

# herculaneum archaeology

the newsletter of the Friends of Herculaneum Society - Issue 22 Autumn 2017



Johann Joachim Winckelmann by Angelika Kauffmann, 1764. Kunsthau Zürich (available on Wikimedia Commons)

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# Getting Closer to the Holy Grail

Bob Fowler

Prof. Brent Seales of the University of Kentucky is well known to the Friends, having addressed the Society several times since 2005. During the past summer he has been in Oxford developing methods for unlocking the text of ancient carbonised books that are still rolled up—the Holy Grail of Herculaneum papyrology. In his Kentucky laboratory he has established that ordinary (as opposed to “phase-shifted”) X-ray computed tomography (CT) can distinguish carbon-based ink from carbon-based papyrus, if power settings are low (42 kilo-electron volts and 190 milliamps in one test). Where metal is present in sufficient quantities in the ink, as it is from late antiquity onwards, distinguishing it from the papyrus in CT is fairly straightforward. Such metal as has been found in Herculaneum ink (lead, specifically) does not have the necessary density to show up clearly in the scan, suggesting accidental contamination of some kind when the ink was mixed as opposed to deliberate use as an ingredient. At any rate, phase-shifted CT carried out on the papyri (a more refined version of ordinary CT, measuring changes in the qualities of the rays as they pass through the ink rather than the intensity of their absorption) has not as yet produced the kind of clear results obtained from the Ein Gedi scroll of the 6th century CE, whose ink contains metal (see *Science Advances* 21 September 2016, DOI: 10.1126/sciadv.1601247).

To achieve further progress Prof. Seales is applying the technique of “computer learning”. At bottom it is the same method by which your e-mailer “learns” how to distinguish spam from real mail. Some indicators are obvious, but the cleverer spammers leave those out. So you help the computer by telling it when such smart spam circumvents its filters. All the other users in your network are doing the same, and eventually, on the basis of millions of examples, the computer can separate the two with near-perfect success. The computer programming underlying this operation is a special branch of computer science.

To begin the process of educating the computer, modern mock-ups were used, with carbon-based ink on papyrus. Then at the Diamond Light Source synchrotron in Harwell, Oxfordshire, Prof. Seales took thousands of images of a tiny scrap of real Herculaneum papyrus on which was written one letter, a sigma (in “lunate” form, looking like and English “C”), with the oblique descendant of a second letter to the right. In this case, we already know what ink there is on the papyrus, so we can tell where the computer is getting it wrong, and help it learn better.

In the three images, you see first a photograph of the actual papyrus fragment; then a drawing of what a scan would look like if the computer distinguished ink from papyrus with perfect success; and finally, what actually emerged from the scanning. As you can see, the technique in its current state is producing many false positives (showing ink where there is none) and

and false negatives (black spots where they should be white). On the other hand, the image is clearly denser where there is ink, and the curvature of the sigma is well captured. The hit rate is about 60%, in fact, which is an impressive start. But 40% of “spam” is still getting through. To complete the computer’s education, a “reference library” is needed, as Prof. Seales calls it: like the millions of spam emails, we need millions of images of Herculaneum papyri, scanned at multiple settings in the synchrotron. Getting such incredibly fragile documents to Harwell presents obvious challenges and concerns for their custodians, but discussions are underway, in which the Society is playing a part. We hope for a successful outcome, enabling the next, vital stage in the hunt for the Grail. We will keep you posted.

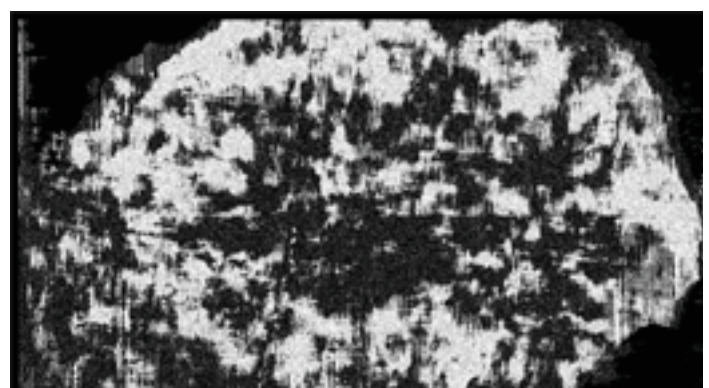
Actual papyrus fragment



A perfect result



Actual result of scanning



# News from the Herculaneum Archaeological Park

Sarah Court

As reported in the last newsletter, Herculaneum has entered into a new phase of its life as an autonomously-managed 'Archaeological Park' thanks to a series of reforms carried out by the Italian Ministry of Culture. Not only does this allow Herculaneum to be celebrated in its own right, with long overdue recognition that Herculaneum's heritage can figure on a world stage without Pompeii, but it means that there is finally a site director (Dr Francesco Sirano) who is dedicated only to Herculaneum and is taking decisions based on the needs of the site. For the team of the Herculaneum Conservation Project (HCP) who are operative on site all year round, but also for other partners, this means that there is now a public partner with a clear mandate and a growing team of focussed staff with whom to work.

Other good news is that we will soon see the first results on site of the €10 million assigned to the Archaeological Park in 2016 from national funding for development and cohesion. Essentially a gesture by the Ministry that sought to consolidate results achieved by HCP over the last 15 years, it has allowed conservation momentum to be kept up in a period of institutional transition for the public partner and of long-term strategic planning by the Packard Humanities Institute (the foundation behind HCP). HCP's planning input means a first portion of these funds will translate into: a) improvements already in 2017 to areas of the site that are open to visitors, and b) significant conservation work in 2018 in some of Herculaneum's most important houses, which we have previously been unable to work in, which will reinstate public access. This is the case of the House of Apollo Citaredo and the House of the Mosaic Atrium, among others. The focus will then shift to the Villa of the Papyri within the so-called New Excavation area where critical engineering issues will be addressed.

Alongside the conservation work, HCP continues to invest in initiatives that engage the public and raise awareness of Herculaneum's significance, with the aim of both increasing support for the site's long-term protection and ensuring that Herculaneum plays a meaningful role in society today. A recent example of this includes research into impacts of the Ministry's *#domenicalmuseo* initiative that provides free entry to state-managed sites once a month. Our research showed that local and regional visitors were inspired to visit, which is most encouraging, but it also indicated that more needs to be done to allow people to understand more fully and connect with this unique place. In addition, HCP supported the new site director with

the launch of a series of 'pop-up' exhibitions that will take place across site in celebration of the 90th anniversary of the launch of Amedeo Maiuri's excavation campaign and which have been designed with input by members of the public. The first installation can be found within the Bottega of the Plumbarius on the Decumanus Maximus, where original finds and some reproductions of large bronze finds revisit an early display by Amedeo Maiuri and aid the visitor in understanding how this workshop would have functioned in the Roman period.

**Sarah Court** is an archaeologist who has been working in Italy since 2000. She has been involved with the Herculaneum Conservation Project since 2003.



Visitors at the Bottega of the Plumbarius



Leaflet accompanying pop-up exhibition





## Ercolano:1927-1961.L'impresa archeologica di Amedeo Maiuri e l'esperimento della città museo.

A HCP publication with the Soprintendenza Pompei, distributed by L'Erma di Bretschneider:

<http://www.lerma.it/index.php?pg=SchedaTitolo&key=00013098>.

This volume is published in time to celebrate the 90th anniversary of the launch of excavations at Herculaneum by Amedeo Maiuri. Thanks to the Herculaneum Conservation Project which has been studying and conserving the archaeological site for over a decade, the authors have come into daily contact with the results of Maiuri's extraordinary legacy of excavation and restoration that he carried out from 1927 to 1961. His ambitious dream to uncover the ancient Roman city was fulfilled by organizing every step of site works from excavation to restoration efficiently, through to the on-site display of the most significant finds. In this way the site became a sort of open-air museum in which the artefacts were contextualised; not just works of ancient art but mainly those finds which illustrated daily life in the past. Unfortunately, over the years as visitor numbers increased so did the risk of theft and damage to the objects, leading over time to their removal to storerooms. Maiuri's innovative experiment to make Herculaneum an open-air museum was gradually forgotten.

The first part of the volume, by Domenico Camardo and Mario Notomista, follows the personal and professional life of Amedeo Maiuri, from his early experiences in Greece through to his return to Naples as superintendent, when he turned his attention to Herculaneum. There then follows a contribution by Paola Pesaresi who reconstructs how he organized his site works and discusses his restoration methodology at Herculaneum. Andrew Wallace-Hadrill's chapter explores instead Maiuri's extraordinary abilities as an advocate for Herculaneum, raising awareness of its significance among the general public. Massimo Osanna also focuses on Maiuri's abilities as a communicator, but this time through the series of displays he set up within the archaeological spaces at Pompeii and Herculaneum. In the third part of the volume, the editors provide a full catalogue of the on-site displays that Maiuri created at Herculaneum, well illustrated with plans and archive images. The volume then finishes with an extraordinary selection of over 130 archive photographs, most of them previously unpublished, that allow the reader greater understanding of Amedeo Maiuri's major archaeological venture at Herculaneum.

Sarah Court



Wall-painting of a 'dancer' (maenad) with a tambourine, found in the Villa of Cicero, Pompeii. Engraved as Plate 20 of *The Antiquities of Herculaneum, translated from the Italian by T. Martyn and J. Lettice; containing the pictures*. London 1773. © University of Reading Museums and Special Collections.

## Winckelmann in Herculaneum

Katherine Harloe

2017 and 2018 see scholars, artists and curators across Europe organising events to mark the anniversaries of the birth and death of Johann Joachim Winckelmann. Winckelmann was born to a lowly family in Stendal, Prussia in 1717. By the time of his death in 1768 he was Prefect of Papal Antiquities in the Vatican and one of the most celebrated antiquarians of his age, having made a name for himself through writings on ancient art and culture that were translated into French, English and Italian.

Winckelmann's best-known work nowadays is his *History of the Art of Antiquity (Geschichte der Kunst des Alterthums, 1764)*: an attempt to account for the 'growth, flower and fall' of Egyptian, Etruscan,

Greek and Roman art in relation to climactic, social and political circumstances and to date the most famous ancient Greek and Roman statues of his day according to period styles. At least as influential among his contemporaries, however, were his two reports on the excavations at Pompeii, Herculaneum and Stabia under way since the 1730s at the behest of Naples' Bourbon rulers, and the new finds from those sites displayed in the Royal Museum at Portici.

Both the sites and the Museum were guarded closely by the Bourbon administrators – Winckelmann boasts of how hard it was to gain a permit – and the discoveries were only slowly being revealed to the world in the gorgeous, but rare and costly, illustrated volumes published by the Real Accademia Ercolanese. Winckelmann's two reports on the sites, the *Open Letter on the Discoveries at Herculaneum* (*Sendschreiben von den Herculanischen Entdeckungen*, 1762) and *Report upon the Most Recent Discoveries* (*Nachricht von den neuesten Herculanischen Entdeckungen*, 1764) were among a number of 'unauthorized' publications of the finds, following upon accounts by both Italian (Venuti, Gori) and foreign (de Brosses, Cochin and Bellicard) scholars. They were seized upon by a republic of letters hungry for news of the discoveries: the *Sendschreiben* appeared in French translation as early as 1764 and in English in 1771. Winckelmann's account, which is a tour of the Museum suitable for aristocratic travellers as much as a report on the sites, is in part the work of a connoisseur: notable for its impressionistic, even romantic descriptions of those objects he found the most beautiful among the new finds, but also for its trenchant criticisms of the way in which the excavations were being conducted and its call for accurate description and documentation of the context of the finds.

Connoisseurial attitudes are most evident in his descriptions of the wall paintings found in Herculaneum, which were among the most eagerly awaited of the finds for eighteenth-century audience. Among the 'most beautiful figures' Winckelmann singled out not the larger frescoes found in the so-called 'Basilica' (NM 9049, 9008, 9109, 9151) but smaller depictions of 'dancers' (i.e. Maenads) and centaurs, which he praised as 'fleeting as a thought and as beautiful as if they were drawn by the Graces'. He found just as much to admire in humbler, non-figured pots and other household vessels, judging them as displaying 'an elegance, which all our modern artists cannot reach'. His thoughtful comments on advertisements of units to let found on the walls of the House of Julia Felix show that he recognised the potential of the Vesuvian cities for reconstructing practices and customs of everyday Roman civic and social life. And a long, excited section details the efforts being made to unroll the first Herculaneum papyri by his friend and host,

Antonio Piaggio, even if by his notorious dismissal of their contents ('An indictment of music that is both hypochondriac and chopped to pieces is of little concern to us') he shows himself a man of his age.

By his criticisms of the conduct of the excavations and the documentation of their finds, Winckelmann also showed himself – at least in some moods – to be an appreciator of the value of contextual archaeological research. He praised Karl Weber, the sometime superintendent of the excavations, for his efforts in making an accurate ground plan and his concern for preservation of the sites rather than treasure-hunting. Winckelmann's own worries about damage to the cities caused by the volume of 'foreigners and travellers who see all of this in passing' and 'might wish that nothing be backfilled with dirt', together with his consideration of the disruption caused to contemporary inhabitants of the surrounding areas foreshadow concerns that still animate debates about the Vesuvian cities today.

**Dr Katherine Harloe** is Associate Professor of Classics and Intellectual History at the University of Reading and author of *Winckelmann and the Invention of Antiquity: History and Aesthetics in the Age of Altertumswissenschaft* (Oxford University Press 2013). She is a member of the International Committee of the Winckelmann-Gesellschaft co-ordinating events to mark the Winckelmann jubilees in 2017-2018 (see [http://www.winckelmann-gesellschaft.com/en/winckelmann\\_anniversaries\\_20172018/international\\_activities/](http://www.winckelmann-gesellschaft.com/en/winckelmann_anniversaries_20172018/international_activities/)). These will include the exhibitions 'From Italy to Britain: Winckelmann and the Spread of Neoclassical Taste', co-curated with Amy Smith and Allan Hiscutt, at the University of Reading Special Collections from 15 September to 15 December 2017 and 'Winckelmann and Italy: Curiosity and Connoisseurship in the Eighteenth-Century Gentleman's Study' at Christ Church Library, Oxford, in summer 2018.

All quotations from Winckelmann in this article are taken from the excellent, richly annotated and illustrated English translation of his Herculanean writings by Carol C. Mattusch (J. J. Winckelmann, *Letter and Report on the Discoveries at Herculaneum*. Introduction, translation and commentary by Carol C. Mattusch. Los Angeles: J. Paul Getty Museum, 2011).



# Herculaneum Graffiti Project Report

Jacqueline DiBiasie Sammons

The Herculaneum Graffiti Project completed its second field season in June 2016. Twelve students (including three returning students) and six professors traveled to Herculaneum to locate, record, and fully document extant graffiti in the site. Our fieldwork this season focused on several areas of the city including the ramp leading from the ancient shoreline to *Cardo IV*. The walls of this entry ramp once held twenty-three graffiti, ten of which are still extant. Since tourists often use the ramp as the point of entry to the city, it was a priority to fully document and digitally preserve these graffiti as soon as possible.

The project also documented graffiti in several other locations throughout the city including the House of the Bicentenary (V.15), the House of the Two Atria (VI.29), and the House of the Mosaic Atrium (IV.1-2). The good preservation of the wall plaster in these locations made it possible to find several graffiti. This work is crucial. Comparison of our photographs from the 2014 field season has allowed us to see preservation changes in just the past two years. Even with the tireless work of the Herculaneum Conservation Project, the graffiti are still in grave danger. We must act now and continue documenting these inscriptions before they are lost forever.

Participants in the project are trained in locating ancient graffiti, which are often small and very lightly inscribed. These inscriptions can often appear invisible to the naked eye. The participants learned how to document and measure these inscriptions using traditional archaeological techniques. We have also employed new and emerging technologies to record the graffiti. This year, in addition to traditional scaled drawings participants drew the graffiti using iPads on site. Pictures of the graffiti were traced on the iPad using a special application and then compared on site to the graffiti. We have also employed computational photography techniques such as Reflectance Transformation Imaging (RTI) and photogrammetry to further document these inscriptions.

In addition to the fieldwork portion of the project, participants also gained experience in the Digital Humanities by contributing to the Ancient Graffiti Project Search Engine. This search engine, unlike many search engines for inscriptions, allows the user to search by location in addition to text. It allows the user to search by “tags” to further discover and explore the graffiti. The texts are also translated into English, which allows more

people to interact with these fascinating glimpses into the ancient past. The search engine has been constantly improved, thanks in part to workshops over the summer graciously sponsored by the Center for Hellenic Studies in Washington DC. Students gain valuable skills in representing our fieldwork digitally and presenting this information to the public.

We have made good progress in documenting the graffiti extant in the site, but there is still much to do. Future fieldwork seasons will focus on areas that we have not yet visited. We will also continue the work of making drawings of the graffiti so that a visual record of these fascinating inscriptions can be preserved. This information will be added to the Ancient Graffiti Search Engine to be shared throughout the world.

We would like to express our sincere thanks to the Herculaneum Study Centre, the Herculaneum Conservation Project, Dottore Francesco Sirano (Direttore del Parco Archeologico di Ercolano) and Soprintendente Massimo Osanna.

Please visit <http://www.ancientgraffiti.org> to learn more about the project and view the Ancient Graffiti Project Search Engine.

**Jacqueline DiBiasie Sammons** is a Visiting Assistant Professor of Classical Languages and Classical Archaeology at Sewanee: The University of the South. Scholarly interests include ancient graffiti, computational photography, Roman domestic architecture, and digital humanities. She serves as the Field Director for the Ancient Graffiti project.



Shining a light on graffiti

## Progress Report

Joe Sheppard

In summer 2017 I was fortunate enough to receive generous funding from the American Friends of Herculaneum towards research for my doctoral dissertation at Columbia University, entitled *Mass Spectacles in Roman Pompeii as a System of Communication*. My principal tasks were twofold: (1) to gather material that will help me reconstruct the original spectator experience of attending performances at the theatres in Herculaneum and Pompeii; and (2) to record and confirm observations about further pieces of evidence relating to how these large-scale public festivals might have been celebrated. Due to local differences in its urban development, destruction, and excavation history, the site of Herculaneum was able to provide very useful comparative and supplementary material for my work focussing on spectacles in Pompeii. A regional context is particularly important for mass spectacles during the early Roman Empire, since performers, vendors, and spectators were travelling around central Italy and neighbouring towns were in competition with one another.

Unfortunately my permit granting access to the theatre in Herculaneum could not be employed apparently due to safety concerns, since the site is still only accessible by subterranean tunnels excavated during the eighteenth century. Instead I studied the life-sized bronze statues found there (and now housed in the archaeological museum in Naples), as well as the various plans and models of the theatre in Herculaneum and Naples. Perhaps sensing my disappointment, the custodians at Herculaneum very generously shared with me materials from the conservation laboratory and photography collection, once I had explained to them my interest in the architecture, decoration, and finds from the theatre. This unexpected access rapidly exposed me to a wide range of otherwise inaccessible artifacts, many of which were yet to be catalogued in still only partial inventories.

Most of my time in Herculaneum was spent in the palaestra (Ins. Or., II 4) and a selection of domestic interior spaces (i.e. the House of the Telephus Relief I 2; the House of the Stags IV 21; the House of the Corinthian Atrium V 30; and the House of the Grand Portal V 35). In the palaestra I documented the original context of the frescoes with dramatic scenes found off one of the porticos, noting particularly the much higher-quality decoration and lower frequency of graffiti by comparison with the equivalent structure in Pompeii. In the houses I was chiefly recording pictorial graffiti of gladiators and their weaponry: confirming their state of preservation; observing their location and social contexts; and where possible draughting my own working drawings. This task also posed challenges,

since the degree of safety and preservation varied from house to house, but without such autopsies it would have been otherwise impossible to understand the organization and function of each domestic space—particularly those articulated over multiple floors, such as the House of the Telephus Relief and the House of the Stags. The pictures of gladiator helmets and figures scratched in the corridors and modest service areas of houses are consistent with the fragmentary inscriptions from Pompeii that suggest gladiators may have also fought at Herculaneum, even if no arena or large forum-type venue has been identified by archaeologists yet.

I departed from Herculaneum on the same afternoon that the superintendent of Pompeii was announcing the recent discovery of the longest funerary inscription yet found there, which recorded the enormous sums spent by a local benefactor on gladiatorial games, banquets, and other benefits for the public. Since my research trip had begun with a detour from the theatre in Herculaneum, I interpreted this coincidence as a good sign that there was plenty more work for me to do next year in Herculaneum, Pompeii, and beyond, once I have finished writing up in my dissertation the data collected this year.



A graffito of a gladiator (probably a murmillo), stepping to the right and raising a large, rectangular shield—now on display in the Museo Archeological Nazionale di Napoli



## American Friends of Herculaneum

The American Friends of Herculaneum will have a session at the 2018 annual meeting of the Society for Classical Studies, to be held in Boston from January 4 – 7 2018 at the Marriott in Copley Place.

**Herculaneum: New Technologies and New Discoveries in Art and Text** is tentatively scheduled for Friday, January 5, from 8 to 1030 a.m. The speakers will be:

**Sonya Wurster** University of Melbourne, “Epicurean Emotional Theory and Philodemus’ On the Gods”

**Brent Seales**, University of Kentucky, “Virtual Unwrapping of Herculaneum Material: Overcoming Remaining Challenges”

**David Saunders and Erik Risser**, Getty Museum, “Working with Wax: Observations on the Manufacture of Ancient Bronzes from Herculaneum and Pompeii”

**Mantha Zarmakoupi**, University of Birmingham, “The Place Between: Villa Gardens and Garden Paintings”

**Ambra Spinelli**, University of Southern California, “Beyond the Salutato: Looking at Archaeological and Literary Evidence for the Tablinum in the Houses of Pompeii and Herculaneum”

Moderators are to be David Sider and Carol Mattusch.

## Herculaneum Society Congress 2018

**We have our dates: Wednesday June 20 - Saturday 23 June 2018 (with the option of an additional day on Sunday 24 June).**

Trustee Kate Starling is assembling the program in discussion with colleagues in Ercolano and Naples.

We will keep you informed of progress and intend to have the Booking Form ready early in the New Year.

As many of you who have taken part in a Herculaneum Society Congress in the past know, it is a unique experience!

You can expect a mixture of informative talks with up to date reports of developments on site and the latest research from both young researchers in the field (and the not so young). Members have the opportunity to hear from Herculaneum Society Bursary beneficiaries.

Added to this we have a program of bespoke site visits not only to Herculaneum but also to important Roman sites in the area which enhance our knowledge of Herculaneum. All this in the convivial company of Herculaneum enthusiasts. Hope to see you there!

CHECK OUT OUR NEWLY REDESIGNED WEBSITE

<http://www.herculaneum.ox.ac.uk>

Many thanks to **Chiara Meccariello** for all her hard work over the summer months. I think you will all agree on the improved appearance of the site.

### The Herculaneum Society

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Memberships start from as little as £15/year