# The Zibby Garnett Travel Fellowship Report

**Archaeological Conservation Placement at Kaymakçı Archaeological Project, Hacıveliler, Manisa city, Turkey**

**4 August – 13 September 2024**

**Report by Liu Liu**

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# 1. Introduction

My name is Liu Liu, a 31-year-old Chinese student at University College London (UCL). I am completing the final year of postgraduate studies in conservation at UCL - expected graduation in 2025. I received my MA Principles of Conservation in 2022. These two degrees provide an in-depth understanding of conservation theory, preventive, and remedial conservation of inorganic and organic materials, as well as critical approaches to problem solving and decision making in conservation treatments. My interests lie in the problem-solving aspect because the process of coming up with creative solutions to common conservation problems is rewarding to me. Working on archaeological sites provides me with opportunities to treat archaeological objects with limited resources. Furthermore, I understand the necessity of having various experiences in conservation and to be able to adapt to the needs of the objects and solve conservation problems both on archaeological sites and in museums. After graduation, I would like to become an object conservator in the United Kingdom (UK) and pursue accreditation.

I heard about the Zibby Garnett Travel Fellowship from our conservation science professor, Dr. Caitlin O'Grady, who is Director of Conservation for the study trip to Kaymakçı Archaeological Project. I was keen to accumulate some experience in archaeological conservation out of curiosity for the utterly different situations from the lab-based conservation we conduct at university. Dr. O'Grady kindly accepted my application to join the team. The financial support from Zibby Garnett Travel Fellowship was essential to make the trip possible and enjoyable.

**Acknowledgement**

Firstly, I would like to thank Dr. Caitlin O'Grady for accepting me into the team, as well as all the staff in Kaymakçı, especially Dr. Christopher H. Roosevelt (Excavation Director), Tunç Kaner (Excavation Co-Director), Dr. Frank Carpentier (KAP team member) and Elena Vorobyeva (KAP team member) for their support and help. Secondly, I would like to thank Taylor Brehm, Sydney Betancourt, and Ceren Yilmaz (members of the KAP conservation team), who together were a great support network and contributed to a wonderful experience.

Finally, a special thank you to the Trustees of the Zibby Garnett Travel Fellowship who made my trip possible.

**Disclaimer**

## 2. Study trip

I worked as a member of the Kaymakçı Archaeological Project for five weeks (4th August - 5th September, 2024). Following participation in the KAP project, I visited museums and sites in Izmir and Istanbul (5th-13th September). The site of Kaymakçı is located in Hacıveliler (Manisa) in western Turkey (Figure 1). Conservation work was conducted from Saturdays to Thursdays. Due to afternoon heat, the timetable ran from 6am until 7pm with an extended lunch break from 2pm to 4:30pm. We had a half day off on Thursdays and Fridays off in full.

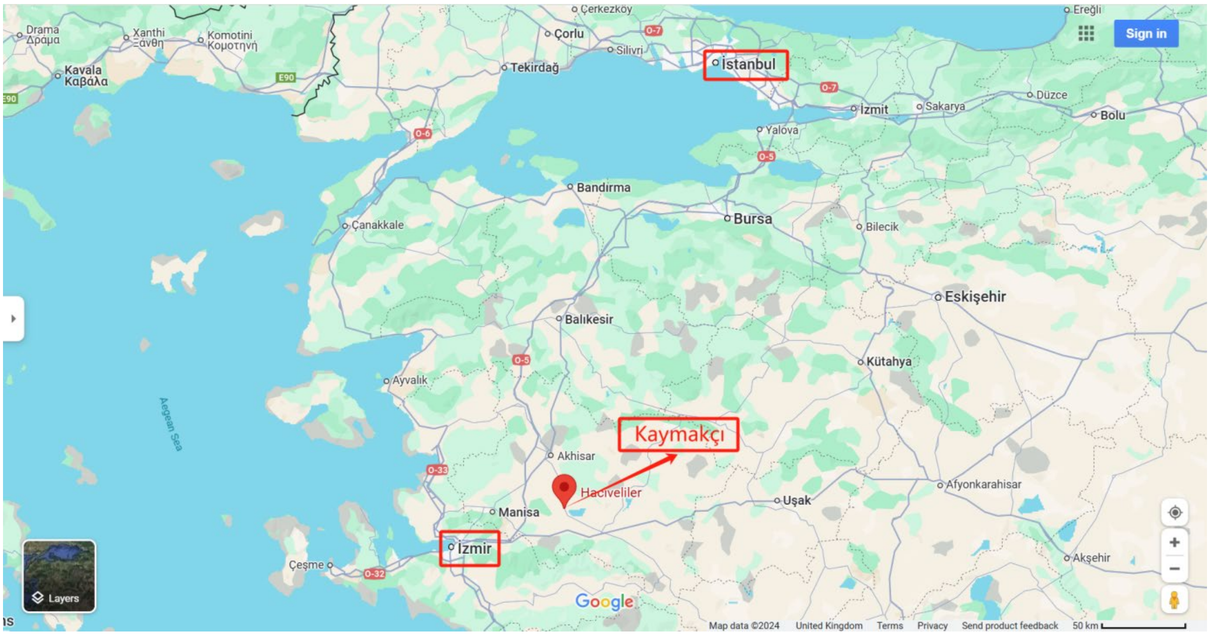


Figure 1: A map of Kaymakçı in relation to Istanbul and Izmir (image source: annotated google map).

My aims in taking part in the excavation was to gain knowledge of how archaeological sites function and to immerse myself in an excavation environment, working with Bronze Age materials and developing my conservation problem-solving skills. I understood that working on an excavation is very different from a lab where I have spent the majority of the academic year 2023-2024 at UCL. The limited resources on excavation sites require better adaptation and problem-solving skills, which I was embraced during my time there. This trip would also be my first time working in another country as a conservator, as well as the first archaeological excavation experience. I was looking forward to working in an international and interdisciplinary environment as well as understanding the process to obtain a research visa in another country and exploring the culture alongside the work.

## 3. Cost

The total cost of the trip is £1852.34. I was awarded £1750 by the Zibby Garnett Travel Fellowship, which was used to cover the costs of the visa application, transportation to and within Turkey, accommodation, food, medication, and study trips to Epheseus, Izmir and Istanbul. I prioritised value for money by travelling on public transport and avoiding overnight trips to save on accommodation. Additional funding came from parental support and personal savings.

## 4. Report

### 4.1 Kaymakçı Excavation site

The Kaymakçı archaeology excavation site is in the Marmara Lake basin of the Gediz River valley, province of Manisa, western Turkey (Figure 2). KAP has been investigating Kaymakçı, a second-millennium B.C.E. fortified citadel since 2013 (Roosevelt et al., 2018). All researchers, conservation and other teams stay in a purpose-built compound near a village called Hacıveliler. The compound consists of the conservation lab, as well as spaces for the analysis of small finds, documentation and 3D scanning. When I was there, Marmara Lake was unfortunately dried out – a recent change to the landscape. The view from the compound was stunning; olive trees and mountains surrounded the area (Figure 3). At night, the sky was dark and stars were clearly visible. We were lucky enough to see shooting stars and a blue moon. The nearest town, Salihli, was approximately 20 minutes on foot plus a 25-minute bus ride.

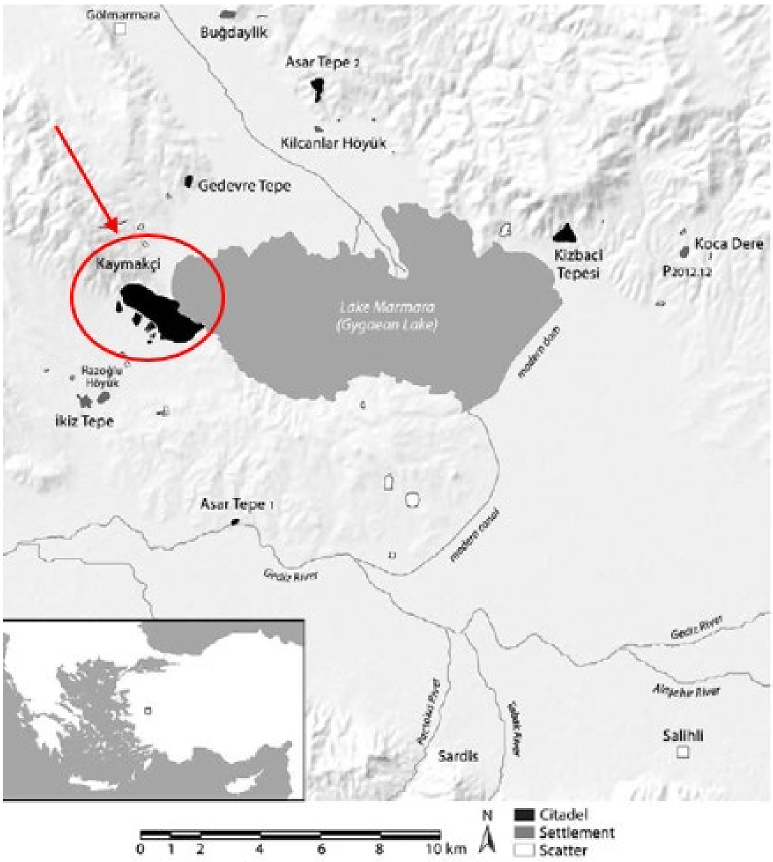


Figure 2: An annotated illustration of Kaymakçı (show in red circle) in relation to the Lake Marmara (Roosevelt et al., 2018).

Figure 3: View from the Kaymakçı compound in the morning.

## 4.2 The placement

I worked in the conservation lab on site during the placement. The conservation lab is responsible for conservation treatment, material identification, processing charcoal for C14 analysis and providing support to researchers. Conservation focused on stabilisation of finds recovered during ongoing excavations including ceramics, metal (copper alloy and lead), stone, lithics, earthen, shell and bone, as well as treatments of artifacts recovered from past excavations. We also worked closely with researchers specialising in ceramics (including pithos), small finds, soil Micromorphology, as well as documentation and 3D scanning teams.

Figure 4: Myself standing in front of the Kaymakçı Archaeological Project conservation lab and other research rooms

The Kaymakçı Archaeological Project conservation team includes Dr. Caitlin R. O'Grady (Assistant Professor, University of California Los Angeles), Taylor Brehm (graduate student, University of California Los Angeles), Sydney Betancourt (graduate student, University College London), Ceren Yilmaz (undergraduate student, Koç Üniversitesi) and myself (Figure 5). The head conservator, Dr. O'Grady, was unfortunately unable to attend this year. She was, however, able to supervise us through Teams calls throughout the season. The experienced student, Taylor, who was a member of the conservation team during the 2023 season, was the supervisor for the lab this year. Sydney and I travelled together to the site. After we arrive, Taylor showed us all the equipment and supplies in the lab.

One goal I had for this trip was to learn about the archaeological sites and improve my problem-solving skills. Taylor arranged visits to the KAP sites and helped archaeologists to collect samples. Throughout the season, I worked both independently and as part of a team to solve challenging problems, which I will be explain in the following sections.

Figure 5: The 2024 conservation team in Kaymakçı Archaeological Project. (left to right: Taylor Brehm, Ceren Yilmaz Sydney Betancour, Liu Liu)

## 4.3 Projects

The materials I worked on include ceramics, metals, bones, shells, stone, lithics and mudbrick. I treated a total of 20 objects. Some treatments were simple and not time consuming, such as cleaning accretions from shells, stone and lithics. A procedure document of cleaning different objects was invaluable in helping me to get started on the standard treatments carried out in the lab. During the placement, the team developed more procedures to help future conservation interns, including making deionised water and nitric acid cleaning solutions. I developed a desalination process document for future reference.

Figure 6: silver wash vessel after treatment photo.

#### 4.3.1 Silver wash vessel

The first challenging object I had was a silver wash vessel, which was partially reconstructed in 2023 (Figure 6). Further fragments were found this year, which added the spout, a handle, and more shoulder area to the object. Integrating these new fragments required removal of a previous fill, as well as the addition of a new fill to provide support. The treatment plan I came up with involved acid cleaning the newly-excavated fragments, removing previous micro-balloon fill, partially taking down previous joins, reconstruction, and loss compensation including applying both plaster and micro-balloon fill with acrylic paint. While I had learnt these skills at UCL, this was the first time I had conducted acid cleaning and applied plaster ($CaSO_4$) fill independently. Taylor and Sydney provided assistance and guidance, as well as discussion about the best way to implement this treatment. I managed to clean all the fragment edges with 10% nitric acid in deionised water, followed by the desalination process to prevent possible damage caused by salt crystallization in the future (Figure 7). This process proved very useful later in the season during a more challenging treatment on a massive pithos. While using nitric acid, I put goggles, mask and three pairs of gloves on and worked in a well-ventilated area.

Figure 7: Acid cleaning (left); shaping the micro-balloon fill using dental tools (right).

To ensure the fill would be re-treatable in the future, I made a detachable plaster fill using dental wax, Parafilm® and masking tape. Due to limited contact (about 5 millimetres) between the spout and neck fragments, the completed fill required modification to fully support the surrounding fragments. I had to remove part of the fill using scalpels and refill the remaining gap using a micro-balloon and Paraloid® B72 mix. I then shaped the fill to fit the object using acetone and steel spatula. The issues I encountered during the process made me consider solutions and helped me to develop my problem-solving skills. Two micro-balloon fills were then applied around the fragment under the handle to support the fragment. It was applied and shaped using a steel specular. All four fill areas were painted using acrylic paint (Figure 8). The aim of the in-painting was to make the fill material less of a distraction rather than invisible.

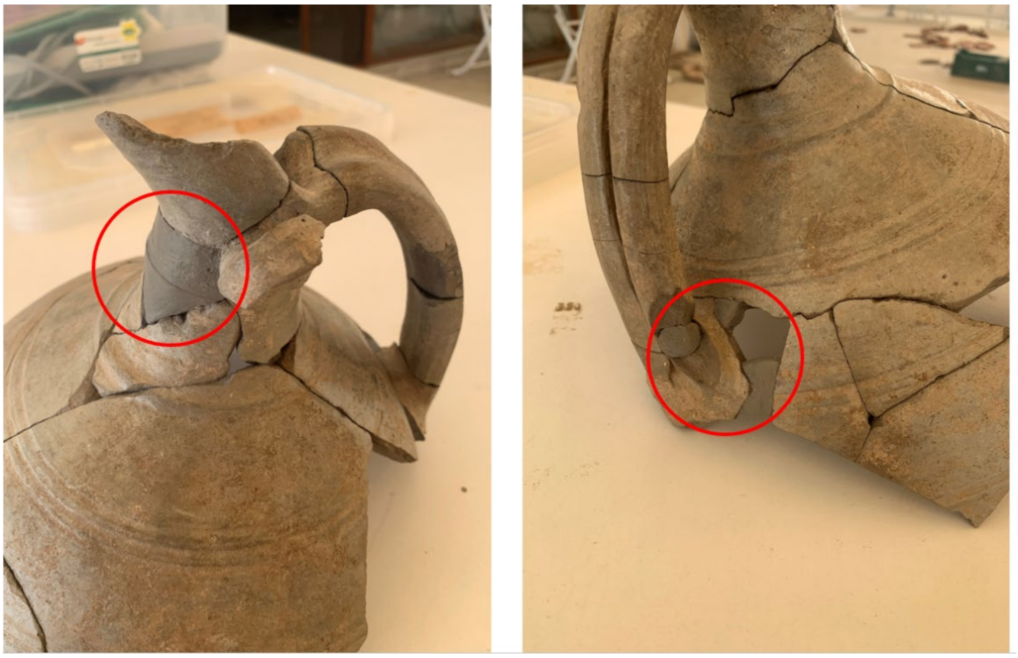

Figure 8: All four fill areas were painted using acrylic paint ladled in red circles.

Figure 9: The after-treatment photo of the low-fired ceramic rim with two handles.

### 4.3.2 Ceramic rim with two handles

The second ceramic reconstruction I would like to describe is a complete low-fired ceramic rim with two handles (Figure 9). Because the body is missing, the fragments of the rim are in limited contact with each other. This object was reconstructed in the previous season, but some joins failed due to limited contact points between fragments and heat due to temperature exposure during the off-season. After conducting a condition assessment, I decided fills were necessary to make the joins more stable. Four joins were identified as weak because the contact points were less than 1cm and needed supportive fills. Taylor and Ceren had never done plaster fills before so I divided the fragments into three sections so that each of us could make a fill then reconstruct the three sections together. I showed them how to protect the fragments with Parafilm®, find the most suitable consistency of the plaster, and support the fragments while casting plaster. It was a great experience showing them the process.

During final reconstruction with the new fills, there was still some misalignment. Joins were heated to aid reconstruction and ensure that the rim came together. However, it was not possible to keep them in position with the supporting methods I was used to using such as using a glass beads tray or masking tape because of the size and weight of the object. I searched the lab to see if there were any materials I could use and found that 3M bandages were ideal (Figure 10). All fragments were secured until all adhesives had cured sufficiently. Finally, all fills were painted. The object was also stored with bandages to reduce the possibility of failing adhesive during the off-season. This was a really tricky object for both reconstruction and storage, but I was glad my solutions worked really well.


Figure 10: All fragments were secured until all adhesives had cured using 3M bandages.

### 4.3.3 The Pithos

The final ceramic reconstruction project was the most challenging one. This was a collaborative project to which everyone contributed. It also significantly improved my problem-solving skills. The Pithos was recovered in 2023, was fragmented into more than 100 pieces and was approximately 70% complete (Figure 11). The size and weight of it made every step more difficult than any other ceramics. Finding matching fragments was like solving an incomplete 3D puzzle. There were no patterns to reference, fragments were broken into different angles and sizes, a thick accretion had formed on some edges which blocked access to the edges and we did not know which part was missing. After hours of looking at the fragments, we managed to find refits that could connect the base to the rim, which identified the height and shape of the pithos. The treatment involved acid cleaning fragments, reconstruction and finding a solution for storage.

Figure 11: All the fragment of the Pithos.

The next challenge was that three largest fragments (measuring a maximum of approximately 75cm in length and 25cm in height) did not fit into any available containers on site for water submersion pre- and post-acid cleaning. We brainstormed different solutions including revisiting the necessity of submersion, submersion in sections and asking permission to use the large sink. Finally, we decided the safest and most practical solution was to buy a round 1.52m diameter x 30cm height inflatable water pool (Figure 12, a).

The next step was nitric acid cleaning. The use of acid required '#5 (Polypropylene)' plastic box but the broken edges on the largest fragments were too long to fit in. It was impossible to get any larger #5 plastic boxes so we had to think of something else. I came up with the idea of poultice by using cotton wool pads immersed in 10% nitric acid in deionised water (Figure 12, b). I tested on a smaller fragment and was successful.

The cotton wool pads were left on the accretion for 20 minutes. The acid was applied constantly with a glass pipette during the poultice process to increase the reaction. The process lasted a while so each member of the team took turns to finish it. Everyone who was involved was fully protected with goggles, masks and triple layers of gloves. The result was satisfactory.

We then assumed desalination would go smoothly but were wrong. To desalinate the three largest fragments, we needed about 544 litres of distilled water. We exhausted the purifying system about halfway through. It was an urgent situation because we could not wait until the next day as all fragments were already submerged. On the other hand, we could not use impurified water because the conductivity level was too high, which will introduce salt in the ceramic resulting possible damage in the future. We had to make it work with the amount of water we already had. I noticed the inflatable pool was soft so we pulled the edges up to raise the water level. I suggested we stack the three fragments together in the middle then the edges could be elevated using buckets of tap water to raise the water level. It was not ideal because it meant the fragments in the bottom would take the weight of the other two and might break. We evaluated as a team and decided the fragments would be fine. Then the fragments were covered by a cotton sheet to keep all the edges of the fragments submerged (Figure 12, c). Finally, a plastic sheet was placed on the top to prevent evaporation.

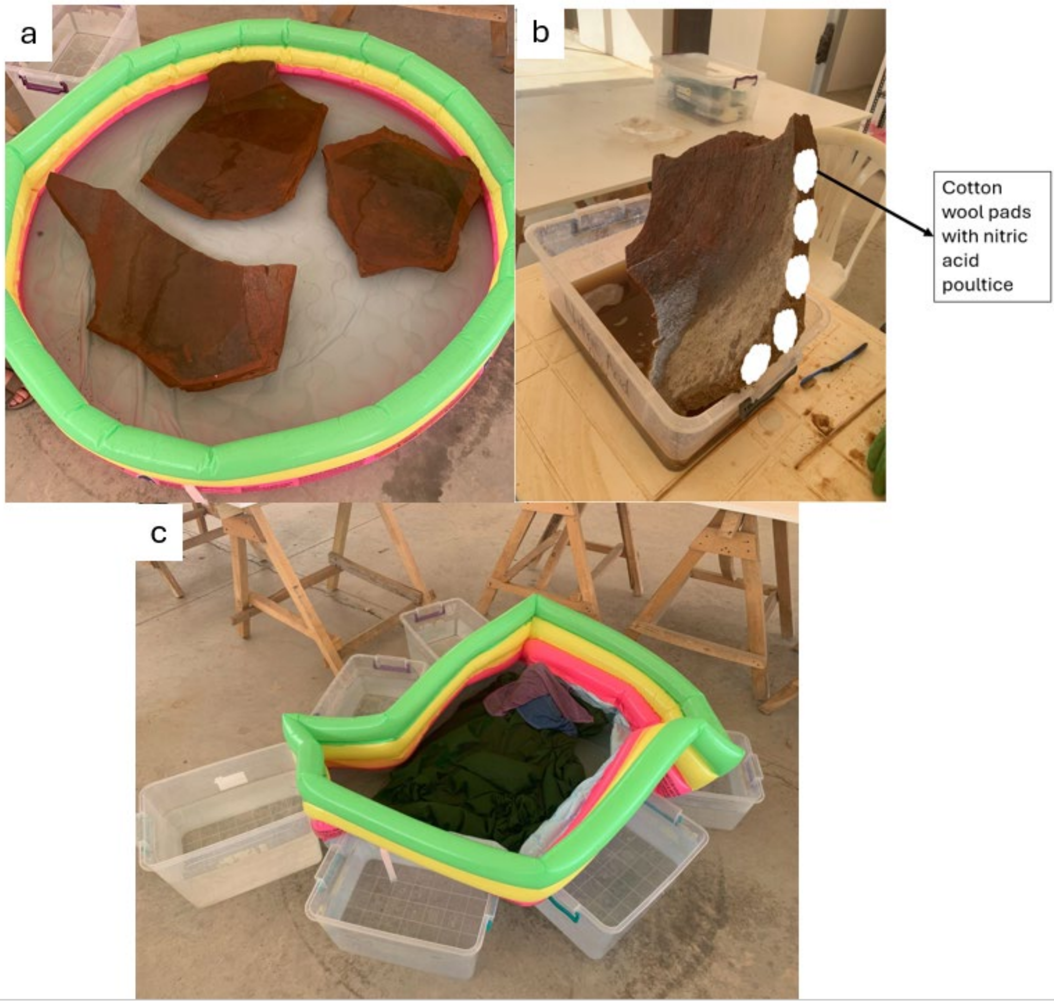


Figure 12: a) The three biggest fragments immersed in water in a pool. b) A fragment with annotated cotton wool as poultice. c) Three biggest fragments in an elevated pool for desalination.

The size and weight of the pithos required specific adhesive strength. Paraloid B72 and epoxy resin were among the options we had but each had their drawbacks. Paraloid B-72 has a glass transition temperature (Tg) of approximately 40°C (Horie 2010), a temperature often reached on site in August. It was therefore a concern that Paraloid B-72 adhesive would not be strong enough to keep the pithos reconstructed. Epoxy resin is very strong but was problematic in many ways. Apart from being irreversible, low viscosity means it was difficult to apply. It also stained the testing materials. Jennifer Kim, the Head Conservator in Sardis, gave us the idea of a mixture of Paraloid B-72 and Paraloid B48N in 85:15 acetone-ethanol. Literature research I conducted showed the mixture creates an adhesive with a higher glass Tg of over 50°C (Rohm & Haas 2007), greatly increasing the adhesive's resistance to heat.

Two mixture ratios, 3:1 and 1:1 Paraloid B-72 and Paraloid B-48N mixture, were found for hot weather archaeological ceramic reconstruction (Davis et al. 2021; Pohoriljakova & Moy 2013). To test the long-term stability differences between the two ratios, the team decided the rim should be reconstructed using 1:1 40% Paraloid B-72/ Paraloid B-48N in 85:15 acetone-ethanol while the base should be reconstructed using the 3:1 mixture. The results will be assessed by the conservation team in 2025.

Finally, the support system during reconstruction and a mount afterwards needed to be considered. Because of the weight and size of each fragment, the amount of glass bead would be insufficient to support the object. Luckily, there were some empty rice bags in the garage which we could use to fill with sand (Figure 13). It turned out to be a successful solution.

Figure 13: The conservation team going to fill the rice bags with sand (top left). The supporting system using sand bags and straps during reconstruction (top right and bottom two pictures).

The storage mount was also a brainstorming and thought process. Again, the weight and size made us decide to do the final reconstruction in a mount otherwise there would be no other ways to support it in position. The measurement was based on estimated figures because it was impossible to have an accurate measuring before assembly. We wanted to have the Pithos in a raised position, supported from the base and resting comfortably on top of the mount to alleviate pressure. An initial design was proposed by Sydney, and I did the calculations of the length of each component (Figure 14). However, after a discussion with Dr. Roosevelt and

Tunç, we realised this design was too complicated for manufacturing in the Salihli Sanayi (local manufacturer). As a result, a simplified version was developed and fabricated with padded with Plastazote and plastic string (Figure 15). The aim of raising from the ground in prevention for flooding was achieved by adding sandbags below the base (Figure 16). Orange straps were used to secure the fragments in place in case the adhesive became weak during the off-season (Figure 17). The conservation team was satisfied that this final mount and storage support solution was successful. The process was a perfect example of the difference between an ideal situation and the reality on site. The initial design of the mount satisfied the requirement for the storage but cannot be manufactured within the time frame and local expertise. The final mount system was a result of compromise and communication between different teams. I had to think out of box and be creative to achieve a satisfactory result.

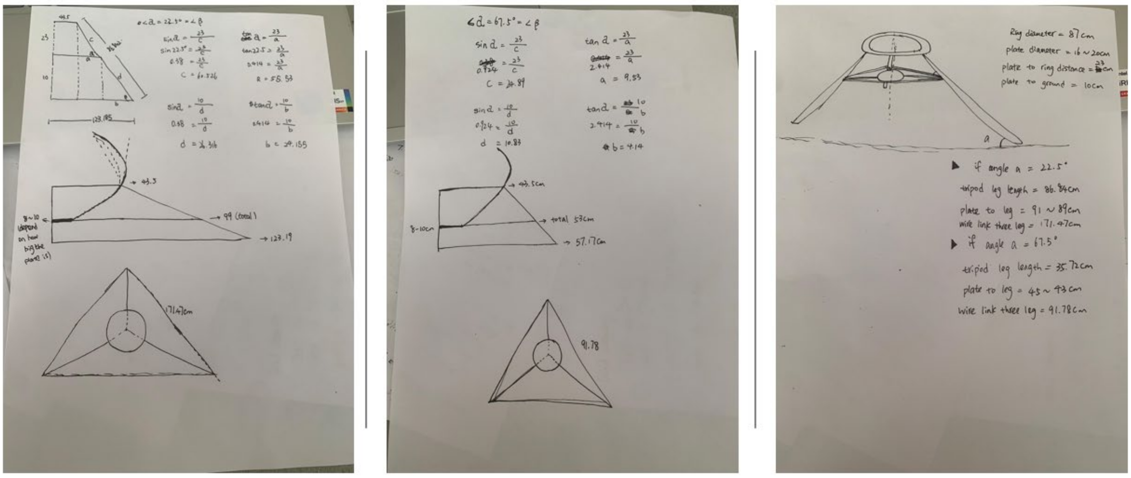

Figure 14: A design for storage mount for the Pithos.

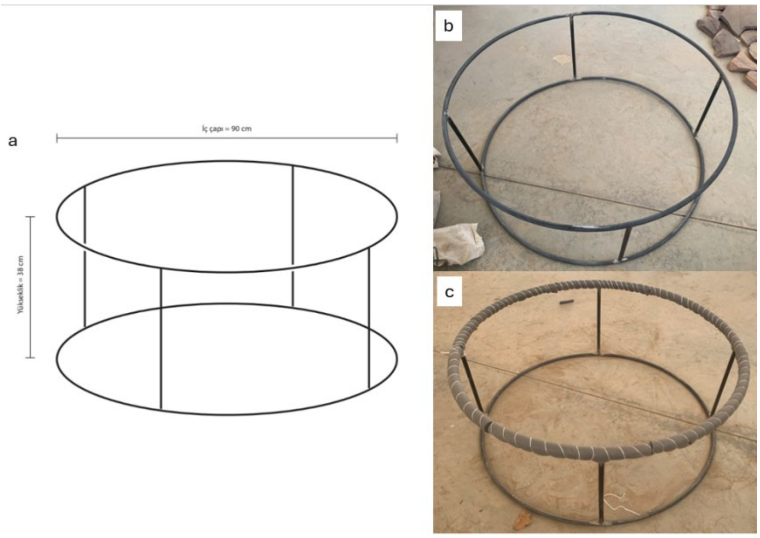


Figure 15: (a) a drawing of the design used to communicate with the Salihli Sanayi; (b) the manufactured mount; (c) the top ring padded with Plastazote and string.

Figure 16: The reconstructed base and lower body of Pithos 64 stored in the mount with supports from sandbags, Plastazote padding, and straps.

Figure 17: The conservation team with the partial reconstructed Pithos.

#### 4.3.4 Metals

Another main task was to clean metal objects recovered during this season, including copper alloy and lead. Burial deposits and corrosion removal became a process of training myself to identify the original surface. It was very confusing to me as the corrosion products can be multiple colours and form uneven layers. This was one of the largest difficulties I encounter at the UCL lab. In KAP, there were more objects which needed cleaning, so I had more opportunities. After cleaning four copper alloy and three lead objects, I am now more confident when deciding where I should stop cleaning. Depending on the type of objects, the cleaning level would be different. For example, one of the copper alloy needles had a clear profile and there were many similar objects available so I removed the excessive corrosion product as much as possible to achieve a relatively smooth surface. On the other hand, an oval shape copper alloy object with a small opening was unknown and unique so I only cleaned the burial deposit.

After cleaning, all objects were treated with benzotriazole (BTA) which is a corrosion prohibitor to prevent any further corrosion during offseason. This was the first time I did BTA treatment even though learnt at UCL. Sydney and I worked together to make sure every step was properly finished. The BTA treatment was conducted in a fume cupboard and we wore goggles, masks and double layer gloves to protect ourselves. This was a valuable experience as I had to do the treatment independently shortly after I came back to London.

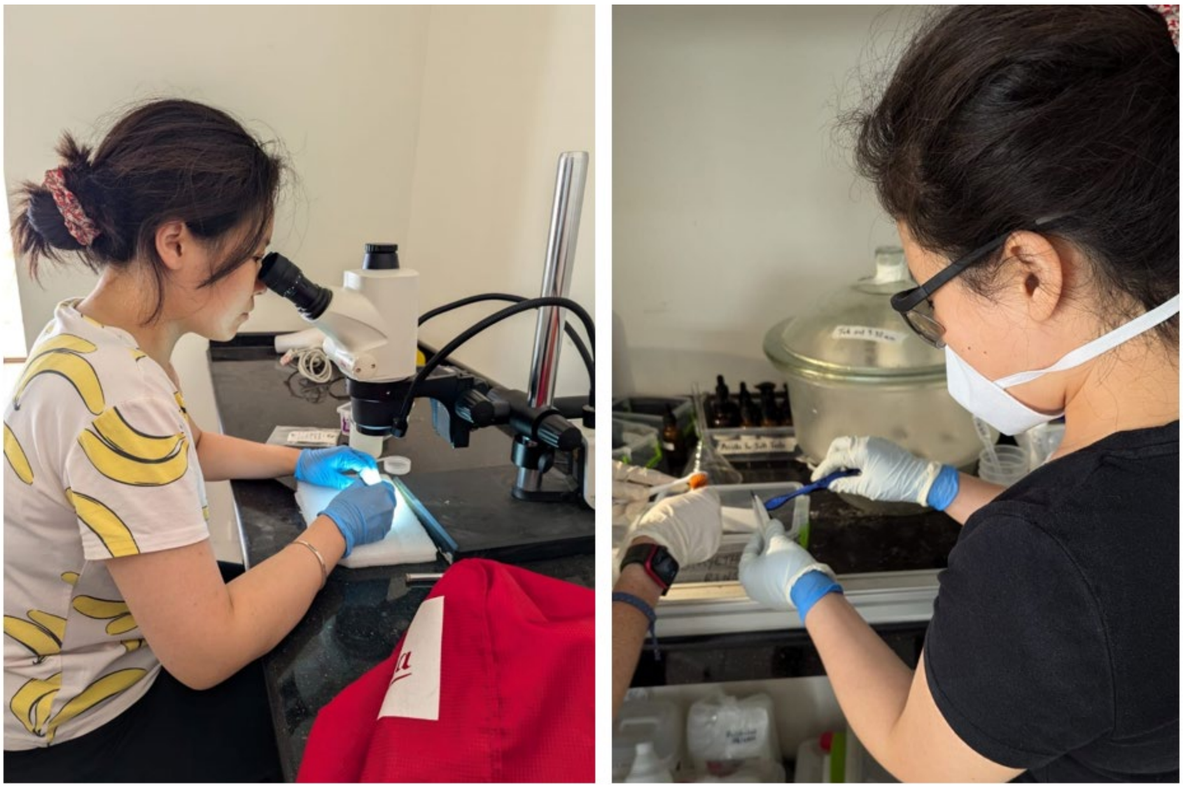

Figure 18: I was cleaning burial deposit on a copper alloy object (left). I was doing BTA treatment (right).

# 5. Additional Conservation activities

- **Documentation**

The Kaymakçı Archaeological Project has a well-established database system which is used by different teams. This is one of the most important experiences I had during this placement. We needed to document all condition assessments, treatment processes, and before and after treatment photos. Even though I have been keeping a record of these information during my study at UCL, processing it into a database was another challenge. It was a great experience to learn the ways in which conservation links to other teams. Each object will be looked at by different people in the future and an input from conservation can be helpful for future reference. This experience helped me transition easily into to the database when starting my internship at the Science Museum in London in October.

- **Soil sampling and salt testing**

I also got experience working on site in one of the trenches. I collected four soil samples out of fourteen (Figure 19). The purpose for the samples was to know what soluble (chlorides, nitrates, and sulfates) and insoluble (carbonates, phosphates, sulfides) salts are present. Spot testing techniques were employed by following the protocols outlined in "Material Characterization Tests for Objects of Art and Archaeology" by Odegaard et al. 2005. These anions are commonly associated with archaeological objects. If present in Kaymakçı, the excavated objects may have certain preservation needs, both short-term and long-term. For example, chlorides may cause bronze disease for copper objects, which needs precautions during treatment. The result showed that chlorides, phosphates and carbonates were present. This means that the copper alloy objects may be unstable upon excavation. The presence of carbonates indicates that ceramics would most likely have accretions formed on the surface.

Figure 19: I was collecting soil samples from excavation trench.

- **Sardis Conservation lab visit**

Sardis was the capital of ancient Lydia, which is located about 10km to the south to Kaymakçı site (Roosevelt *et al.*, 2018). This trip was arranged by Taylor who knew the Head Conservator, Jennifer Kim (Figure 20).

We visited their lab, learnt about the cleaning project of the Temple of Artemis between 2014 and 2019, mosaic community conservation project and how Sardis was discovered. This trip was very interesting. It was also valuable because consultation with colleagues made us decide to trial the use of adhesive mixture during the pithos reconstruction.

Figure 20: The Kaymakçı team visited Sardis conservation lab. (left to right: Ceren Yilmaz, Sydney Betancourt, Taylor Brehm, Jennifer Kim, Elena Vorobyeva, Liu Liu, Lisa Hatwagner)

# 6. Living in and exploring in Turkey

I stayed in Turkey for 41 days, of which 32 days in Kaymakçı Archaeological Project, 3 days in İzmir, 3 days in İstanbul and 3 days on the road. I was able to use my days off and afterwards to travel around western Turkey. I visited 6 cities, 13 museums and archaeological sites, 4 mosques, one beach along the Aegean Sea (Table 1), I hiked up to the old Hacıveliler town, and drove a car to Kula Volcanic Geopark (Figure 22-24).

Because we stayed in such a remote area, Sydney and I got up early and caught the earliest bus when we wanted to visit other cities. This saved us money on accommodation as we would just go for a day trip. My favourite place was the site Hierapolis-Pamukkale (Figure 21, a; and Figure 23). This site consists two main parts, a white cliff whith blue water and the archaeological site of Hellenistic spa town of Hierapolis, built in the end of the 2nd century B.C. The name 'Pamukkale', meaning Cotton Palace, describes the remarkable view. The white calcite deposited as a mineral forest and waterfalls are extremely blue. Next to the natural view, the town of Hierapolis has one of the best preserved theatres in Turkey, Hierapolis Roman Theatre, which could have over 10,000 seats at its peak. I was deeply amazed by the size and detailed decorations.

The visit to Kula-Salihli Global Geopark was an adventure. The Geopark is located about 73km to the east of the KAP and contains evidence from more than 200 million years of earth history. Me, Taylor and Sydney all agreed it was such an interesting place to go and this was the probably the only chance in life we would go visit this geopark. It was a difficult place to get to because the lack of public transportation but we went by driving a rental car. I drove through narrow allies surrounded by 18$^{th}$ century Ottoman houses as well as in the volcanic fields. The experience was really enjoyable.

People I met onsite were really friendly. Ceren, Taylor and Elena gave many recommendations for local food and sightseeing destinations, which I visited when I was in Izimir and Istanbul with Sydney (Figure 22, Figure 23). My favourite food was the lentil soup made in the excavation and the bal kaymak (honey and clotted cream) as part of Turkish breakfast (Figure 24). It was also interesting to know that Turkish meals often serves with yogurt. We would have yogurt with every meal and it adds flavours when we were in the excavation site. We always say "Afiyet Olsun" before and after a meal, meaning "your food becomes good for you". This is a Turkish tradition, which I noticed again on the restaurants receipts when I was in Izmir and Istanbul.


Figure 21: a) Pamukkale; b) Agora open air museum; c) Basilica Cistern

Figure 22: Kula Volcanic Geopark (left); Ephesus Archaeological Site, Sydney and I (right).

Figure 23: Some places I visted in Turkey: Dolmabahçe Palace, Istanbul (top left); Blue Mosque, Istanbul (top right); Hagia Sophia, Istanbul (bottom left); Roman Theater, Hierapolis Pamukkale (bottom right).


Figure 24: Traditional Turkish food I tried during the trip in Istanbul.

Table 1: A summary of the places I have visited in Turkey.

| No. | Museums/Sites | City |
|---|---|---|
| 1 | Sardis Archaeological Site and Conservation Lab | Manisa |
| 2 | Kula-Salihli UNESCO Global Geopark | Manisa |

| | | |
|---|---|---|
| 3 | Hierapolis Archaeological Site and Pamukkala Archaeological Museum | Denizli |
| 4 | Ephesus Archaeological site and Experience Museum | Selçuk |
| 5 | Istanbul Archaeological Museum | Istanbul |
| 6 | Hagia Sophia | Istanbul |
| 7 | Basilica Cistern | Istanbul |
| 8 | Istanbul Republic Museum | Istanbul |
| 9 | Dolmabahçe Palace | Istanbul |
| 10 | Topkapı Palace | Istanbul |
| 11 | Zeytinburnu Mozaik Müzesi (Mosaic Museum) | Istanbul |
| 12 | The Blue Mosque | Istanbul |
| 13 | Little Hagia Sophia | Istanbul |
| 14 | Rustem Pasha Mosque | Istanbul |
| 15 | Beyazit Mosque | Istanbul |
| 16 | Izmir Archaeological museum | Izmir |
| 17 | Agora open air museum | Izmir |
| 18 | Kuşadası Long Beach | Kuşadası |

# 7. Conclusion

The journey was predictable in some ways and unexpected in others but was surely a unique and memorable experience. My main aims and more were achieved. I gained a better understanding of archaeological excavation and in doing so challenged my problem solving skills. I learned new skills like micro chemical spot testing, as well as refining skills acquired at university but had not had a chance to do in practice. The size and weight of the Pithos posed the biggest challenge.

I got to work closely with the conservation team and improvised with the resources we had. Although Dr O'Grady's absence was unfortunate, I gained more independence and confidence in problem solving as a result of her not being there. Her remote supervision required me to have a clear understanding of the problem and a more precise way to present the problems. I gained the skills to summarise complicated problems into short conversations as well as make decisions independently based on literature research and discussion with team members when necessary. This was very valuable to me because I have always been conscious of my lack of self-confidence in my abilities. Seeing the successful results despite the absence of familiar supervision vastly boosted my self-confidence. This experience gave me more experience working with many archaeological materials, which will open doors for my future career development.

My advice for future scholars would be to be open-minded, do not be afraid of thinking outside the box, accept challenges and work closely with the team. I could not have gained as much during this journey were it not for the trust and support from my peers.

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