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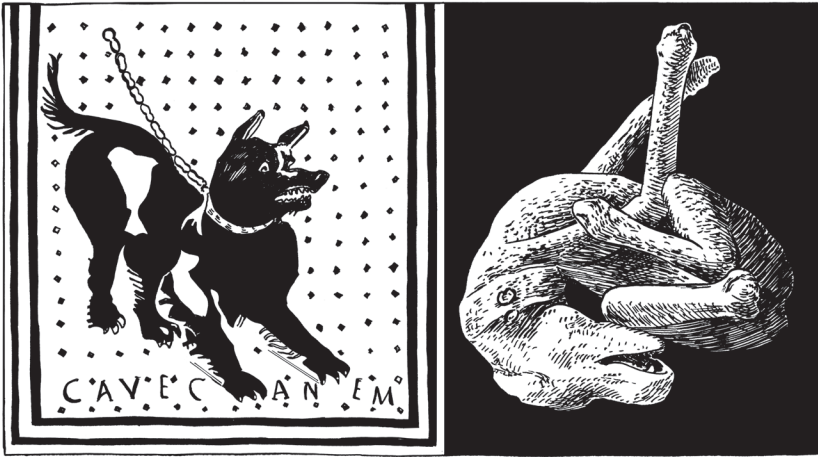
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I

ASHES TO ASHES IN ANCIENT ITALY



IN 1752, EXACTLY 170 YEARS BEFORE CARTER DISCOVERED THE tomb of King Tutankhamen in Egypt, archaeologists in Italy found three hundred rolled-up ancient papyrus scrolls. The scrolls were in the remains of a villa that was being excavated within the ruins of a town called Herculaneum, near Mount Vesuvius and modern-day Naples, which had been buried during an eruption on August 24 in 79 CE. They had formed part of a private Roman library kept by their owner in his house, which is now known, appropriately, as the “Villa of the Papyri” and was possibly owned by the father-in-law of Julius Caesar. Although they were excavated more than two hundred fifty years ago, the intact scrolls were saved, though they were carbonized and too fragile to unroll.

For centuries it was believed that the scrolls would remain as mere curiosities, even though they now look like lumps of carbonized wood. But recently, beginning in 2009 and continuing through 2016 so far, papyrologists (scholars who study such scrolls and scraps of papyrus) have

been able to discern some of the writing on the scrolls, even without unrolling them. Using a concentrated beam of X rays, they have been able to detect a few individual letters because of the contrast between the carbonized papyrus and the ancient ink, even though the ink is also carbon-based. They are aided in this by virtue of the fact that the ink also seems to contain small amounts of lead, which can be detected. If the techniques continue to improve, we might one day be able to read what is written on all the scrolls. That would be wonderful, since—given the wealthy owner and the fact that they come from his private library—they may well include items like the lost books of Livy’s *History of Rome*.



The ruins at the neighboring town of Pompeii had already been discovered 150 years earlier, in 1594. Workers digging an irrigation trench had accidentally exposed some of the ancient ruins there but then covered them back up and did not investigate them further at that time.

So it was the excavations at Herculaneum that began first, in 1709. To put this in perspective, Benjamin Franklin was only three years old at the time; there were twelve, not thirteen, colonies in what would become the United States (Georgia was not established until 1732); Queen Anne was on the throne of Great Britain, a national entity that had just been created by an act of Parliament uniting England, Wales, and Scotland in 1707; and Captain Cook wouldn’t land in Australia for another sixty years or so.

These were the very first archaeological excavations to take place in Europe, or anywhere in the world for that matter. Credit usually goes to a man named Emmanuel Maurice de Lorraine, who was the Duke of Elbeuf. He was living in Italy near Naples at the time and underwrote the first efforts to tunnel into the ground at Herculaneum, after he bought the site specifically because ancient pieces of marble had been recovered from the area.

De Lorraine’s workers happened to dig right into the ancient Roman theater at Herculaneum and were able to extract a number of ancient marble statues. Most of them were used to decorate the Duke’s estate; others were distributed elsewhere in Europe, some museums included. It wasn’t exactly what we would call archaeology—it was more like

looting, in that no records were kept and the goal was only to retrieve pretty pieces from antiquity, rather than trying to learn much about the context in which they were found. Proper excavations began a few decades later at Herculaneum, however, and then at neighboring Pompeii. These mark the beginning of what we now call Old World archaeology or, to be more precise in this case, classical archaeology (which is specifically the study of the ancient Greeks and Romans). In large part, methodical archaeology began from the efforts of one man, Johann Joachim Winckelmann, who is widely regarded as the father of classical archaeology and who was the first scholar to study the artifacts from Herculaneum and Pompeii.

The growth of archaeology as a discipline took place during the rest of the eighteenth and into the nineteenth century. It should probably be noted that Winckelmann's work was part of the Age of Enlightenment, which started at about the same time as the earliest excavations at Herculaneum and swept through much of Europe during this period. The sudden but sustained interest in archaeology and antiquity is not surprising when considered in the general context of the times, which saw advances in the various sciences, the growth of national museums and private collections, the eventual rise of Darwinism and social Darwinism, and the European conquest and colonization of much of the rest of the world.

We now know that when Mount Vesuvius erupted in 79 CE, a number of ancient cities were devastated and then buried, including Herculaneum, Pompeii, and Stabiae. More than two thousand people died in Pompeii alone and even more died in Herculaneum and other towns in the area. Some of them were upscale towns by the Bay of Naples, which had a number of houses built by wealthy inhabitants of Rome for use on weekends and during the summer. In some ways not much has changed, for the region is a popular tourist destination today.

There were eyewitnesses to the eruption of Vesuvius. One was a seventeen-year-old known as Pliny the Younger, who was the nephew (and adopted son) of the famous naturalist we call Pliny the Elder. He wrote about the devastation in two letters, which he sent to the Roman historian Tacitus, who had asked him about it.

Pliny wrote that he could see dark clouds, lightning, flames, and dust, lots of dust, in the neighboring town of Misenum. He described



Mount Vesuvius as seen through Pompeii Arch

an utter darkness, like that in a room with no windows in which the lights are off. He said that he could hear women and children crying and men shouting. Soon, he said, it grew lighter, but that was only because of the fire that was rapidly spreading, engulfing the town. And then the darkness came again, along with an unceasing shower of hot ashes. If he and his companions had not constantly shaken the ashes off, they would eventually have been crushed.

This was an interesting—and important—time in Roman history. The changeover from the Roman Republic to the Roman Empire had begun about a hundred years earlier, when Julius Caesar was assassinated in 44 BCE and Augustus came to sole power as the first Roman emperor in 27 BCE, beginning the Julio-Claudian dynasty. When Mount Vesuvius blew up in 79 CE, it was Emperor Titus, of the succeeding Flavian dynasty, who was on the throne.



Excavations began at nearby Pompeii in 1750, at nearly the same time that the carbonized scrolls were found in Herculaneum. Here also time had stopped on that late August morning in 79 CE, with the tables still laid with crockery and food for a meal that would never be eaten. There were also bodies lying in the streets—entire families seeking shelter in some cases and, in other instances, individuals lying alone, some with their jewelry still clutched in their hands.

The catastrophe that enveloped Pompeii quite literally stopped the city and its citizens in their tracks. The ash and pumice mixed with the rain that fell, blending into a cementlike concoction that quickly hardened and resisted attempts by survivors to come back and retrieve their belongings. In addition, dozens of bodies, as well as the rest of the town and all its remains, were entombed. Over time, the perishable materials, ranging from wood to bread to body parts, slowly decayed. Hollow cavities formed, with each cavity bearing the shape of the object, or body, that had once been there.

In 1863 Giuseppe Fiorelli, the Italian archaeologist in charge of excavating Pompeii at that time, figured out what the hollow cavities were, or rather what they had been. He realized that his workers could act as though they were sculptors using what is known as the lost wax method and treat the hollow spaces as if they were molds for making bronze statues.

So, whenever his team came across a cavity while digging, Fiorelli poured plaster of Paris into the opening. When the ash was then excavated away, an exact duplicate in plaster remained of whatever had been there originally. They were able to recover the remains of numerous bodies, including entire families huddled together, as well as everything else organic, such as wooden tables and other furniture, and even loaves of bread. They also recovered some of the pets, including a dog still chained where its owner had left it. It was found upside down in a contorted position, with the impression of his collar still plainly visible in the plaster.

Although Fiorelli's method worked well for things like loaves of bread and wooden objects, it had a major flaw when it came to the human bodies, for his plaster casts made it impossible to see the bones and other artifacts that had remained in the cavity after the body

disintegrated, because they were now within the newly created plaster cast. One solution would be to use some sort of transparent material, like resin instead of plaster, but that is a much more expensive process. It has been used for only one victim of Vesuvius, in 1984. This is the so-called Resin Lady, who is still wearing her gold jewelry and hairpin.

Archaeologists also realized that it was possible to restudy the plaster casts themselves, including the bones and other materials that Fiorelli's workers had unintentionally included. In September 2015, a team that included specialists such as radiologists, archaeologists, and anthropologists began doing laser imaging, CT scans, and DNA sampling of the plaster-encased remains. The CT scans especially revealed amazing details, one from a four-year-old boy who was found with his parents and a younger sibling. It is possible to see how scared he must have been just before he died, although it is not clear what killed him. The scans also show that many of the victims had suffered head injuries, perhaps from collapsing buildings or falling rocks, and that they included people of all ages, not just the young, old, and sick city dwellers, as had been previously thought.



Herculaneum, in contrast, was buried in a thirty-foot-high wall of fast-traveling mud that completely engulfed and covered the town. Geologists call such a mudflow a *lahar*; similar events have occurred during volcanic eruptions as recently as 1985 in Columbia and 1991 in the Philippines.

The mudflow preserved large parts of Herculaneum, so that the archaeologists excavating it found it just as it had been back in 79 CE. Some of the houses are still standing to the second story in many places, which is very rare in archaeological excavations, and many of the paintings and decorated tiles are still on the walls. Even wooden objects have been recovered, including roof beams, doors, beds, and a cradle.

It had been assumed that the inhabitants of Herculaneum were able to flee from the city, but in 1981 and then again in additional excavations in the 1990s, at least three hundred bodies were found in what archaeologists think were boathouses by the shore. These were probably

people waiting to be evacuated, who were killed instantly when superheated air from the eruption measuring nearly one thousand degrees Fahrenheit flashed through the area. The heat, and then the hot ash that followed, roasted them alive, incinerating their skin and internal organs and leaving only their skeletons, frozen in positions of agony.



Many of the houses in Pompeii also were preserved by the eruption, just like those in Herculaneum, but here they were buried underneath the meters of ash and pumice. One is known as “The House of the Faun” because of the bronze statue that stands within a large basin—used to catch rainwater—in the interior courtyard of the house. The statue is in the shape of a faun—a satyrlike creature with horns on his head and a tail, usually depicted playing the double pipe.

An amazing garden belonged to this house, which was filled with trees and plants. The eruption buried many such house gardens, in both Pompeii and Herculaneum. When modern archaeologists such as Wilhelmina Jashemski, a professor at the University of Maryland, began careful excavations in 1961 specifically in the areas where these gardens once were, they found what are called root cavities from the plants that had once been there. By tracing the roots of various plants, each with a distinctive cavity, they were able to reconstruct what had once been there and, in at least one case, the plan of an entire vineyard.

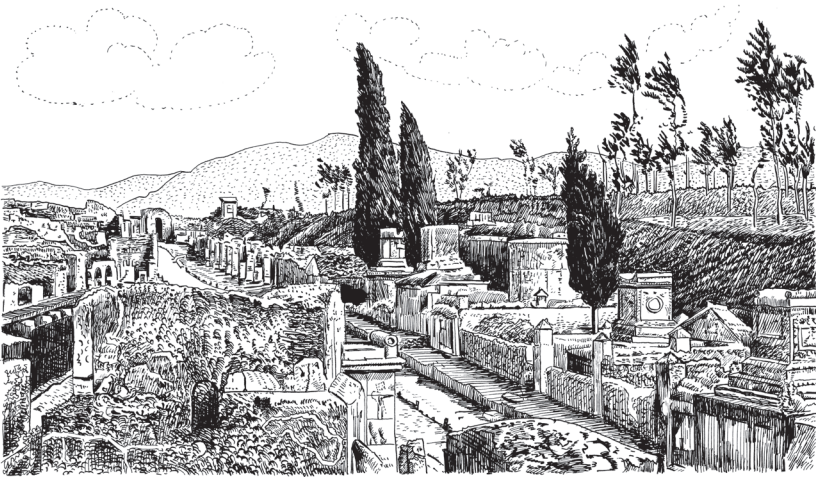


After three hundred years of nearly continuous excavation, archaeologists have unearthed a large amount of ancient Pompeii, though much more remains to be dug. The plan of the city has become clear so that we can tell that prosperous inhabitants lived in some of the areas and middle- or even lower-class inhabitants were the primary residents in other sections. Today it is possible for tourists to see the various quarters of the town and the buildings that went with them: bathhouses, tanneries, shops, and other dwellings. For instance, in 2014 Dr. Steven Ellis and a team of archaeologists from the University of Cincinnati who were digging by the Porta Stabia, one of the main gates into the

city, announced that they had found ten buildings with twenty shop-fronts from which food and drink were sold or served. Such an arrangement seems typical in Pompeii, where even the private houses frequently had shops installed on the street side.

So, what did the inhabitants of Pompeii eat and drink? The answer comes from a variety of contexts, which, upon reflection, makes sense. Ellis and his team have excavated a number of drains, latrines, and cess-pits. The thought of excavating such places may seem disgusting to some, but the truth of the matter is that the material found within such areas can sometimes be worth more to the archaeologists than gold, if it means being able to reconstruct what life was like for the inhabitants two thousand years ago. In eras before trash collection, the garbage of the city was frequently thrown into the latrines, where it remained for the archaeologists to find it.

This was exactly the case for Pompeii, for in these areas Ellis and his team found the remains of “grains, fruits, nuts, olives, lentils, local fish, and chicken eggs, as well as minimal cuts of more expensive meat and salted fish from Spain.” In a drain on a more centrally located property that may have belonged to someone wealthier, they found the remains of “shellfish, sea urchin, and even delicacies, including the butchered



Street scene, Pompeii

leg joint of a giraffe.” Not only does this give us clues about what people were eating in Pompeii at the time of the eruption, but it also confirms the unsurprising fact that the different classes ate different types of food.

Ellis’s team of archaeologists from the University of Cincinnati also introduced some new archaeological wrinkles into the excavations they conducted at Pompeii. For one thing, they were among the first, if not the first, to use iPads on site, in 2010. They recorded the data; took photographs; employed various off-the-shelf applications, some modified from their original intended use; and then uploaded the data to servers back in Cincinnati, all while still at the site. By contrast, many excavations around the world are still recording their data on paper forms, sometimes in triplicate, and rely on Xerox machines to create copies after the dig season is over.



In some of the more prosperous houses at Pompeii, there are mosaics embedded in the floors. For example, the House of the Faun has a floor mosaic with a famous scene of Alexander the Great fighting the Persian king Darius III in either 333 or 331 BCE. The House of the Tragic Poet has a floor mosaic in the entryway depicting a black and white dog (of uncertain breed), with a red collar. Beneath the dog’s paws is written *CAVE CANEM*, which is Latin for “beware of the dog.”

In other houses, paintings are still preserved on the interior walls. In the Villa of the Mysteries, there is a small room, possibly a dining room, whose four walls are painted with scenes that have been interpreted as depicting the mysteries of Dionysus, possibly including the initiation of a young woman into the religious cult. Other dwellings have painted scenes of dancers, family portraits, and pictures of fruit and other objects. In some ways it is no different from the photos and paintings that hang on the walls of our own houses.

Painted onto the exterior walls of the houses were advertisements and campaign notices—the social media of two thousand years ago. The notices were placed on the outer walls so that the people walking on the streets and shopping in the stores on either side could see them. One advertisement was for a gladiator contest that was to be held on

April 8–12, though it is not clear in what year. Another message gives notice of the open-air market days in each town, occurring in apparent sequence from Saturday in Pompeii to Friday in Rome, with stops in the towns of Nuceria, Atella, Nola, Cumae, and Puteoli in between.

One notice was painted on the wall outside a bar, much like signs that we see today outside drinking establishments. It is a menu of the drinks that were available and their prices. It reads “You can get a drink here for an as [a small coin], a better drink for two, Falernian for four.” Another was written outside a shop from which a copper pot had been stolen, offering a reward for either its return or for news of who had taken it.

There also were hundreds of campaign notices. Among the more interesting endorsements is one that says, “I ask you to elect Marcus Cerrinius Vatia to the aedileship. All the late-night drinkers support him.” Another, apparently for the same man, says, “The petty thieves support Vatia for the aedileship.” We’ll never know whether he won.



Not only were Pompeii and Herculaneum the first sites to be excavated anywhere, but they are still being excavated at the present time, a span of three hundred years. As a result, one could probably study the history of advances in the techniques of excavation and recording just by examining the work done at these two sites. From the initial rudimentary efforts in the beginning that were little more than looting to the use of plaster of Paris to reconstruct the decomposed bodies and wooden furniture to the sophisticated techniques being used today, including CT scans, X rays, laser imaging, DNA analysis, and recording and documenting in the field directly onto iPads with cloud-based storage for the data, the excavations at Pompeii and Herculaneum demonstrate how archaeology has come a long way in the past three centuries.

In addition, the efforts at conservation and preservation have made the sites tourist destinations, which allows all visitors, not just archaeologists, to glimpse a world that existed two thousand years ago and to realize that, in some ways, it is more similar to than different from ours today. Now there may be more advanced technology, like iPads, cell phones, and wireless Internet, but the houses in this region of Italy

today are not all that different from theirs back then, and the food is basically similar. There is the same dependence on elected officials, shopping at stores that stock necessary items, drinking at taverns and bars, and frustrations about petty theft and shoplifting. The people keep the same sort of pets and wear jewelry, eat from dishes, and use utensils similar to those their predecessors did back then. Although peacocks' tongues may not be considered a delicacy anymore, and many people do not still clean their clothes using urine, on the whole, the excavations at these sites teach us that the ancient inhabitants of the Mediterranean were not that different from the people today. And if we are ever able to unroll and read the scrolls that are still being investigated from the Villa of the Papyri, we may find out that their private libraries were not so different from ours either.

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