

POMPEII ARTIFACT LIFE HISTORY PROJECT (PALHIP):

GENERAL REPORT ON PROJECT OPERATIONS AND RESULTS,

2012-2016

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INTRODUCTION

This is a general report that summarizes the operations of and results obtained by the Pompeii Artifact Life History Project (henceforth PALHIP) during its first five study seasons (2012-2016). It also describes the work that has been done to date in planning for the project's sixth study season (2018) and for study seasons beyond that.

This document was composed upon the request of the Parco Archeologico di Pompei/Soprintendenza Archeologica Speciale per i Beni Archeologici di Pompei, Ercolano e Stabia (henceforth SAPES) in its letter of authorization for the PALHIP Summer, 2018 study season issued to the Project Director on May 2, 2018.

GENERAL PROJECT OVERVIEW

PALHIP was conceived of as a program of research that would shed light on aspects of the life history of Roman material culture at the town of Pompeii and some of the sites in its environs through the detailed characterization of sets of artifacts recovered in the course of previously completed excavations in contexts that promise to be particularly informative in this regard.

Each of the studies of a particular group of materials is represented as a distinct "sub-project." In the course of the first five years of its operations PALHIP has initiated five such sub-projects, bringing four of these to completion.

The five sub-projects are as follows:

Sub-Project 1: The study of the portable artifacts from the excavations of the Villa Regina a Boscoreale. Completed (2012, 2013, 2016 study seasons).

Sub-Project 2: The study of the artifacts from test trenches and cesspits recovered in the excavations in the street to the west of the Insula dei Casti Amanti. Not completed (2013 study season).

Sub-Project 3: The study of the artifacts from the excavations of refuse middens outside the Pompeii fortification walls in the area between Tower VIII and the Porta di Nola. Completed (2014, 2015, 2016 study seasons).

Sub-Project 4: The study of the *dolia* uncovered in the excavations of Insula I.22. Completed (2014, 2015, 2016 study seasons).

Sub-Project 5: The study of a selection of amphoras recovered in the excavations of Oplontis Villa B. Completed (2016 study season).

The work carried out during the first five study seasons was undertaken by teams of from three to five individuals, consisting for the most part of the Project Director and graduate students at his home institution, the University of California, Berkeley (henceforth UCB), supported with funding provided by that institution.

The work has been carried out under the authorization of letters of permission issued by SAPES on an annual basis. The basis for the initial authorization was an agreement reached between the Project Director and Antonio Varone, the then Direttore degli Scavi di Pompei, in a meeting held at the SAPES offices at Pompeii in January, 2011.

The basic data collected by PALHIP will be made available publicly and free of charge through RES ROMANAE (<http://resromanae.berkeley.edu/>), the website of the Project Director's research laboratory, the University of California, Berkeley Roman Material Culture Laboratory. The principal scholarly product to be generated by the project will be a book-length study of the life history of Roman material culture at Pompeii to be authored by the Project Director at the project's conclusion. Various article-/chapter-length studies, a PhD dissertation, presentations at professional meetings, and public lectures have been and will continue to be produced/made by the Project Director and other project members and collaborators during the course of the project.

OVERVIEW OF STUDY SEASONS

The **2012 study season** ran for a period of five weeks, from Monday, June 11 through Friday, July 23. The project team consisting of four persons: J. Theodore Peña (Project Director; professor, Department of Classics, UCB), Caroline Cheung (PhD student, Graduate Group in Ancient History and Mediterranean Archaeology, UCB), Elizabeth Niespolo (MA student, Department of Geology, California State University, Long Beach), and Miguel Amador-Iñiguez (undergraduate student, UCB). During this season the team worked exclusively on Sub-Project 1.

The **2013 study season** ran for a period of five weeks, from Monday, June 17 through Monday, July 22, 2013. The project team consisting of three persons: J.T. Peña, C. Cheung, and Gina Tibbott (PhD student, Anthropology, Temple University). The project team devoted Weeks 1-4 to work on Sub-Project 1 and Week 5 to work on Sub-Project 2.

The **2014 study season** ran for a period of five weeks, from Monday, June 16 through Friday, July 18. The project team consisted of four persons: J.T. Peña, C. Cheung, G. Tibbott, and Aaron Brown (MA student, Program in Classical Archaeology, UCB). During this season the team worked on Sub-Project 3 for all five weeks, with a secondary effort on Sub-Project 4 during Weeks 3-5.

The **2015 study season** ran for a period of six weeks, from Monday, May 25 through Saturday, July 4. The project team consisted of five persons: J.T. Peña, C. Cheung, G. Tibbott, A. Brown, and Laure Marest-Caffey (PhD student, Graduate Program in History of Art, UCB). During this season the team worked on Sub-Project 3 for all five weeks, with a secondary effort on Sub-Project 4 during Weeks 4-6. It also devoted a minor effort to work on Sub-Project 1 during Week 3, bringing this sub-project to completion.

The **2016 study season** ran for a period of six weeks, from Monday, June 6 through Friday, July 8. The project team consisted of four persons: J.T. Peña, C. Cheung, A. Brown, and L. Marest-Caffey. During this season the team worked on Sub-Project 5 for Weeks 1-5, bringing this sub-project to completion, and on Sub-Projects 3 and 4 during Week 6, bringing these two sub-projects to completion.

The 2016 study season marked the completion of PALHIP'S initial five-year research cycle, and a pause in field activity was observed during 2017. A second five-year cycle is scheduled to begin with a four-week study season to be conducted during July 2018.

SUB-PROJECT 1: THE STUDY OF THE PORTABLE ARTIFACTS FROM THE VILLA REGINA A BOSCOREALE

Sub-Project 1 involved the characterization of the portable artifacts recovered in the course of the excavations of the Villa Regina a Boscoreale (henceforth Villa Regina), undertaken by SAPES during the period 1979-1983 under the direction of Stefano De Caro. We elected to start the project with the study of these materials, as the excavation of the Villa Regina was for the time a model initiative that paid careful attention to the recovery of portable artifacts, with the results published in a comprehensive final report (De Caro 1994). This meant that we would be able to begin our work with the study of a high-quality set of materials for which we would already possess basic documentation in the form of catalogue descriptions and profile drawings, freeing the team to focus its efforts on developing and applying a set of methods for the evaluation and recording of attributes relevant to artifact life history. The project team devoted the entire 2012 study season, the first four weeks of the 2013 study season, and a portion of the final week of the 2016 study season to this effort, bringing this sub-project to conclusion.

One portion of the materials recovered at the Villa Regina was housed at the Antiquarium di Boscoreale, with these materials divided between the display cases and the artifact storage facility in that facility's basement. Another portion of the materials was stored at Pompeii at the storage facility at the Casa di Bacco. The project team accordingly divided its time between work at the Antiquarium di Boscoreale, where it was permitted to work ca. 8:30 AM – 5 PM, and the Casa di Bacco, where it was permitted to work ca. 8:30 AM – 1 PM. At the Antiquarium di Boscoreale our work was supervised by Dottoressa Grete Stefani, the then director of this facility. At the Casa di Bacco our work was supervised by Signora Luisa Pagano, who was then serving on an ad-hoc basis as the *consegnatario*.

The site assemblage consisted of two main types of materials: complete or nearly complete objects recovered in nearly every case in use-related contexts inside the Villa Regina (henceforth referred to as complete objects), with most of these coming from Room XII, a storeroom, and Room III, a kitchen; and fragmentary objects recovered in discard contexts both at various locations around the interior of the villa and on the ground surface of the vineyards and other open areas surrounding the villa (henceforth referred to as fragmentary objects). The vast majority of the artifacts consisted of pottery, with small numbers of bronze vessels and blown glass vessels, and a moderate number of small artifacts - implements, fixtures, decorative elements, and items of various kinds - in bronze, iron, iron and bone, glass paste, and stone. All but a few of these items were published in the De Caro's final report, and all but a small number of the objects that appeared in this report (for the most part complete or nearly complete amphoras that were presumably either left in the Villa Regina or moved to some location different from that employed for the storage of the other materials on account of their great size) were eventually located in the storerooms and studied by the PALHIP team.

The project team focused its efforts on developing, refining, and applying a set of methods for characterizing and recording artifact attributes relevant to artifact life history. These included the evaluation of surface micromorphology to determine the production process involved in artifact manufacture; the recording of vessel dimensions, including certain dimensions not normally recorded that would have conditioned how items were used and stored (e.g., maximum girth, maximum height, minimum vessel orifice diameter, weight, capacity); and use alterations, that is, physical alterations to an object produced by its use, including deliberate modification, breakage, chipping, abrasion, denting, incrustation, and sooting. We also examined artifact surfaces under ultraviolet light in the expectation that this might reveal organic incrustations, although this method did not provide much in the way of useful information. Most artifacts were subjected to extensive macrophotography in order to reveal and document details of micromorphology and use alteration. Many of the ceramic artifacts were also subjected to microphotography using a DinoLite digital microscope in order to document fabric composition. As a high-quality drawing of virtually all of the artifacts studied was included in De Caro's final report there was no need to produce any drawings.

Each artifact that we characterized was assigned a unique number in a series specific to the project, termed a PALHIP number. In order to record our observations the project

team developed a database using FileMaker Pro 12 software. This database is termed the “Object Database” to distinguish it from two other databases that the team created to record different kinds of materials encountered in Sub-Projects 2 and 3. We ran this database on a MacBook Pro laptop computer, employing its file sharing capability to perform simultaneous data entry using the laptop and two third-generation iPads. This database, which in its record view format is laid out for viewing on a tablet, permits the detailed verbal and graphic documentation of artifacts of a wide variety of types. It contains 90 fields distributed across seven thematic tabs (Basic Information, Graphics, Measurements, Manufacture, Condition, Texts, Analyses).

The project team also undertook a modest amount of work in the SAPES archives at Pompeii, reviewing the photographic *schede* for the Villa Regina excavations and obtaining photocopies of several of these relevant to our work.

By the end of the 2013 study season the project team had completed the documentation of all of the complete objects and a subset of the fragmentary objects from the site that it had been able to locate either at the Antiquarium di Boscoreale or the Casa di Bacco. These came to a total of 138 objects (PALHIP 001-138), and included 123 complete objects (95 ceramic objects [pottery and lamps], 6 copper alloy objects, 6 iron objects, 5 stone objects, 5 blown glass objects, 4 glass paste objects, 1 bone object, and 1 bone and iron object), and 15 fragmentary objects (all pottery).

During the 2016 study season the project devoted a small amount of effort to the documentation of additional fragmentary objects housed in the Casa di Bacco using a second database known as the Fragment Database that had been developed in connection with Sub-Project 3. As described below, this is, in effect, a much compressed version of the Object Database that is more suitable for the rapid documentation of small objects that present few attributes requiring description. A total of 52 fragmentary objects (44 pottery, 5 copper alloy, 1 blown glass, 1 stone, 1 bone) were documented in this way. These were assigned PALHIP numbers in the series PALIP 1750-1802.

During the 2012-2013 academic year, Cody Gayner, a UCB undergraduate student then working as a laboratory assistant at the University of California Roman Material Culture Laboratory, produced an AutoCad routine that allows the calculation of vessel volume from a profile drawing and applied this to the calculation of the volume of 17 ceramic vessels from the Villa Regina for which drawings were published in De Caro’s final report. He also produced a video tutorial explaining how to carry out this operation.

The results of this work are of very considerable interest. Many of the complete objects documented bore one or more kinds of use alteration that allowed us to make more or less secure and detailed inferences regarding the ways in which they had been used and/or their condition at the time of the villa’s destruction. Among these were examples of some of the more common pottery forms attested in AD 79 contexts at Pompeii and the rural sites in its environs, such as the Di Giovanni 2311 cookpot, the Di Giovanni 2211 casserole, and the Gasperetti 1252 jug. Overall, the varied and extensive set of use alterations presented by the many of the artifacts from this modest farmhouse,

particularly those found being stored in storeroom XII, was impressive. The significance of this evidence is at present difficult to interpret, given the absence of comparative evidence pertaining to sets of objects from similar and different contexts. The information collected regarding the fragmentary objects provides interesting insights into practices of refuse discard in a rural context.

The operations currently planned for the 2018 study season and the study seasons beyond this are intended to provide comparative data that will enable us to better interpret the results obtained at the Villa Regina.

SUB-PROJECT 2: THE STUDY OF REFUSE FROM THE UNNAMED STREETS TO THE WEST AND EAST OF THE INSULA DEI CASTI AMANTI

At the time that PALHIP was first organized in 2011 Professor Antonio Varone, the then Direttore degli Scavi di Pompei and the director of the excavations in the Insula dei Casti Amanti (Regio IX, Insula 12), and Dottoressa Ria Berg, the researcher responsible for the study and publication of the artifacts recovered in the course of these excavations (which had been carried out by SAPES between 1987 and 2009) invited the project to include the analysis of sets of materials recovered in this work in its program of research. R. Berg according set aside in 2013 for PALHIP to work on 31 *cassette* (modular plastic trays used for the storing of excavated materials) that contained materials that had been recovered in two *saggi* (test excavations) (termed Saggio C and Saggio D) that had been excavated in the deposits on the surface of unnamed side-street to the west of the block and material recovered in three sub-sidewalk cesspits, two to the west of the block, and one to its east (termed Fossa I, Fossa II, and Fossa III). (For these features see Berg 2008.)

These materials were thought by us to be of very considerable interest, as their analysis would provide a good idea of the kinds of materials found in refuse deposits on urban road surfaces and of the amounts and condition of these and document the sets of materials subject to provisional discard into latrines by two specific residences (the Domus dei Casti Amanti [IX.12.6], and the Domus dei Pittori al Lavoro [IX.12.9]. One of these two test trenches (Saggio C) had a southern limit that lay just 2 m to the north of the intersection with the Via dell'Abbondanza, the principal east-west thoroughfare in the town, while the southern limit of the other (Saggio D) lay another ca. 35 m up the street to the north. The analysis of the groups of materials from these two trenches would thus permit the comparison of the nature of refuse in an area adjacent to one of the most heavily trafficked streets in the town with that of refuse from an area well away from this artery on a minor side street.

The project team turned its attention to the analysis and documentation of these materials for the final week of the 2013 study season, as Sub-Project 2, with the assumption that we would continue our work with these during the 2014 study season and, having completed work on this first set of artifacts, we might then continue on to the analysis of additional sets of materials recovered in the Insula dei Casti Amanti excavations.

Given the small amount of time at our disposal before the end of the study season, we decided to undertake a preliminary analysis of one substantial set of materials (four *cassette*) recovered in a stratigraphic unit in Saggio C, and three small sets of materials (one *cassetta* each) recovered in stratigraphic units in the cesspits, two in Fossa II and one in Fossa III. We set up a study station on the unexcavated island immediately to the north of Insula I.12 in the open area to the east of the *capannone* (shed) in which the materials from the Insula dei Casti Amanti excavations are stored. Here we worked under the supervision of Renato Miele, who at that time was assigned to work with the fresco fragments from the Insula dei Casti Amanti excavations that were housed in the building a short distance to the northwest of the *capannone*. Our work day extended from 8:30 AM to 3:00 PM.

The materials placed at our disposal had sat in storage for several years as they had been collected at the time of excavation, unwashed and unsorted. As these were, on the whole, highly comminuted, it was clear that the five work days that remained to us before the end of the study season would have been insufficient for us to wash the pottery fragments, let alone to wash these and then analyze the materials in any useful way. We accordingly decided to see whether we could classify the artifacts in unwashed condition and then perform a simple quantification of them. For each set of materials we removed the artifacts and ecofacts (bone and shell) from the *cassette* in which they were housed, collected the loose soil that remained in the container in a plastic bag and retained this in the event that it might prove useful in the future for sedimentological or some other form of analysis, and then set about classifying the artifacts. As it turned out, while the work was somewhat unpleasant, it proved possible to classify the materials in unwashed condition without any particular difficulties, including the performance of operations such as distinguishing between different classes of black gloss ware (Campana A, B, and C), distinguishing Italian from South Gallic Sigillata, and distinguishing locally-manufactured utilitarian wares that had been produced in several different fabrics. We also devoted a certain amount of attention to searching for joins between fragments for certain pottery classes, as we believed that this might provide insight into the dynamics of the discard of this material and the processes to which it was subjected following its discard. At the conclusion of this work we took photographs of a variety of different sets of related materials.

In order to record our results we developed a second database using FileMaker Pro 12, which we termed the “Deposit Database”. This database, which was designed to record information pertaining to sets of materials from specific contexts, contained several fields for general information and sets of fields for 45 different classes of artifacts and ecofacts displayed across five thematic tabs (Information, High-End Tablewares, Other Pottery, Other Materials, Architectural Materials). Each set of fields for artifacts and ecofacts contains fields for number of fragments and weight of fragments, and a third field in which these two figures are used to calculate automatically the mean weight of fragments. This last figure is useful, in that it provides an index of degree of brokenness for each of various kinds of materials that are represented in most stratigraphic units dating to the period shortly before the AD 79 eruption. These figures can be evaluated and compared

with one another in order to gain insights into the dynamics of refuse discard and how these vary across different kinds of materials and between specific stratigraphic units.

In the event, we were not able to continue our work with these materials in 2014 due to the fact that R. Miele had retired in the intervening period and there was no representative of SAPES available to supervise our work at the Insula dei Casti Amanti storage facility. Our involvement with Sub-Projects 3, 4, and 5 did not provide us the opportunity to carry out further work with the Sub-Project 2 materials during either the 2015 or the 2016 study season, and when the Project Director made inquiries of R. Berg in January, 2018 about the prospect of returning to our work with these during the 2018 field season she indicated that she was no longer amenable to us continuing our work with these materials. This sub-project thus remains uncompleted.

The evaluation of the four groups of materials undertaken in 2013, though preliminary in nature (We did not, for example, record ceramic vessel forms or evaluate use alteration.), nonetheless produced some quite interesting results. For instance, while the stratigraphic unit from Saggio D contained substantial amounts of objects in copper alloy and iron, there were virtually no fragments of vessel glass, with those present extremely small. This suggests that vessel glass was intensively recycled at Pompeii in the years prior to the town's destruction, whereas small items in copper alloy and iron were not. This stratigraphic unit also contained both a modest amount of highly residual material (e.g., black gloss ware) and a modest amount of materials that must have been discarded in the final few years before AD 79 (South Gallic Sigillata; *Firmalampen*). It also contained a significant number of tableware bowls of regional origin that retained an incrustation of pigment on their interior surface that may well have been used and discarded in connection with the redecoration of the adjacent Domus dei Pittori al Lavoro that was under way at the time of the town's destruction.

SUB-PROJECT 3: THE STUDY OF THE ARTIFACTS FROM THE TOWER VIII/PORTA DI NOLA REFUSE MIDDENS

When it became clear at the outset of the 2014 field season that the project team would not be able to continue its work with Insula dei Casti Amanti materials at that time, the Project Director proposed to G. Stefani, by then Direttore degli Scavi di Pompei, that we turn our attention to the analysis of the materials that had been recovered in the Università Statale di Milano excavations carried out in the area outside the Pompeii fortification wall between Tower VIII and the Porta di Nola. These materials were recovered during the autumn of 1978 in work undertaken under the direction of Cristina Chiaramonte Trerè (Chiaramonte Trerè 1986). This involved the excavation of three large middens (termed Cumulus 1, Cumulus 2, and Cumulus 3), and three test trenches (termed Saggio 1, Saggio 2, and Saggio 3). The Project Director previously had identified the study of these materials as a potential sub-project, as they represent the most substantial set of materials recovered at Pompeii in an extra-mural discard context under controlled excavation, and, although significant subsets of both the pottery (264 of ca. 1334 different vessels) and the vessel glass (8 of 28 different vessels) had been

documented in two *dissertazioni di laurea* completed at the U. Statale di Milano and then published as a book chapter (Romanazzi and Volonté 1986), the remaining classes of artifacts remained entirely unstudied and unpublished.

G. Stefani approved this proposed plan of study, which became Sub-Project 3. The eight *cassette* of materials from this excavation were housed in the Deposito Archeologico di San Paolino (popularly referred to at Pompeii as the “Archeomostro”), and the team accordingly set up a study station in the roofed porch area at the center of this facility that served as its main base of operations for the 2014, 2015, and the final week of the 2016 study seasons. Our workday extended from 8 AM to 1 PM during the 2014 study season, from 8 AM to 4:30/5:00 PM during the 2015 study season, and from 8 AM to 2:00 PM during the 2016 field season. Signore Domenico Busiello would meet us at the facility at the beginning of each work day, unlock the secure storage area so that we could move the Tower VIII/Porta di Nola materials and our equipment out onto the covered porch, then relock the storage area. At the end of the day either he, Dottoressa Laura D’Esposito, or Dottoressa Sara Matilde Masserolli would come to the storage facility, unlock the door so that we could move the materials and our equipment back inside, and then relock the door for the night. During these field seasons a similar regimen was followed by the publication team from the University of Cincinnati Porta Stabia Project, which worked alongside the PALHIP team at this facility for much of this period and with which we developed an excellent and much valued working relationship.

The Tower VIII/Porta di Nola materials consisted for the most part of pottery fragments and small, fairly simple items in a variety of different materials, and, based on our work with the complete and fragmentary materials from the Villa Regina, we concluded that it would be useful to create a third database designed specifically for the documentation of items of this kind, which we termed the Fragment Database. We used this for the documenting of the vast majority of the Tower VIII/Porta di Nola materials, although we produced a record in both the Fragment Database and the Object Database for a limited number of items that required more extensive documentation, as will be explained below.

The Fragment Database, created in FileMaker Pro 12, as were both the Object Database and the Deposit Database, is, in effect, a much abbreviated version of the Object Database, with 22 fields laid out on a single screen. Each specimen among the Tower VIII/Porta di Nola materials was assigned a PALHIP number, with the series beginning with PALHIP 200 so that there would be a gap between the beginning of the series and the end of the series of numbers assigned to the materials being documented in Sub-Project 4 (See below.) As was the case with Sub-Project 1, we used FileMaker Pro’s file sharing feature to enable the simultaneous updating of the database by all four or five members of the project team, one using the MacBook Pro laptop on which we ran the program and stored the database, and the others using a variety of devices, including two second-generation iPads, one fourth-generation iPad, a MacBook Air laptop, and an iPhone.

A total of 1442 different objects were described in a discreet record in the Fragment Database, being assigned PALHIP numbers in the sequences PALHIP 200-1737 and

1826-1878. These include fragments of 1334 ceramic vessels and lamps, fragments of 28 glass vessels, 3 glass tokens, 25 items or fragments of items in copper alloy (including three halved coins), 4 items or fragments of items in lead, 15 items or fragments of items in worked bone, 2 stone items, 15 terracotta loom weights, fragments of 11 architectural terracottas, 1 fragment of window glass, and 1 fragment of mosaic. We were unable to locate nine fragments of Internal Red-Slip Cookware that we suspect were removed from the *cassetta* in which they had been stored in connection with a study of this class of pottery that included vessels from Pompeii and never returned to their proper place.

The project developed and applied a novel classification of pottery fabrics of presumed local and regional origin for its work with the ceramics. Many of the artifacts that we documented were photographed in order to record details of manufacture and use alteration. Profile drawings were produced for a moderate number of ceramic vessels that were not illustrated in the 1986 publication, and photomicrographs were produced for a large number of pottery specimens in order to document their fabric. Professor Michael MacKinnon (University of Alberta, Canada, and the Porta Stabia Project) generously identified the small number of animal and human bones recovered in the excavations, providing the project with a brief report on these. Upon completion of our work with the materials we returned them to the groups in which they had been stored by the excavators, providing them with new plastic bags and labels.

The lack of detailed documentation relating to the excavation of the features in which these materials were recovered has rendered the interpretation of our results difficult. The project team did locate *giornali di scavo* in the archives at the Casa di Baccho relating to the excavation undertaken outside the walls in the vicinity of Tower 8 during the period 1976-1978 by SAPES prior to the assumption of responsibility for work in this area by the U. Statale di Milano in the autumn of 1978. This documentation, however, sheds little light on the nature of the contexts in which the materials under study were recovered. The Project Director contacted C. Chiaramonte Trerè to ascertain whether she might be in possession of documentation relating to the excavations or if any relevant documentation might be archived at the U. Statale di Milano, and she indicated that this was not the case. It remains possible that the *dissertazioni di laurea* prepared by L. Romanazzi and A.M. Volonté at the U. di Milano, which we have not been able to obtain, contain useful information on this question.

By combining the information that could be gleaned from the 1986 publication with internal evidence (numbers inked onto specimens, the ways in which specimens were grouped in plastic bags for storage, the cryptic indications written on the exteriors of the *cassette*) it was possible for us to identify with certainty the materials recovered in Saggio 1, to make a good, if not definitive argument that the materials in one specific *cassetta* are those recovered in Saggio 2, and that the remaining materials were probably recovered in Cumuli 1, 2, and 3, although which items were recovered in which of these three features remains entirely unclear. (The 1986 publication states that no materials were recovered from Saggio 3).

The analysis of these materials allows a substantial revision of the chronological appraisal presented in the 1986 publication, namely that ninety percent of the artifacts date to Julio-Claudian and early Flavian periods, suggesting that the creation of the middens may have occurred in connection with the clean-up of rubble following the earthquake of AD 62. The latest datable objects are, in fact, specimens of Italian Sigillata that represent forms that need date no later than the second quarter of the first century AD (that is, ca. AD 25-50), and the accumulation of these features presumably ceased at some point during this period. A substantial amount of the material, including numerous vessels of Campana A, Campana B, and thin-walled ware, dates to no later than the first half of the first century BC, and it is clear that these features contained a substantial number of artifacts that were discarded well before their closing date. There are also small amounts of what is clearly highly residual material, such as fragments of bucchero. This earlier closing date and the presence of a significant amount of residual material represent something of a negative result for the project, as its aim is to elucidate aspects of artifact life history in the final years of the life of the town.

The more extensive documentation of the materials recovered in these features produced by the project provides various new and interesting insights into practices of artifact use and discard at Pompeii. One unexpected result of our work is the evidence that it has produced for the operation of a pottery workshop in the form of several vessels that display more or less pronounced manufacturing defects caused by irregular-firing. These belong to three distinct wares – jars in a carbonate fabric, cooking and utilitarian vessels in a coarse ferruginous fabric, and thin-walled forms in a fine ferruginous fabric. They were presumably produced by a single workshop that was situated at no great distance from the features in which these materials were recovered, most likely in one of the unexcavated areas in Regio III or IV. The period of the workshop's operation likely fell somewhere during the period ca. 50 BC – AD 50.

During the course of the 2014 study season the project agreed to collaborate in a program of physical and compositional analysis involving the pottery with manufacturing defects with the archaeometric research group directed by Professor Vincenzo Morra of the Dipartimento delle Scienze della Terra at the Università di Napoli Federico Secondo. Morra's research group subjected samples taken from a set of 10 pottery specimens from the Torre VIII/Porta di Nola excavations to a battery of analyses aimed at characterizing their mineralogical and chemical composition, together with a set of pottery and clay specimens recovered in association with a pottery workshop partially uncovered by the Porta Stabia Project in Insula I.1. The results of this work confirmed our general appraisal of the three wares attested among the Tower VIII/Porta di Nola materials noted above that were based on our evaluation of the fabrics of these specimens under a digital microscope. As part of our focus on the evidence for pottery production among this group of materials we subjected a set of 35 specimens displaying manufacturing defects or other attributes of interest to a more detailed characterization than was undertaken for the other materials, producing in this connection a second, more comprehensive record in the Object Database. (I should note that I have in some instances accorded this work the status of a separate sub-project, referring to it as Sub-Project 5, but have chosen to subsume it under Sub-Project 3 for the purposes of this report.)

SUB-PROJECT 4: THE STUDY OF THE DOLIA FROM INSULA I.22

During the 2014 study season our inability to enjoy access to the Tower VIII/Porta di Nola materials after 1 PM provided the project team the opportunity to initiate another sub-project. The Project Director was aware of an interesting set of *dolia* resting on the AD 79 ground surface in Insula I.22, and, convinced that the study of these vessels would accord us the opportunity to gain useful insights into the manufacture and repair of this category of extremely large storage vessels, he proposed to G. Stefani that the project team be authorized to carry out a study of these. Consulting with Dottoressa Patrizia Tabone, the *funzionario* then responsible for Regio I, and Luana Toniolo, a *funzionario* charged with the inventorying and conservation of the heavy terracotta containers across the whole of Pompeii, we developed a plan to undertake this work, which was to be carried out principally by C. Cheung, with the occasional assistance of G. Tibbott and, beginning in 2015, of L. Marest-Caffey.

Excavations carried out by SAPES in 1959-1960 and again during the 1980s uncovered nearly the whole of Insula I.22. The northern, ca. one-eighth of the block was taken up by a modest residence given the name the Casa di Stabianus (I.22.2). The remainder of the block was given over to a large orchard (which, subsequent to its excavation, was somewhat confusingly planted as a vineyard) annexed to the house. A set of nine intact or nearly intact *dolia* (henceforth referred to as intact *dolia*) was found on the ground surface in the area between the house and the orchard, including six large containers to the west that remain partially buried under volcanic ejecta left in the northwest corner of the block and immured in a terrace wall built to retain this material, and three smaller containers to the east of these that were completely exposed in the excavation. Immediately to the south of the latter is a large pile of roof tiles and *dolium* and amphora fragments. The project team was authorized to examine the set of nine intact *dolia*, and to identify, map, and study any *dolium* fragments exposed on the surface in the area between the house and the orchard (including on the surface of the pile of *dolium* and other heavy ceramic fragments just noted) that provided information regarding the manufacture and repair of the container to which they had belonged, reuniting fragments that were found to belong to one of the intact *dolia* with the container, and to otherwise place the fragments back in the location in which we had found them following their documentation.

The work for this sub-project was undertaken on an occasional basis during the final three weeks of the 2014 season, the final three weeks of the 2015 field season, and the final week of the 2016 season. We set aside a block of 50 PALHIP numbers for the documentation of this material, beginning with PALHIP 150 in order to leave a gap between the block of Sub-Project 1 numbers and the numbers for this sub-project. In the event, only 20 numbers were employed, with PALHIP 150-158 used for the intact *dolia* and 159-170 employed for the fragments. Records were produced for all 21 items in the Object Database.

The intact *dolia* were examined for evidence regarding their forming, which was accomplished by coil building, and their repair, which involved the fabrication of various fill and binding elements in lead or a lead alloy and, in at least one case, iron. We also measured the main dimensions of these containers, photographed them to document details of their manufacture and repair, and produced photomicrographs of their fabric using a DinoLite digital microscope. The *dolium* fragments were similarly documented, and their approximate locations plotted on a plan of the block provided to the team by SAPES.

This work has provided a wealth of information regarding the manufacture and, in particular, the repair of *dolia* at Pompeii. It served as the point of departure for a PhD dissertation completed by C. Cheung at UCB in 2018 that focused on the *dolium* industry and involved a broader study of *dolia* at Pompeii, Ostia, and Cosa.

SUB-PROJECT 5: THE STUDY OF A SET OF AMPHORAS FROM OPLONTIS VILLA B

Given the fact that Sub-Projects 3 and 4 had been nearly completed by the end of the 2015 study season it was decided to begin a new sub-project for the 2016 field season and to focus the bulk of the team's attention on this initiative. The Project Director had as early as 2012 discussed with Professor John Clarke (University of Texas, USA), the director of the Oplontis Project, the prospect of including a study of a subset of the ca. 1200 amphoras that had been recovered at Oplontis Villa B as part of PALHIP, and for the 2016 field season he arranged with Clarke to undertake a study of this kind.

Oplontis Villa B, a storehouse/wine bottling facility with a residence on the second floor, and not a villa, was excavated nearly in its entirety by SAPES during the period 1977-1982 under the direction of Dottoressa Adele Lagi, with the bulk of the material recovered never subjected to detailed study. Since 2012 the University of Texas Oplontis Project has been carrying out a program of limited test excavation at Villa B and studying both the standing architectural remains and the portable objects recovered at the site. (For this work see Gazda and Clarke 2016.) Among the latter are an estimated ca. 1200 amphoras that were found stacked in inverted position in two to three superimposed rows under the portico that surrounded the courtyard at the center of the structure. These were almost exclusively previously used Dressel 2/4 wine containers, belonging for the most part to the variant of local origin. They had presumably been placed in storage for reconditioning and reuse as packaging containers for Vesuvian wine.

The project team set up a research station under the reconstructed North Portico of Villa B and carried out all of its work at this location. Our work day lasted from 8:30 AM to 4:30 PM. For the first of our three weeks of work at Villa B we overlapped with the end of the field season of the University of Texas team. After that we had the site to ourselves. During this period we carried out the detailed description of 34 intact or nearly intact amphoras and fragments of three additional amphoras that presented interesting features. The choice of these vessels was determined by pragmatic

considerations, as the extraction of amphoras from the rooms in which they were stored was a complicated procedure, and we agreed with Jennifer Muslin, the member of the Texas team charged with the study of the materials from the site, to limit our work to a set of containers that she judged to be readily accessible. These were assigned PALHIP numbers in the sequence PALHIP 1836-1872. For this work we employed the Object Database and the file sharing routine and descriptive system that we had developed for Sub-Project 1 and then elaborated and improved in the course of Sub-Projects 3 and 4, modifying the latter to take into account the peculiar characteristics of amphoras (the presence of a pitch lining, stoppering, *tituli picti*, tap holes and tap-hole plugs; the challenges involved in the measuring and weighing large ceramic containers).

In addition to the detailed description and photographing of the amphoras with a view to understanding the process whereby they were manufactured and their use, we performed the hyperspectral (ultra-violet, infra-red) photography of the upper portions of several of the containers in an effort to bring out fugitive *tituli picti*. We also employed a Structure Sensor scanner – an inexpensive structured light scanner that mounts on and operates by interfacing with an iPad – to produce a three-dimensional model of most of the amphoras studied. The results achieved with hyperspectral photography were disappointing, with the images obtained mostly inferior to those made by means of visible light photography. The three-dimensional models, in contrast, proved to be of considerable interest, allowing us to obtain accurate measurements of various parts of the containers and potentially to produce both profile drawings and estimates of container capacity.

From the evaluation of information presented on wooden labels attached to the containers by the excavators and publically available archival material we were able to conclude that the amphoras that we studied had all formed part of a three-level stack near the eastern end of the North Portico, formed part of a three-level stack near the western end of the North Portico, or been set on the ground near the latter feature. The 34 complete amphoras consisted of 33 Dressel 2/4 wine amphoras and 1 Dressel 21-22 fish products container. Twenty-eight of the Dressel 2/4s were certainly examples of the variant of local origin (Panella and Fano Type 3). Of the remaining 5 of these containers, 3 were certainly not examples of this variant, and the other 2 were probably not examples of this variant. Of the 3 fragmentary amphoras, 1 may not have been an example of this variant and for the other 2 the variant remains unclear. The example of the Dressel 21-22 amphora belonged to the Botte Type 3 variant, which originated in western coastal Italy somewhere between northern Campania and Tuscany.

Our work shed considerable light on the manufacturing sequence for the production of Dressel 2-4 amphoras and suggests that these were designed to correspond to a standardized size module measuring one foot in width, one foot in depth, and three feet in height. The fact that these containers corresponded to this module presumably facilitated their storage and transport. Several of the containers had from one to five tap holes drilled in their wall and one retained its cork stopper in place, indicating that the emptying of these vessels often involved their tapping rather than their unstoppering. Some containers possessed tap holes that had been stoppered with a plug made by inserting into the hole a small disk made by shaping a sherd and then covering this with

small patch consisting of a friable substance that appears to be either clay or a mixture of clay and plaster. That it was a regular practice to entrust as much as 26 liters of wine (or some other foodstuff) to such a seemingly flimsy plug is somewhat surprising. This evidence raises interesting questions regarding the incidence of the reuse of amphoras for the packaging of wine and other foodstuffs in the Roman world.

We took advantage of the opportunity to examine and photograph the sole group of stacked amphoras left in situ at the site by the excavators. This feature, located at the western end of the North Portico, appears to have consisted of three layers of 36 amphoras arranged in 6 East-West rows of 6 containers each, for a total of 108, or 9 dozens of amphoras. This arrangement leaned northward against the rear wall of the portico and was braced on its east side by an upright plank, the cast of which is visible in the still-in-situ lapilli that buried the stack.

We provided a detailed report on our work to the University of Texas Oplontis Project in August, 2016. We have also discussed our results with Dottressa Alessandra Pecci (Universidad de Barcelona and the University of Texas Oplontis Project), a specialist responsible for a program of residue analysis involving the Villa B amphoras.

WORK ACCOMPLISHED IN 2016-2017

Although no study season was undertaken during the summer of 2017, considerable progress was registered in relation to PALHIP during the 2016-2017 academic year. Specifically, the Project Director designed, built, launched, and began to populate with research content *RES ROMANAE*, the website of the his laboratory, the UCB Roman Material Culture Laboratory (<http://resromanae.berkeley.edu/>). This serves as the vehicle for the dissemination of various research products and research tools being produced by PALHIP, and will eventually serve as the venue for the presentation of the basic data collected by the project. For the PALHIP landing page, see <http://resromanae.berkeley.edu/node/1109>. For the pages for *La Creta Fatta Concreta: The Italian Ceramic Clay Project*, and *The Palatine East Pottery Project* - two other research projects that the Project Director directs that provide some more developed idea of how the PALHIP data will be presented - see <http://resromanae.berkeley.edu/node/101> and <http://resromanae.berkeley.edu/node/100>.

PALHIP PHASE 2: PLANNING FOR THE 2018 STUDY SEASON AND BEYOND

For a second five-year research cycle for PALHIP the Project Director proposed to SAPES in February, 2018 to undertake the detailed description of the assemblages of portable objects recovered in the excavation of Regio I Insula 11, with this work projected to begin during the Summer of 2018. This block was chosen as the focus for the second phase of our research due to the fact that it contains seven or eight residences of modest dimensions, with only a relatively small portion of its area taken up by establishments dedicated to commercial activities. The basic data for these residences

are summarized in Table 1. The aim of this work would be to develop datasets pertaining to the household possessions for these residences that provide a robust picture of patterns of the acquisition and use of material culture in the middle to lower end of the socio-economic scale in the town of Pompeii during the period immediately prior to its destruction in AD 79. These results might, for example, be compared usefully with those obtained for a rural residence in Sub-Project 1 and with those obtained by the research projects carried out by Penelope Allison (Allison 2004) during the 1980s and 1990s and by Nicholas Ray (Ray 2009) during the 2000s, which both focused primarily on household possessions in sets of substantially larger atrium houses at Pompeii.

The northern edge of this block was excavated under the direction of V. Spinazzola during the period 1912-1913, with the remainder excavated under the direction of A. Maiuri during the years 1952-1955, 1958, and 1960. The architecture and decoration of several of the residences in the block were the subject of specific studies during the later 20th century (Miele 1989; Tilloca 1997; Cerato 2000; Mileti 2000; Vuat 2000). M. Armitt carried out a detailed analysis of the assemblage of portable objects from one of these residences – the Casa della Venere in Bikini (I.11.6.7) - in the 1980s (Armitt 1989), confirming that a substantial amount of the artifact assemblage (if probably only a minor subset of the ceramic vessels) had been collected and retained in the course of Maiuri’s excavations. This circumstance was confirmed by Tassinari’s study of the bronze vessels from Pompeii (Tassinari 1993) and Scatozza Höricht’s study of the glass vessels from the town (Scatozza Höricht 2012), which both catalogued substantial numbers of items from the properties in this block. Adding to the interest of the sets of materials from the residences in Insula I.11 is the fact that Armitt provided her data pertaining to the assemblage from the Casa della Venere in Bikini to Allison, who included this residence in her study. Ray, in turn, included Allison’s data relating to this residence in his study. The assemblage from this residence thus offers the prospect of a robust link between PALHIP’S proposed program of study and these two important investigations of household assemblages at Pompeii.

Address	Function(s)	Name	Ground Floor	Quartile
I.11.1.2	Caupona & shop		190 m ²	3rd
I.11.3	Taberna & shop		10 m ²	1st
I.11.4	Shop		10 m ²	1st
I.11.5.8	House & shop	C. di L. Habonius Primus	325 m ²	3rd
I.11.6.7	House	C. della Venere in Bikini	170 m ²	2nd
I.11.10.11	Caupona & vineyard	Caupona of Euxinus and Iustus	400 m ²	4th
I.11.12	House	C. di Euxinus	340 m ²	3rd
I.11.13	House		170 m ²	2nd

I.11.14	House	C. del Cherem	400 m ²	4th
I.11.15.9	House	C. del Piano Superiore	460 m ²	4th
I.11.16	House & hospitium	C. di Saturnius	150 m ²	2nd
I.11.17	House	C. Imperiale	140 m ²	2nd

Table 1. Summary of basic data for Insula I.11. The information in the column labeled Quartile refers to the quartile system for characterizing properties at Pompeii developed by A. Wallace-Hadrill.

For the Summer of 2018 the Project Director proposed a four-week season to take place during the period July 2-27 that focused first on the characterization of the assemblage from the Casa di L. Habonius Primus (I.11.5.8) (aka the Casa di Lollius Synhodus), as the available evidence suggests that this consists of only a modest number of items, to be followed by the initiation of the characterization of the considerably larger assemblage from the Casa Imperiale (I.11.17), with this operation to be completed during the Summer of 2019. This work would involve the application of approaches to the characterization of portable material culture developed principally in the completion of Sub-Project 1 and refined in various ways in the context of the other four sub-projects.

The Project Director was granted authorization to undertake the plan of work proposed for July, 2018 in a letter issued by Soprintendente M. Osanna and signed by Direttore degli Scavi di Pompei G. Stefani on May 2, 2018. The study of the objects from Insula I.11 will be referred to as Sub-Project 6, with the study of the materials from each individual property designated as a sub-sub-project (e.g., the study of the materials from I.11.5.6 = Sub-Project 6.1, the study of the materials from I.11.17 = Sub-Project 6.2, and so forth).

APPENDIX: SCHOLARLY PRODUCTS RELATING TO PALHIP

Publications

Forthcoming. Peña, J.T. “Recycling in the Roman world: concepts, questions, materials, and organization.” Chapter for publication in C. Duckworth, and A. Wilson eds., *Recycling in the ancient economy. Oxford studies on the Roman economy.* (21,867 words; to appear 2018).

Forthcoming. Peña, J.T. “Evidence for pottery production from the Torre VIII/Porta di Nola refuse middens at Pompeii.” article for L. Toniolo and M. Osanna eds. *Fecisti Cretaria. Produzione e circolazione ceramica a Pompei. Stato degli studi e prospettive di ricerca* (5,835 words, 10 figures; to appear 2018).

Forthcoming. Cheung, C. and Tibbott, G. “The Dolia of Regio I, Insula 22: Evidence for the production and repair of dolia.” in L. Toniolo and M. Osanna eds. *Fecisti Cretaria.*

Produzione e circolazione ceramica a Pompei: Stato degli studi e prospettive di ricerca (to appear 2018).

Forthcoming. Peña, J.T. “The reuse of transport amphoras as packaging containers in the Roman world: an overview.” article for publication in D. Bernal, M. Bonifay, and A. Pecci eds. *Roman amphora contents: reflecting on maritime trade of foodstuffs in antiquity*. Roman and late antique Mediterranean pottery 9 (12,751 words, 4 figures; to appear 2018).

2015 Peña, J.T. and Cheung, C. “The Pompeii Artifact Life History Project: conceptual basis and results of first three seasons.” In C. Gambardella ed., *Heritage and technology. Mind, knowledge experience. Le Vie degli Mercanti XIII Forum Internazionale di Studi* (Fabbrica della conoscenza 56), 2115-23.

2014 Peña, J.T. “The Pompeii Artifact Life History Project: conceptual background and first season’s results.” *Rei cretariae romanae fautorum acta* 43, 297-304.

Web Publication

The Pompeii Artifact Life History Project. (ongoing web publication project) (As of June 30, 2017 contained 2,128 words and 6 images)

<http://resromanae.berkeley.edu/node/1109>

PhD Dissertations

Cheung, C. 2018. *Storage and Packaging for an Empire: Agricultural Economies in West-Central Italy, c. 200 BCE – 200 CE*. PhD dissertation, University of California, Berkeley.

Presentations at Professional Meetings

2018 Cheung, C. “Precious Pots: Making and Repairing Dolia,” in “Making Value and the Value of Making: Theory and Practice in Craft Production” panel, 19th International Congress of Classical Archaeology, Cologne/Bonn, Germany.

2018 Cheung, C. “Fragile Giants: The Manufacture and Repair of Dolia in West-Central Italy,” in “The Archaeology of Roman Economy and Production,” AIA Annual Meeting, Boston, MA.

2018 Cheung, C., Tibbott, G., and Chang, S. “Calculating Material Use in Dolium Production: A Synthetic Approach,” (with G. Tibbott and S. Chang), in “The Archaeology of Roman Economy and Production,” AIA Annual Meeting, Boston, MA.

2017 Peña, J.T. “Recycling in the Roman world: definitions, materials, and organization.” Invited lecture for international conference “Oxford Roman Economy Project: Recycling and the Ancient Economy.” University of Oxford, Oxford, United Kingdom, 9/26/17.

2017 Peña, J.T. and Cheung, C. “The Pompeii Artifact Life History Project: new methodological approaches and illustrative results.” A.I.A. Annual Meeting, Toronto ON, 1/6/17.

2017 Cheung, C. “*Dolia Pompeiana*: Storage and Packaging in Pompeii and the Vesuvian Region,” Symposium Campanum on “Recent Work in Vesuvian Lands: New Projects, Practices, and Approaches,” Villa Vergiliana, Cuma, Italy.

2017 Cheung, C. “Technologies and Industries for Storage and Packaging in West-Central Italy,” Associazione Internazionale di Archeologia Classica, Romanian Academy in Rome.

2017 Cheung, C. and Tibbott, G. “The Dolia of Regio I, Insula 22: Evidence for the Production and Repair of Dolia,” (poster), AIA Annual Meeting, Toronto, Canada.

2016 Guarino V., Arienzo I., Cappelletti P., D’Antonio M., De Bonis A., Peña J.T., Tibbot G., and Morra V. “Minero-petrographic and geochemical characterisation of pottery from Pompeii.” (poster) 88° Congresso of the Società Geologica Italiana, Naples, Italy, 9/7-9/16.

2016 Peña, J.T. “Evidenze per la produzione ceramica dagli immondezzai nella zona Torre VIII/Porta di Nola.” Invited for international conference organized by the Soprintendenza Speciale per i Beni Archeologici Pompei, Ercolano e Stabia “Fecisti Cretaria. Produzione e Circolazione Ceramica a Pompei. Stato degli Studi e Prospettive di Ricerca.” Pompei, Italy, 6/17/16.

2016 Cheung, C., and Tibbott, G. “The Dolia of Regio I, Insula 22: Evidence for the Production and Repair of Dolia,” (poster), international conference organized by the Soprintendenza Speciale per i Beni Archeologici Pompei, Ercolano e Stabia: “Fecisti Cretaria. Produzione e Circolazione Ceramica a Pompei: Stato degli Studi e Prospettive di Ricerca,” Pompei, Italy.

2015 Peña, J.T. “The reuse of transport amphoras as packaging containers in the Roman world: an overview.” Invited for international conference “Roman Amphorae Contents. Reflecting on the maritime commerce of foodstuffs in antiquity.” Cádiz, Spain, 10/5/15.

2015 Cheung, C. “Evidence for the Production and Repair of Dolia at Regio I, Insula 22 (Pompeii),” in “Urban Life and Infrastructure” panel, AIA Annual Meeting, New Orleans, LA.

2015 Peña, J.T. and Cheung, C. “The Pompeii Artifact Life History Project: conceptual basis and results of first three seasons.” XIII International Symposium “Le Vie dei Mercanti,” Capri, Italy, 6/12/15.

2014 Peña, J.T., and Cheung, C. “Pompeii Artifact Life History Project: 2014 season.” Fourth BAIR conference, Berkeley, CA, 10/4/14.

2013 Peña, J.T., Cheung, C., and Niespolo, E. “The Pompeii Artifact Life History Project: aims and first season’s results.” A.I.A. Annual Meeting, Seattle, WA 1/5/13.

2012 Peña, J.T. “The Pompeii Artifact Life History Project: conceptual background and first season’s results.” 28th Congress of the *Rei Cretariae Romanae Fautores*, Catania, Italy, 9/26/12.

Public Lectures

2018 Peña, J.T. “New wine in old bottles: the reuse and recycling of pottery in the Roman world.” Des Moines Art Center, Des Moines, IA, planned for 9/9/18.

2018 Peña, J.T. “The Pompeii Artifact Life History Project – the study of the life histories of objects in a Roman town.” Rome Society of Archaeological Institute of America/John Cabot University, Rome, Italy, 6/14/18.

2017 Cheung, C. “Storage and Packaging for an Empire: Agricultural Economies of West-Central Italy,” Shop Talk series, American Academy in Rome.

2016 Peña, J.T. “Stories of Stuff – from Pompeii.” Central Texas Society of Archaeological Institute of America/University of Texas, Austin, TX, 3/23/16.

2016 “Peña, J.T. Stories of Stuff – from Pompeii.” Oklahoma Society of Archaeological Institute of America/University of Oklahoma, Norman, OK, 3/22/16.

2016 Peña, J.T. “Stories of Stuff – from Pompeii.” San Diego Society of Archaeological Institute of America/San Diego State University, San Diego, CA, invited for 3/18/16.

2015 Peña, J.T. “Stories of Stuff – from Pompeii.” Lincoln/Omaha Society of Archaeological Institute of America/Joslyn Art Museum, Omaha, NE, 12/06/15.

2015 Peña, J.T. “Stories of Stuff – from Pompeii.” Walla Walla Society of Archaeological Institute of America/Whitman College, Walla Walla, WA, 12/03/15.

2015 Peña, J.T. “The Pompeii Artifact Life History Project.” School of Anthropology, University of Arizona, Tucson, Tucson, AZ, 11/13/15.

2015 Peña, J.T. “Stories of Stuff – from Pompeii.” Tucson Society of Archaeological Institute of America/University of Arizona, Tucson, AZ, 11/12/15.

2015 Peña, J.T. “Stories of Stuff – from Pompeii.” Central Missouri Society of Archaeological Institute of America/University of Missouri, Columbia, MO, 10/29/15.

2015 Peña, J.T. “Stories of Stuff – from Pompeii.” Dallas/Ft Worth Society of Archaeological Institute of America/Southern Methodist University, Dallas, TX, 10/16/15.

2015 Peña, J.T. “Tracing the Life History of Objects at Pompeii.” Legion of Honor/Fine Arts Museums of San Francisco Ancient Art Council Lecture Series, San Francisco, CA, 2/21/15.

2015 Peña, J.T. “The Pompeii Artifact Life History Project: Results of the 2014 field season.” (with C. Cheung) Archaeological Research Facility, University of California, Berkeley, Berkeley CA, 1/28/15.

2014 Peña, J.T. “Investigating the Life History of Objects at Pompeii.” Baltimore Society of the Archaeological Institute of America/Johns Hopkins University, Baltimore, MD, 2/28/14.

2014 Peña, J.T. “Investigating the Life History of Objects at Pompeii.” Peter H. Von Blanckenhagen Memorial Lecture, Narragansett Society of the Archaeological Institute of America/Brown University, Providence RI, 2/27/14.

2014 Peña, J.T. “Investigating the Life History of Objects at Pompeii.” Department of Classics, Wesleyan University, Middletown CT, 2/26/14.

2014 Peña, J.T. “Investigating the Life History of Objects at Pompeii.” Sheldon H. Solow Lecture, New Haven Society of the Archaeological Institute of America/Yale University, New Haven CT, 2/25/14.

2013 Peña, J.T. “Investigating the Life History of Objects at Pompeii.” Stanford Society of the Archaeological Institute of America/Stanford University, Stanford, CA, 2/15/13.

Research Tools

(Available for download on the RES ROMANAE website at <http://resromanae.berkeley.edu/node/3572>)

Object Database (clone).

Fragment Database (clone).

Deposit Database (clone).

Photomicrograph frames.

Vessel Capacity Tutorial.

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Vuat, F. 2000. "La casa I, 11,5-8 e le sue fasi edilizie." *Rivista di Studi Pompeiani* 11: 133-151.