exit of the Forum to the North (1), green from the intersection of Via Stabia of Via Abbondanza (2) going north, orange from the intersection of the Forum and Via Abbondanza going east (3), teal from the Theatre entrance (4) and yellow from the Amphitheatre entrance (5).

and low traffic patterns (Figure 5). Ethnographic observations made during the tracking process also included noting three additional pieces of information: a) what types of interpretation aids the visitors used, b) if they used the aids these to inform their decisions on where to visit, and c) possible causes

for various traffic patterns (e.g., whether visitors backtracked, followed other visitors, or were looking for specific places). It is not only important to see where there is overcrowding in Pompeii, but to understand why.

The visitor tracking and observational studies suggest two main causes for the over-



Fig. 5: Map of all visitor tracking data with regions of high, medium, and low visitor traffic. Locations 1-5 represent high visitor traffic, locations 6-10 experience medium visitor traffic, and 11-15 indicate low or no visitor traffic.

crowding at Pompeii. The first is that many of these properties are considered ‘must-see locations’ and are included in all types of visitor information and interpretation materials. Some of these properties, such as the Forum and the Theatre complex, are unique to Pompeii, as similar buildings at Herculaneum remain buried. Other properties, such as the domestic houses, the Follonicas (laundries) and the baths (Figure 6), are types of buildings that are common throughout the city. There are 515 houses in Pompeii, 93 of which contain substantial decorative elements, but only about seven are regularly open to visitors (UNESCO 2011, 33; this study), although a few houses have been reopened since the completion of this field work.

Overcrowding could be lessened at the most popular buildings if the site offered alternatives, but opening new houses to the public requires funding and personnel. Visitors that are a part of guided tours and large tour groups go to the same open properties as individual visitors. Most guided tours last around two hours and consist of the highlights of Pompeii; for this reason most tours lead visitors along the same path through the site. In his survey of excursions guides,

Cevoli (2011) found similar results; his findings showed that the Forum area, the Theatre and the brothel are frequently visited by tour groups (Figure 7). When asked why they visit these specific places, the guides interviewed for this study replied with three main responses: 1) the popular locations are what visitors are interested in and expect to see; 2) the buildings represent the best examples or best-preserved of each type of property; 3) those buildings are open and available to visit. Most guides indicated they would diversify their tours if possible, and often the decision on where to go varies day to day, and not always by choice. Guide 3 said, “I never know what will be open. One day I visit a house and the next [day] I take a group there and it is closed. It’s always a mystery.” The guides sur-



Fig. 6: Visitor crowding in the Forum Baths.



Fig. 7: Large tour groups queuing up to visit the brothel.



Fig. 8: Not all conservation problems are due to overcrowding. Many of the closed areas suffer from neglect as resources are diverted to the open areas on-site. Mosaic floor in area 13 on Figure 5. Tesserae from mosaic are loose and the surface is rapidly decaying.

veyed by Cevoli indicated similar responses: that the choice for their itineraries was due to the expectations of first-time visitors and to the fact a number of properties and streets were closed.

Visitors who did not elect to take tours were just as mystified by the closures, and there was increased traffic around closed houses as visitors were not aware of closures. For example, visitors looking for the closed House of the Vettii and House of the Meander spent a significant amount of time creating higher traffic and crowding in those areas (areas 6 and 9 on Figure 5). These houses had been closed for a number of years (though

House of the Meander has since re-opened), and this could easily have been communicated through signage at the ticket office. However, whether a house is open or closed on any given day can vary. This is due to the limited number of custodi (on-site security), working on site at any given time and irregular shift patterns. As a result, certain houses, like the House of the Golden Cupids, which was open irregularly throughout this field work, can be open for only a few hours one day and none the next depending on the availability of on-site personnel.

Visitor behaviours and management

One of the main aspects visitors enjoyed about Pompeii was how open the site is and the ability to wander and explore on their own. Many were surprised by this, as they had not expected to be able to interact so closely with the ruins. In interviews, visitors noted how they particularly liked that it was not closed up like museums or at other sites. It is human nature to investigate using our senses, and the tactile link to the past provided by Pompeii is important to most visitors. But the physical interaction between visitors and the site has consequences on the conservation of fragile displays, such as the frescoes. One visitor indicated in an interview that she enjoyed being able to touch the walls and the frescoes, despite indicating that she knew she shouldn't:

Visitor: There were some you could just touch, and I know you're not supposed to but I did it. I'm a very touch-oriented person so it really brings it home [to] reach out and think about the life that painted this.

Individual visitor behaviours like this can have a negative impact on the site if not properly managed. The most common problematic behaviours observed were visitors sitting, standing or leaning on walls, either to rest or to get a better view or picture (Figures 10-12). Visitors were also observed splashing water on mosaics to "freshen them up,"

as recommended by the Fodor's guide book and numerous tour guides. Visitors were also frequently observed touching frescoes and walls, although this did not appear to be done maliciously. All of these behaviours can cause significant damage to the buildings and artwork in the city, but the enforcement of the rules and regulations is minimal. There are a maximum of twenty-three custodi on duty at any given time. During the field observations, the custodi were observed entering properties less than fifteen times, and their enforcement of regulations varied. For example, in the Follonica di Stephanus the custodi will tell visitors to watch their bags but will not advise visitors not to use a flash when photographing the frescoes.

At Pompeii, the freedom for visitors to interact tactilely with the sites is more a result of inadequate visitor management than of an intentionally engaging experience. However, there are ways to limit the negative behaviors while not losing any aspects of the visitor experience. Clear communication and enforcement of what can and cannot be touched is a key way of achieving this. This has been achieved to a minor extent at Herculaneum through the development of a multi-sensory itinerary aimed at the blind and deaf; the itinerary highlights ways of experiencing the site through the senses and objects people can touch, like certain stones or lapilli. This itinerary is only intended for disabled audiences but there no reason why it could not be used by the general visitor.

When part of a guided tour, visitor behaviours were monitored more closely. However, the extent of enforcement varied by guide. When asked, "What do you do to ensure that your tours don't have a negative impact on the conservation of the site?" the guides responded with different answers. Guide 1 stated that he made sure that visitors stayed out of closed off areas, while Guide 3 responded that he made sure that "if visitors liked their fingers, not to touch the frescoes." Most guides tended to enforce one aspect of the rules or another, but did not enforce the rules in their entirety.



Fig. 9: Overgrown vegetation and crumbling walls in an unvisited area of site (area 15 in Figure 5).



Fig. 10: Visitors resting in the shade-without clear communication, they are unaware of the impacts of their actions on the conservation of the site.

For example, Guide 3 said nothing to visitors sitting on the benches in the Forum baths or leaning on walls, and Guide 1 was observed touching walls and frescoes himself during his tour. All of the ten guides interviewed at this stage expressed a keen concern regarding the conservation of the site, but as a whole they did not appear to have a clear understanding of the

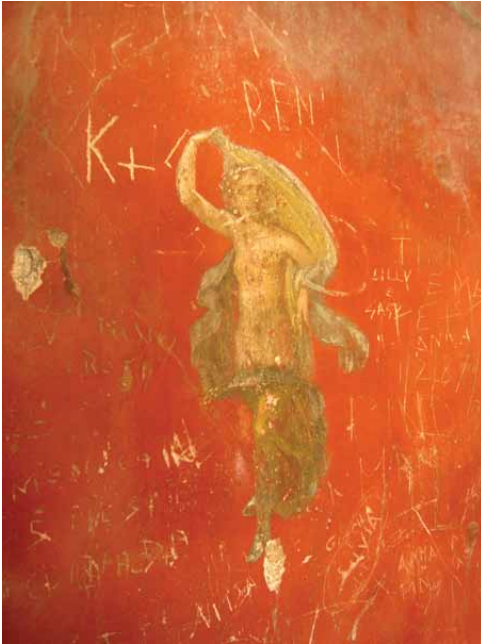


Fig. 11: Modern Graffiti on fresco in Folonica of Stephanus. Some visitor impacts are intentional and due to inadequate security.

specific impacts that certain actions have on the conservation. The interviews suggest two main reasons for this. The first is the varying levels of knowledge and interest of the guides, and the second is that there are no actual regulations regarding content of the tours or the behaviour of the guides. It is important to note that they guides are not employed by the SANP; they are independent contractors. In order to be approved to work on site they must be officiated by the Regione Campania. While this provides guidelines in terms of behaviors towards tourists and costs of tours, there are no regulations as to content. Because of this, the guides are free to choose how and what they communicate to the visitors and it is left up to the guides to decide what behaviour is acceptable. This is not necessarily the fault of the tour guide, as most of those interviewed for this research indicated that they would like to have more access to research and work going on at the site. In the aforementioned UNESCO mission report, this lack of control of the tour

guides and tour content is noted as well; UNESCO recommends that the service provided by guides be controlled by regular examination and that guides play a more active role in site surveillance (2011; 32).

The primary problems with current methods of visitor management at Pompeii are the lack of clear communication of what behaviour is acceptable and the lack of enforcement of the behavioural restrictions. Upon entry to the site, there is a small sign at each ticket window that lists the rules and regulations (n213 dated 22.01.01) for the site; the rules are also printed in the official Brief Guide when it is available. Few, if any, visitors take the time to read these regulations. The posted English translation of the regulations is as follows, with an asterisk indicating the regulations most relevant to visitor management and conservation:

Be extremely careful when moving around. Do not stand on the edge of digs or climb on walls.*

Please respect all entrance and access restrictions.*

Please show respectful behaviours; refraining from making unnecessary noise, writing on walls and littering. Please place garbage in the containers provided.*

Photographs and movie filming are authorized solely for private use, you must contact the Soprintendenza before filming with tripods, flash* and artificial lighting or for any commercial use.

Guides do not work for the Soprintendenza. They are official and authorized by the Regione Campania. They have to show their license under request.

Please store all bags, knapsacks, umbrellas and other bulky objects in the wardrobes.*

Smoking is not permitted.*

Pets are not allowed

For visitors with motor difficulties and heart problems are suggest to enter at Piazza Anfiteatro.

There is limited active visitor management at Pompeii. Visitors are kept out of certain buildings and areas by fences, barricades, and locked doors; these vary from the newer metal fences and gates to old wooden fences what are often falling apart. Inside the buildings, visitor movement is restricted by rope barriers, plastic tape or barricades. This mish-mash of barriers is often confusing to the visitor, as a broken gate can be interpreted as open or closed. Observations of visitor behavior in this research recorded that many visitors will move temporary barricades or step over ropes, and others will often follow. But in interviews, visitors repeatedly expressed curiosity about the closed buildings and wondered what was behind the gates. A few expressed a desire to go into the closed areas, and some even admitted that they had, particularly in areas where the gates were broken and it was unclear whether the area was closed or not. As one visitor said:

Visitor: There were broken barriers and you could go into it. And to be honest we did go into them. But there were footprints before, and you know that someone else had been in there. Not to mean that this makes it any better but if they were fixed you wouldn't go, you'd obviously know that was a no-go zone.

For the most part, visitors obeyed the barriers and accepted that certain parts of the site are closed. Some visitors interpreted the locked doors as a sign that excavation or conservation work was occurring, which helped bring the site to life:

Visitor: It's funny, for me, when I see the barricades and I saw some tarps on top of stuff, we were like, "Oh they are doing work, that's archaeologists in action," so for me there was this respect that there was something actually happening.



Fig. 12: Visitor standing on a wall in a closed off area to take a picture. Broken gates like this can leave a visitor unsure the area is open or closed.



Fig. 13: Visitors by the House of the Meander. The barricades in the foreground had been moved by the visitors to get access to the house, which was closed for restoration at the time of this photograph.

However, this same visitor goes on to say that had she known that were not necessarily locked for work, she would be disappointed:

Visitor: Where if I were to know that that was barricaded and there wasn't a purpose to that barricade, they are just barricading it for the hell of barricading it, I don't know if I'd be too happy with that.

To some visitors, the closed and broken gates also represented neglect and a lack of adequate maintenance:

Visitor: I think that they don't take good care of Pompeii. There is the feeling it can be much nicer. I would like to see people working, actually working there. It's nice when it's closed down to see that there is work in progress, instead of only a sign "work in progress," and you can see no work has been done months.

Visitor: Some of the sections were really well-preserved and well-presented and some were much more dilapidated than I expected. I think it's a fine balance between having this site as an ongoing archaeological dig and a tourist attraction and I don't think they have found that balance quite right. It didn't feel as though it was there. It did seem like it wasn't really cared for that much.

For these two visitors, this sense of neglect left them with unsatisfactory visits:

Visitor: It still doesn't have the wow factor that I had expected it to have.

Visitor: I think I was expecting to be in awe more than I was. I mean it was fascinating and really, really interesting, but I don't think I was as blown away as I was probably expecting.

There are a number of visitor management models and techniques, and one of the main approaches is to limit the number of visitors who can enter the site or certain areas of a site. For example, other World Heritage Sites such as Mesa Verde in the USA and the Alhambra in Spain require guided tours and special tickets for access to parts of the sites as a way of limiting visitor numbers in delicate areas. But these choices carry the risk of disappointing or angering large groups of visitors. In November 2011, due to extremely heavy rains, the SANP made the decision to not open Pompeii for the day. However, a number of tourists arrived as part of organ-



Fig. 14: Visitor crosses a rope barrier to take a picture of a mosaic. Behaviour like this could be lessened through active enforcement.



Fig. 15: Conservation work and the resulting barriers can have a negative impact on the visitors perceptions of the site if not properly explained.

ized tours, some having travelled a long way, and insisted on being let in. The SANP relented but was only able to open the site in the area of the Forum, and many visitors left disappointed. At a site as popular and well-known as Pompeii, limiting access to the site could potentially cause more problems than it solves.

Visitor Engagement

Observations conducted to establish visitor linger times revealed that, on average, visitors spend less than five minutes in a property. Many visitors were observed entering and leaving in less than a minute, particularly during peak times or when they were without interpretation aids. Levin-Richardson found similar behaviours at the brothel where visitors went through the property in an average of 30 seconds and thus were reliant interpretation aids for information (2011, 319). In the case of guided tours, visitors are often rushed through an area. In these situations the guide often continues to provide information while the group is walking to the next area. However, with non-guided visitors, the limited time spent in an area is a possible indicator that the current interpretation is failing to provide the information that visitor's desire and thus ineffectively engaging them while on-site. By diversifying the visitor experience and communicating and enforcing acceptable visitor behaviours, a number of the conservation problems at Pompeii could be reduced. However, for these changes to be implemented in a sustainable manner there must be a clear understanding of what visitors want and how to best engage their interest in the site. I conducted 66 in-depth, semi-structured interviews with visitors to Pompeii in the summer of 2011. My goal was to learn why they were visiting Pompeii and what they wanted from their experience at the site. Combined with the observations of visitor behaviour described in the previous section, the interview responses help determine how the site of Pompeii is currently used and experienced. When using presentation as a tool for communication, site managers have the ability to assist in creating engaged, mindful visitors by providing them with the tools to make decisions and be in control of their visit.

Visitors did not tend to be motivated by solely educational reasons. When asked why they visited Pompeii, interview subjects responded with the words know, learn and

understand. However, these were often coupled with more emotive and sensory words like experience, feel, visualize, see and touch.

Visitor: I have to see the rocks. I have to touch it. I can imagine... you know when you see it; it is just a heap of stones. You have to know the history to understand it. So that is one of the reasons. And I just wanted to know how it felt.

Visitor: Because it is an important historical site and I wanted to see the atmosphere here.

Visitor1: Historical place, we just want to know a bit more about the history.

Visitor2: For me it is also curiosity to know what it is to visualize an ancient village.

These sensory and emotive responses indicate that visitor motivations occur on multiple levels, both educational and a more personal, internal experience. This is not necessarily a surprise, as previous research has shown that visitors tend to have more personal and emotional reasons for visiting heritage sites (Timothy and Boyd 2003). Visitors to Pompeii expect the experience to be personal and the presentation and interpretation of the site needs to evoke this.

One of the key problems with the current presentation is that it does not provide these elements. The current interpretation materials provided by the SANP and other sources are heavy on technical and descriptive elements, but contain little information about the lives of Pompeii's citizens before the eruption. In the Brief Guide section on the Forum Baths, for example, the history and architecture of the building are discussed, but there is nothing about the social importance of baths in Ancient Rome (Figures 16 and 17). Visitors expressed a strong interest in daily life and social aspects of the city, particularly in the people who lived there and what they did. Multiple visitors commented in interviews that they wished for more in-

depth interpretation in the audio guide and in guide books:

Visitor: [on the content of the official audio guide] A day in the life sort of thing would be nice, a bit more personal. But it would be really hard to portray without making stuff up, so I guess it's factual.

Visitor: I just wish it went into the stories behind it, as well as the basics. The gist of what the places were used for.

Visitor: At one house it went into the family name or the history, but it didn't go into the house or how it was used or what they would have been doing, what they did in their lives. They can guess at that from the artefacts that they have found.

Visitors also pointed out the information provided in the guide books and audio guide was too technical and that they often didn't know what it was talking about. Additionally, signs on-site frequently use Latin terms without providing a translation. In this way, the interpretation risks distancing itself from the visitors and making the visitors 'mindless, feeling that they are no longer in control of their visit.

Visitor: [regarding on-site interpretation] It's really good but there is this assumption that you know what a portico is or even, the word fresco. When it starts describing the architecture of the buildings, I don't know the language. It would be helpful to have a guide about this or to simplify it.

Visitor: [on-site interpretation] There was an assumption that you know the history of the place or of these people, so it sort of picked up half way through. There is an assumed knowledge that you already have for when you are reading and it creates a sort of distance between you and the sign. It didn't read personal; it read quite distant and a little academic maybe.

Forum baths	
	<p>These were built after 80 BC, following the same layout as the larger Stabian Baths: on either side of the furnaces are the men's and women's sections, according to the sequence <i>apodyterium</i> (dressing room), <i>frigidarium</i> (cold bathing room), <i>tepidarium</i> (warm room), <i>caldarium</i> (hot room). The porticoed palaestra could be entered from Via del Foro or the dressing room of the men's section.</p> <p>The <i>tepidarium</i> was not heated using modern means, but by a large bronze brazier donated by M. Nigidio Vaccula. Telamones* separate the niches to hold unguents and bath items; stuccoes in relief (from the later restoration in 62 AD) decorated the vault with geometric partitions and mythological figures. Public baths were inexpensive and heavily used: bath time was apparently in the early afternoon.</p>
<p><i>This domus has a large atrium with four elegant tufa (volcanic stone) columns with Corinthian capitals. It takes its name from the presence in its various rooms of all four Pompeian painting styles – the only domus with this characteristic. The cubiculum (bedroom) on the left of the entrance presents decoration in First and Fourth Styles, with the details of a fringed cloth, while the cubiculum on the right side is decorated in Second Style. The other rooms are all decorated in Third Style.</i></p> <p><i>Here a tile with the graffito fulgur (lightning) was found. It was customary to cover objects struck by lightning as well as purifying the place by sacrificing a young sheep to appease Jupiter (god of lightning and thunder).</i></p>	

Figs. 16–17: Examples of on-site interpretation. From the Brief Guide for the Forum Baths, and an on-site panel from the House of the Four Styles. As you can see, the text is technical and does not provide detail about the daily life or society. It is also possible to see some of the issues with assumed knowledge that were discussed prior.

Many visitors understood that details about specific individuals could not be known, but were still interested in personal stories. Visitors also expressed interest in the development of the city and broader topics, such as social and civic life. Recent research at Pompeii and the Vesuvian sites has shed light on many aspects of the social functions of the region and its history, but current interpretation materials available at the site highlight the gap between this academic research and public knowledge.

Visitor interest in the daily life of Pompeii's citizens can be explained by the simi-

larities visitors found to modern cultures. For some, this was one of the most impressive and memorable elements of their experience; many expressed awe and surprise at how similar the Pompeians were to us. One visitor, who expressed that he was not particularly interested in the site, stated that this link to modern society is essential for a visitor like himself.

Visitor: Here, they don't think about that not everyone is interested in archaeology. But they might be interested in the courthouse, or something, because it relates to their work. It works real well if it's two-way traffic. If it reflects a bit about your life and reflects about their life. And this is one-way traffic. And I think that's okay for people who are interested in it but for [indicating himself], it doesn't work.

This is easier for visitors from western cultures who are likely already familiar with some aspects of Roman history and mythology, but it is more difficult for visitors from non-western backgrounds. Ilaria Tartaglia, a guide interviewed for this research, indicated that this was a particular issue with many Asian visitors, as they were completely unaware of Roman mythology and gods. In these cases she found that using the names of Roman Gods and mythological stories was ineffective at communicating the stories, and it was necessary to use more general descriptions. Tartaglia's experience underlines the problems that arise when interpretation assumes common knowledge of cultural information amongst the visitors. While some visitors from non-Western countries may not be familiar with Roman history and mythology, there are universal similarities in culture, religion, spirituality and other elements of life that can be used to make the site more accessible to a wide variety of visitors.

Visitors expressed that the high level of conservation at the site made it easier to visualize the past. They were amazed at how much of the site survived and said it felt like

walking around a real city. Interestingly, only a few visitors questioned how much of the city was original and how much was reconstructed. Some indicated they would like to know what work had been done on the site and how to tell the difference, while others accepted the site as original and expressed an appreciation for its authenticity. A number of visitors interviewed felt that on-site reconstructions would take away from the authenticity of the site, which is particularly interesting as a large portion of the ruins are, in fact, reconstructed in one manner or another. The Via Consolare project found that many of the standing structures in the area of their work had been reconstructed a number of times, during the original excavations and after the bomb damage from World War Two (Anderson *et al* 2012). However, due to the poor quality of early excavation reports, the full extent of earlier reconstructions is often unclear throughout the site.

There were, conversely, a number of visitors who felt that on-site reconstructions would be acceptable in certain situations and not negatively impact the value of the site or their experiences. For example, when the building is nothing but a shell, or if there are multiple of a similar type, like shops or houses, visitors felt more comfortable with the idea of reconstructions.

Visitor: One or two places that [are] reconstructed where you can get to see things as they are, I wouldn't think it would have much of a [negative] effect.

Visitor: Maybe it would [take away from the experience] because obviously it's a ruin and maybe you should leave it like that. But at the end of the day, it had like six spa rooms and if you kept five of the best ones and re-did one, it wouldn't lose much.

Visitor: Aren't they doing that already? Because I have looked into some buildings that are closed off and you can see they have new roofs?

Researcher: Those are primarily for protection and conservation.

Visitor: Because that would be interesting to know, if they had windows or such. A preserved building or a reconstructed building would be really fascinating to go in.

Researcher: Do you think that these reconstructions would take away from the feel of the site for you?

Visitor: Because it's such a big site, it's practical. I think one reconstruction would be nice because it helps people realise there were one or two more floors. When you get the really massive home with the pillars, to see a reconstruction of that would be amazing. And, at the end of the day, some of the stuff is reconstructed already, and people have jigsaw-puzzled it back together, so to take it one step further, I don't think it would diminish it.

This visitor's response highlights one of the key problems being investigated in this research: that decisions regarding conservation can be a form of presentation without intending to be. This visitor assumed that roofs were part of reconstructed houses; had she known that they were for conservation and not a form of interpretation, her initial perceptions may have been different.

Conclusions

At Pompeii, most of the decay from visitors comes from overcrowding and poor communication, both factors that can be addressed with appropriate management. This can be accomplished in a number of ways, but must include improvements to on-site interpretation panels as they are currently inadequate. On-site interpretation should aim to orientate, engage and inform the visitor of a range of themes while diversifying the visitor experience thematically and physically. Directional signs and more detailed maps can be used to orientate and

direct the visitor, while on-site panels can provide information on a variety of different topics. However, decisions regarding signs and other interpretation materials need to consider the varying backgrounds and expectations of visitors, as well as how any changes will affect the visitor experience. As visitor interviews show, the potential to "bring the past to life" is central to the value visitors hold in their experiences while at Pompeii. Thus, there needs to be further development of presentation aimed at "reconstructing" the past. This can be done through a variety of methods, including thematic interpretation about the daily and social lives of the Pompeians and the history and development of the city; these topics could be presented through panels, on-site reconstructions, visitor centres or digital reconstructions, to name just a few potential methods. The complexity of this issue is a key opportunity to engage in a multi-disciplinary discussion with archaeologists and conservation professionals.

For the presentation and interpretation plan to be sustainable, it needs to consider that Pompeii is an active archaeological site, not a "city frozen in time," and this status will always result in a level of decay. It is important to have a clear understanding of how the site is valued and to use that understanding to prioritise resources and make decisions regarding where to actively conserve or preserve, including consideration of the reconstructed or non-original aspects of the site. Earlier reconstructions and conservation efforts can be used to communicate how values are assessed, illustrate the decision-making process, and demonstrate the complexities of archaeological interpretation. The long history of conservation at the Vesuvian sites provides the ideal opportunity to present these topics in their natural setting. The organic nature of the site is often viewed as a negative, but the values associated with it provide an opportunity to communicate a broader scheme of topics and engage wider audiences.

The need for a more complex interpretation strategy at Pompeii, one that utilizes the site more effectively and communicates to the diverse audiences to the site, is clear. Strategic planning that considers visitor movement patterns and behaviours is a necessary step toward this goal. One straightforward but necessary priority is to establish a clear understanding of what are considered acceptable behaviours to reduce damage to the site and spread conservation awareness. This can be done through active and passive enforcement of visitor rules, as well as considering alternative presentation methods like multi-sensory tours. These decisions need to take into account the values of the research and the conservation communities, and clear choices must be made as to what is acceptable and how to communicate the decisions to all stakeholders, including custodi and tour guides, who are best positioned to enforce the regulations. To do this, there must be open communication between the different groups that work at Pompeii, including the research and conservation communities, the management, and those who work on-site. The responsibilities of both tour guides and custodi need to be clarified and more thorough training should be offered to these groups.

While this paper has focused on the visitors to Pompeii and their relationship with the conservation, future stages of this research will consider the wider range of stakeholders. Presentation and interpretation planning is a key component of holistic site management and is closely intertwined with many factors. The development of a holistic management strategy in which stakeholders and heritage professionals are involved in all components; conservation planning, interpretation strategies, maintenance, condition assessments and on-going research, is essential to sustainable management. Without this key integration, management planning has the potential to be short-term and non-sustainable, an issue that has troubled prior management and conservations schemes at the site.

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References

- Anderson, M, Weiss, C, Edwards, B, Gorman, M, Hobbs, R, Jackson, D, Keitel, V, Lutes-Koths, D, O'bryen, C, Pearson, S, Pitt, E and Tucker, A** 2012 Via Consolare Project 2007-2011 Field Seasons in Insula VII 6. *Journal of Fasti Online*. <http://www.fastionline.org/docs/FOLDER-it-2012-247.pdf> (accessed 12/04/2012).
- Anon a** 2012 Pompei, primo maggio record oltre 20mila visitatori agli scavi. *La Repubblica*. http://napoli.repubblica.it/cronaca/2012/05/02/news/pompei_primo_maggio_record_di_visitatori_agli_scavi-34326141/ (accessed 12/04/2012).
- Anon b** 2012 A Pompei, il primo maggio oltre 20mila visitatori agli scavi. *La Mattina*. <http://www.la-mattina.it/content/pompei-il-primo-maggio-oltre-20mila-visitatori-agli-scavi> (accessed 12/04/2012).
- Berry, J** 2007 *The Complete Pompeii*. London: Thames & Hudson.
- Cevoli, T** 2011 I Flussi Turisici Come Fattore di Degrado del Bene Archeologico. Il caso di Pompei: Dati, Problematiche e Prospettive. Diagnosis for the Conservation and Valorization of Cultural Heritage.
- Cleere, H** 2000 Introduction: The rationale of archaeological heritage management. In: Cleere, H. (ed.) *Archaeological Heritage Management in the Modern World*. London: Routledge. 1-17.
- Cunliffe, S** 2006 Tourism and Cultural Risk Management. In: Agnew, N and Bridgland, J (ed.) *Of the Past, For the Future: Integrating Archaeology and Conservation*. Los Angeles: Getty Conservation Institute, pp. 194-200.

- Demas, M** 2002 Planning for Conservation and Management of Archaeological Sites: A Values Based Approach. In: Plaumbo, J T (ed.) *Management Planning for Archaeological Sites*. Los Angeles: Getty Conservation Institute. pp. 27-56.
- Dierking, L** 1998 Interpretation as a Social Experience. In: Ballantyne, D U (ed.) *Contemporary Issues in Heritage and Environmental Interpretation: problems and prospects*. London: Stationary Office, pp. 56-76.
- Duke, P** 2007 *The Tourist's Gaze, the Cretan's Glance*. Walnut Creek: Left Coast Press Inc.
- Falk, J** and **Dierking, L** 1992 *The Museum Experience*. Washington D.C: Whalesback Books.
- Holtorf, C** 2010 Heritage Values in Contemporary Popular Culture. In: Smith, G, Messenger, P M and Soderland, H A (eds.) *Heritage Values in Contemporary Society*. Walnut Creek: Left Coast Press, pp. 43-54.
- Jashemski, W** 2002 The Vesuvian Sites Before A.D. 79. In: W Jashemski and F Meyer (eds), *The Natural History of Pompeii*. Cambridge: University Press, pp. 6-28.
- Jones, K** and **Maurer Longstreath, J** 2002 Pursuing the ZiNj strategy like there's no tomorrow. In: Little, B (ed.) *Public Benefits of Archaeology*. Gainesville: University Press of Florida, pp.187-194.
- Langer, E** 1997 *The Power of Mindful Learning*. Cambridge, MA: Da Capo Press.
- Lemayre, R** and **Stovel, H** 1994 "The Nara document on authenticity." World Heritage Convention, Nara, Japan.
- Levin-Richardson, S** 2011 Modern Tourists, Ancient Sexualities: Looking at Looking in Pompeii's Brothel and the Secret Cabinet. In: Hales, S and Paul, J (eds.) *Pompeii in the Public Imagination from its Rediscovery to Today*. Oxford: Oxford University Press. pp. 316-330.
- Ling, R** 2005 *Pompeii: History, Life and After-life*. Stroud: Tempus Publishing.
- Lipe, W** 2002 Public Benefits of Archaeological Research. In: Little, B (ed.) *Public Benefits of Archaeology*. Gainesville: University Press of Florida, pp. 20-28.
- Manente, M** and **Minghetti, V** 1998 Surveying Tourists and Visitor Itineraries. Paper presented at the 4th International Forum on Tourism Statistics. Copenhagen, 17-19 June 1998.
- Mayer, C C** and **Wallace, G N** 2007 Appropriate Levels of Restoration and Development at Copán Archaeological Park: Setting Attributes Affecting the Visitor Experience. *Journal of Ecotourism*. 6(2): 91-110, DOI: <http://dx.doi.org/10.2167/joe157.0>
- MiBAC** 2012 Official website of the Ministero per I Beni e le Attività Culturali. http://www.beniculturali.it/mibac/export/MiBAC/sito-MiBAC/MenuPrincipale/GrandiRestauri/Grande-Progetto-Pompeii/index.html_1731396277.html (accessed 12/04/2012).
- Moscardo, G** 1996 Mindful Visitors: Heritage and Tourism. *Annals of Tourism Research* 23(2):376-397, DOI: [http://dx.doi.org/10.1016/0160-7383\(95\)00068-2](http://dx.doi.org/10.1016/0160-7383(95)00068-2)
- Packer, J** 2008 Beyond learning: Exploring visitors' perceptions of the value and benefits of museum experiences. *Curator* 51:33-54, DOI: <http://dx.doi.org/10.1111/j.2151-6952.2008.tb00293.x>
- Russel, I** 2010 Heritage, Identities and Roots: A Critique of Arborescent Models of Heritage and Identity. In: Smith, G, Messenger, P M and Soderland, H A (eds.) *Heritage Values in Contemporary Society*. Walnut Creek: Left Coast Press, pp. 29-42.
- Sigurdsson, H** 2002 Mount Vesuvius before the Disaster. In: Jashemski, W and Meyer, F (eds.), *The Natural History of Pompeii*. Cambridge: Cambridge University Press, pp. 29-36.
- SANP** 2012 Official website of the Soprintendenza Archeologica di Napoli e Pompeii. <http://www.pompeisites.org/Sezione.jsp?titolo=Grande+Progetto+Pompeii&idSezione=354> (accessed 12/04/2012).
- Silberman, N** and **Callebaut, D** 2006 Interpretation as Preservation: Rationale, Tools, and Challenges. In: Bridgland, N A (ed.) *Of the Past, For the Future: Integrating Archaeology and Conservation*. Los Angeles: Getty Conservation Institute, pp. 43-46.

- Timothy, D** and **Boyd, S** 2003 *Heritage Tourism*. Harlow: Prentice Hall.
- Thompson, J** 2007 Conservation and management challenges in a public/private partnership for a large archaeological site (Herculaneum, Italy). *Conservation and Management of Archaeological Sites*, 8: 191-204.
- UNESCO** 2011 Report on the Mission to the Archaeological areas of Pompei, Herculaneum and Torre Annunziata. Paris. Available online <http://whc.unesco.org/en/list/829/documents/>
- Vignola, L** 2010 Un percorso multisensoriale negli scavi di Ercolano. Soprintendenza Speciale per i Beni Archeologici di Napoli e Pompei. Available online in Italian and French [http://pompeisites.org/Sezione.jsp?titolo=Il percorso multisensoriale&idSezione=1274](http://pompeisites.org/Sezione.jsp?titolo=Il%20percorso%20multisensoriale&idSezione=1274)
- Wallace-Hadrill, A** 2011 *Herculaneum: Past and Future*. London: Francis Lincoln in association with the Packard Humanities Institute.