

# **Text and Context in a Karanis Granary:**

Reconciling Papyrological and Archaeological Data from Granary C123

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“Archaeology is like trying to do a 3000 piece puzzle... but you only have 1000 of the pieces and you have no idea what it’s supposed to look like...” (Becker, 2011)



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### Abstract:

The Graeco-Roman town Karanis in Egypt, established under Ptolemy II around 250BCE, is an exemplary site for the integration of previous excavation and data collection with a modern interdisciplinary approach and reassessment. I approached Karanis by coalescing the methods and perspectives afforded by the disciplines of archaeology and papyrology. I focused on the reconciliation of papyri from granary C123 and its archaeological environment: the architecture and other artifacts associated with each papyrological findspot. This paper discusses the architectural elements, construction, and artifacts, including when possible the restoration and quick preliminary assessment of papyri, of each space in an attempt to identify patterns of distribution throughout the building and its phases. Of particular interest is what these patterns reveal concerning the use of the various artifacts, the operation of the granary, and particularly, the occupational sequence. In summary, the use of archaeological and papyrological data and methodology allowed me to distinguish gradients in the distribution of artifacts, including papyri, throughout the structure, illustrate differences in function of the vaults throughout time- various types of storage- and in the society- public vs. private-, examine the treatment, storage and secondary uses of papyri and other artifacts, show extended activity in the granary and propose a new understanding of the accessibility and use of the granary as a whole over the 2<sup>nd</sup> and 3<sup>rd</sup> occupation levels.

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*Nota Bene: mentions of the “Interim Report” references Boak and Peterson; APIS references the Advanced Papyrological System*

## Introduction

To a certain extent the methodology of archaeology has become not only concerned with the interpretation of the stratigraphic record itself but also with the remnants of previous scholarly, and not so-scholarly, work. The field of archaeology is relatively new and still trying to establish its place in the much larger scientific community. The rapid development of the field, propelled by the initial rush for antiquities, coupled with the inherent funding issues, legal matters and cultural property controversies leaves modern archaeologists a difficult task of orienting their own work in this ever changing world. Additionally, they must reconcile their own data and research interests with the complex and at times contradictory history of archaeology itself. The Graeco- Roman Egyptian town Karanis is no exception; in fact it is an exemplary site for the integration of previous excavation and data collection with a modern interdisciplinary approach and reassessment.

Karanis has been the focus of much scholarly work since the University of Michigan's excavations from 1925-1935. The Kelsey Museum of Archaeology houses over 45,000 objects from the Graeco-Roman Egyptian town and thousands of archival photos, maps and correspondence associated with the excavation, while the Papyrology Collection at the University of Michigan is still actively restoring, cataloging and publishing the extensive papyrological remains found at the site. A flurry of publications followed the excavations hand in hand with the processing of objects including a sizeable effort by Elinor M. Husselman. She made accessible a summary of the Excavation Reports of Director Enoch E. Peterson, papyri publications and more in-depth analyses of particular site elements such as the granaries. Since then students, professors and professionals alike have written many papers analyzing a particular type of artifact or structure, in which scholars often struggle to make sense of the complicated

stratigraphy the site offers and the antiquated methodology utilized upon excavation. In recent work on Karanis, exemplified by Peter Van Minnen<sup>1</sup>, Robert P. Stephan<sup>2</sup> and Arthur Verhoogt<sup>3</sup>, there has been a notable effort by papyrologists to incorporate archaeological context into the study of papyrology. Additionally, the recent work of Lisa Nevett exemplifies an archaeologist's approach to Karanis and the methodology behind utilizing archaeological and textual sources in tandem<sup>4</sup>. As an archaeologist I wanted to approach Karanis with a similar intent: to coalesce the methods and perspectives afforded by the disciplines of archaeology and papyrology as well as ultimately the information yielded by the objects each field centers around. This paper focuses on the reconciliation of papyri<sup>5</sup> from granary C123 and its archaeological environment: the architecture and other artifacts associated with each papyrological findspot.

My focus on the reconciliation of papyrological and archaeological data has stemmed from a variety of observations in my time as a student. As an archaeologist with a proclivity for languages and text I have often found that scholars in the fields of archaeology and papyrology have failed to realize the potential of an interdisciplinary approach<sup>6</sup>. An example is the standard format of papyri editions, in which there is a surprising lack of information regarding the archaeological provenance of the papyri discussed. The preliminary edition of a text is the basic source of information from which others continue prosopographic analysis, textual interpretation, and further translation. The isolation of a text from its archaeological context in the framework

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<sup>1</sup> Van Minnen, Peter. "Deserted Villages: Two Late Antique Town Sites in Egypt." *Bulletin of the American Society of Papyrologists* 32 (1995): 41-56. Print.

<sup>2</sup> Stephan, Robert P. "Texts and Artifacts: A Spatial Analysis of Papyri at Karanis." *Past Imperfect* 16 (2010): 92-131. Web. 24 Mar. 2012. <<http://ejournals.library.ualberta.ca/index.php/pi/article/view/9273>>.

<sup>3</sup> Stephan, R. P. and A. Verhoogt. 2005. 'Text and Context in the Archive of Tiberianus (Karanis, Egypt; 2<sup>nd</sup> century AD)', *Bulletin of the American Society of Papyrologists* 42: 189-201. and Verhoogt, Arthur. "Papyri in the Archaeological Record." *The Oxford Handbook of Roman Egypt*. Corby: Oxford UP, 2012. Print.

<sup>4</sup> Nevett, Lisa. "Family and Household, Ancient History and Archaeology: A Case Study from Roman Egypt." *A Companion to Families in the Greek and Roman Worlds*. Ed. Beryl Rawson. Chichester, West Sussex, U.K.: Wiley-Blackwell, 2011. Print.

<sup>5</sup> All papyri discussed in this paper are written in Greek, unless noted otherwise.

<sup>6</sup> I am only one of many who have also come to this conclusion and there certainly exists a strong desire to remedy this, both in academic work and in the curricula of several institutions.

of a preliminary edition contributes to the continued segregation of the document in future work. This continued isolation has certainly been a factor in the distancing, conceptually and physically, of papyri from other artifacts that prevails both in papyrology and archaeology. The wealth of information and data on Karanis available, in conjunction with the potential and need for additional analysis regarding the complex stratigraphy and documentation of the site, afforded me an exceptional opportunity to reconceptualize the approach to archaeological artifacts, including papyri.

The reconstruction of the historical and archaeological context of papyri parallels the establishment of occupational phases and abandonment processes unique to the individual structures and even the rooms within them; it is only with the conjunction of the two that the stratigraphy and history of Karanis can be understood. The identification of the archaeological context and the attribution of papyri to occupation phases can be extremely useful in a variety of applications. Patterns in distribution, contents and careful re-analysis of records can help confirm and reconstruct papyri groups as an archive, which can then be very useful in the reconstruction of the occupants and furthermore the demographics of the town itself. Furthermore, the study of papyri findspots in the context of their surrounding architecture and accompanying materials can be informative about the secondary uses of papyri, storage of papyri, function of the broader structure and the various stages of occupation and abandonment which in turn affords a frame of reference for the contents of the papyri themselves.

The operation of the many granaries found at Karanis has been the topic of several studies including Husselman's *The Granaries of Karanis* (1952). The granaries featured prominently in the landscape and society of the town, which functioned in the broader wheat-based economy of Graeco-Roman Egypt; of particular note to both past and present investigators

is the wealth of texts associated with the granaries. Granary C123 (Figures 1& 2; Table 1) housed an abundance of a variety of objects, including a wealth of papyri, and, as discussed below, occupied an interesting and industrious area of the town rendering it an interesting test case for the recontextualization of papyri with its archaeological context. In her discussion of granary C123, one of the largest at the site, Husselman states “several of the great granaries of the C level continued in use in the B level... the upper floor of storage vaults of C123 was still in use, although the lower level, the underground pits, and the open storage bins had been completely filled in and abandoned” (pg 65) and moves on quickly without any reference to the archaeology to support her claim. Additionally, she states that “Some time after C123 was built and after the level of the court-yard had risen about one meter, several of the storage rooms were converted into dwelling space. The bins were filled in to make a new floor at the height of the original door, and three doors opened in the north wall to give access to the courtyard” (pg 62). A further statement accompanied by recognition of potential by Husselman and Youtie in the *Third Series of Papyrus from Karanis* challenged me to consider the potential for a new examination of Granary C123:

*The attempt to draw well-reasoned and well-substantiated conclusions from the mass of disjointed fragments [papyri] is also doomed to failure. Nevertheless the close study of the bits and pieces from a limited area does frequently enable us to assemble scattered fragments of single documents, and sometimes to establish relationships between them, as in C123. (pg 9)*

These references provoked me to wonder what a reassessment of the archaeological remains and excavation records could reveal about the occupation, construction and abandonment processes of the structure. Over the course of this research and paper I have found that the variety of objects are certainly consistent with the interpretation presented by Husselman and Youtie, particularly associated with the conversion of several storage bins into “dwelling” spaces, however, I put forth the scenario involving a more complex interaction between the lower and

upper floors when the lower floors were presumably “completely abandoned”. The presence of papyri and other artifacts in these “abandoned” areas dating to the 3<sup>rd</sup> and 4<sup>th</sup> centuries CE, particularly in vaults BBJ/CCJ, suggest more than an infiltration of debris from the upper “active” floor. I propose that the residents of this later phase may have maintained access to at least certain parts of the lower level. The admixture of objects spanning domestic, agricultural and commercial realms, often fragmentary in nature, suggest that the bins of the southern vaults were used for storage of non-agricultural products (i.e. grain) during later occupation, consistent with decline of use of the lower vaults described by Husselman. Furthermore, the lack of objects and specimens associated directly with grain might be indicative of their removal from the lower vaults when their primary function changed and relocated possibly, to the upper vaults where presumably grain storage continued or to another functioning granary all together. Additionally, I propose that the function of the papyri associated with the granary, both directly concerning the processing of wheat and the private matters of the individuals involved, has also transformed from primary informational resources to secondary sources of fuel. While the sequence of these events still remain relative, it is possible that continued work and restoration, particularly on the thousands of untouched papyri, might help to ascertain dates for these periods, as well as illuminate the private and public functions of the granary. Ultimately, understanding the history of archaeology and the perspectives, objectives and practices used in the past can be just as telling and misleading as the archaeological record itself, and certainly, further examination may very well elucidate useful information.

### Objectives and Methodology

In my thesis I will first introduce the Graeco-Roman Egyptian town of Karanis, address the problematic features of the site including its stratigraphy and documentation, which both



necessitate and limit my re-analysis of the archaeological context of C123, and discuss relevant aspects of papyrology. The bulk of this paper is comprised of a room-by-room assessment of the architecture, excavation report records and artifacts found, including, when possible, the restoration and a quick preliminary assessment of the papyri<sup>7</sup>. This collaborative and multidisciplinary work has motivated the restoration and preliminary study of several texts, identifying the potential in the continuation of such study of revealing a more complete picture of the granary and its inhabitants. In the discussion relevant patterns in distribution and association will be discussed as well as their implications for the interpretation of the granary C123. Additionally, identified overarching issues and concepts, such as accessibility and function, interpreting documentation, and future projects will be discussed.

Initially, my intention was to examine all the artifacts room by room in Granary C123, noting the architectural elements, construction, and artifacts, including papyri, in an attempt to identify patterns of distribution in both papyri and other artifacts. Of particular interest is what these patterns reveal concerning the use of the various artifacts, the operation of the granary and particularly the occupational sequence. Additionally, this research serves as a test case for an interdisciplinary approach emphasizing the initial analysis of papyri in its archaeological context along sides the other artifacts. Unfortunately, it quickly became apparent that the thoroughness of the approach coupled with the number of artifacts and rooms (169, see Figure 1 and Table 1) would render this scope far too large for this thesis. Many of the records, including the original interim reports and archival photographs are in manuscript form or originals, although the Kelsey Museum is in the process of digitizing<sup>8</sup>, and other artifact information is distributed between several databases which lengthened the retrieval and organization process. Thus I limited my

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<sup>7</sup> Provided by Leyla Lau-Lamb and Arthur Verhoogt respectively.

<sup>8</sup> Many of the photographs used in this thesis I digitized at the Kelsey Museum, provided by the Museum Collection Manager Sebastian Encina, and will be added to the database and collection archives.

focus to the southern portion of the building: the entrance from street CS160 to the southern vaults, the main passageway and associated underground chambers of the southern vaults and two samples vaults CCJ and CF. I started with the southern vaults due to a marked higher density of artifacts (Table 1), which decreased through the residential quarters and courtyard and further into the northern vaults. Speculations about this shift in object frequencies will be discussed below. I chose to continue the “tour” of the granary in order, despite the limitations in size until I had covered the entrance rooms and hallways, the main passageway CE and the underground storage rooms DE<sup>1-6</sup>. I intend to continue this tour in future work and saw no reason to skip these high trafficked areas and lower traffic bins as they have the potential to yield interesting suggestions about the use of the granary and the time frame or at least the sequence of occupation. I realized that because of time constraints I would only be able to complete two of the lower southern vaults and picked the first vault CF to give a representative sample (it had a variety and frequency of material relatively consistent with other vaults without any particularly noticeable depositional clusters- Figure 3) and vault CCJ because of an interesting designation concerning the findspots of the papyri which granted me the opportunity to discuss the second floor of vaults and the interaction between them over time.

My hope is that this process, combining the methods of both papyrologists and archaeologists, will afford new means to examine archaeological data and to encourage others to take advantage of both papyrological and archaeological data in their own work. Additionally, I hope to encourage scholars and laymen alike to recognize that papyri themselves are in fact artifacts and thus should remain intact in the discussion of archaeology and importantly vice versa: archaeology needs to be a fundamental component of the study of papyri.

## 1.1 Karanis

Around 250 BCE, Karanis, near modern Kom Aushim, was established under Ptolemy II Philadelphus in the northeast corner of Egypt's Fayum region in the Arsinoite nome. Greek mercenaries were settled in Karanis, among indigenous Egyptians, by the state as payment for their service and were able to exploit the fertile potential of the region. The Graeco-Roman town of Karanis occupied a plain situated between the Royal Road to Cairo and an ancient irrigation canal<sup>9</sup>. The accessibility of Karanis from Egypt's capital contributed greatly to its development and prosperity as an agricultural center from the mid-3<sup>rd</sup> century BCE to the end of the 5<sup>th</sup> century CE, as well as to its later proclivity to attract the attention of explorers and archaeologists. Karanis has been interpreted as an average, run-of-the-mill farming community<sup>10</sup> comprised of a diverse group of people, provides an unprecedented insight into the daily life of its inhabitants and of the working class in other Graeco-Roman towns in Egypt and perhaps, even throughout the Mediterranean.

The continuous occupation of the town spanned several periods of dramatic social, religious, economic and political development throughout the entire Mediterranean world: from the early years of Ptolemaic Egypt to the ascent, expansion and decline of the Roman Empire. Karanis was certainly not untouched by the radical changes of the larger world in which it existed, but it did maintain a relatively consistent function as a provider of grain and producer of olive oil for the ruling empire. In the early Ptolemaic period the Fayum was systematically developed to provide new agricultural land for Greek veterans and to furnish the kingdom with valuable goods both for internal and external consumption. Grains and olives were perhaps the

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<sup>9</sup> Gazda, Elaine K., ed. *Karanis, An Egyptian Town in Roman Times: Discoveries of the University of Michigan Expedition to Egypt (1924-1935)*. 2nd ed. Ann Arbor: Kelsey Museum Publications, 2004. Print.

<sup>10</sup> Gazda, Elaine K., ed. *Karanis, An Egyptian Town in Roman Times: Discoveries of the University of Michigan Expedition to Egypt (1924-1935)*. 2nd ed. Ann Arbor: Kelsey Museum Publications, 2004. Print.

most lucrative crop the Fayum produced and were used by the Ptolemies to finance alliances and later, in the Roman period, the medium through which Karanis paid taxes used to feed Rome itself and its armies. The emphasis ascribed to wheat production is evident by the size and number of granaries, such as C123, at Karanis.

It is useful to note here the system used for referencing various occupation levels and units, such as rooms, within them. The five occupation levels established at Karanis are distinguished by the letters A, B, C, D and E in descending order (A is the top, most modern layer; E the lowest and oldest. Each building is identified first by the letter indicating its occupation level and then by the number given to its structure; rooms are then denoted by another letter and streets by an “S” following the occupation level. Thus C123 denotes the granary building 123 in the third occupation level and C123 CA indicates room CA within the building C123, while CS210 represents street 210 in the third occupation level. The “5 level” distinction assumes that the stratigraphy is persistent over the entirety of the site, which is perhaps the single most problematic aspect of the site, as it generalizes the occupational developments of separate insulae, spaces, and even individual structures. The indication that the reconstruction of the occupation phases of each structure should be established independently is in fact the approach of modern archaeology and the basis of my focus on a single building.

Very little remains of the oldest occupation levels of Karanis: E and D. The earliest settlement, in the early Ptolemaic period representing level E, was situated near the canal and appears to have been focused around the South Temple<sup>11</sup>. The construction of the North Temple, the renovation of the South Temple and the expansion of the housing district by several new insulae that retain their outline in successive levels are dated by Husselman roughly to the late 1<sup>st</sup>

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<sup>11</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 9. Print.

century BCE and the early 1<sup>st</sup> century CE, the early Roman period. The bulk of these levels occupies the space between the temples and was almost completely destroyed.

The Roman conquest of Egypt under Augustus launched a new era of stability that encouraged the continued expansion and increasing prosperity of Karanis well into the 2<sup>nd</sup> century. Again veterans, this time Roman, settled in Karanis, though the disproportionately high number of Greek papyri compared with extremely rare Latin texts and the lack of dramatic change in the material culture indicate that the village remained largely Greek in identity. This period of expansion and affluence is ascribed to the C- and B-levels, firmly the late 1<sup>st</sup>-late 2<sup>nd</sup> centuries CE and 3<sup>rd</sup> century, respectively<sup>12</sup>. This long period however is marked by several notable recessions, including in the late 2<sup>nd</sup> century CE and again in the second quarter of the 3<sup>rd</sup> century CE<sup>13</sup>. There is a significant amount of reconstruction of the structures of the town as the occupation level rose and buildings were partially abandoned and reoccupied. It appears that much of this renovation was restricted to the interior of buildings though some areas experience more discontinuity in structure usage and exhibit significant changes in street and house plans. By the end of the 3<sup>rd</sup> century CE Karanis had seemingly entered its final decline, though much debate has surrounded this early statement and many scholars, such as Nigel Pollard<sup>14</sup>, argue that the presence of material into much later periods reflects occupation at Karanis at least into the 6<sup>th</sup> century CE. However, by the end of the 3<sup>rd</sup> century houses had fallen into total disrepair and the top level of occupation, A, sat above a significant layer of debris separating it from the preceding B phase. This disconnect led to a strong divergence in street and house plans from the previous

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<sup>12</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 9-21. Print.

<sup>13</sup> Gazda, Elaine K., ed. *Karanis, An Egyptian Town in Roman Times: Discoveries of the University of Michigan Expedition to Egypt (1924-1935)*. 2nd ed. Ann Arbor: Kelsey Museum Publications, 2004. Print.

<sup>14</sup> Pollard, Nigel. "The Chronology and Economic Condition of Late Roman Karanis: An Archaeological Reassessment." *The Journal of the American Research Center in Egypt* 35 (1998): 111-62. Print.

phases, though it appears the orientation of the town was maintained<sup>15</sup>. The comparatively haphazard construction of A-level structures indicates strongly the continuing decline of the town. By the early 5<sup>th</sup> century CE Karanis was more or less completely abandoned<sup>16</sup> though remnants of material culture into the 7<sup>th</sup> century CE have been identified.

The systematic excavation of Karanis by the University of Michigan in the period 1924-1935 was groundbreaking in archaeological method and documentation, and for both the retrieval of artifacts and their subsequent display in a public and educational forum. However, the execution of the excavation still fell short in some aspects from the accepted practices of modern research. The University of Michigan's excavations at Karanis, among other sites and endeavors, were made possible by the hard work, ambitious tenacity and intellectual innovation of Francis Willey Kelsey. Francis Kelsey was a Professor of Latin at the University of Michigan from 1889-1927, president of the Archaeological Institute of America from 1907-1912, president of the American Philological Association from 1906-1907, president of the University Musical Society and Ann Arbor School of Music, a member of many other academic institutions, an author, an editor, a business man and foremost a scholar at the forefront of many fields including Mediterranean archaeology<sup>17</sup>. Although Kelsey did not spend many days in the field at Karanis, he carefully selected his team, including primary director Enoch E. Peterson, which would carry out excavations in line with his novel consideration of multiple fields and it was there that "the advantages of studying archaeology and papyrology together were first realized" (pg. 2). First and foremost, Kelsey placed an emphasis primarily on the acquisition of Greek and Latin papyri

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<sup>15</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 26. Print.

<sup>16</sup> Gazda, Elaine K., ed. *Karanis, An Egyptian Town in Roman Times: Discoveries of the University of Michigan Expedition to Egypt (1924-1935)*. 2nd ed. Ann Arbor: Kelsey Museum Publications, 2004. Print.

<sup>17</sup> Pedley, John Griffiths. Introduction. *The Life and Work of Francis Willey Kelsey: Archaeology, Antiquity, and the Arts*. Ann Arbor: University of Michigan, 2012. 1-5. Print.

from Egypt, a more object-focused approach characteristic of early archaeology. Nevertheless, Kelsey appeared to have a strong desire to provide archaeological evidence relevant to the interpretation of the papyri, as quoted by Pedley from a letter Kelsey wrote to James Leslis Starkey, field director of the first season 1924-1925, on August 22<sup>nd</sup> 1925 “our primary consideration is the advancement of knowledge of the cultural background of the period which produced the Greek, Roman and Coptic papyri...” (pg. 353). Furthermore, Kelsey emphasized the broadening of the classical curriculum and, as Pedley summarizes, believed that “knowledge of the contexts- historical, archaeological, artistic, and philosophical- in which the ancient authors worked was essential to the understanding of ancient life” (pg. 27) This desire prompted an enhanced level of precision applied to the recovery and documentation of the rest of the town than was expected at the time. This attitude is evident in the plethora of objects archived and the record book itself, which is full of maps and photographs of architecture, natural terrain, and the stratigraphic sequence. Despite this extraordinary effort, the depth of documentation does appear to be shallower than the practice of today including the lack of information on the more or less “exact” location of objects and their associations with one another. Though some features and objects are described, most are simply labeled according to the room in which they were found, with little to no further notation or specification of location and proximity to other artifacts and structures.

Analysis of the stratigraphy of the site is complicated further by the systems of level designation and documentation utilized by the excavation team, which yielded monumental discrepancies in documentation and artifact divisions. Finds were recorded as they were excavated, arranged, and published in volumes by year. Surprisingly, the records indicate that only the B-level yielded artifacts. While it is common practice to discard and not record in depth

very small pottery sherds, it is rare to have such a discrepancy in the quantity of finds in a site with consistent use. As Stephan and Verhoogt indicate, there are several different scenarios for the lack of objects in the C-level: there was really nothing of interest or moveable objects were mistakenly excavated in an earlier season and recorded as being in the B-Level<sup>18</sup>. It seems as though the C- and B-levels were excavated as a single stratum and only subsequently recognized as two separate occupation phases. It is a vast oversight that this recognition of the separate phases is not indicated in the excavation notes; perhaps it was only recognized during a much later reassessment based on the finds and architecture. Furthermore, the system of ascribing a field number to each artifact differs fundamentally from modern practice in that objects appear to have been sorted by type and then laid out and numbered by category. This process is evident in the Record of Objects as objects frequently appear in a prescribed order in each room, notably with papyrus first and pottery last. Additionally, many archival photographs were taken in a similar manner, with the objects of a given type lined up and photographed together (Figure 4).

Several earlier excavations, including those done by Flinders Petrie in 1890, Grenfell, Hunt and Hogarth in 1895-6 and again by Grenfell and Hunt in 1900, focused on the acquisition of papyri and were not executed as methodical excavations. This approach to excavation resulted in the removal, publication and auction of a large number of papyri and a great disturbance to, or hole in, the archaeological record. Husselman does not mention the location or extent of these intrusions and it is unclear if such information was known to Francis Kelsey or his team. Far more devastating was the marauding of the site by the local extraction of *sebakh*, decomposed organic material, such as ancient mud brick, used for agricultural fertilizer and fuel.

Archaeologists were required to cooperate with an Italian company, the Daira-Agnelli, and

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<sup>18</sup> Stephan, R. P. and A. Verhoogt. 2005. 'Text and Context in the Archive of Tiberianus (Karani, Egypt; 2<sup>nd</sup> century AD)', *Bulletin of the American Society of Papyrologists* 42: 189-201.



provide enough *sebakh* from the site to maintain the railway system used for its transportation and satisfy the commercial needs of the local agriculture<sup>19</sup> (Figure 5). Although the Michigan team was able to convince the workers to take only the dirt from the excavation, the company had a permit to extract 200 cubic meters of *sebakh* a day and the demand forced the excavators to consider the richness of *sebakh* and proximity to the tracks when choosing dig sites<sup>20</sup>.

Due to the pressure from the Egyptian government to cooperate with the *sebakheen* and from the fertilizer companies themselves, Karanis became an early example of rescue archaeology. The damage from *sebakh* extraction alone is monumental, including the devastation of the center of the village to bedrock level already by 1924. The effects of this damage are numerous and perhaps most profoundly felt in the confusion it added to the already complex stratigraphy of the site. The loss of the central area of a site becomes even more detrimental in the case of a Graeco-Roman town. The central organization of a Graeco-Roman town typically houses the characteristic public spaces, buildings and more permanent institutions, which could have contained more dateable evidence and provided a more continuous picture of the site. It is partly due to this loss that the Michigan excavations focused on the periphery of the village in addition to the two temples and their associated structures. The team excavated extensively on the northern, eastern and southern sides of the mounds and in a small section to the west<sup>21</sup>. Many of the mud brick structures were still erect at the time of excavation; the first floor walls of granary C123 were standing up to the springing point of the arched ceilings. The Michigan team, however, did not back fill the site and the buildings have suffered immensely over time. In combination with the mining for *sebakh*, the exposure of the village architecture to erosion by

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<sup>19</sup> Alston, Richard. *Soldier and Society in Roman Egypt: a Social History*. London: Routledge, 1995. 118. Print.

<sup>20</sup> Bagnall, Roger S. *The Oxford Handbook of Papyrology*. Oxford: Oxford UP, 2009. 35. Print.

<sup>21</sup> Husselman, Elinor M. "The Granaries of Karanis." *Transactions and Proceedings of the American Philological Association* 83 (1952): 57. Print.

the desert wind and sand has left very little untouched by the ravages of time. The two sandstone temples, however, remain in large parts well preserved.

## 1.2 Papyrology

Papyri contain a variety of texts, from administrative documents and tax receipts to literary works and personal correspondence. Papyri are found in a variety of conditions and uses such as in mummy cartonnage, tombs, garbage pits, and both public and private structures. Furthermore, the context and origin of many papyri is unknown due to the historical ferocity of the international antiquities market that provoked a notoriously severe depletion of Egypt's artifacts and papyri through illicit digging. For the purpose of this paper, I will consider only the papyri acquired through the scientific excavation of Karanis, primarily that found inside the Granary C123, and thus a discussion of the tumultuous history of papyri acquisition will not be explored in depth.

A clear concept of the distinctions between the various "groupings" of papyri, and their associated terminology, is imperative. Fundamentally, a cache consists of a group of papyri discovered in the same findspot, while an archive is defined strictly as a group of texts actively selected and collected by an individual in antiquity, in either a public or personal capacity<sup>22</sup>. The discretion with which such an individual chose to preserve and collect certain documents must be considered when evaluating the significance of the information contained within the papyri; so too must the archaeological context of the papyri itself. Archives are rarely found undisturbed, thus, knowing the history and use of their archaeological context becomes imperative in order to address why the texts were placed together in the location they were found and to reconstruct the

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<sup>22</sup> Verhoogt, Arthur. "Papyri in the Archaeological Record." *The Oxford Handbook of Roman Egypt*. Corby: Oxford UP, 2012. Print.

appropriate context for the information they contain, assuring that their identification as an archive is more than a mere assumption. Further complicating the definition of an archive is its distinction from the reconstruction of a group of papyri by a modern scholar, or a dossier. Ultimately, these categories exist in a spectrum full of blurred lines and debates, however for the purpose of this research, the most primitive of definitions will suffice.

Bernard P. Grenfell and Arthur S. Hunt's hierarchy of archaeological contexts for yielding papyri proposes that abandoned houses provided the most suitable conditions for the preservation of papyri. After a building is abandoned, if not dismantled or otherwise intentionally destroyed, it collapses and seals both papyri and objects of daily life where they were left in antiquity<sup>23</sup>. They indicate that what is most fascinating is not that this process allows the papyri to remain intact within the archaeological record but that such an environment is more beneficial for preservation than garbage heaps. Cuvigny notes that the first editors of papyri from Karanis also shared this curiosity and did not take into consideration archaeological context to elucidate the contents of the texts. Furthermore, Grenfell and Hunts' publication of the first volume of *Oxyrhynchus Papyri* provided a new format for the publication of papyri, still used today, including an assigned title and number, measurements and date, a brief discussion of the contents of the papyri, the text in modern Greek form, a critical apparatus and a translation followed by a line-by-line commentary<sup>24</sup>. Though this framework represented a big step for the field of papyrology it does not allow for a discussion of the papyrus' archaeological context, historical milieu, probable or known associated texts or other further ramifications of the papyrus or its contents. I argue that such an approach lacks a combined papyrological, archaeological,

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<sup>23</sup> Cuvigny, Helene. "The Finds of Papyri." *The Oxford Handbook of Papyrology*. Ed. Roger S. Bagnall. Oxford: Oxford UP, 2009. 48. Print.

<sup>24</sup> Keenan, James G. "The History of the Discipline." *The Oxford Handbook of Papyrology*. Ed. Roger S. Bagnall. Oxford: Oxford UP, 2009. 62. Print.

historical and ethnographic perspective, which has the potential to reconcile the contents of the text with the structures, artifacts and ultimately, individuals with which they were associated in antiquity.

The depositional processes of a household change during the different phases of occupation, primarily those of habitation, abandonment and post-abandonment, and can be telling of the character of the abandonment episode(s). Perhaps the most important and fundamental to this paper are the processes that are responsible for the large amount of material found at Karanis in abandoned structures. LaMotta and Schiffer define the movement from habitation to abandonment by the accretion and depletion of objects, through *de facto* refuse deposition involving the rejection of still functional items inside the building and the removal of objects to a new location (curate behavior) respectively<sup>25</sup>. The authors note that these behaviors of accretion and depletion operate on several economical considerations including the ease of replacing an item, transportation cost and the manner of abandonment. Verhoogt emphasizes the importance of what LaMotta and Schiffer call “provisional refuse deposition” for identifying objects, including papyri, that were intentionally stored away from heavy activity areas and can thus be identified separately from abandonment material<sup>26</sup>.

It is difficult to situate both Karanis and papyri into this discussion. The mode of abandonment is unknown and largely debated: while the wide variety of objects that appear to have value and are functionally intact paint a picture of sudden and unplanned desertion of the site, its notably slow economic decline suggests abandonment would have certainly been in the forecast. It is important to conjecture, with caution, the motives behind keeping documents and

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<sup>25</sup> LaMotta, Vincent Mary., and Michael B. Schiffer. "Formation Processes of House Floor Assemblages." *The Archaeology of Household Activities*. Ed. Penelope Mary. Allison. London: Routledge, 1999. 22. Print.

<sup>26</sup> Verhoogt, Arthur. "Papyri in the Archaeological Record." *The Oxford Handbook of Roman Egypt*. Corby: Oxford UP, 2012. 8. Print.

to explore how the type of document and its findspot location can reflect storage and disposal routines. Such analysis and hypothesizing may help to distinguish between a document kept for several generations for legal or personal reasons with some “active” claim beneficial to an individual or family and a discarded text collected to be used as fuel. However, such arguments can be dangerous and rather circular, for example, how would one know the protocol of how long a document should be kept regardless of its “claim”? Verhoogt notes that is unlikely behavior for individuals to deliberately leave documents and papyri, valuable resources and perhaps sentimentally or legally significant, behind and equally improbable for someone using the space as temporary storage, post-abandonment. However, one must consider that papyri are commonly found in garbage pits, that in haste things of importance are forgotten, and simply that people do not typically act in predictable or logical ways. Some scenarios seem intuitively more likely than others but it is crucial to be cautious of such speculation and to balance conjectures with an unassuming analysis of the archaeological record. Further discussion of depositional processes and ethno-archaeological implications will accompany the exploration of C123 on a case-by-case, or room-by-room, basis. The juxtaposition of archaeological, papyrological and ethnographic data will provide a more complete portrait of objects’ use and abandonment patterns during the various phases of an individual structure’s life, as well as for the structure itself.

The desiccation of the previously fertile fields surrounding Karanis was likely a strong factor in the decline and desertion of the town, but also to the preservation of papyri. Though Grenfell and Hogarth quickly abandoned their search for papyrus at Karanis in 1895-6, the University of Michigan team was greatly compensated for their efforts through the discovery of a significant number of papyri from the Ptolemaic and Roman Periods including tax receipts and

rolls, land leases, legal documents such as those pertaining to birth, death, marriage and divorce, personal correspondence, even literary texts<sup>27</sup>. An unusually large number of papyri were found in granary C123 including receipts for grain as rent and taxes, loans of grain, grain accounts, leases and sales of land used for the cultivation of grain as well as personal letters and other correspondence presumably from those who were involved in the administration of the granary. Most of the papyri from C123 have been roughly dated to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries A.D.; several have dates of which one is from the reign of Vespasian (unclear), 7 under Trajan, 12 associated with the reign of Hadrian, 1 each from a year of Marcus Aurelius and Commodus, Caracalla, Gallienus and 1 more is assumed to be post-Severan due to the “Aurelius-names” it contains<sup>28</sup>. Husselman notes that most of the papyri were found in the southern vaulted rooms, the western living quarters and in the fill about the residential space. Considerations of dates, findspots and relationships among the papyri, other artifacts and architecture are the subject of the “house-tour” comprising the body of this work. The papyri from C123 have recently received much scholarly attention due to the frequency of several names appearing in the documents. 65 papyri include personal names of which 47 have been assigned with reasonable certainty, or a least probability, to two families: the family of Satabous, son of Pnepheros, and that of Julius Sabinus, son of Nilus and father of Gaius Julius Apollinarius<sup>29</sup>.

Stephan and Verhoogt, in their work on the Archive of Tiberianus, note that the treatment of the papyri in the original records of Karanis is problematic in that it is limited to the description of their find spot<sup>30</sup>, in this case “papyri discovered under a stairway in a house on the

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<sup>27</sup> Alston, Richard. *Soldier and Society in Roman Egypt: a Social History*. London: Routledge, 1995. 159. Print.

<sup>28</sup> Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the of Case Western Reserve University, 1971. 3. Print.

<sup>29</sup> Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the of Case Western Reserve University, 1971. 2. Print.

<sup>30</sup> Stephan, R. P. and A. Verhoogt. 2005. ‘Text and Context in the Archive of Tiberianus (Karanis, Egypt; 2<sup>nd</sup> century AD)’, *Bulletin of the American Society of Papyrologists* 42: 190.

second level from the top of the mound” (P.Mich. VIII 1951. 16.). The records mention no relation to the structure in which they were found nor to other objects found in association with the papyri thus providing no context in which to analyze the documents. The reconstruction of the documents’ context thus hinges upon the reconciliation of the papyri with other artifacts associated with the same find spot in order to broaden the framework used for the interpretation of the papyri and its contents. As the records do not specify the exact locations of and the relationships between the papyri and other artifacts, it will be necessary to investigate the use of the find spot and the structure that contains it to best recreate the circumstances that led to their discovery. In addition, it is imperative that the original excavation notes, databases and other resources accumulated during and after the excavations are scoured for supplementary and misinterpreted information. The documentation of the site, as previously discussed, was published in volumes on a year-by-year basis. The careful analysis of these records side-by-side is crucial to reconcile data that potentially belongs together but was interrupted by a gap between seasons. This applies especially to the papyrus from the site, as much of it remains unpublished there is great potential for further scholarship, which would greatly benefit from a more secure and complete picture of the archaeological context.

The partial abandonment that occurred throughout Karanis and even within its structures was undoubtedly accompanied by an accumulation of debris. It is here that understanding the aforementioned “use-patterns” of the various parts of the house becomes fundamental in reconstructing the history of the papyri themselves. Rooms and spaces that are used for storage and other such “extra” spaces are typically among the first to fall out of use. Abandonment and re-occupation significantly raise the occupation level of a structure, and it is within this stage that objects are forgotten and become part of the archaeological record. Thus the relationship

between the location of the papyri and their preservation is inextricably linked to the history of the use of the area they are contained in.

It was common building practice at Karanis to build houses and other buildings right on top of ruins of previous structures and to use the remains of the older house as a basement or otherwise incorporate it into the construction of the new building<sup>31</sup>. Even if this process does not greatly disturb the contents and architecture of the preceding structure, it significantly increases the potential for new material to slip into the older layers of the site. Husselman notes that “There is frequently no distinct break between the B and C layers, though the B layers show the abandonment of many underground rooms, storage areas, and the not uncommon conversion of first floor rooms to cellars” (pg 4, 1952). This build up is not isolated to the structures, courtyards, work areas and unpaved streets between houses were subject to constant trash disposal, which caused these surfaces to rise<sup>32</sup>. In response the ground floors of buildings turned into basements while the basements themselves became filled with trash and abandoned; the doors and stairs leading to them were blocked<sup>33</sup>. In this way subsequent floors were added as those below went of commission. New ideas and perspectives from processual archaeology contribute greatly to the study of household activities that produce such an effect on the occupation level and those involved in the response, and make it an even more worthwhile venture.

The documentation of the papyri itself becomes quite useful in supporting the blending of levels B and C indicated by the uneven division of objects. Recorded find spots of various papyri were attributed to locations that are only contested in the C-Level, not the B-Level. In the case of

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<sup>31</sup> Alston, Richard. *Soldier and Society in Roman Egypt: a Social History*. London: Routledge, 1995. 119. Print.

<sup>32</sup> Bailey, Donald M. "Sebakh, Sherds and Survey." *The Journal of Egyptian Archaeology* 85 (1999): 211-18. Print.

<sup>33</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 8. Print.



the Archive of Tiberianus, Stephan and Verhoogt dated the papyri, which were found in separate parts of the house that correspond to different phases of occupation and use, to two distinct periods. Thus they were able to assert that the archive of Tiberianus should be attributed to the C-level and furthermore that the papyri were stored away in a part of the house that was no longer in use when the interior reconstructed, closing them off and preserving them in situ. The reconstruction of the archive's history and archaeological context parallels the establishment of occupational phases and abandonment processes unique to the individual structures and even the rooms within them; it is only with the conjunction of the two that the stratigraphy and history of Karanis can be understood.

### 1.3 Placing C123 in the Context of Karanis

As aforementioned the third level, C, of Karanis corresponds to a long period of uninterrupted occupation of the same sites, which witnessed constant remodeling including interior renovations of both residential and commercial buildings, the modification of pre-existing infrastructure, and changes in floor and courtyard height<sup>34</sup>. As Husselman notes, the occupation phases represented by the B and C levels offer the most complete and abundant remnants of Karanis and its inhabitants dating from the late 1<sup>st</sup> to the mid- 3<sup>rd</sup> centuries AD. The C level in particular affords the largest complementary assemblage of papyrological and archaeological remains, documentation and ongoing research while the top level and the earlier D and E levels contribute little of interest within the scope of my paper. Thus, like Husselman, I will focus my study on the C level and the period it represents, with relevant consideration of the B level and the alterations preceding it.

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<sup>34</sup> Husselman, Elinor M. "The Granaries of Karanis." *Transactions and Proceedings of the American Philological Association* 83 (1952): 59. Print.

The C level also represents the expansion of the town to the north, as well as to the east and west beginning in the mid-1<sup>st</sup> century AD through the first half of the 2<sup>nd</sup> century AD. The expansion and reorganization of the 1<sup>st</sup> and 2<sup>nd</sup> centuries AD as preserved in the C occupation level provide the first comprehensive view of the general plan of the town in its development. It is the placement of C123 within this developing framework, at the heart of expansion, and the fecundity of its remains that account for its appeal for further research.

Granary C123 is contained within an unusually large, but nearly square insula that is bounded by the major thoroughfare CS210 to the east, CS160 and CS150 to the south, CS145 to the east and CS120 and CS130 to the north (Figure 6). In Volume 1 of the Interim Excavation Report it is noted that C123, C124, C122 and C146 originally formed a much smaller, rectangular insula bounded by the main public thoroughfare CS125. The terminology used to describe CS125 paints quite a different picture than the small and abruptly terminated avenue depicted in the Karanis maps. Later the block to the west, comprised of C168, C167, 5056 and 5034, was incorporated through the “placement of a doorway across the now narrow street CS125”<sup>35</sup> which “transformed” CS125 from a major public street of 4 meters to a dramatically reduced lane of approximately 1 meter. The simple combination of the 2 insulae with a door could not, on its own, “transform” the width of the street so dramatically. The Interim Report also mentions that C146 “was built directly on the open space that originally separated the two groups”<sup>36</sup>, indicating that C146 was in fact a later addition to the insulae and was in part responsible for the transformation of CS125.

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<sup>35</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 89. Print.

<sup>36</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 92. Print.

Several features of buildings C122 and C124, and their interaction with C123, suggest they too, like C146, were built after C123 though perhaps before the merger of the two insulae. House C122 extends from the insula, projecting into the original area of street CS125. Thereafter, with the addition of the door, CS125 functioned solely as an entranceway from the north to the open area K of C123. The open space between buildings C122 and C124 was divided into two courtyards, one for each house. A long continuous wall ran across the entire northern side of the courtyards adjacent to street CS130 however the north wall of C123 served as the southern boundary of the courtyards.<sup>37</sup> The roofed portions of both houses however did not use this north wall of C123 as a common boundary, instead each building had its own south walls abutting C123's north wall. This arrangement, in conjunction with the projecting west side of C122, suggests these houses were built later than C123 and CS125. Combined the construction of C146, C122 and C124 would have transformed the thoroughfare CS125 into the narrow street shown on the maps and furthermore indicates that C123 was potentially the original component of the insula. Further excavation below courtyard K and C146 to confirm remnants of CS125, perhaps in comparison with intact thoroughfare CS210, and under houses C122 and C124 was not completed. However, the architectural evidence and terminology of the Interim Report suggests that it was not the addition of the neighboring block but actually construction within the original insula, namely the addition of C122 and C124 and later C146, that was responsible for the "transformation" of CS125. Perhaps more importantly, this potential sequence depicts an earlier organization of C123 surrounded by even more open space available for grain related activity. This series of construction greatly altered the topography of the area and reflects a heightened interest and cluster of activity focused on and around C123.

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<sup>37</sup> Boak A.E.R., and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 90. Print.

CS210 runs south to north and is only one of very few main roads; in fact there are no streets that run east to west through the site. The houses that run along CS210 in the south are assigned to the late 1<sup>st</sup> and early 2<sup>nd</sup> centuries A.D. through datable records, papyri, ostraca and coins<sup>38</sup>. In Map 10 it becomes obvious that at this time the town extended only slightly further north of C123 before further expansion throughout the 2<sup>nd</sup> century. The junction of CS145 and CS160 along the southern end of the insula and C123 becomes a large open space CS150. This space interacts only with the insula containing C123; the buildings that border CS150 to the south and west have little access to it. The other surrounding insulae are oriented facing away from CS150 with only one entrance on the west to C174, which suggests a potential predominance of C123's insula, perhaps in connection with the function of the granary. In conjunction with the known importance and emphasis on Egyptian grain production and related activity during this time, the commanding position of C123 promotes a public sense to the operation.

It has been suggested that granary C123 was operated by an association of state farmers<sup>39</sup>. This stems from the size of the building and extent of its storage capacity, which certainly exceeds the needs of a single family. There are many other granaries at Karanis, of which C123 is the second largest after C65. In addition to C123 and C65 there are 7 other large granaries, C172, C173, C113, C117, C132, C78, C404 and C419, scattered throughout the C level, mostly on the eastern periphery of the *sebakheens'* crater. Several smaller granaries, including C35, C86, C121, C184, C186, C188 and C406, were also clustered variously

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<sup>38</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 117. Print.

<sup>39</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 56. Print.

throughout the town; additionally, many other grain facilities and storage rooms formed components of private residences<sup>40</sup>. C123 houses several different types of storage facilities including large and small open bins as well as individual enclosed vaults. As Husselman notes, the diverse designs most likely indicate that they served different purposes. For example, the individual vaults could be leased and sealed for private use<sup>41</sup>, while the small bins might also have been used to separate the grain of individuals for a short amount of time. The smaller bins could also have been used for separate types of cereals or for quick transactions. The larger open bins might have been used to store the grain before transport when prolonged storage was unnecessary. The use of the granary and the allocation of its diverse components will remain a focus of this work. Though it remains unclear as to who was involved, the large granary's imposing position along, and access to, CS210, CS150 and the areas of subsequent expansion support the idea of its function extending beyond the private sphere.

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<sup>40</sup> Husselman, Elinor M. "The Granaries of Karanis." *Transactions and Proceedings of the American Philological Association* 83 (1952): 59. Print.

<sup>41</sup> The large clusters of seals in several of the southern vaults and the various hypotheses concerning their function will be addressed in the discussion and will be a subject of further work.

Sections 2-4 of this work focus on the analysis of objects- including papyri-, architecture and the excavation records themselves room-by-room. Interim reports, the Record of Objects, the Kelsey Museum Artifact Database and Photography Archives, APIS, and when possible the papyri themselves will be cross-referenced and coalesced to form the most complete data set and description as yet available per room. Recurring patterns in the deposition clusters of objects as they pertain to interpretation regarding the operation and accessibility of the granary, the shifting function of various rooms of the granary and ultimately the building itself, dating of the occupational phases and persistent use of the structure, as well as the use and deposition of papyri are particularly highlighted. Section 2 will focus on the southern entranceway of C123, Section 3 discusses access to the southern vaults focusing on the passageway CE and the underlying compartments, and Section 4 introduces the vaults themselves through test cases of vaults CF and CCJ.

## Section 2: C123 Entranceway

### 2.1 C123CA

The entrance and threshold of C123CA (Figure 7), leading from CS160 to the so-called living area, were quite typical of Karanis<sup>42</sup>. In the street, to the left of the doorway, a mastaba was constructed, 2.2m x .5m x .53m, to shelter against and combat the accumulation of windborne sand. The outer wooden threshold of the doorway was still *in situ* except that the right end of the inner threshold beam has been shifted out of place<sup>43</sup>(Figure 8). This shift suggests movement occurring in the house after occupation, perhaps associated with the removal of the

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<sup>42</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 79. Print.

<sup>43</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 56. Print.

door itself (1m by .8m)<sup>44</sup>. Furthermore, this shift brings attention to the nature of the inner threshold beam as much smaller, both in height and width, than the outer beam. This indicates that the door opened inwards, as is typical at Karanis; the extra height of the outer beam served as a doorstep. A detailed description of the doorway, door and bolt system can be found in the Interim Report (pages 78-81); both wooden bolts and the various corresponding fittings in the threshold were found exceptionally preserved in C123CA. However of note is the manner in which the system in place to secure the door operated: the door could only be locked and unlocked from the interior of room C.

A similar bolt was found in the fill of room K in House C191, 63 meters south of C123. All three bolts exhibit a small holed drilled diagonally through from the top to the side of the upper right corner, through which, in the example from C191, two, intertwining strands of thin, woolen rope are threaded and knotted together<sup>45</sup>. The excavators identify this as part of a sealing system in which a mud seal would attach the rope to the door itself after the bolts were drawn up to lock the door (Figure 9). Thus the seal would be broken when again the bolts were released to unlock and open the door. Though no bolts have been found with a seal attached, this system is suggestive of means by which traffic and access to the building could be monitored. The crucial role the grain played in the economy of Karanis, and the larger economy of Egypt in their relation to Rome, must have necessitated certain security measures in the granaries. This type of seal system not only shows evidence of individuals coming into the building but individuals leaving. If a single individual, a resident, seals the building from the interior then the activity of

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<sup>44</sup> The measurements are given in the Interim Report on page 79, though nothing is said about the removal of the doorway. One would hope that if the excavators themselves removed the doorway such would be noted. Additionally, the Interim Reports notes that out of 5 house doors, two, double doors from C63, were found in place, suggesting that the door of C123 was in fact removed before the excavations (whether in antiquity or more recent times, the action still represents disruption of the site most likely related to looting).

<sup>45</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 80. Print.

all other residents would be limited to within the structure and any illicit access to the grain would be prevented, or at least monitored. It would be interesting to study the seals in more detail not only to truly identify their function but also the consistency of the images on them, for example, to determine if there is any association with the ring signet in entranceway CA and the images on the seals. It has been proposed in the Interim Report that this type of surveillance may very well have been employed in individual vaults as well. Hundreds of small mud seals were found in the filling of several of the southern vaults of C123, CCH, CCI, CCJ, CG and additionally several in the storage bins under passageway CE. Some of the seals show impressions of rope and a sharp “frame”, though several other uses, such as for sealing grain samples and papyri have been suggested and will be explored in the discussions of the vaults themselves.

The Interim Report discloses very little about the actual room CA or the location of the objects found within it. The Report focuses on two niches on the north wall of the room, one directly above and slightly off center to the threshold to passage CB/CC and the other at the middle of the wall. The placement of a niche over the doorway was an unusual placement in Karanis<sup>46</sup> (Figure 10). Though it is damaged and incomplete, the excavators suggest it was about 1 meter high. Fluted columns support an arch, decorated with receding bands of molded designs including meanders, lozenges, spirals and dentils, above the niche proper. This type of decoration and shape is common of shrine niches at Karanis, as is noted in the Report. To the left of the door and underneath the niche, a lamp bracket had been molded into the shape of a lamp stand out of mud plaster. The excavators found it covered with a thick black deposit of carbon confirming its use and function (Figure 32). The other niche was of a different type found at

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<sup>46</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 56. Print.



Karanis, a simpler, rectangular niche used for storage approximately 1 meter above the floor level, sometimes outfitted with wooden shelves<sup>47</sup> (Figure 32). To the right of this niche and to the left of the lamp bracket a panel of the wall was covered in a thin white lime, traces of paint and bordered with molding.

Unmentioned in the Interim Reports is the variety of artifacts found in room CA representing a wide array of functional categories. Among the objects found were several pieces of jewelry: 3 glass beads, a faience bead, a ring set including a glass inlay (Figure 26 object 47) and bronze signet, and a string with 13 faience amulets of Bes from the 1<sup>st</sup>-5<sup>th</sup> century CE. These are personal ornaments, the Bes amulets were most likely worn by a woman in the form of a necklace to protect the household and children (especially when pregnant) but I would suggest could also be associated with the shrine niche above the threshold to CB on the north wall of room CA. Small faience<sup>48</sup> and terracotta figurine fragments, both female heads, was also found in CA and perhaps too could be considered to be associated with the shrine niche. The bronze ring signet is also noteworthy, particularly if an association can be drawn between its design and images found on seals throughout the granary. The location of the signet in CA, a highly trafficked entrance to the granary, might thus be associated with its use in sealing the door, though one might expect the individual responsible for such duties to wear it on their person instead of storing it in the room itself (which would in fact be detrimental to the security features of the system itself). All of these objects, and four coins also found in CA, can be assumed to have had significant personal value to those they belonged to and monetary value to looters.

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<sup>47</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 47 and 56. Print.

<sup>48</sup> The Record of Objects simply describes blue glaze fragments, however further inspection by members of the Kelsey Museum identified them as fragments of a faience female head. This is yet another example of how scattered the information regarding a single artifact is throughout various sources and the need for a consolidated and more complete reference guide.

Thus objects could have been moved into the room post-abandonment by raiding activities that accessed the building through this entrance or deposited there, perhaps dropped or left unknowingly, during the occupation phase or initial abandonment of the lower levels as proposed by the excavators and Husselman. Because of the intensity of activity in the entrance room CA, it is unlikely that these objects are examples of provisional refuse deposition<sup>49</sup>.

A wooden rattle clapper (Figure 11, object 98), suggested as either a musical instrument or a component of a toy, a fragment of a castanet, a sole of a sandal and a wooden key found in the entrance room are representative of personal items used and worn in daily life. The fragmentary nature of the musical instruments and sandal is common for refuse left behind in the abandonment phase that is either broken or easily replaceable. The wooden key however would seem to defy this category of easily replaceable or unusable objects, though abandonment of the town would render it useless if it is to be associated with a structure, perhaps C123, in Karanis.<sup>50</sup> Several other fragmentary domestic implements were found in the entrance room CA with cosmetic, culinary and structural functions. A bowl of a bone cosmetic spoon (Figure 27, object 152), a piece of wood labeled as a fragment of furniture, 2 lamps, a bone handle, a palm leaf basket and a stirring stick are all common objects used in daily life that can be presumably replaced quite easily. In addition to these an agricultural straight toggle with a fragment of rope was found (Figure 12). The Record of Objects makes an interesting note on the location of the palm leaf basket, which reveals the presence of bins in the room<sup>51</sup>.

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<sup>49</sup> LaMotta, Vincent Mary., and Michael B. Schiffer. "Formation Processes of House Floor Assemblages." *The Archaeology of Household Activities*. Ed. Penelope Mary. Allison. London: Routledge, 1999. 22. Print.

<sup>50</sup> It would be quite interesting to test this key on the extant doors, however the current location of the key is unknown.

<sup>51</sup> No extant photograph depicts the interior of the room, except the north wall, and there is no other mention of a bin in the excavation records.

In addition to these objects the Record of Objects lists a papyrus, P. Mich. Inv. 5866, found in this entranceway to C123. In fact this inventory number includes 8 different subunits within it, a-h, representing at least 6 different documents and at least 6 different hands before restoration in a variety of fragments and larger rolled pieces. The Advanced Papyrological Information System reports that the papyri are all of documentary nature, unpublished and dated to the 3<sup>rd</sup> century CE. However a preliminary review of the papyri, and the names they contain, suggests a potentially later date, in the early 4<sup>th</sup> century CE which is consistent with some of the later caps on the dates of the associated objects.

Fragment a (Figure 13) is broken off on the right side and bottom, is 5.5x13cm and consists of 7 lines listing names. The names identified include Dioskoros, Isidoros, Gerasi[], Ammonios and Paoutis. These names are not uncommon at Karanis and the first, Dioskoros, was found identified on an ostrakon, P. Mich. Inv. 9503, found in storage room DE<sup>1</sup> not far from CA. The ostrakon was dated January 3<sup>rd</sup> 313CE and accounts for 5 donkey loads of wheat delivered by the driver Alypios for Komon son of Kallionos to the sitologos, Dioskoros, for that harvest year. However the frequency of the name Dioskoros and the lack of context of the papyrus (just a list of names) do not allow one to equate the two, from the papyrus and the ostrakon, the possibility is certainly worth noting. Additionally, I suggest the Dioskoros named in the fragment and the sitologos in the ostrakon might very well be related due to the hereditary nature of names and property at Karanis and throughout the Greco-Roman world; this might reflect a later date of the papyri: the early 4<sup>th</sup> century CE. P. Mich. Inv. 5866b (Figure 14) represents a roll that has been broken off on the left side measures 6x8.5cm before restoration<sup>52</sup>. Immediately recognizable in the documents is the symbol for drachmas repeated down the left edge

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<sup>52</sup> Figure 15 shows the document before restoration, and is just one example of the many papyri in this paper that were worked on by Leyla Lau-Lamb.

suggesting that contains some sort of account. These documents directly reflect not only the operations of the granary itself but the larger activities it was concerned with, including the transportation of grain, in the larger town of Karanis.

Fragment d (Figure 16) is comprised of 2 lines, the first, previously obscured by a fold of the un-restored papyrus, seems to contain the name Palemon and the second bears the name Kastor followed by 3 additional letters. Various scholars have provided different interpretations of the name following Kastor. Arthur Verhoogt, Acting Archivist of the UM Papyrus Collection and Associate Professor of Papyrology and Greek, suggests Sab (probably Sabinus) and indicates the clarity of the vertical hasta of the beta. I am inclined to agree with Verhoogt, the cursive nature of the hand results in varying orientations of the sigma based on the connection with the following letter. The first letter of the second word is too round for a pi, as reflected in the first letter of the preceding line, and is in fact a sigma, orienting with the gap facing down as to connect with the alpha. Thus we seem to have a “Kastor son of Sabinus”. Two other papyri from Karanis, all dating to 315CE, also name a “Kastor son of Sabinus”<sup>53</sup>. The first, P. Cairo Isid. 57, dated to September 12<sup>th</sup> 315CE, is a receipt for barley. The second, P. NYU 1 15, dates to August 9<sup>th</sup> 315CE and is a list of tax collections in barley and money. Both of these papyri were purchased and the provenance is thus unknown, however both have many names in common beyond “Kastor son of Sabinus” including: Papeeis son of Panter, Dioskoros son of Tiberinos, Sarapion son of Serenos, Dioskoros son of Kastor, Isidoros son of Leonides, Patieis son of Isidoros and Paesis son of Melanos. The date of these texts, 315CE, is contemporary with the ostrakon, previously mentioned, that identifies Dioskoros as the sitologos and the receiver of several donkey loads of grain (P. Mich. 9503). The associations between these documents and others like them bearing various members of this group of names seems to be consistent with

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<sup>53</sup> "Trismegistos." *Trismegistos*. Web. 28 Mar. 2012. <<http://www.trismegistos.org/>>.

dated documents to the early 4<sup>th</sup> century CE. There are however many individuals with these names throughout Karanis and further study is certainly required to flesh out the intricate nature of their relations and the social network they operated in. As established above in regard to the objects of a more personal or monetary nature, the highly trafficked entrance CA is an unlikely location for the provisional refuse deposition<sup>54</sup>, according to LaMotta and Schiffer, and the papyri are consistent with a transferring process associated either with raiding activities that accessed the building through this entrance or accidental deposition, perhaps dropped or left unknowingly. However the later date, early 4<sup>th</sup> century CE, of the papyri reflect at least some activity in the later occupation of the structure and seem to suggest that at least some accessibility to the lower floor was maintained.

Fragments c, e, g and the many fragments included in f all reflect unidentified writing that belongs to at least 4 hands (Figures 17-20). When unrolled g actually constitutes 3 fragments of which 2 are written vertically and one horizontally, suggesting that the papyri had writing on both sides and represents most likely two documents (Figure 21 shows the papyrus before it was restored). Additionally, initial restoration on the fragments of 5866f reveals 4 distinct documents and necessitates further investigation. 5866h includes two fragments of rolled but apparently blank papyri. While the fragmentary and diverse nature of the remains could certainly suggest an intended secondary use of the papyri as fuel or some other recycled employment, the fragmentation and deposition of the papyri in the entranceway could have been a result of movement from elsewhere in the structure C123. The papyri, in conjunction with the fragmentary ring set, terracotta and faience figurines, castanets, wood pieces and sandals could also be interpreted as having been left behind intentionally. However, their location in the highly

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<sup>54</sup>LaMotta, Vincent Mary., and Michael B. Schiffer. "Formation Processes of House Floor Assemblages." *The Archaeology of Household Activities*. Ed. Penelope Mary. Allison. London: Routledge, 1999. 22. Print.

trafficked entrance of the building seems to be more reflective of an original attempt to collect useful from the lower floor as the accumulation of debris and sand began to limit access to the lower areas of C123. Objects deemed replaceable or invaluable would probably have been left in their storage locations. Additionally, the commercial nature of at least some of the papyri and the presence of a wooden key, Bes amulets, bronze signet, and coins would fit into this category of objects that would be gathered for transportation due to their personal and economic value.

## 2.2 C123CB

From CA one enters the long passageway CB through the door in the east of the north wall, under the shrine niche (Figure 1). On the left the passageway gives access to the room CC and a stairway, CD, up to the second floor that mirrors the plan of the bottom floor, at least in the southern section<sup>55</sup>. To the right CB gave way to another passageway CE from which stems the double series of vaulted granaries that comprise the southern unit of C123. Past the stairway CD, passageway CB continues with two steps to a lower level and a doorway that leads into the northern unit of bins and the courtyard. This northern part of the passageway turns to the left at a right angle and runs under the northern flight of stairway CD. Additionally, there was a trapdoor in the floor of this northern portion of the passageway CB that gave access to a narrow, vaulted, storage room, DD<sup>56</sup>.

The passageway CB clearly was one center of C123 that gave access to several distinct units of the house: to the upper and lower southern vaults as well as the northern vaults, as well

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<sup>55</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 83 and 86. Print.

<sup>56</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 82-3. Print. CC, CD, and DD will be discussed in further detail below after CE and in regards to the southern vaults.

as to the courtyard and other spaces presumably associated with the occupants themselves. CB thus represents an important locus as the functions and activities associated with the granary's civic and public role interact with the structure's domestic space. No treatment is afforded to the artifacts attributed to CB either by Husselman or in the Interim. The area CB, as it grants access to all units of the building, would have been subject to high traffic, rendering it difficult to ascribe a date and particular depositional process to the artifacts. However, the body of objects is still interesting in and of itself. Included in the finds from the Record of Objects was a papyrus, a mud sealing, basketry rope, wooden lamp brackets, terracotta lamp fragments, fragments of a blank wax tablet and a mud doll. Writing implements have a strong presence in this group of artifacts that could be associated with either the business of the granary itself or the personal documents of the occupants. Unfortunately, the papyrus, P. Mich. Inv 5867, is unpublished and no photograph is currently available (it is housed in Cairo). However the Inventory of Papyri in the excavation report reveals that the papyrus is actually "several small fragments, one from a letter"<sup>57</sup>. The wording suggests that this is a collection of fragments from different documents. The nature of the letter, personal or business, is unidentified, as are the types of the documents the other fragments represent. The contents of this papyrus would in fact be of interest in this context. The nature of the document could illuminate the sphere to which it, and perhaps the associated artifacts, belonged: either of a personal nature or regarding grain transactions and other business related matters. Either way the papyrus could reflect the removal of a group of documents and other writing utensils and surfaces- such as the blank wax tablet and perhaps the mud sealing- provoked by gradual abandonment of the lower floors and the collection of important and useful belongings. Alternatively, the fragments could have been refuse intended to

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<sup>57</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. Inventory of Papyri. Print.

be recycled as fuel or thrown out. Furthermore, the possibility that it was removed from its original context by looters must always be considered. The fragmentary nature of the papyri, blank wax tablet, rope presumably associated with basketry and terracotta lamps suggests they may have been left behind intentionally. However, their location in a central thoroughfare of the house leads me to suggest that perhaps an original attempt to collect useful objects was interrupted by accidental fragmentation of the items (perhaps they were dropped, etc). Additionally, the presence of a mud doll, regardless of its interpretation as a toy for a child or as an object with magical significance, would fit into this category of objects that would be gathered for transportation due to its personal value.



### Section 3: Access to the Southern Vaults

#### 3.1 C123CE

The southern vaults of C123 are served by the passageway CE (Figures 22 and 23) that extends approximately 18 meters parallel to street CS160<sup>58</sup>. As described in the Interim Report, the floor of the long passage way CE was originally 1.5 meters above the floors of the vaults on either side to which it gave access and was approximately at the same level as the main dividing walls that stretched from the entrance to the back of the vaults. The Interim Report states that:

*Each vault was divided by narrow wall into five or six compartments. The main dividing wall extended from the entrance way to the back of the vault, at approximately the same level as the passageway CE. It was sufficiently wide to serve as a pathway for reaching the various compartments (pg 84).*

A picture taken by G. R. Swain, a University of Michigan professor and professional photographer who photographed the site during the 1920s and 1930s' excavations, on December 23<sup>rd</sup> (year not indicated) gives a view along C123CE from the east gives an excellent idea of the construction, layout and preservation of the Granary and specifically the southern vaults. The photograph, Figure 22, was taken from behind the collapsed exterior east wall (the site of CS210) granting a view straight across CE to the west. The photograph illustrates the decent preservation of the building at the time of excavation: the walls dividing the side chambers CF and CFF from the passageway remain intact and extend up to the rampant arch of CE; though the rampant arch has collapsed in the rest of the passageway the dividing walls of the rest of the side chambers remain relatively to the point at which the arch of CE would have sprung from them. Clearly the "main dividing wall" referenced in the Interim Report is that of each individual side chamber, the top of which, level to passageway CE, afforded one access to the grain stored in the 1.5 meters below the wall to the floor of the vaults themselves. Regardless, one can suppose that

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<sup>58</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 83. Print.

the security of passageway CE must have been of great concern to those who operated the granary, as it gave proximate entry from the highly trafficked passages CB, CC and entranceway CA to the vaults and their precious contents. One can also imagine the openness of the vaults and perhaps the high traffic and bustle of this slightly more public, large, subdivided space.

The ceiling of CE was a rampant arch, elliptical and off center, and built much like the adjoining barrel vaults of the chambers on either side without centering (Figure 22). No filling or false work was used in the construction phase, a type of brick arch common throughout the ancient world from Dynastic Egypt to the Rome<sup>59</sup>. The walls of both the passageway CE and the vaults themselves were painted with black wash, made of carbon applied to the mud plaster of the brick wall<sup>60</sup>(Figure 31), on top of which white lime wash was used to demarcate the horizontal courses of bricks. As the excavators note in the Interim Report there was no evidence of any windows in the east wall, the only exterior wall, which might have dispensed light to the long passageway. The darkening of the walls with the black wash in conjunction with the lack of windows suggests they neither desired nor needed light in this space. Modern sources advise to store grain in a dark room, covered with a thick blanket to protect it from light.<sup>61</sup> They suggest light reduces the shelf life of stored grain as well as the grain's nutritional value. We have very few examples of granary buildings in Egypt and from the early Roman Period but it can be assumed that the same precautions may very well have been taken for grain that was to be stored for longer periods of times.

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<sup>59</sup>A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 86. Print.

<sup>60</sup> Husselman, Elinor M. "The Granaries of Karanis." *Transactions and Proceedings of the American Philological Association* 83 (1952): 60. Print.

<sup>61</sup> EHow Food & Drink. "How to Package Grains for Long-Term Storage." *EHow*. Demand Media, 04 June 2008. Web. 28 Jan. 2012. <[http://www.ehow.com/how\\_2318070\\_package-grains-longterm-storage.html](http://www.ehow.com/how_2318070_package-grains-longterm-storage.html)>.

Over 60 items were documented in the Record of Objects from passageway CE, including several papyri fragments, ostraca, an assortment of vessels and a particularly heavy density of wooden objects serving a variety of functions. Particularly interesting is the blend of domestic, agricultural, and commercial implements, as well as some ambiguous objects that could have served in more than one of these spheres. Some objects found in passageway CE appear more suggestive of the commercial aspect of the building though the lack of comparanda does leave such assumptions as tentative intimations. A wooden tool handle, a knife or a scythe handle and wooden objects that most likely served as tools, or parts of tools, include a stick and a piece of wood with traces of sawing. Such tools may not be representative of just the activities that occurred in the building itself but also those involved in the production of grain in the fields, processing on the threshing floor, etc. A small palm fiber stopper, small coarsely plaited palm leaf basket, a palm leaf fiber strap, a wooden stamp (location unknown and no picture available), a large rope-ring from a harness and a small rope harness ring all relate to various steps in the grain production process (both Figure 25), as well as are components of daily tasks and chores. It is difficult to distinguish to which realm these objects belong and it is only due to their context, in the passageway serving the southern vaults, that their functions related to grain are emphasized. Furthermore, one should note that such tools and the building itself could be associated with more than just the storage of grain, other agricultural products may very well have been housed at this facility, though the importance of grain as a currency and form of tax should not be overshadowed. Two bronze coins also contribute to the commercial setting of the vaults, both were minted in Siscia and show Constantius II, 324-361 CE, with a laurel wreath and “DNCONSTANTINIMAXAUG VOT/X.X” on the reverse and are inscribed “CONSTANTINSAVG” on the obverse, according to the Record of Objects. These coins represent a period

of transition for the building itself and the period that the C-level represents across the whole site<sup>62</sup>. It is possible that these coins were deposited post-abandonment but it is most likely that these coins attest the continued use of the granary as a structure of paramount importance to the town's regulation and distribution of grain and thus both their local economy and their role in the larger Graeco-Roman Egyptian economy. Coins not found in hoards are in fact more indicative of economic activity, as coins deliberately collected and hidden are often representative of economic instability, supporting my argument that these coins may in fact reflect continued activity at the granary in the 4<sup>th</sup> century CE.

One leaf of a wax tablet (Figure 24, object 160), 2 ostraca and 4 papyri were also found in passageway CE. APIS reveals that the wax tablet, P. Mich. Inv. 6854, is complete with 4 binding holes and both leaves of the 6x6.8cm tablet are intact, though the wax is completely gone. "CAISARIOI" was scratched in Latin uncial on the back and on APIS it is attributed to the 1<sup>st</sup>-3<sup>rd</sup> century CE, though Verhoogt points out that the "R" looks far too modern. The oddness of the inscription- in particular the modernity of the "R"- is compounded by the rarity of Latin texts found at Karanis. Though the hundreds of fragments still warranting attention may reveal more Latin texts, as few as two have been identified reflecting the deep saturation of Greek culture in the Egyptian town<sup>63</sup>. The wax tablet presents a very unique and interesting anomaly that certainly necessitates further study. Perhaps the inscription reflects an individual, less comfortable with writing, practicing, which would explain the seemingly atypical "R". Or perhaps a member of the excavation was doing the same, attempting to demonstrate the use of the object. Regardless, the wax tablet is an important component of a cluster of writing materials. Two papyri were found "high in filling" according to the record of objects and presumably were

<sup>62</sup> Reference pages 11&12 in Section 1.1 and page 24 in Section 1.3 for the explanation of the levels and the expansion that occurred in the C-Level.

<sup>63</sup> Alston, Richard. *Soldier and Society in Roman Egypt: a Social History*. London: Routledge, 1995. 138. Print.

found together as they are given one excavation number though they represent different documents (P. Mich. Inv. 5871 and 5872). It would be ideal to have a better grasp of what the excavators meant by “high in the filling” as it might help date the abandonment of the structure if these papyri, of rather certain date, could be located more securely in the archaeological record. I am tempted to propose that this “high in the filling” suggests that the vaults had already gone out of use and that they were in fact deposited or disturbed post-abandonment. However, not only is it unknown today how high this fill was in the passageway but furthermore the bronze coins post-date these papyri and offer potentially extended evidence of use. If one could ascertain a more exact location of the artifacts and papyri it may even in fact result in the identification of a large post-abandonment fill layer that could help explain the mix of objects from the domestic and commercial spheres as well as chronological span.

As the Record of Objects details, papyrus P. Mich. Inv. 5871 is a record of tax payments with entries from Melas, son of Sokrates; Melas, son of Horos; Sempronianos and Onnophris, possibly son of Atrisios; it remains unpublished. It is broken off at all sides and the 14 remaining lines were written in a cursive hand. The papyrus was dated “Diocletian 308 AD” despite Diocletian voluntarily abdicating the emperorship in 305 CE. The current emperors, Licinius I and Maxentius were ignored in the date of this document and Diocletian, as consul, was referenced just as in a tax receipt from Oxyrhynchus in the Michigan Collection P. Mich. Inv. 3311 also dated to 308<sup>64</sup>. The other inventory number, P. Mich. Inv. 5872, is a group of 40 “miscellaneous” fragments from the 2<sup>nd</sup> century CE which spans the Nervan-Antoninian dynasty, the year of five emperors and the beginning of the Severan dynasty. These fragments are also unpublished and add up to 14 lines, written in a “nice” handwriting. The 2 pieces, which

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<sup>64</sup> Sijpesteijn, P. J. "Three Papyri from the Michigan Collection." *Zeitschrift Fur Papyrologie Und Epigraphik* 33 (1979): 249. *JSTOR*. Web. 29 Feb. 2012. <<http://www.jstor.org/stable/20185640?seq=6>>.

“probably join” with the smaller at the top and the larger on the bottom according to APIS, were broken off on all sides and represent an “account”. Although the contents of this account are not detailed, both of these documents seemingly relate to the commercial function of the granary. Their location in the highly trafficked passageway of the southern vaults is interesting and brings up several different lines of inquiry regarding where documents were stored and if personal and civic documents within the structure were in fact kept together. With a lack of mention of any sort of cabinets in the passageway itself one might propose that the documents could have been stored in the vaults themselves or in a different part of the structure, perhaps in an office in the residential section. The papyri thus could have been dropped as it was being moved from one place to another, perhaps from an active use in the vaults, recording transactions, to a more permanent “file cabinet” outside the vaults.

A secondary use, such as the papyri being recycled as fuel, is also a strong possibility for this findspot. The Interim Report mentions a fireplace above the storage room DE<sup>4</sup> in passageway CE. The Ground Plan (Figure 1) depicts a horseshoe-like structure against the wall between vaults CI and CJ, most likely this fireplace<sup>65</sup>. As described in the Interim Report, the fireplace was constructed as several others at Karanis with two bricks flat on the floor with their ends against the wall and a third brick placed lengthwise between them along the wall so that a rounded cooking vessel could rest on the bricks with the fire between them<sup>66</sup>. As the exact location of these papyri within the passageway was not documented it is difficult and unwise to draw a certain association between the papyri, as fuel, and the fireplace, the possibility must be

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<sup>65</sup> The location of the fireplace in the ground plan as against the wall between the vaults CI and CJ on the opposite side of the trapdoor to DE<sup>4</sup> and its description as “on the floor of CE above DE<sup>4</sup>” suggests that the storage rooms, which received no in depth treatment in the excavation reports, stretched along the width of the passageway CE. Additionally, the double dotted lines within CE on the Ground Plan, on either side of each label DE<sup>1-6</sup> may reflect the boundaries of the underground storage rooms.

<sup>66</sup> Boak A.E.R., and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 84. Print.

considered. Another group of “miscellaneous” fragments, P. Mich. Inv. 5873, was found just below the floor level at the west side of the door to vault CH. The pieces are noted of being of little value, but may further lend significance to their use as fuel for the fireplace in CE. Similarly, P. Mich. Inv. 5874, found “very low in filling”, is described as a bunch of fragments too small for identification. Two ostraca were also found detailing liturgical work on the embankments, both from the 3<sup>rd</sup> century CE, one from March 18<sup>th</sup> and the other June 7<sup>th</sup>. Though ostraca would not have been for fuel, they might have been deposited along with the papyri as objects no longer needed, to be reused. This would then suggest that the papyri and ostraca were kept *together* in some part of the structure.

Some of the objects more closely associated with the domestic function of the building include personal items such as glass and faience beads representing several styles from the 1<sup>st</sup> to 5<sup>th</sup> centuries CE, fragments of a castanet and 2 wooden castanet handles, a spindle whorl, 2 small bone cosmetic spoons, a fragment of a bone pin-head, an almost complete bone pin, 2 wooden combs, a wooden toy fish and a piece of wood interpreted as either a toy fragment or a phallic charm (Figure 11, toy fish object 44). There are many objects that could have been used in a variety of settings, domestic or commercial, including a piece of textile, marine shells, 3 wooden stoppers, 2 wooden V toggles (typically used as an agricultural implement; Figure 12) and various fragments of wood including a block, a tethering stake and a cylindrical piece (Figure 11). A number of architectural elements were also found including wooden door bolts, a flat wall peg, a wooden door button and a notched wall peg. Additionally, several bronze fragments and a lump of lead were found, their uses remain undetermined. A small turned wood bowl, a small cylindrical wooden box, a clay lamp with branch iconography (Figure 4 object 35), a clay pitcher, clay drinking cup, an inscribed base of a pot and two more vessels, one housed in Cairo

and one not taken home, were all found in CE. The function of these may have been used for everyday routines or for a slightly modified purpose in reference to the moving, distribution, measuring, etc of grain, or perhaps to store other implements related to these actions.

### 3.2 C123DE

In addition to granting access to the 10 vaulted chambers of the southern vaults, CE also provided entry to six, small, vaulted storage rooms, DE<sup>1-6</sup>, that lay underneath the passageway itself (Figure 1). Trap doors in the floor of the passageway CE were mentioned in the Interim Report but are not shown in photograph 5.3842 (Figure 22), though some of the holes in which they were certainly installed are clearly visible. As noted above, the storage rooms seem to have extended the width of passageway CE due to the discussion concerning the fireplace “above DE”<sup>4</sup>. No description of the rooms themselves, nor the objects found within them, was included in the Interim Report. However, a plethora of objects, including one of the few implements directly associated with the measuring of grain, a decorated scale pan, was found in these storage rooms and deserve further description.

According to the Ground Floor Plan (Figure 1) DE<sup>1</sup> is located in between vaults CH and CCH, with the trapdoor directly to the west of the entrance to CH. A mix of artifacts mirroring the blend of domestic and commercial implements found in CE was also found in this storage room however the artifacts seem to be more complete and of a slightly elevated quality<sup>67</sup>. The objects documented include a small glass flask, clay jar, bone pin, wooden comb, bronze coin, 2 ostraca, 2 small mud seals and a wooden stamp. The small glass flask is described in detail in the

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<sup>67</sup> This is speculative especially given the nature of documentation, the inherent quality of archaeology in which excavators make decisions about which objects are kept and variability year to year. Also one must take into account that the diggers themselves would have been more likely to remove nice objects at their discretion if provoked by the *sebakheen*.



Record of Objects and must have drawn the attention of one of the excavators (object 26 of Figure 27). It is described as having “*slight construction just above the base from which the body flares out to a sharp carination then tapers to a constricted neck*”. The rim was up-turned and flared out widely, a light green color was noted on the flat right foot<sup>68</sup>. The Kelsey Museum Artifact Database identifies it as an unguentarium. This type of vessel was widespread throughout the Hellenistic and Roman world and typically carried oil though it functioned to store and dispense any liquid or powdered substance. Unguentaria were used in both secular and religious settings: as personal containers for cosmetics, medicines, oils, etc; commercially to dispense of bulk products in the marketplace; and as vehicles for votives and in funerary customs. This unguentarium most likely served a secular function, either as a personal object (a bone pin and a wooden comb were also found in DE<sup>1</sup>) or, given its location in the vaults, it was probably a commercial vessel stored away for future use.

The bronze radiate coin depicts Constantius Chlorus, Roman Emperor from 292-306CE. On the obverse a bust of Constantius I is wrapped with the inscription “FLVALCONSTANTIUSNOBCAES” while on the reverse he is shown in military dress holding a short scepter or sheathed sword and receiving Nike, mounted on a globe, from Jupiter on his left who is depicted as nude except for a mantel on his left shoulder and resting on a long scepter; the inscription reads “CONCORDIAMIL ITVM”. This coin was minted in Alexandria during Constantius Chlorus’ reign and reminds us again of the granary’s function in the much larger economy of Roman Egypt and the role Alexandria played in facilitating trade and

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<sup>68</sup> Measurements were also given: height m. 0.063, diameter at carination m. 0.04 and height of neck and rim together m. 0.024

commerce in the Roman Empire itself. The two small-unfired seals, one depicting Sarapis<sup>69</sup> (Figure 28), were also most likely associated with grain transactions, applied to a variety of wooden containers, cloth and rope and discarded after the vessels were opened, the grain accounted for and deposited in the larger storage facility<sup>70</sup>. The wooden stamp also seems to fit in with this group of objects tightly associated with the everyday activities of the granary and I would suggest that this storage room, unlike some of the others, which appear to be filled with more “trash-like” material, was probably used quite frequently and objects transferred in and out often. Two ostraca found in DE<sup>1</sup>, P. Mich. Inv. 9503 and 9504 both in Cairo, reference transportation by donkeys. Ostrakon P. Mich. Inv. 9503 is dated to Late 3<sup>rd</sup>-early 4<sup>th</sup> centuries CE and is comprised of a list of donkey drivers and caravans of which the official Paesis was responsible<sup>71</sup>. P. Mich. Inv. Ostrakon 9503 is categorized under “Delivery from the Granary to the Harbor” by Youtie and Winter, and is dated to January 3<sup>rd</sup> 313 CE. The ostraca accounts for 5 donkey loads of wheat delivered by the driver Alypios for Komon son of Kallionos to the sitologos, Dioskoros, for that harvest year. These documents directly reflect not only the operations of the granary itself but the larger activities it was concerned with, including the transportation of grain, in the larger town of Karanis. Though the ostraca are not quite contemporaneous, I propose that the storage room might have been used as a temporary and convenient space for receipts and other documentation, as well as commonly used implements,

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<sup>69</sup> 23 such seals were found in a bin in CCH and will be discussed in further detail there, however one might draw a link between the group of these seals and the single seal in DE<sup>1</sup>; this seal may reflect the movement of objects between the vaults and the storage rooms.

<sup>70</sup> Gates, Jennifer Ernest. "A Clay Sealing from Karanis in the Kelsey Museum." *Bulletin: The University of Michigan Museums of Art and Archaeology* 15. Rpt. in Vol. 15. Ann Arbor: MPublishing, 2003. Web. 2 Mar. 2012. <<http://hdl.handle.net/2027/spo.0054307.0015.106>>.

<sup>71</sup> Youtie, Herbert Chayyim, and John Garrett Winter. *Papyri and Ostraca from Karanis*. Second Series ed. Vol. L. Ann Arbor: University of Michigan; [etc, 1951. 190. Print. Humanistic Ser. No mention of C123DE<sup>1</sup> or C123 at all is found in this publication except at the back in separate index. The integration of findspots into papyrological sources, included with the discussion of their associated documents, is of utmost importance to facilitating an interdisciplinary approach to the archaeological record.

from which they were later transferred to a larger collection of records within C123; perhaps these ostraca were merely forgotten and others strewn throughout the passageways lost in this transferring process. Perhaps, similarly, the papyrus fragments from CA reflect a similar transfer process.

The trapdoor affording access to DE<sup>2</sup> was located to the east of the entrance to vault CCH on the northern edge of passageway CE. The trapdoor borders the eastern limits of the vault and the wall separating CCH and CCI. Its contents are strikingly domestic in nature and include a wooden box, a wooden comb, an unidentified terracotta fragment, a spindle whorl and a toy mud animal. The wooden box was also described as a cup in the Record of Objects and according the Kelsey Museum Archives was found in a bin within DE<sup>2</sup>. The denotation of a bin in the find locus suggests there may have been several bins in these storage rooms, a practical architectural element for the function of these rooms. However, the find locus of every object found in DE<sup>1-6</sup> was documented as in a bin. Thus instead the storage rooms themselves were probably bins or perhaps, simply denoted as such. There is neither description nor pictures of the rest of the objects from the room and their locations are also unknown, however the personal implements and possessions, particularly the toy mud animal that was noted to have lost a front leg, clearly reflect the property of the individual residents of C123. One might also consider the possibility of a “lost and found” type of storage but one might assume such would be in a more accessible location. Furthermore, the mix of fragmented and complete objects does not allow the specification of this as a receptacle for trash or as simple storage.

DE<sup>3</sup> was entered through a trapdoor to the west of the entrance of CI, along the southern wall of passageway CE. Some of the objects found in DE<sup>3</sup> represent different and unique finds in C123 while others like a faience bead and a marine shell have been found in most rooms.

Fragments of undetermined terracotta, glass and marine shells as well as a fragment of a terracotta Harpocrates figurine give the impression that the storage room or bin was more of a desk drawer of items that may have been saved with the intent to reuse the materials in some way. So may also have been the case for a small bronze loop handle, a piece of carpentry wood suggested as the handle of a drill and some discarded mud seals. A large wooden box was also found, as well as 2 vessels of unknown shape, use and location. Of utmost interest is a fragment of a decorated scale pan, classified under weights and measurements, this artifact is of direct reference to the transactions that must have occurred and in fact been the central activity of the structure. Unfortunately, like many of the objects, the location of this scale fragment is unknown, however it does suggest that DE<sup>4</sup> was used as some sort of receptacle for parts of tools, implements and general “odds and ends” that accumulated in the vaults and potentially the rest of the granary. Quite surprisingly 3 faunal specimens were also found in the storage room DE<sup>4</sup>, a horse skull and both jaw bones (Figure 29). The location of a horse skull and jaw in the granary vaults is quite puzzling but perhaps related to grain activities that occur in the field such as the rope harness rings and potential tethering stake among others found in CE. Due to the skull’s location in the storage room entered through a trap door it seems unlikely that it was dragged into the building post-abandonment by another animal and likely that at least some of the storage rooms had some sort of trash-pit like function. Perhaps it held some sort of religious<sup>72</sup> or symbolic function or even served as decoration. Perhaps the horse skull was used as some proof of an inability to fulfill a payment or as a reminder of some other event. More likely the skull could have been kept as a source of bone for tools or some other practical purpose. Regardless the horse skull emphasizes the nature of the community, one whose subsistence relied on agricultural productivity, particularly that of grain.

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<sup>72</sup> Professor Celia Schultz at the University of Michigan suggested the use of horse skulls in curses.

The records reflect a noticeable decrease in the number of objects found in storage rooms DE<sup>4-6</sup>. DE<sup>4</sup> was entered through a trapdoor along the northern wall of CE to the east of vault CCI. Directly across passageway CE on the southern wall to the east of the entrance to vault CI was the fireplace mentioned above. A wooden tool handle, considered the handle of a whip by the excavators, 2 drinking cups and a third clay vessel were all found within the “bin” DE<sup>4</sup>. While in DE<sup>5</sup>, the entrance to which was located to the west of the entrance to vault CJ, the Record of Objects is unclear but there appears to have been up to 6 vessels not taken home. No objects at all are recorded for DE<sup>6</sup> entered by a trapdoor in the northeast corner of CE to the east of the entrance to CCJ. The diminishing number of objects could represent a number of different circumstances: a break down in documentation as reflected in the ambiguous count of the vessels from DE<sup>5</sup> or perhaps a genuine lack of artifacts in the eastern and perhaps less accessible storage rooms. The overall blend of domestic, agricultural and commercial objects in passageway CE and storage rooms DE<sup>1-6</sup> is reflective of the different aspects and spheres involved with the production, collection, documentation and distribution of grain. Though some of the store rooms, such as DE<sup>1</sup> seem to contain more or less cohesive assemblages, the scattered and often fragmented nature of the objects in CE could be the result of transferring activities between the storerooms themselves and other parts of the building. I suggest that some of the objects in CE may have originated in the storage units and upon abandonment of the lower floors, individuals going through them scattered the objects throughout the passageway. A similar transfer could have been a part of the original occupation phase as well and movement certainly seems to have occurred between the larger southern vaults and the storage rooms as suggested for a proposed association between the Sarapis seal found in DE<sup>1</sup> and the group of 23 like seals in CCH.

#### Section 4: The Southern Vaults

The southern unit of C123 stretched approximately 18 meters along street CS160, over 12 meters along CS210 and was of sound construction<sup>73</sup>. Passageway CE divided the southern portion of C123 into two rows of 5 large, vaulted, storage chambers. As the Interim Report describes each vault was comprised of 5 or 6 chambers divided by narrow, low lying walls, of which the main dividing wall stretched from the entrance to the vault to the back and ran roughly at the same level of the floors of passageway CE. The interior chambers of each vault were sunk into the floor, approximately 1.5 meters, and while the narrow walls were wide enough to afford movement between the various compartments, toe-holds were cut into some of the dividing walls at suitable levels to permit easier access. As previously discussed, each chamber consisted of simple arches with double courses, the walls were covered with a black wash like CE and narrow slit-like windows high in the rear walls of each vault lit the each chamber<sup>74</sup> (Figure 30).

Various structures at Karanis and even various rooms within those structures underwent different types of internal reconstruction and remodeling to cope with the natural rise in occupation level. As the Interim Report summarizes some of the low dividing walls in vaults CCG, CCH and CCI were partially worn away or removed and the spaces between them were filled with debris. The excavators note that this process was due to some extent to natural accumulation and, likely, also due to the construction of a new floor level associated with the increased level of the corridor CE. Furthermore, a new floor was built over the small partitioning walls of the original vault in rooms CCI, CCH and CCG to create dwelling space<sup>75</sup>. In the

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<sup>73</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 83-87. Print.

<sup>74</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 57. Print.

<sup>75</sup> Husselman, Elinor M. "The Granaries of Karanis." *Transactions and Proceedings of the American Philological*

Record of Objects there is often a designation for a vault in general and then for each compartment, i.e. CF and then CF<sup>1-5</sup>, the more general “CF” seems to represent the fill above the level of the compartments, once the partition walls became visible the objects were then segregated by bin number. In the case of CCI, CCH and CCG the “general” designation of the vault without a compartment number may indicate that those objects were found *above* the later floor built over the partitioning walls and allow for a more secure estimate of when these interior renovations took place. Although I have not yet gotten to these vaults, it will be interesting to explore this avenue and note any difference in deposition clusters, between the objects above and below the later floor level and furthermore to the vaults that seem not to have undergone such construction.

Fireplaces, like the one in CE, were constructed in compartment 1 of CCG and in the southeast corner of vault CCI<sup>76</sup> above the level of the original floor. A semicircular bin was constructed in the southeast corner of vault CCH, this bin cuts the dividing wall between compartments 2 and 3 and it suggests this dividing wall was no longer in use and that the compartments were combined into 1 (Figure 1). This seems to suggest that the amount of grain stored in these chambers was relatively stable or at least not increasing in this period. One would assume that an increase in desired capacity would contradict the removal of walls, raising of the compartment floor levels and conversion of several vaults’ bins into level floors; the construction of new features, serving a greater variety of purposes, in the vaults also allots less room for the storage of grain itself. This might not in fact mean that less grain passed through the granary,

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*Association* 83 (1952): 56-73. Print.

<sup>76</sup> The Interim Report, page 84, states that this fireplace was built in “compartment 8 (?)”, however the ground floor plan shows a structure dissimilar from the other fireplaces in compartment 2. Because the vaults were not described in detail, only mentions of relevant features such as wall paintings or blatant constructions in later periods are mentioned collectively. Husselman avoids this issue by stating simply that a fireplace was found both in CCG and CCI. I have faith that the excavators labeled it as a fireplace with good reason but I am unable to comment on the validity of it or the odd construction as depicted in the ground floor plan.

perhaps less was stored there longer, it was redistributed faster, etc. It is of note that the addition of these structures was contained to the northern of the southern vaults, those bordering the residential and courtyard spaces, perhaps reflecting the expansion of more domestic activities.

Other modifications, apparently contemporaneous, are described in the Interim Report and by Husselman: *“In each of these vaults [CCG, CCI and CCH] a door was cut leading into the courtyard [C123CK] and the granary bins on the north, elimination the small windows which had been in their north walls. A stone step in CCG allowed easier access to the northern doorway CZ”* (Husselman 57). However, this simple description in the Interim Report is not easily aligned with the ground floor plan (Figure 1). The modifications that occurred in vaults CCG, CCI and CCH do not seem to have included vault CCJ, which also borders the residential space to the north. This may reflect a difference in use, and perhaps a difference in accessibility- perhaps due to the accumulation of sand and debris- between the most eastern vault CCJ and the others. Unfortunately, in reconstructed floors plans archaeologists tend to overlook or disregard the doorways, which limits the interpretation and analysis of accessibility and circulation of movement within the structure. For example, each of the southern vaults shows an additional niche in the back of the vaults (the side farthest away from the central passageway CE). While I originally presumed that the southern vaults were only accessed internally, the ground floor plan does not distinguish much between doorways and walls. These niches, if they were in fact doorways, would provide access to the street CS160 through vaults CF-CJ and already to the residential space from CCF-CCJ. This would dramatically change the nature of the vaults, as well as the importance and traffic associated with passageway CE<sup>77</sup>. However, Husselman’s

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<sup>77</sup> Individual doors in the southern vaults leading to street CS160 could indicate an entirely different form of operation such as a “teller” stationed at the entrance to each vault from the street, so patrons did not enter the granary themselves. Such a scenario would reflect the use of those vaults as temporary storage like a cash register at a bank.



description of the new construction, in which doors were cut in CCG, CCI and CCH, seems to be consistent with my original interpretation of the niches and the limited internal accessibility of the vaults. However, what exactly these niches were remains unknown though because they were not given a compartment number I suggest they may have been insignificant and small than the plan reflects<sup>78</sup>.

#### 4.1 Vault CF

Upon entering CE, vault CF is the first on the right (south) and is comprised of 5 compartments. Each of the 10 southern vaults was accessed from CE by a threshold, which was smaller in width than the chambers themselves. The southern series of the southern vaults, CF-J, also had a small threshold, or room, on the southern most side; it is unclear if these spaces granted access to each individual vault from street CS160, as discussed above. However, Figure 31 shows a view of the south wall of vault CG, and there appears to be no indication of a doorway. The main dividing wall of CF partitioned the vault into a western and eastern half which were each divided further into a northern and southern quarter; two smaller compartments, CF<sup>1</sup> and CF<sup>3</sup>, comprise the northwestern quarter, CF<sup>5</sup> the southwestern quarter, CF<sup>2</sup> the northeastern quarter and CF<sup>4</sup> the southeastern quarter. The Record of Objects documents objects that were found in CF; it is unclear if these artifacts were found in either of the thresholds, were found on the dividing walls, were unspecified and found in one of the compartments, or as I suggested earlier were found higher in the fill before the dividing walls were visible<sup>79</sup>. However, the excavation loci of the artifacts documented as being found in the compartments, CF<sup>1-5</sup>

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<sup>78</sup> There are a number of issues with the way rooms and other structural components were represented in the Ground Floor Plan, for example Husselman, as quoted above, reveals that CZ is in fact a doorway while the plan depicts it as a room. Additionally, the hallway CB is depicted as a landing and that whole stairway system attempts to illustrate three levels at once (Figure 1).

<sup>79</sup> The same goes for the other 9 chambers of the southern vaults.

specify that they were found in bins, so it can be assumed that the objects designated simply CF were most likely not also from the compartments. Artifacts documented as having been found in CF include an unspecified piece of wood, 2 faience beads, a small cosmetic bone spoon and hairpin. The small bone cosmetic spoon was found in two fragments while the bone hairpin was described as “with left hand clasping a ball”. Though the Record of Objects indicates that both beads found in CF were faience the Kelsey Museum Artifacts Database identified one of the beads, KM 0000.07.8329, as Chrysoprase an apple-green gemstone variety of chalcedony. Chrysoprase, literally “green gold” in Greek, is valued for its color that is the result of small quantities of nickel and a cryptocrystalline structure that renders the distinct crystal particles undetectable under normal magnification<sup>80</sup>. Chrysoprase, and chalcedony in general, was often used for beads, pendants, amulets and scarabs, and later as inlay in jewelry, coffins and furniture<sup>81</sup>.

The current location of most of the objects found in CF<sup>1</sup> are unknown, a common and unsettling reflection of the inherent difficulty in archaeology of keeping track of all the artifacts once removed from the archaeological record. Perhaps the most interesting artifact found in CF<sup>1</sup> was a grinding stone. While a grinding stone can certainly be considered a culinary implement, it was also used, as it still is today, for large-scale grain processing and production of olive oil<sup>82</sup>. The placement of the grinding stone within one of the bins, compartment CF<sup>1</sup>, indicates that potentially some of the actual grain processing occurred at the granary, though most likely the vaults themselves were not the primary site of such activities. The stone could have been placed

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<sup>80</sup> Nicholson, Paul T., and Ian Shaw. *Ancient Egyptian Materials and Technology*. Cambridge: Cambridge UP, 2000. 26. Print.

<sup>81</sup> Lucas, A., and J. R. Harris. *Ancient Egyptian Materials and Industries*. London: E. Arnold, 1962. 342. Print.

<sup>82</sup> Wendrich, W. Z., J. E.M.F. Bos, and K. M. Pansire. "VR Modeling in Research, Instruction, Presentation and Cultural Heritage Management: The Case of Karanis (Egypt)." *Proc. of The 7th International Symposium on Virtual Reality, Archaeology and Cultural Heritage VAST*. 2006. Print.

there when the vault or even just the single compartment fell out of use or even post-abandonment by subsequent visitors to the site. A small wooden door socket, a handle of a castanet, 2 pottery lamps, the body of a decorated jar, a pitcher, a vessel with a small fragment of the rim and body gone, fragments of 3 other vessels, a turned wooden base, two fragments of a terracotta female figurine and a small crocheted bag or basket of palm fiber was also found. The assortment of items and their mostly fragmentary nature indicates either that the objects were deposited after the compartment no longer was used for the storage of grain or perhaps that some of the compartments within each vault were allocated for the storage of related items, such as the palm fiber bag and various vessels, and not solely for grain itself. The suggestion that CF<sup>1</sup> was used for the storage of such objects during the period of the granary's full operation aligns with the smaller size of the compartment itself. Perhaps both CF<sup>1</sup> and CF<sup>2</sup> were originally part of a single compartment that was later subdivided, though no mentions of any remnants of modifications to CF are mentioned. Perhaps more likely the smaller compartments were created for individuals or groups wishing to rent smaller units or the space was delegated for the storage of associated tools either originally or if the compartment went unused by such patrons. The discretionary use of some of the compartments for non-agricultural products, but the tools and implements associated with their processing and production, would dramatically alter the estimations made of the grain storage capacity of the entire granary C123, as well as those concerning grain yields, transactions, etc for the larger Fayum region, Egypt and potentially the Empire itself.

CF<sup>2</sup> is impressive in its variety of objects, unseen thus far in the granary, and supports the view that some of the compartments within the individual vaults may have been used for storage of objects instead of just grain and other agricultural products, likely after Karanis began to

decline and the harvests decreased. A papyrus, in Cairo, P.Mich.inv. 5875 was found though no image is available and it has not been published, however APIS notes it appears to be of a documentary nature. Additionally, 3 ostraca were found, of which all three date to the 3<sup>rd</sup> century CE. Two of these ostraca concern liturgical work on the embankments while the third, dated to June 21<sup>st</sup>, appears to be some form of ancient “paperwork”. As Youtie details in P.Mich. VI, this ostrakon bears two hands, the second of which leaves a space, presumably for a name that was never entered, before writing the date<sup>83</sup>. This second hand has been identified in at least 13 other ostraka and was responsible for the date on each<sup>84</sup>.

Following in this more commercially and agriculturally related category, a stick, perhaps a whip handle, a straight toggle, and a small gourd were found. Of note the small gourd is one of the only botanical remains given a number in the Record of Objects, greatly obscuring the location and quantity of preserved specimens from the granary. Gourds were thought to preserve whatever was stored inside and were found filled with grain in tombs suggesting they may have been used similarly in the life of the living as well<sup>85</sup>. Interestingly, mummy cloth, among other textiles, was also found in this compartment. This mortuary artifact seems largely out of place in the context of a granary bin and while one must always keep an open mind I suggest it is highly likely that the cloth could have been recycled for use as fuel, much like papyri. The presence of no fewer than 4 lamps<sup>86</sup>, and 6 unknown ceramics unknown that quite possibly represented more lamps, in this compartment support the interpretation of the mummy cloth as fuel. The general lack of lamps elsewhere in the vaults suggests that this assemblage, at least components of it

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<sup>83</sup> Perhaps an early form of paperwork or some general document prepared in advanced and later filled in.

<sup>84</sup> Youtie, Herbert Chayyim, and John Garrett Winter. *Papyri and Ostraca from Karanis*. Second Series ed. Vol. L. Ann Arbor: University of Michigan; [etc, 1951. 190. Print. Humanistic Ser.

<sup>85</sup> Nicholson, Paul T., and Ian Shaw. *Ancient Egyptian Materials and Technology*. Cambridge: Cambridge UP, 2000. 122 and 140. Print.

<sup>86</sup> One such lamp of note is at the Kelsey Museum and has a fragment of a terracotta bust attached.

including fuel such as mummy cloth and papyri, related to lighting the otherwise dark vaults<sup>87</sup> and were intentionally stored together in this compartment.

A variety of other objects including a large mud sealing, a small wooden cup, a wooden comb, a spindle whorl, a broom fragment, an architectural fragment of a door button, 2 undetermined fragments of terracotta, an unidentified terracotta figurine, a small fragment of a pottery altar, a drinking cup dated to the middle of the 2<sup>nd</sup> century CE, 9 fragments of an incomplete painted pot, a cosmetic jar with a stump foot also dating to the mid 2<sup>nd</sup> century CE, 2 fragments of an incomplete pitcher and 2 incomplete jars were also found reflecting a mix of domestic, commercial, agricultural and even religious associated activity. Perhaps most unique is the fragment of the pottery altar which, like the shrine niche and the variety of terracotta figurines scattered throughout the granary, suggest that religion was pervasive regardless of the specialization of the structure itself. Beyond the domestic observance of ritual that probably took place at C123, surely thanks and protection for the crops were sought by everyone involved, from the farmers to the sitologos and beyond. Additionally, supervision and assurance from the gods was probably associated with the business transactions themselves.

CF<sup>3</sup> contains few objects including 2 wooden combs, a loom fragment, a wooden pot stopper, 4 vessel fragments, of which 3 were not taken home and the location of the fourth is unknown, and perhaps most interestingly 4 fruits of the dom palm, of which one remains in the Agricultural Museum of Cairo. The dom palm, *Hyphaene thebaica*, along with the related and arguably more common date palm, was widespread in the dry savanna of Africa along the Nile to the region of Abydos<sup>88</sup>. The fist-sized, brown, shiny fruits were used widely from an early date

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<sup>87</sup> Recall that there were no windows lighting CE and only one in each vault, additionally the walls were given a black wash treatment to decrease harmful rays from penetrating the stored grain.

<sup>88</sup> Gale, Rowena, Peter Gasson, Nigel Hepper, and Geoffrey Killen. "Wood." *Ancient Egyptian Materials and Technology*. By Paul T. Nicholson and Ian Shaw. Cambridge: Cambridge UP, 2000. 347. Print.

for a variety of purposes. M. A. Murray notes their symbolism of male strength, alongside date palm characterizing female fertility, in the Pharonic period along with its appearance in tombs from the Pre-dynastic period onward, including that of Tutankhamun. The dom-palm was featured in parks and sacred gardens in the Dynastic and Pharonic periods, during which it was associated strongly with Thoth, the god of science<sup>89</sup>. However, it is unclear whether this symbolism was maintained in Graeco-Roman Egypt, and certainly its wide variety of practical uses was not impeded by its ideological significance.

Strips of the dom-palm's fan-shaped leaves were one of two main components for the production of baskets and mats<sup>90</sup>. Gale et. al. note that the very compact and hard nature of the dom palm wood result in its use as couch feet by the Persians and for boat building, carpentry and veneer, as well as for housing at Karanis and other Graeco-Roman Egyptian towns. Nicholson and Shaw note that the strong, heavy timber of the dom-palm was utilized as water pipes, doors and beams, while the leaves, stalks and roots were used for roofing, baskets, matting, sandals, bags, rope fiber, nets, brushes, paper, black dye, small containers and even vegetable ivory for beads, buttons and rings. Dr. Patrick McGovern, in collaboration with Dogfish Head founder Sam Calagione, includes dom-palm fruit in his new Egyptian beer based on "recipes" of isolated herbs, grains, spices and fruit identified in the residues of libations interred with Pharaoh Scorpion I, 3150 BCE, and grinding stones from the 18,000 year old site Wadi Kubbania<sup>91</sup>. The fruit of the dom-palm contained a sugary, fibrous white seed high in carbohydrates, iron and niacin, and reminiscent of gingerbread, which could be eaten raw,

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<sup>89</sup> Nicholson, Paul T., and Ian Shaw. *Ancient Egyptian Materials and Technology*. Cambridge: Cambridge UP, 2000. 621. Print.

<sup>90</sup> Nicholson, Paul T., and Ian Shaw. *Ancient Egyptian Materials and Technology*. Cambridge: Cambridge UP, 2000. 255. Print.

<sup>91</sup> Tuckery, Abigail. "Smithsonian.com." *Smithsonian Magazine*. Aug. 2011. Web. 16 Mar. 2012. <<http://www.smithsonianmag.com/history-archaeology/The-Beer-Archaeologist.html>>.

sprouted and eaten like a vegetable, soaked, ground or made into syrup<sup>92</sup>. Thus these fruit could represent the collection of resources for consumption, construction or ornamentation.

The items found in CF<sup>4</sup> show a return back to a mix of domestic and miscellaneous objects including papyri, a small bone spoon, a toy wooden top, a fragment of a small wooden cup decorated with incised lines, 2 wooden stoppers, the lid of a cylindrical wooden box, opaque glass, a small round white pebble, a fragment of a terracotta horse, a palm leaf head ring, a serving bowl and two other vessels. The cosmetic spoon, toy wooden top, fragment of a terracotta horse, lid of a cylindrical wooden box most likely containing toiletries or other personal items, serving bowl and opaque glass have a domestic connotation, used by and belonging to a single individual or family. Though the fragment of a terracotta horse could be associated with a religious connotation, perhaps with the shrine in CA, its location and association with the toy wooden top, suggest it too most likely belonged to a child. The excavators identified the “opaque glass” as most likely a draughtsman: a game piece used in a variety of games and generally as a gambling token. The Kelsey Museum however as suggested that it is in fact part of a faience ring set. Either way the piece reflects again a more individualized possession. Perhaps the pebble also could have functioned as some sort of game piece, or perhaps it was a component of a mosaic. Papyri P.Mich.inv. 5876a-d, all dated to the 2<sup>nd</sup> century CE, were also found in CF<sup>4</sup>, of which the first, a, similarly reflects a more personal association. P.Mich.inv. 5876a is a sub literary text of 5 fragments of which at least some fragments bear writing on both sides, nice handwriting on the recto and cursive on the verso. Professor Verhoogt has suggested an astronomical nature based on terminology, which would

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<sup>92</sup> Nicholson, Paul T., and Ian Shaw. *Ancient Egyptian Materials and Technology*. Cambridge: Cambridge UP, 2000. 620. Print.

function as a more private and personal text; the naming of Babylonians and two possible technical astronomical terms align with this identification.

A fragment of a small wooden cup, 2 wooden stoppers, 2 vessels not taken home and a head ring of palm leaf are perhaps more ambiguous in their association to a social or commercial sphere. The vessels and wooden stoppers alike could have been used in a variety of contexts to store, serve, or transport a number of contents. Both vessels have been dated to the mid 2<sup>nd</sup> century BCE and identified as a bowls, one with four vertical projections, which may suggest a rather specialized purpose to the granary or perhaps rendered it purely decorative<sup>93</sup>. The consistent date of 2<sup>nd</sup> century CE for the objects in this bin is a century earlier than the ostraka and papyri found in compartment CF<sup>2</sup>; this chronological discontinuity is perhaps due to the difference in accessibility. If a pattern of earlier dates in the compartments further back in the vault than those by the door is found to be consistent in other vaults it suggests the lateral (vs. purely vertical) accumulation of objects consistent with continued access to the vaults by individuals in C123.

The fragment of a small wooden cup, decorated with incised lines, location unknown, could similarly be associated with a variety of uses though given its decoration and designation as a cup (vs. a drinking cup) one might imagine it may have been used as a measurement for grain itself<sup>94</sup>. There is little information on the majority of pottery; any notes taken may superficially place importance on a given vessel. The palm leaf head ring is quite puzzling and the lack of pictures, details or known location deter the distinction between a personal ornament for an individual, for an animal or some other purpose. Palm wood and leaves were used widely

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<sup>93</sup> Johnson, Barbara. *Pottery from Karanis: Excavations of the University of Michigan*. Ann Arbor: University of Michigan, 1981. Print.

<sup>94</sup> this is perhaps wishful thinking, though it is tempting due to the lack of noted decoration on most pottery thus far.



throughout Karanis and the rest of the Fayum, and provided valuable resources for the construction of houses, mostly for roofing, furniture, as well as for basketry, rope, etc<sup>95</sup>.

Although the rest of the papyri comprising P.Mich.inv. 5876 are listed under the sub-literary genre, the papyri too seem to reflect a blend of personalized and more commercial objects. P.Mich.inv. 5876b, a single fragment 4.5x5cm broken off on all sides, contains nice handwriting on both sides: 7 lines, seemingly a list of workers, on the recto and 6 lines, perhaps an account, written across the fibers on the verso. P.Mich.inv. 5876c is comprised of 2 fragments, one 9x20cm and the other 3x15cm, broken off on all sides and like the verso of P.Mich.inv. 5876b what appears to be an account is written across the fibers. Again the recto of 5 fragments, not believed to be from the same document, of P.Mich.inv. 5876d bears text written along the fibers. Additionally, blank papyri were also found.

The various artifacts found in CF<sup>5</sup> seem to comprise a group of objects utilized for some sort of agricultural processing, food preparation or even textile production. A wooden wheel, wedge, and peg are difficult to assign a specific function but can be integrated into various mechanisms or used individually. A piece of wood takes the form a cleaver, while a flat strip of wood with one edge rounded and the other slightly sharpened to a point could be a multi-tool, a tool handle, a box dowel or a utensil, among other things. However, a fragment of wooden box, 5 vessels, a piece of a rope with a plaited noose and a toy pot seem again more representative of an admixture associated with storage.

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<sup>95</sup> Nicholson, Paul T., and Ian Shaw. *Ancient Egyptian Materials and Technology*. Cambridge: Cambridge UP, 2000. Print.

## 4.2 Second Floor

As previously mentioned the long passageway CB grants access from entranceway C123CA to CE on the right, to the room CC and stairway CD on the left and leads to the northern units of the granary as well as the courtyards and “residential” quarters (Figure 1). The passageway CB then takes a sharp left and runs to the west under the northern flight of the stairway CD with access through a trap door to a lower narrow, vaulted storage room DD (similar in access and construction I presume to storage rooms DE<sup>1-6</sup>). The presence of this stairway CD asserts the presence of a second floor in the original construction of C123. As is described in the Interim Report, most of this second floor was destroyed already in antiquity. The construction of house A152 directly over C123 (later B202) in the A-period indicates that C123 had been completely buried under wind-blown sand and debris. It is interesting to note that this late house was largely devoted to storage perhaps reflecting a vague remembrance of the use of the area<sup>96</sup>.

The second floor of C123 mirrored the plan of the southern vaults: the stairway CD fed into a passageway BB, corresponding to CB, from which passageway BE, like CE, sprouted and led to the granary vaults BF-BJ and BBF-BBJ<sup>97</sup> (Figure 1). Additionally, a doorway from BB led into room BC, which gave access to a low storage room BC<sup>1</sup>, the floor of which was in turn the ceiling of room CC below. The vaulted construction of the southern part of C123 was fundamental not only in providing the necessary strength to uphold an additional floor of storage bins with the weight of grain but also seems to have eased the difficulty of creating such a

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<sup>96</sup> Husselman, Elinor M. and Enoch Ernest. Peterson. *Karanis Excavations of the University of Michigan in Egypt, 1928-1935: Topography and Architecture : a Summary of the Reports of the Director, Enoch E. Peterson*. Ann Arbor: University of Michigan, 1979. 56. Print.

<sup>97</sup> A.E.R Boak and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. 85. Print.

system of rooms with sub-level storage bins in multiple floors. The construction of vaults also prevents the movement of objects between stories of the structure, which would have been crucial in the capacity of a structure as a granary to minimize loss of agricultural products. The presence of objects, no matter how fragmented, corresponding to the B period (early 3<sup>rd</sup> century CE until it was buried some centuries later<sup>98</sup>) in the ground floor vaults could thus not be explained by movement through the floor of the second layer. Thus, though Husselmann's report may be accurate that only the upper floor of granary C123 was in use in the B level, her summation that "*the lower floor, the underground pits and open bins had been completely filled in and abandoned*"<sup>99</sup> does not account for the chronological mixture of objects present in even the underground storage rooms DE<sup>1-6</sup>. Though certainly some of this admixture must be due to the collapse and loss of the second floor that occurred after the B period, I propose that the residents and other individuals maintained access to at least certain parts of the southern vaults as the entrance CA and courtyards, though the courtyards did show a significant raise in occupation level, were maintained and continued to be used throughout the B period. The papyri attributed to vaults BBJ and CCJ offer an interesting case to discuss this hypothesis.

#### 4.3 Vault CCJ

Vault CCJ was located at the end of passageway CE in the northeastern corner of the southern vaults and consisted of 6 compartments (Figure 1). The western half of the vault was divided into 2 compartments, CCJ<sup>1</sup> and CCJ<sup>4</sup>, while the eastern half was separated into 4 smaller

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<sup>98</sup> The dating of the decline of Karanis is of much debate and the abandonment of the granary, its subsequent burial in the desert sand and the construction of a large house in the A period has not been dated outside of its relative chronology though superficial assessment of objects suggests that there was probably at least some activity in C123 in the early 4<sup>th</sup> century.

<sup>99</sup>Husselman, Elinor M. "The Granaries of Karanis." *Transactions and Proceedings of the American Philological Association* 83 (1952): 65. Print.

compartments CCJ<sup>2</sup>, CCJ<sup>3</sup> CCJ<sup>5</sup>, and CCJ<sup>6</sup>. There is a departure from the general mix of artifacts found in vault CCJ, instead there is a high density of papyri accompanied only by a stone and 4 vessels in CCJ<sup>5</sup>. The excavators note in the Record of Objects that this stone may have been used as some sort of weight and the vessels include a mid 2<sup>nd</sup> century CE drinking cup and a pitcher. No compartments were designated as findspots of papyri within the vault CCJ although the Record of Objects does note that the papyri were found “high in filling”. Thus no association between the papyri and the objects in compartment CCJ<sup>5</sup> can be made; rather it seems careful consideration of their relation with the room above, BBJ, is necessary. Eleven processing numbers were given to this group of papyri with at least 3 additional papyri attributed to BBJ and 15 more to “between BBJ and BBI...”, however these numbers represent hundreds of fragments. Most provocative is the finding that many of these papyri, from all three locations, have been found to be components of the same documents but also represent a large number of hands and people.

The first papyri recorded from vault CCJ is P.Mich.inv. 5870, comprised of a very tightly rolled text and many flakes from the same document. As detailed in APIS, the document has been identified as Book 8 of Homer’s *Iliad*, dating to the 2<sup>nd</sup> century CE. The papyrus is one of the few literary works found both in the granary C123 and at Karanis overall. The roll was cut into small pieces, indicating it was probably intended for fuel. Small flakes that have fallen off over the years reveal that no margins are present, indicating that it was only one of several pieces of the roll. Thus this cache of papyri can be considered to have most likely not represented a single archive, or even several stored together at a later date. However, this Homeric document reflects that private and personal texts, as well as public and commercial records were to at least some extent treated similarly in storage method, location in C123 and secondary usage. The

admixture of private and public, domestic and commercial, is consistent with the distribution of the other types of objects found throughout C123.

Several papyri from CCJ, BBJ and between BBJ and BBI, have been connected to the archive of Gaius Iulius Sabinus and family, as noted in APIS. The Archive of Gaius Iulius Sabinus and his son Gaius Iulius Apollinaris dates to the late 1<sup>st</sup> to mid-2<sup>nd</sup> century CE and consists of over 19 documents, many private letters, all found within C123<sup>100</sup>. Gaius Iulius Sabinus was a soldier of Leg. III Cyr. and possibly a *signifer*. P.Mich.inv. 5923<sup>101</sup>, dated to the 2<sup>nd</sup> century CE, is a fragment from a loan in which a “[se]meaphoros legenos”, a standard bearer of the legion, is mentioned in the first line and is thought to Sabinus<sup>102</sup>. Sabinus’ son Apollinarius identifies himself initially as an officer and then a secretary of a legion in Bostra, a Nabataean city conquered in 106CE by one of Trajan’s generals, in the early 2<sup>nd</sup> century CE and subsequently comes to Karanis possibly as a soldier of Leg. III Cyr. and as frumentarius of Rome<sup>103</sup>. Later, by 130CE, it is clear that Apollinarius is a veteran living in, or in close proximity to, Karanis and holds land in Karanis, Bacchias and other nearby villages. Papyrus P.Mich.inv. 5915 found in CCJ dates to 96-98 CE, the end of the reign of Nerva and the beginning of Trajan’s, and represents a contract for deposit and a receipt for withdrawal of an inheritance from Lucius Iulius Celer<sup>104</sup>. The papyrus consists of 32 lines broken off at the bottom and on the lower right sides, written in two hands identified as Gaius Iulius Sabinus (lines 1-18) and Gaius Iulius Clemens (lines 19-32). As mentioned in APIS the original contract written by Gaius Iulius

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<sup>100</sup> "Trismegistos." *Trismegistos*. Web. 28 Mar. 2012. <<http://www.trismegistos.org/>>.

<sup>101</sup> P.Mich.Inv 5923 also mentions a Roman Flavius Bourianous, a newly identified individual at Karanis also attested in P.Mich.Inv 5838h; this text and individual will be addressed in a forthcoming article by Professor Arthur Verhoogt and myself.

<sup>102</sup> Boak A.E.R., and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. Inventory of Papyri. Print.

<sup>103</sup> Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the Case Western Reserve University, 1971. 6. Print.

<sup>104</sup> "Trismegistos." *Trismegistos*. Web. 28 Mar. 2012. <<http://www.trismegistos.org/>>.

Sabinus was canceled, signaled by crosshatching, after the deposited money was transferred to Gaius Iulius Clemens<sup>105</sup>.

P.Mich.inv. 5916, also found in CCJ, has been joined with P. Mich Inv. 5764, attributed to 132\*-YII<sup>106</sup>, a nearly complete letter from Sabinus to his brother Apollinarius. The letter dates to the 2<sup>nd</sup> century CE and consists of 2 lines of an address on the verso and 21 lines on the recto in which Sabinus thanks Apollinarius for help regarding their sister and encourages him to continue easing the process of Sabinus taking on guardianship for her. Another fragment, P.Mich.inv. 5920, represents an account in which a measure of grain is mentioned to be counted for the account of Julius Apollinarius<sup>107</sup>. Although this fragment has not yet been attributed to the archive, it dates to the 2<sup>nd</sup> century and appears to also be a component of the archive<sup>108</sup>. The mix of personal and business documents, as well as the great number of documents attributed to the archive, reflect a strong potential for at least some connection between Apollinarius, and his family, and the granary C123. Husselmann and Youtie note that his role as frumentarius, collecting wheat from the province for the legion, may explain the association, though it unclear if he or his family occupied the building or even was directly involved with the function of the granary. Several other documents associated with the archive were found in vault BG, including

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<sup>105</sup> H.C. Youtie proposes that Clemens acted as executor, receiving the inheritance for the heirs of Lucius Iulius Celer.

<sup>106</sup> 132\* has been variously identified as a dump, according to Trismegistos, as fill above the living quarters of C123 by Husselman and undesignated in the Record of Objects. Locating this designation 132\* is clearly problematic but nevertheless obviously is related to the structure to some extent, and the connection of documents attributed to CCJ and 132\* may represent intentional dumping of fill in antiquity. However, excavation error and miscommunication cannot be ruled out and thus no inferences will be made at this time.

<sup>107</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. Inventory of Papyri. Print.

<sup>108</sup> Current work involving the entry of papyri from C123 into APIS, is ongoing, and most likely when this fragment is entered such a connection will be made.

P.Mich.inv. 5841 and 5855, and vault CCH P.Mich.inv. 5868 and 5869 among others, as well as a variety of fragments from P.Mich.inv. 5838<sup>109</sup>.

P.Mich.inv. 5925 is comprised of no fewer than 4 folders full of hundreds of fragments from CCJ dating to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries CE; some of which have been connected to several documents attributed to BBJ and BBJ/BBI<sup>110</sup>. Four of the fragments have been united with P.Mich.inv. 5838f, a personal letter also recognized as part of the Archive of Gaius Julius Sabinus and Apollinarius. Another fragment from P.Mich.inv. 5925, CCJ, has been moved to P.Mich.inv. 5827, along with a fragment from P.Mich.inv. 5838, both of which were found between vaults BBJ and BBI. Combined, the fragments contain 26 lines on the recto and 1 on the verso and resemble a letter of petition. Another fragment, P.Mich.inv. 5925, of 4 lines was moved to P.Mich.inv. 5827, also found between BBJ and BBI. Dating to the 2<sup>nd</sup> century CE, the text appears to be documentary in nature and a total of 9 lines are preserved. Still another fragment, P.Mich.inv. 5925, has been combined with P.Mich.inv. 5919, also found in CCJ, and 7 fragments from P.Mich.inv. 5838b found between BBJ and CCJ. The document has been dated to November 26<sup>th</sup>, 92 CE, during the reign of Domitian. According to APIS the origin of the text was the Arsinoiton polis and details the statement of Taeuemerros, daughter of Marcus, to a soldier Marcus Anthestius Gemellus in which she asserts that she will repay him a debt his mother was owed by a Herakleides son of Horon. This payment not only includes reimbursement

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<sup>109</sup> See Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the Case Western Reserve University, 1971. 5. Print.

<sup>110</sup>The potential for further research is astounding. The folders contain much writing and many hands that at first glance already are reminiscent of others identified in documents from C123. The examination of these will yield much more information about the individuals of Karanis and likely contribute to a much clearer and coherent understanding about the nature and even purpose that the papyri served in the building, thus insight into the individuals associated with the granary and residential space. Furthermore, the content of these papyri and their distribution may serve to clarify the sequence of use, occupation and abandonment of the structure as well as contribute to the interpretation of the many objects stored in the vaults, and vice versa.

in the form of money but also an olive grove, perhaps the connection to the granary<sup>111</sup>. Though the contents yield only a small amount of information the papyrus is unique for its traces of a circular red stamp on the verso, speculated to have been the mark of an official. Furthermore, the document is a duplicate of P.Mich.inv. 5850 found in vault BG; Husselman and Youtie note that the duplicate, P.Mich.inv. 5919+5838+5925, bears the number λ, 30, representing either the date or the number of the *kollema*<sup>112</sup>. Husselman and Youtie continue that the number notation, presumably in conjunction with the stamp, suggests that it was the copy kept in the *grapheion* and that the location of both copies in the same structure might suggest that the *grapheion* was in fact located in C123. However, I would suggest that while the presence of many diverse documents, representing a variety of individuals and in a highly fragmented state, certainly reflects intentional collection of papyri, the intent was for fuel. Although, later individuals could have taken advantage of the structure's previous inclusion of a *grapheion*, one would expect such indicators, the official stamp and/or *kollema*, to be found on other documents in C123.

P.Mich.inv. 5917 found in vault CCJ and several documents found in between BBJ and BBI represent another archive present in C123: the archive of Satabous son of Pnepheros and family. The archive contains documents dating from approximately 87CE to 121CE, mostly tax receipts, several contracts detailing division of leaseholds and even a state farmer oath which all seem to suggest that the family were farmers of state lands<sup>113</sup>. Furthermore, the earliest document of the archive coincides with the presumed initial occupation of C123 and it has been suggested that Satabous and his family were the first residents, and perhaps founders, of the granary. The

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<sup>111</sup> Olive seeds were found in CZ, a small room or threshold entered from vault CCG, and were undoubtedly used in the granary as well as probably stored there in some capacity. Additionally, a lease of Grain Land and Olive groves dating to 110CE., P.Mich.inv. 5883 was found in CG<sup>4</sup>.

<sup>112</sup> Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the Case Western Reserve University, 1971. 116. Print.

<sup>113</sup> Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the Case Western Reserve University, 1971. 4. Print.



archive overlaps with that of Gaius Julius Sabinus, and it has been proposed by Husselmann and Youtie that this reflects the possibility that the two families cohabited and that there may even have been a relationship between them, although the papyri shows no evidence for this.

P.Mich.inv. 5917 dates itself to August 27<sup>th</sup> 116CE, and together with P.Mich.inv. 5838c comprises a contract dividing several parcels of land between Pnepheros son of Satabous and Ptolemaios son of Phanomgeus, which they previously held together in a shared lease according to APIS. Two copies of a previous contract dividing this same land between the same Pnepheros and his brother Psenobastis, from 107CE, have been found in 132\*, the potential dump or fill above the living quarters associated with C123<sup>114</sup>. These contracts detail the division of the same land as in P.Mich.inv. 5917 but the allotment granted to Pnepheros in this later contract is allocated to his brother in the earlier contracts and his share in the earlier copies is granted to Ptolemios. Husselman and Youtie acknowledge that this redistribution, or rather “switch” in allotments, was probably provoked by the death of Psenobastis. Of interest is that one of these earlier documents, presumably the original copy, contains the signatures of the involved individuals, including the grapheion of Karanis himself. Husselman and Youtie suppose that the find of both copies of the papyri in C123 signifies that the brothers, Pnepheros and Psenobastis, lived together in the granary C123. However, it seems that if the grapheion is supposed to be within the structure (see page 69 above), one copy might belong as the official record and the other to one of the brothers which does not in fact suggest they lived together.

In P.Mich.inv. 5834, found in BBJ, Satabous’ step-son, Sarapas, takes an oath as a state farmer by the emperor Domitian, dating to 88/89 CE. The affidavit addresses the two “katasporeis” Dios and Isidorus, of the Arisnoite nome responsible for the inspection of sowing

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<sup>114</sup> Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the Case Western Reserve University, 1971. 84. Print.

and irrigation of the land<sup>115</sup>. This papyrus clearly associates Sarapas with the cultivation of land and its affiliation with the archive of Satabous, found within the southern vaults of C123, support that this early family might have resided in the granary and furthermore had a hand in its establishment, operation or at the very least reported to those who did. P.Mich.inv. 5836, 5901 and a fragment from P.Mich.inv. 5838 have been joined and dated to the 2<sup>nd</sup>-3<sup>rd</sup> century CE, although their contents remain unidentified, Husselman and Youtie attribute the fragments from CCJ, BBJ and BBI to the archive of Satabous. Additionally they attribute various other fragments and groups of texts to the archive including: P.Mich.inv. 5830, several fragments with little writing dating to the 2<sup>nd</sup> - 3<sup>rd</sup> century CE, P.Mich.inv. 5833 dating to the 2<sup>nd</sup> century, and several other documents from \*132 and other vaults. Though their reasoning is often unspecified, the potential that more fragments, especially those found and processed in large masses such as P.Mich.inv. 5925 in CCJ and P.Mich.inv. 5838 in between BBJ and CCJ, represent associated documents is great and demands further examination.

An interesting document found in vault CCJ, is a declaration of property, P.Mich.inv. 5922, dating to 69-79CE. The verso bears 2 rather illegible lines, possibly an address, while the recto is comprised of 13 lines detailing the declaration of property by Ptolemaios son of Apion on behalf of a woman from Karanis, Thenaphynchis<sup>116</sup>. The statement is addressed to the keepers of the public library. As we considered the possibility of the structure including the *grapheion*, we could consider granary C123 housing the public library, however the combination of documents reflection components from various archives and official records perhaps reflects the collection of older papyri to be used as fuel in the later occupation of granary C123.

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<sup>115</sup>Husselman, Elinor M., and Herbert Chayyim Youtie. *Papyri from Karanis, Third Series*. [Cleveland]: Published for the American Philological Association by the Case Western Reserve University, 1971. 60. Print.

<sup>116</sup>Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. Inventory of Papyri. Print.

P.Mich.inv. 5918, found in CCJ, is a nearly complete private letter dating to the 2<sup>nd</sup> century CE. APIS reveals that the letter is from Didymos to an Apollonios, who may be his brother, detailing his wish to go see him. The letter was cut from a roll used previously for a register; this type of reuse exemplifies the variety of stages and functions of a papyrus during its use. P.Mich.inv. 5914, also found in CCJ, is a fragment of a contract though no personal names can be surely identified. P.Mich.inv. 5921, a small fragment from the lower left hand corner of a document, has also been found in CCJ. Furthermore, tax receipt P.Mich.inv. 5822 from 87/88CE, a fragment from a contract during the reign of Domitian P.Mich.inv. 5823 and 7 small fragments of a private letter from the 1<sup>st</sup>-2<sup>nd</sup> centuries CE P.Mich.inv. 5864 were also attributed to BBI. Additionally, P.Mich.inv. 5824 a possibly petition, P.Mich.inv. 5825 from the 2<sup>nd</sup> century CE a defaced private letter from Apollinarius to Sempronius, P.Mich.inv. 5826 and 5829 fragments with two columns the first an account and the second perhaps a petition dating to the 2<sup>nd</sup> century CE, P.Mich.inv. 5831 a letter dated to the 7<sup>th</sup> year of Hadrian, and P.Mich.inv. 5832, 5835 and 5837 fragments dating to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries CE unidentified, actuarial and from a private letter respectively were all found “between BBJ and BBI”.

The degree of admixture between CCJ, BBJ and BBI to BBJ is astounding and is particularly exemplified by P.Mich.inv. 5838 and 5925. P.Mich.inv. 5838, found in between vaults BBJ and BBI, and 5925 found in CCJ are comprised of numerous miscellaneous fragments representing a jumble of contracts, letters, and accounts, written in a variety of hands dating from the late 1<sup>st</sup> to the early 3<sup>rd</sup> centuries CE<sup>117</sup>. As already noted, many of these fragments have been associated with others found both in CCJ and BBJ, as well as some found in between BBJ and BBI. Due to the vaulted construction of CCJ and presumably BBJ and BBI, it

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<sup>117</sup> Boak A.E.R, and E. E. Peterson. *Karanis: Topographical and Architectural Report of Excavations during the Seasons 1924-28*. Ann Arbor, University of Michigan Press, 1931. University of Michigan Studies, Humanistic Series, 25. Inventory of Papyri. Print.

seems unreasonable to attribute objects to a space between the rooms. Instead excavation error and inaccuracy, coupled with poor preservation of the upper floors, seems to have contributed to the designation of “between BBJ and BBI”.

The density of papyri in this area (Figure 3) including BBI to BBJ and CCJ, suggests some sort of intentional collection, extending to a broader trend of papyri concentration in the southern vaults. Unlike the open northern bins, the southern bins had extremely limited light granted by a single window in each vault; furthermore, light was restricted with the use of black wash on the walls of passageway CE and the vaults themselves. Thus the use of lamps, or something other artificial light was necessary to navigate the southern vaults. The papyri might then represent the fuel for these light sources, especially in later occupation phases when the contents of the papyri would no longer be pertinent. The date of these papyri, mostly from the 1<sup>st</sup> and 2<sup>nd</sup> centuries CE and some possibly from the 3<sup>rd</sup> century CE but their superposition over younger papyri and objects, suggests the residents might have followed a general rule of using older papyri first for fuel and furthermore, suggests the residents were either no longer related to, or distant enough from the families represented in the archives regard the papyri as important enough to maintain.

Ultimately, vaults CF and CCJ provide markedly different assemblages and test cases, which actually fit quite well with overarching patterns. The decrease in number and variety of objects from vault CF to CCJ is representative of the larger gradient from west (the entrance of the house) to the east, as well as from the south to the north (Figure 3; Table 1). While this paper may not be able to reconstruct the movement throughout the house, nor all the doorways, these test cases provide insight into the function, use and phases of occupation of the rooms allowing inferences about what might have been necessary or suitable for such activity.

## Discussion

Several important interpretations by previous scholars, particularly Elinor M. Husselman, propelled my research to reassess the data from granary C123 at Karanis, with the aim to reconcile archaeological and papyrological records, reconstruct distribution patterns and reopen interpretation of the manner and sequence of occupation and use of the building. Husselman stated that during the occupation linked with the B-level, associated with the 3<sup>rd</sup> century CE, the upper floor of the granary was still in use but the lower levels had completely fallen out of use, where filled in and abandoned. Husselman and the excavators also discuss interior modifications to several of the vaults presumably preceding the B-level and this accumulation of debris. It is unclear if the renovations, including the addition of doorways in the rear of several northern southern vaults leading to the residential area of the structure (CCG, CCH, CCI), bins (CCH) and fireplaces (CCG and CCI), as well as the filling in of the compartments of CCG, CCH and CCI and the construction of a new floor over them, occurred simultaneously or in several installments. Despite the ambiguity of the time frame, these interior modifications may help illuminate the transition of the structure from a functioning granary to a largely residential building, the accessibility of various rooms and the movement of individuals between them, and even the documentation of the excavations.

As previously discussed the construction of a new floor over the original partitioning walls of the vaults CCI, CCH and CCG is particularly illuminating. In the Record of Objects there is often a designation for a vault in general and then for each compartment, i.e. CF and then CF<sup>1-5</sup>, the more general “CF” seems to represent the fill above the level of the compartments, once the partition walls became visible the objects were then segregated by bin number. In the case of CCI, CCH and CG the “general” designation of the vault without a compartment number

may indicate that those objects were found *above* the later floor built over the partitioning walls and allow for a more secure estimate of when these interior renovations took place. Although I have not yet gotten to these vaults, it will be interesting to explore this avenue and note any difference in deposition clusters, between the objects above and below the later floor level and furthermore to the vaults that seem not to have undergone such construction. If there is a consistent pattern in the depositions of the general vault designation (above the later floor) and those of the compartments (presumably below the later floor) it may help to explore the changing functions of the individual vaults as well as serve as a model to which the other vaults may be compared, perhaps this process also occurred in the other vaults. Regardless the concentration of the modifications in the northern of the southern vaults seems to interact with the gradient of objects and the transition of the use of the building.

The array and concentration of objects was also present in passageway CE, and the series of entrance rooms CA, CB and CC. The many objects presumably of personal and monetary value, including coins, jewelry and amulets, toys, documentary papyri found in these vestibules could have been moved into the room post-abandonment by raiding activities that accessed the building through this entrance or deposited there, perhaps dropped or left unknowingly, during the occupation phase or initial abandonment of the lower levels as proposed by the excavators and Husselman. Because the intensity of activity in the entranceways it is unlikely that these objects are examples of provisional refuse deposition. This interpretation is supported by the many fragmentary and easily replaceable artifacts also found in these areas. While the fragmentary and diverse nature of the papyri attributed to these rooms could certainly suggest an intended secondary use of the papyri as fuel or some other recycled employment, the fragmentation and deposition of the papyri in the entranceway could have been a result of

movement from elsewhere in the structure C123. The papyri, in conjunction with fragmentary ring sets, terracotta and faience figurines, musical instruments, a sandal, ceramics and various wooden objects could also be interpreted as having been left behind intentionally. However, their location in the highly trafficked entrance of the building seems to be more reflective of an original attempt to collect useful items from the lower floor as the accumulation of debris and sand began to limit access to the lower areas of C123. Objects deemed replaceable or invaluable would probably have been left in their storage locations. Additionally, the commercial nature of at least some of the papyri and the presence of more valuable artifacts fit into this category of objects that would be gathered for transportation due to their personal and economic value.

Vaults CF and CCJ provide strikingly different perspectives on the southern vaults. Vault CF has an incredible admixture of objects in every compartment while vault CCJ has a much smaller variety of artifacts including clusters of papyri concentrated in fewer locales (Figure 3). Vaults CF and CCJ are on opposite ends of the passageway CE and the southern vaults; the disparity in the number and variety of objects between them is consistent with the decreasing number and array of object from DE<sup>1</sup>-DE<sup>6</sup> and with the decreasing gradient of objects from the south to the north of the structure C123. Though the variety of objects found throughout the rooms analyzed, as well as their often-fragmentary nature, seem superficially to be consistent with a “fill” of abandoned levels, closer examination of the objects in their archaeological context and their documentation reveals a more complex relationship and interaction between the floor levels and occupation phases. The admixture of objects spanning domestic, agricultural and commercial realms, often fragmentary in nature, suggest that the bins of the southern vaults were used for storage of non-agricultural products (i.e. grain) during later occupation, consistent with decline of use of the lower vaults described by Husselman. Furthermore, the lack of objects and

specimens associated directly with grain might be indicative of their removal from the lower vaults when their primary function changed and relocated possibly, to the upper vaults where presumably grain storage continued or to another functioning granary all together.

The function of the granary, in its various occupation phases, is tied closely with the accessibility to the vaults both externally and internally. Again the ground floor plan is ineffective in the sure distinction of doorways, particularly the niches adjacent to CS160 in the southern most vaults, though archival photographs and descriptions do not suggest that individual vaults were accessed externally. The ground floor plan shows no ambiguity that the northern, open vaults were accessed only internally from the passageways CP, CU, CW and CY, though it is less clear if the interior “residential” space served only the southern vaults or if movement was possible through the intervening spaces CX to CV leading to the northern vaults. Regardless, the clusters of seals in the entranceways and southern vaults may reflect a clear distinction in the treatment of the southern and northern vaults, corresponding to the diminished number and variety of objects found in the northern vaults. It appears that several types of seals were found within the southern area of C123, both those associated with the locking system described above in reference to C123CA (pg 28) and flatter, round ambiguous seals with images probably involved in some part of the commercial process regarding grain (sealing sample bags, papyri, as labels, etc). The former system, mud used as a door seal, is suggestive of means by which traffic and access to the building could be monitored. The crucial role the grain played in the economy of Karanis, and the larger economy of Egypt in relation to the larger Roman Empire, must have necessitated certain security measures in the granaries. This type of seal system not only shows evidence of individuals coming into the building but individuals leaving. If a single individual, a resident, seals the building from the interior then the activity of all other



residents would be limited to within the structure and any illicit access to the grain would be prevented, or at least monitored. It would be interesting to study the seals in more detail not only to truly identify their function but also the consistency of the images on them, for example, to determine if there is any association with the ring signet in the entranceway and storage chambers and the images on the seals. It has been proposed in the Interim Report that this type of surveillance may very well have been employed in individual vaults as well. Hundreds of small mud seals were found in the filling of several of the southern vaults of C123, CCH, CCI, CCJ, CG and additionally several in the storage bins under passageway CE. The use of this seal system used in the southern vaults may reflect that they were individually rented. The variety and number of objects found within the vaults and their compartments might also reflect this hypothesis. Though it is possible that during the height of activity at the granary some vaults or compartments within them were allocated for the storage of non-agricultural produce but related items such as basketry, vessels, agricultural implements, tools , etc (such is what I proposed for compartment CF<sup>1</sup>), perhaps it is more likely that the individually rented vaults fell out of use before the others and became alternative storage units while the northern bins continued to be used on a larger public scale. Furthermore, I would suggest that the southernmost vaults- CF-CJ- fell out of use first due to the incredible variety of objects accumulated and the lack of later modifications.

The deposition clusters in the underground storage bins DE<sup>1-6</sup> display a similar admixture of objects in only some of bins, while others seem to represent a more focused concentration of objects. Earlier, I proposed that the storage room DE<sup>1</sup> might have been used as a temporary and convenient space for receipts and other documentation, as well as commonly used implements, from which they were later transferred to a larger collection of records within C123; perhaps

these ostraca were merely forgotten and others strewn throughout the passageways lost in this transferring process. Perhaps, similarly, the papyri fragments from CA reflect a similar transfer process. Additionally, the diminishing number and mixture of objects from DE<sup>1</sup>-DE<sup>6</sup> could represent a number of different circumstances: a break down in documentation as reflected in the ambiguous count of the vessels from DE<sup>5</sup> or perhaps a genuine lack of artifacts in the eastern and perhaps less accessible storage rooms. Ultimately, the overall blend of domestic, agricultural and commercial objects in the entranceway CA-CC, passageway CE, storage rooms DE<sup>1-6</sup> and even within the vaults themselves is reflective of the different aspects and spheres involved with the production, collection, documentation and distribution of grain. Though some of the store rooms, such as DE<sup>1</sup>, CCG, CG<sup>2</sup>, CJ<sup>2</sup> CCH<sup>4</sup>, etc seem to contain more or less cohesive assemblages, the scattered and often fragmented nature of the objects in CE could be the result of transferring activities between the storerooms and vaults themselves and other parts of the building. I suggest that some of the objects in CE may have originated in the storage units and upon abandonment of the lower floors, individuals going through them scattered the objects throughout the passageway. A similar transfer could have been a part of the original occupation phase as well and movement certainly seems to have occurred between the larger southern vaults and the storage rooms as suggested for a proposed association between the Sarapis seal found in DE<sup>1</sup> and the group of 23 like seals in CCH.

Such departure from the more “normal” general distribution has not been necessarily taken into account in previous suggestions about the function of individual spaces, such as the discussion of CCJ/BBJ as some sort of designated space for the storage of documentation based on the contents of papyri found. Instead, the reassessment of the papyri within their archaeological context seems to suggest a different story, again tied into the matter of

accessibility of the rooms. I would suggest that while the presence of many diverse documents, representing a variety of individuals and in a highly fragmented state, certainly reflects intentional collection of papyri, the intent was for fuel. Although, later individuals could have taken advantage of the structure's previous inclusion of a *grapheion*, one would expect indicators on other documents in C123. The density of papyri in this area (Figure 3) including BBI to BBJ and CCJ, certainly suggests some sort of intentional collection, extending to a broader trend to of papyri concentration in the southern vaults. The papyri in these vaults, like those associated with CF<sup>2</sup>, seem to represent the source of fuel for light sources especially later in occupation when the contents of the papyri would no longer be pertinent. The date of these papyri, mostly from the 1<sup>st</sup> and 2<sup>nd</sup> centuries CE and some possibly from the 3<sup>rd</sup> century CE and their superposition over younger papyri and objects, suggests the residents might have followed a general rule of using older papyri first for fuel and furthermore, suggests the residents were either no longer related to, or distant enough from the families represented in the archives to regard the papyri as important enough to maintain. When placing the archives of both the prominent families of Gaius Julius Sabinus and Satabous son of Pnepheros, in this context it is undeniable that these families had a strong connection with the granaries but perhaps not necessarily indicative of them actually living there. The innumerable fragments found at C123 that have yet to be analyzed may very well hold much more information to illuminate this discussion. I would suggest that further work reconstructing these archives and working on the new fragments must consider the possibility that many more archives may be present. If so, one could imagine that the granary might have collected neighboring residents' "trash" or old documents to use in their larger facility as fuel. This may or may not be confirmed by the establishment of what the undesignated \*132 represents- a neighborhood trash ditch adjacent to C123, the fill of the residential C123, or some

other stratigraphic unit. Ultimately, the wide variety of commercial, personal and even one literary, texts are probably representative not just of the residents of the granary but possibly neighbors, owners, farmers and other major participants in associated activities.

As previously discussed the construction of the vaults prevents the movement of objects between stories of the structure, which would have been crucial in the capacity of a structure as a granary to minimize loss of agricultural products. The presence of objects, no matter how fragmented, corresponding to the B period (early 3<sup>rd</sup> century CE until it was buried some centuries later<sup>118</sup>) in the ground floor vaults could thus not be explained by movement through the floor of the second layer and Husselman's assumption that the lower floors were completely filled in an abandoned does not account for the chronological mixture of objects present in even the underground storage rooms DE<sup>1-6</sup>. Though certainly some of this admixture must be due to the collapse and loss of the second floor that occurred after the B period, I have proposed that the residents and other individuals maintained access to at least certain parts of the southern vaults as the entrance CA and courtyards, though the courtyards did show a significant rise in occupation level, were maintained and continued to be used throughout the B period. Perhaps the most clear cut examples are provided by the presence of papyri dated to the 4<sup>th</sup> century CE in these "abandoned" lower levels. A disparity in the chronology associated with the sequence of objects in successive compartments of vault CF also supports such a hypothesis. The consistent date of 2<sup>nd</sup> century CE for the objects in compartment CF<sup>4</sup> is a century earlier than the ostraka and papyri found in compartment CF<sup>2</sup>, closest to the door to the vault. If a pattern of earlier dates in the compartments further back in the vault than those by the door is found to be consistent in

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<sup>118</sup> The dating of the decline of Karanis is of much debate and the abandonment of the granary, its subsequent burial in the desert sand and the construction of a large house in the A period has not been dated outside of its relative chronology though superficial assessment of objects suggests that there was probably at least some activity in C123 in the early 4<sup>th</sup> century.

other vaults it suggests the lateral (vs. purely vertical) accumulation of objects consistent with continued access to the vaults by individuals in C123.

There are several important implications of my hypothesis that access was maintained to at least the foremost passageways, compartments and rooms in the southern vaults in the B-level. Working within this framework I have also suggested in this paper further potential associations for the “high in the filling”, “upper fill” and “lower fill” mentioned in the Record of Objects, though these assume a consistent use of these terms. It seems as though the “upper fill” most likely represents the upper story of vaults, those definitely still in use in the period represented by the B-level, not only representing the period of occupation but of post-abandonment depositions and disturbances before the construction of the house on top in the A-level. I would then suggest that the “middle fill” be associated with the sand and accumulation of things after the entire building was abandoned, before its collapse. While the “lower fill” represents a similar accumulation that occurred during occupation of the upper floor but after the lower vaults ceased to function in their full capacity as storage for agricultural products and were used, alternatively, for general storage (probably a mix of domestic, agricultural and commercial). Another underlying issue, the date of the supposed decline of the building, has been consistently mentioned. Like Pollard, I would suggest that activity at Karanis certainly continued past the “decline” in the 4<sup>th</sup> century CE. Securely dated coins and papyri, in conjunction with relative dates of bead and vessels types, clearly show continued activity throughout the structure into the 4<sup>th</sup> century. As a house was later built on the site, enough time must have passed before this A-level structure was constructed to completely bury the granary under several meters of sand, further indicative of continued occupation after a period of initial abandonment.

Though the house tour was limited to the entrance, passageways and a sample of the vaults in the southern vaults, the process has yielded quite a lot of new hypotheses and future projects including the completion of the tour itself. The further study of the seals, botanical remains, distribution and presence of religious objects and perhaps even the horse's skull warrant further study, in addition to the thousands of papyrus fragments awaiting attention. Furthermore, I hope to not only complete this tour and follow up several of my own suggestions regarding the sequence of occupation, distributions of objects within the vaults, etc but to also compare C123 to other granaries both at the site of Karanis and those elsewhere in Egypt and the Graeco-Roman Empire.

Ultimately, the fields of papyrology and archaeology have a lot to gain from each other not only in future collaborations but in reconciling data from previous sites. The reconception of these fields into a single approach can yield new information to illuminate sequences of occupation, tease out stratigraphic layers and documentation alongside the restoration and recontextualization of texts that progresses the papyrological understanding of the site and growth of comparable and available data. The use of archaeological and papyrological data and methodology allowed me to distinguish gradients in the distribution of artifacts, including papyri, throughout the structure, illustrate differences in function of the vaults throughout time- various types of storage- and in the society- public vs. private-, examine the treatment, storage and secondary uses of papyri and other artifacts, show extended activity in the granary and propose a new understanding of the accessibility and use of the granary as a whole over the C-and B-levels. Finally, understanding the history of archaeology and papyrology, and the perspectives, objectives and practices used, allowed me to integrate the fields in a multidisciplinary approach that afforded a new and more holistic understanding of the granary C123, its function, use,

inhabitants and broader issues of documentation, chronology and interpretation at the site of Karanis itself.

Figure 1: Ground Floor Plan Granary C123

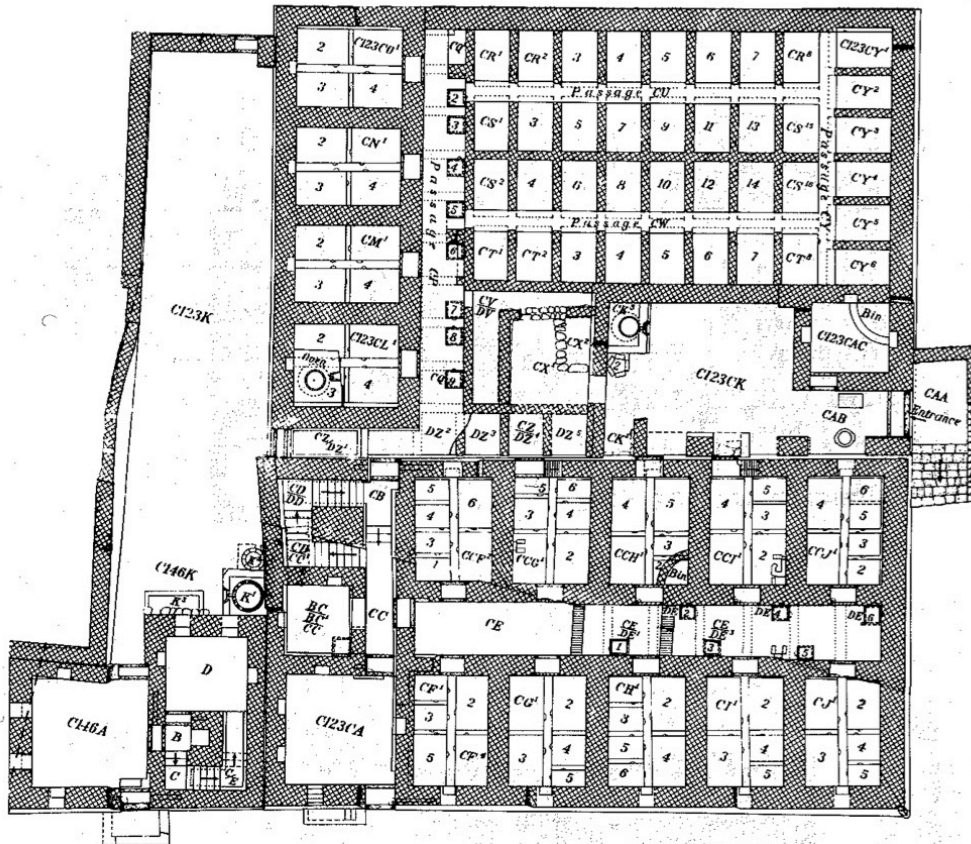


Figure 2: Granary C123- Eastern Entrance (CAA)





Figure 3: Granary C123- Object Distribution Map



## Key:

- |                 |                         |         |
|-----------------|-------------------------|---------|
| ■ Papyrus       | ■ Ceramics/Terracotta   | ■ Other |
| ■ Ostraka       | ■ Bone                  |         |
| ■ Mud           | ■ Metal                 |         |
| ■ Wood          | ■ Flora                 |         |
| ■ Glass/Faience | ■ Basketry/Rope/Textile |         |

## Notes

- Second floor not shown
- General distinctions of vault with no compartment distinction are shown in the niche closest to passageway CE in the southern vaults and to passageway CP in the northern vaults
- Mud (brown) is under-represented as each entry was only counted as 1 object though many times there were several and in the case of CCH and CCI hundreds

Figure 4: Lamps from Granary C123

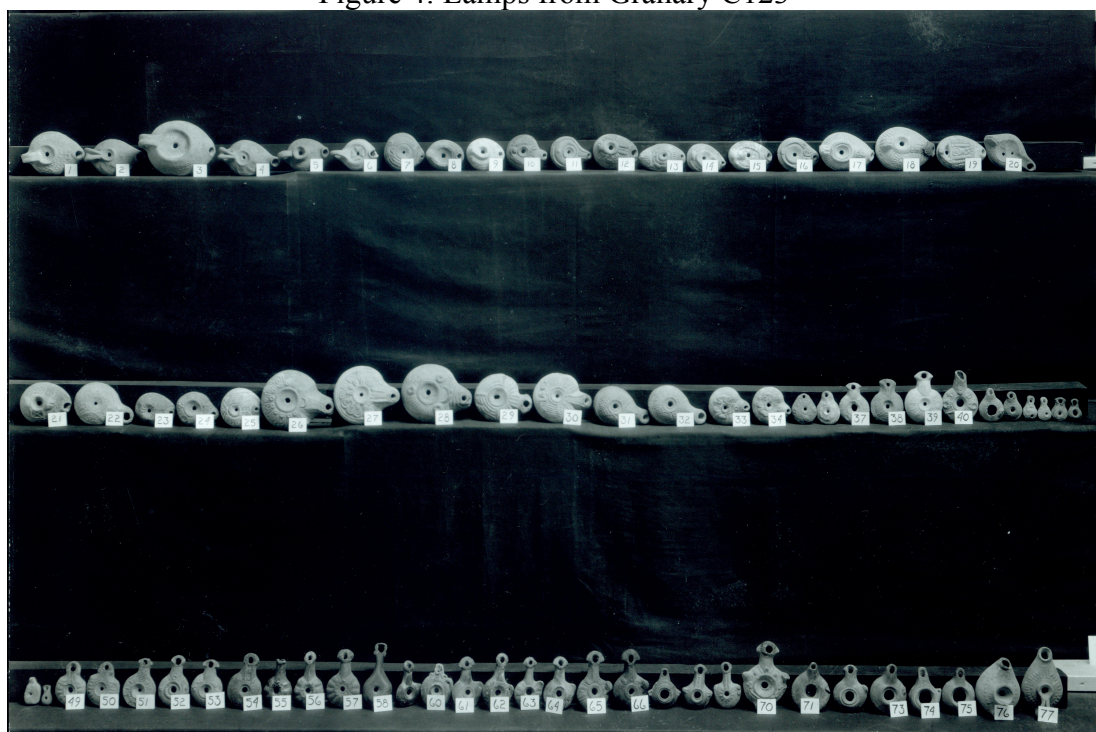
Figure 5: *Sebakh* Extraction by Railway



Figure 6: Map of Insula Containing C123

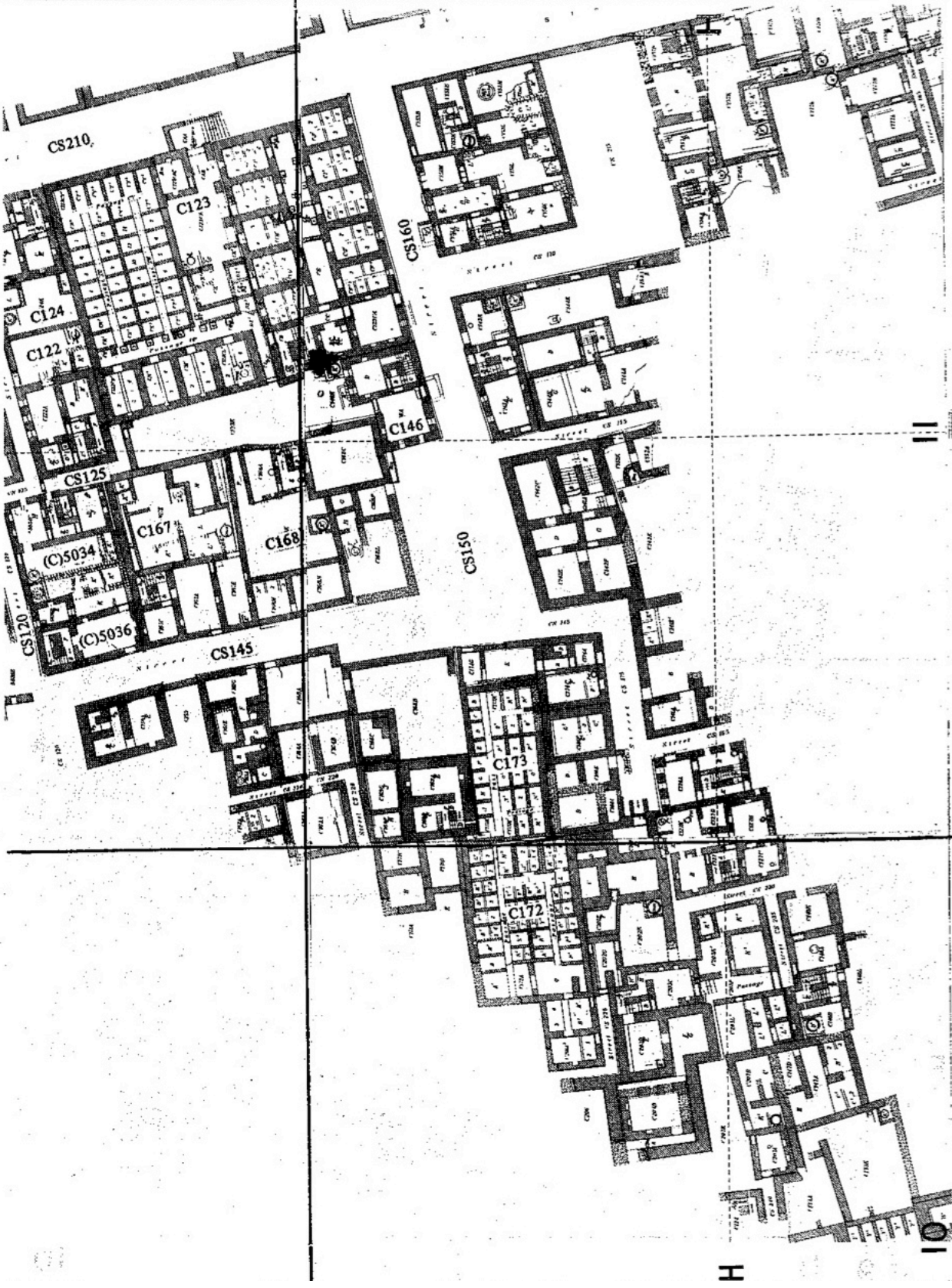




Figure 7: C123 Entrance and Room CA

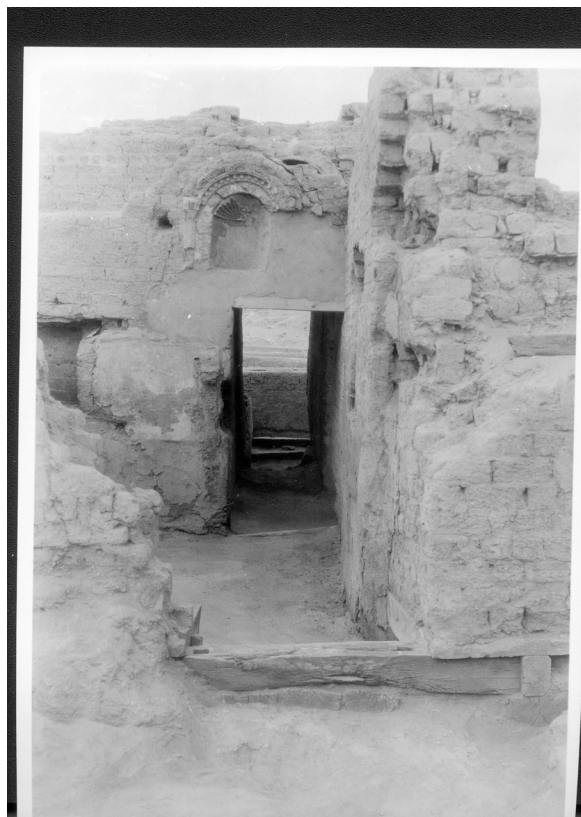
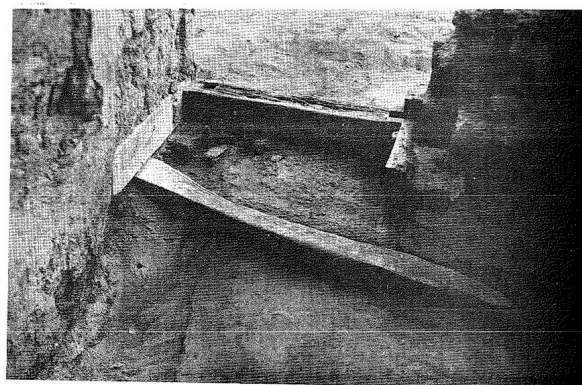
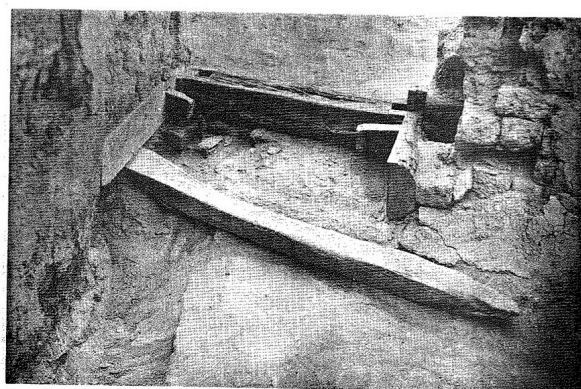


Figure 8: Threshold from C123CA to CS160



a. Threshold of doorway from C123CA into street CS160.



b. Same as a with door bolts drawn.

Figure 9: Mud Seal from C123

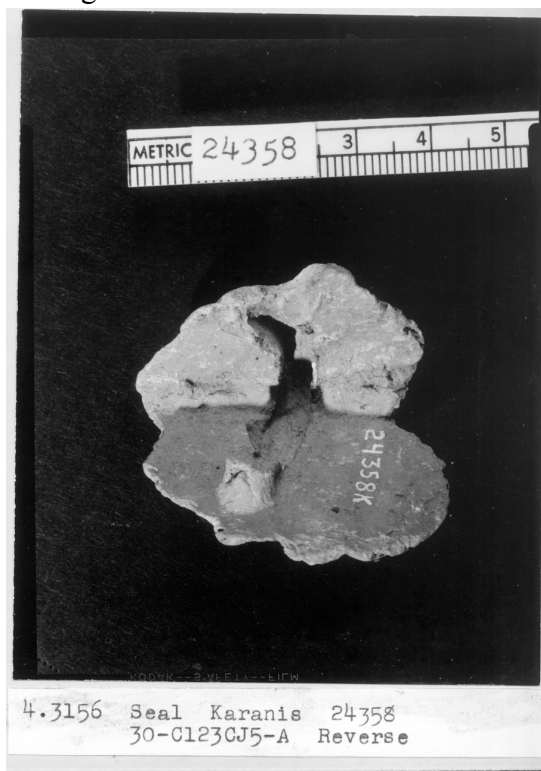


Figure 10: Threshold from C123CA, Niche

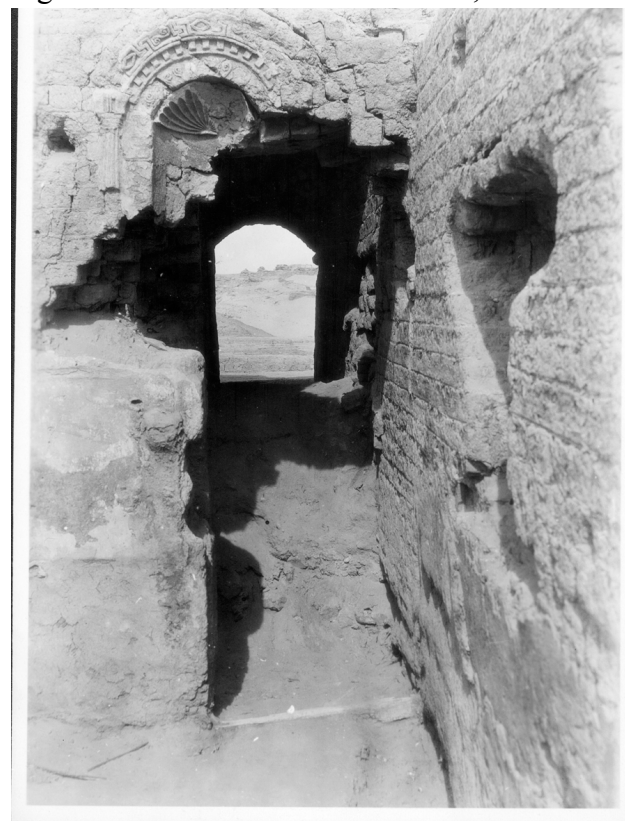




Figure 11: Collection of Wooden Objects from C123

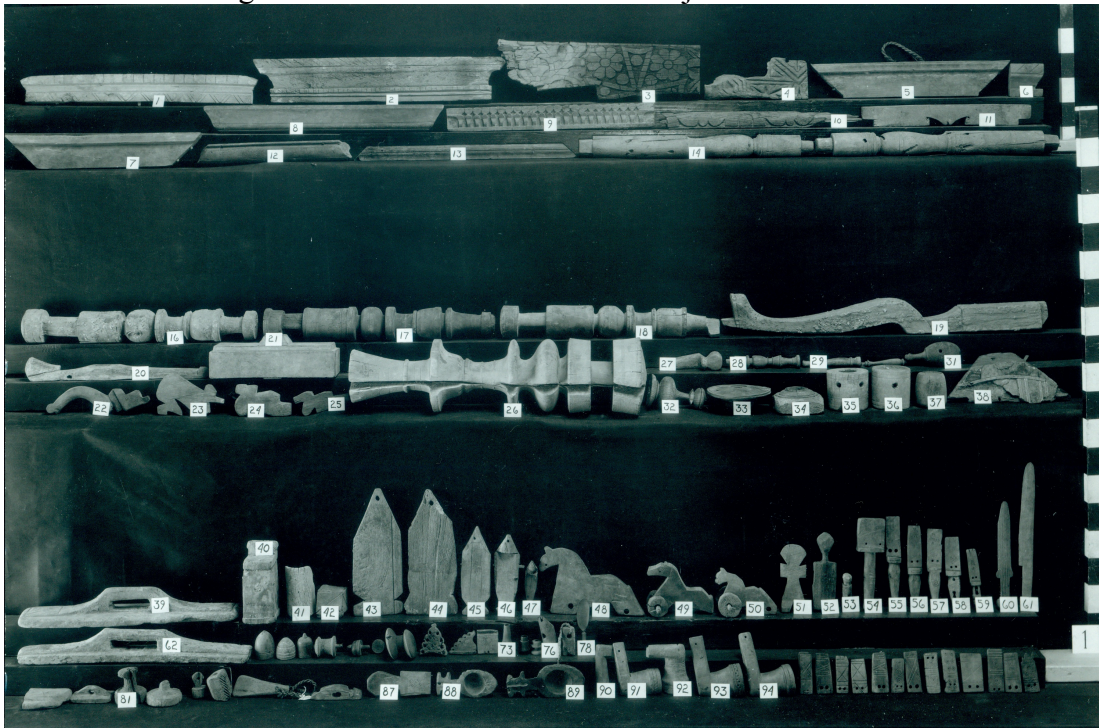


Figure 12: Agricultural Toggles and Ropes from C123







Figure 17: P.Mich.Inv. 5866c

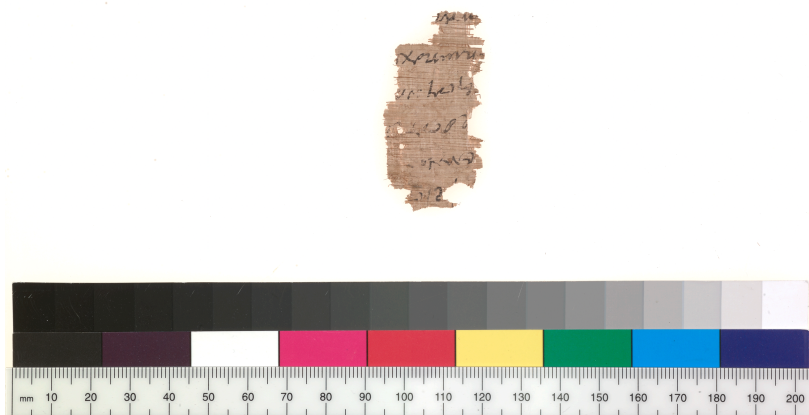


Figure 18: P.Mich.Inv. 5866e

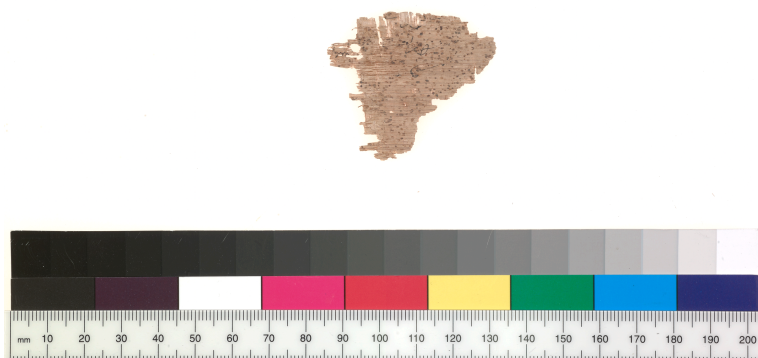


Figure 19: P.Mich.Inv. 5866g

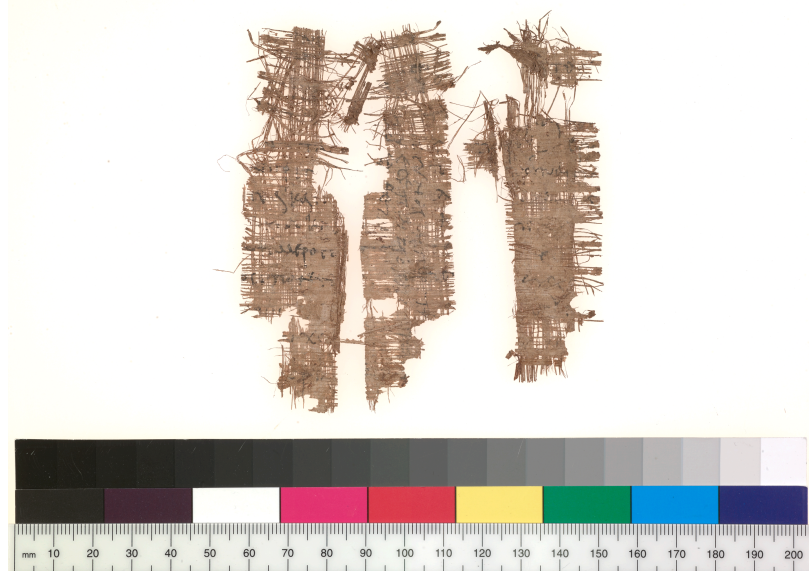


Figure 20: P.Mich.Inv. 5866f

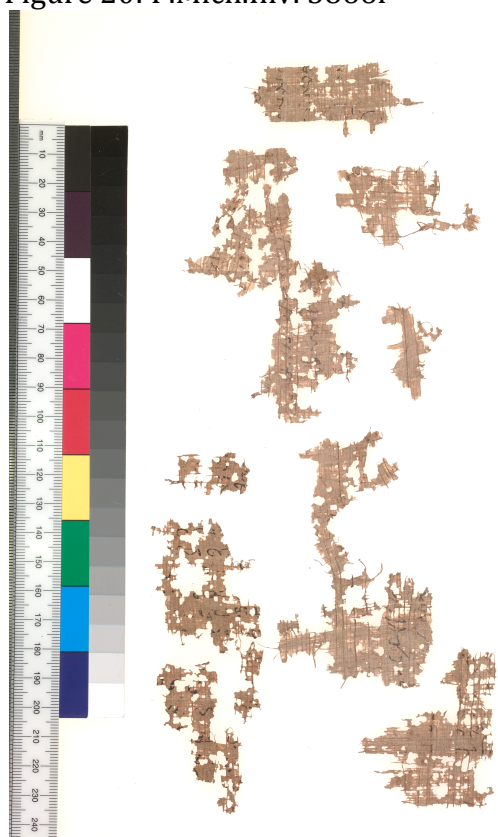


Figure 21: P.Mich.Inv. 5866g before restoration



Figure 22: C123CE, Corridor of Southern Vaults (West) Figure 23: C123CE, Facing East

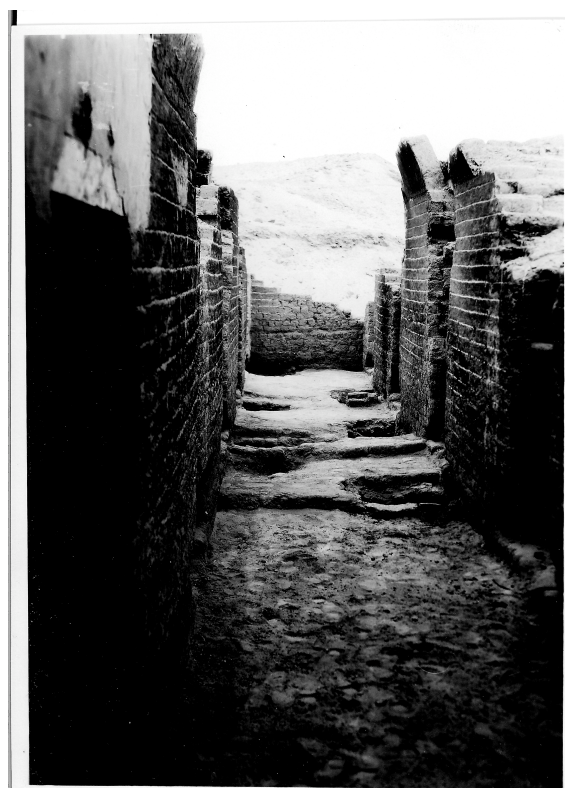
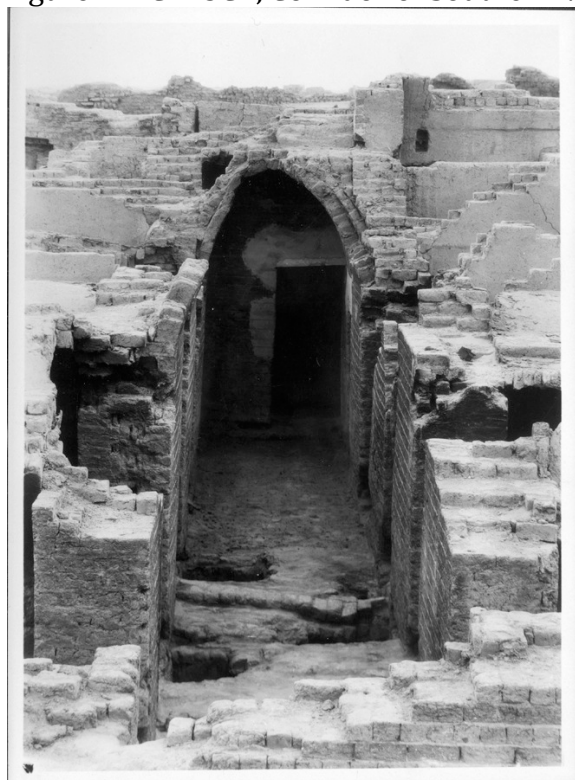




Figure 24: Objects from C123

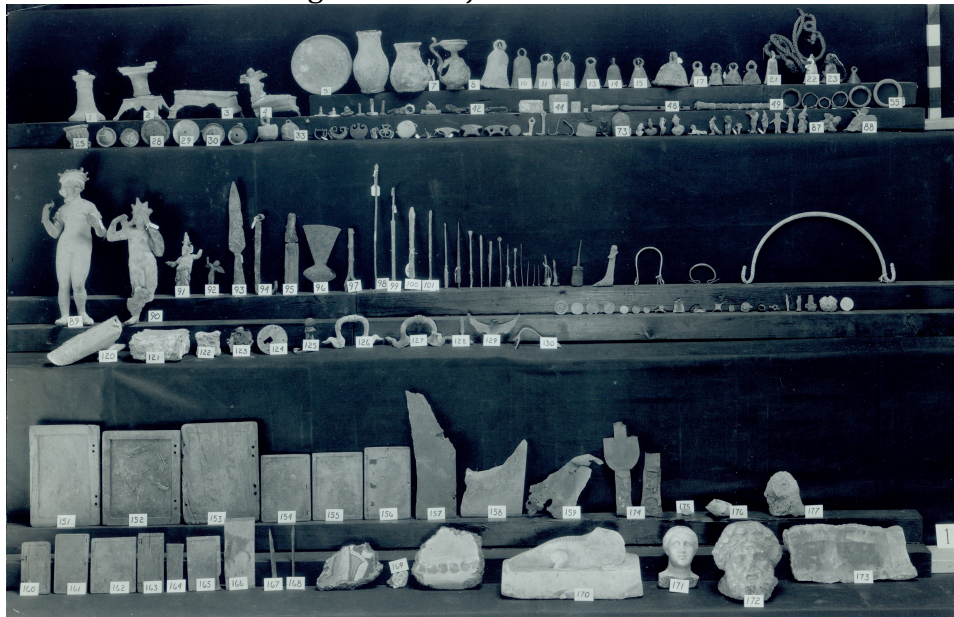


Figure 25: Agricultural Toggles and Implements from C123



Figure 26: Collection of Signets and Other Objects from C123

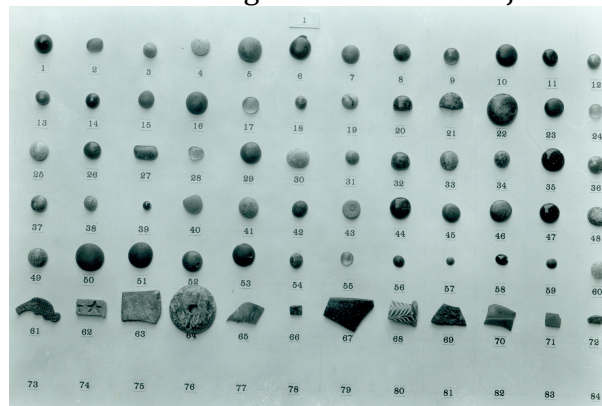


Figure 27: Objects from C123

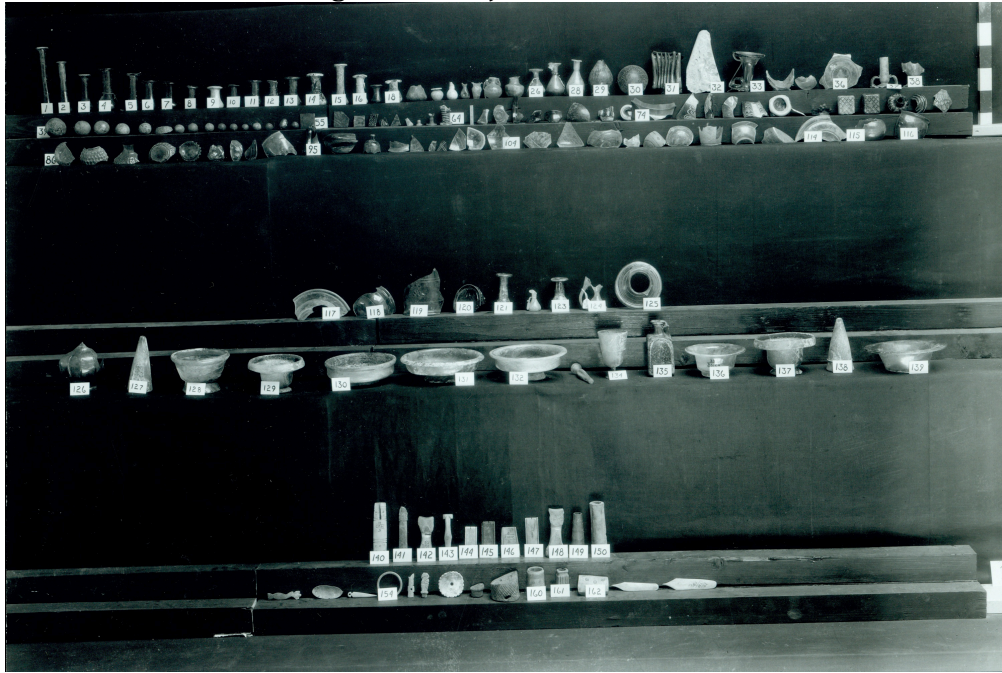


Figure 28: Sarapis Mud Seal from C123CCH



Figure 29: Horse's Skull C123DE<sup>4</sup>



Figure 30: Interior Southern Vault C123





Figure 31: Interior Southern Vaults C123



Figure 32: Northwall C123CA, lamp bracket



Table 1

Ostraka	Mud	Wood	Glass/Faience	Ceramics/Terracotta	Bone	Metal	Flora	Basketry/Textile	Other	Total
		7	18	3	2	5			1 sandal sole	44
	2	1		1				1	1 wax tablet	7
2		28	4	6	4		6		2 wax table?, marine shell	50
2	2	2	1	1	1	1				10
	1	3		1						5
	1	2	2	4	3	2			2 shells	16
		1		3						4
				6						6
		1	2		2					5
		3		11					1 Grinding Stone	16
3	1	7		21			1	2	1 broom	36
		4		4			4			12
		5	1	4	1				1 stone pebble	17
		6		5					1	12
		4		1	14	7				26
			1 ~10		3					14
					6	3				9
				2		2				6
										1
	1	2							2	5
	1	7		1	1	4			8	23
		9		4					5 dom palm fruit	21



	15		1							16
	96									97
										12
					2				1 stone	3
		1								1
										3
										16
			3	1	3				1 ivory box	8
										3
			1							1
				5	2					7
2	1	2		3						8
1				3	4					8
		2								3
						4	1			5
				1						1
										1
				2						3
										1
						1				2
1						1				3
		4							1 oval pebble	6
		2	3	1	1					8
				2						3
				5	1					6
1										2
				1						1
										1
				1						2





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