

## Lecture Transcript:

### **Conservation is Research: Recent findings from Megawra's Athar Lina Conservation Program by May al-Ibrashy Wednesday, August 19, 2020**

#### **Louise Bertini:**

Well, hello everyone, and good afternoon or good evening, depending on where you are joining us from, and welcome to our August open lecture with Dr. May Ibrashy, and her lecture is titled "Conservation is Research: Recent Findings from Megawra's Athar Lina Conservation program." I'm Dr. Louise Bertini, the Executive Director of the American Research Center in Egypt, or ARCE for short. For those of you who are new to ARCE, we are a private nonprofit organization whose mission is to support research on all aspects of Egyptian history, culture, foster a broader knowledge about Egypt among the general public and support Egyptian-American cultural ties. As a nonprofit, we rely on ARCE members to support our work, so I want to first give a special welcome to our ARCE members who are joining us today. If you are not already a member and are interested in joining, I invite you to visit our website, [arce.org](http://arce.org), to join online and learn more. We provide a suite of benefits to our members, including private member-only lecture series, and our next member-only lecture will be on August 30th with Dr. Solange Ashby of American University on the goddess Isis and the Kingdom of Meroe, and you can find out more about our member-only lecture series and the schedule on our website, [arce.org](http://arce.org). Our next open lecture will be on September 13th and is titled "The Karaites in Egypt: The Preservation of Egyptian Jewish Heritage." This lecture will feature a panel of speakers including Jonathan Cohen, Ambassador of the United States of America to the Arab Republic of Egypt; Magda Haroun, head of the Egyptian Jewish Community; Dr. Yoram Meital, Professor of Middle East Studies at Ben-Gurion University; as well as myself, representing the American Research Center in Egypt to discuss our efforts in preservation of

the Historic Bassatine Cemetery in Cairo. So with that, I'm going to now turn it over to our lecturer today. Dr. May Ibrashy is a licensed architectural engineer with over 25 years of field experience in conservation and heritage management in Historic Cairo. She is currently founder and chair of the Megawra-Built Environment Collective, a twin institution consisting of an Egyptian NGO and consultancy working on issues of the built environment. She coordinates Athar Lina, an initiative run by Megawra, in partnership with the Egyptian Ministry of Tourism and Antiquities and Cairo Governorate that conserves the heritage of al-Khalifa in Historic Cairo and conceives of it as a driver for community development. She is also an Adjunct Lecturer of Architecture at the American University in Cairo. So welcome, Dr. al-Ibrashy.

**May al-Ibrashy:**

Hello. Thank you, Louise, and thank you, ARCE, for the invitation. Hello, everyone. Can you guys hear me properly? Is my voice loud enough?

**Louise Bertini:**

Yeah.

**May al-Ibrashy:**

All right. So today I am going to talk about the work that we do in conservation in Historic Cairo, focusing mostly on the Mausoleum of al-Imam al-Shafi'i on the conservation project started in 2016, but first, just to contextualize the work that we do, I will give you an idea, a general idea about the work of Athar Lina Initiative in general and also kind of to show you not just the context of the work, but the mind-set within which we work and in which research kind of almost becomes a luxury, if you will, or the fact that we enjoy that doesn't have the complexity of the rest of the work that we do. So as Louise said, this work is done with the framework of Athar Lina Initiative, which is run jointly by Megawra and the Built Environment Collective, and all of our work is in partnership with the Ministry of Tourism and Antiquities, and some of our work also in partnership with Cairo Governorate and under the supervision of the Ministry of Social Solidarity. Okay, here we go. So the context in Historic

Cairo, it's a World Heritage Site. The site that you see on the left is the borders of Historic Cairo as determined by UNESCO, and it is obviously a site that is famous for this wonderful mix of Islamic architecture and also the fabric of [Indistinct] still retains a lot of the features of the Islamic Period, and it mixes in a very interesting and also very challenging way with contemporary life in Historic Cairo. We work in the southern section of Historic Cairo where you see the numbers two, three and five, and we work in three neighborhoods within the municipality or the District of al-Khalifa. The District of al-Khalifa is one of the largest districts in Cairo in general, and it's also one of the districts that has the most area within which lies quite a bit of Historic Cairo, and we work within three areas. al-Khalifa Street which is here, this is the first area that we worked in, but also now al-Hattaba, a small neighborhood north of the Citadel, and at Imam al-Shafi'i Cemetery, so it's a very kind of diverse mix of urban fabrics. al-Khalifa Street, the main street of al-Khalifa is the continuation of al-Muizz Street, the Qasaba of Historic Cairo, and Hattaba is a tiny neighborhood, very intimate but overshadowed by the Citadel, and then you have obviously the very unique cemeteries of Cairo which are lived in and are a mix of life and death, as many of you would. We started in 2012 with a basic question about who benefits from heritage, and the people who benefit from heritage would probably ... an assumption that they would be more proactive in preserving it, and so the question of how to empower people to benefit, to get to feel a sense of ownership of heritage and therefore to preserve it. And we work in a participatory, integrated way where we involve a number of stakeholders in a number of questions concerning heritage, its value, who owns it, who benefits from it, et cetera, and at the end of the first phase of our work, we came up with three lines, action lines that we follow to this day from 2012. The first is heritage education, on the assumption that you acquire a sense of relationship and ownership and attachment to heritage at a very young age. The second is that conservation continues to be a vital part of the work of anybody interested in heritage in Historic Cairo, but aggressively with adaptive reuse in mind, and the third, which tends to be the most challenging, is grounding the work that we do in the socioeconomics of the urban context and linking the benefit that people derive ... Let me rephrase that, linking improvement and benefit of heritage

to the benefit of the community. The assumption is that quality of life, improvement of quality of life is vital for both. One cannot happen without the other, and we work in two fields, urban development and heritage industries, within that action. So very quickly, I will talk about the conservation projects that we work on, and then I will go back to them to talk about the finds and the research work that happens there. So since 2013, we worked on a number of projects, Shajar al-Durr Mausoleum from the mid-13th century. Right next to it is an early 20th century building that we also renovated and now use as a community center. We also worked on the conservation of Sayyida Ruqayya, Ja'fari and 'Atika, and these are Fatimid shrines from the 12th century, and currently we're working, as I said, on the Mausoleum of al-Imam al-Shafi'i of the 13th century and also on the al-Shurafa Shrine who was probably from the 15th century, and we've also worked on a full conservation study for two other buildings in al-Khalifa Street, Fatima Khatun and al-Ashraf Khalil [Indistinct]. So this is the kind of conservation work that we've done since 2013 until today. As I said, this is grounded to, again, a more integrated position for the neighborhood, link to urban regeneration and heritage industries and education. So in terms of education, we started off working with local primary schools. We soon set up our own summer camp, which we've been running since 2013. We've also had other kinds of offshoots in heritage education, working for example, with Syrian children, refugee children in Egypt, and combining the work with the work that we do with young Egyptian children. Also working on training, training of trainers, and also extending the program to include women as well. The kind of work that we do in heritage education tends to be rooted in the work that we do in conservation because it's rooted in our very specific knowledge of the heritage of the neighborhood. We work ... We design activities that are very interactive, that are very fun and that are built on thinking rather than simply spoon-feeding children with the information. We also started quite early on working on ways of raising the profile of the neighborhoods that we work in and making them more visible and encouraging people to come and visit them, particularly local tourism, and so since 2013, we've been organizing an annual event called Spend the Day in Khalifa. It includes street art, tours, exhibitions, street performances, storytelling, activities for the local kids, also activities for

obviously for people coming to our events, et cetera. And since 2018, we combined these two approaches together in what we call the Athar Lina Heritage Design Thinking School, and what we do here is, we work with locals, particularly the local teenagers who used to go to our schools and who are now too old for the summer school, and also local craftsmen and designers from all over Cairo, and we ask with them the question of, "What is heritage? What is history? How do we understand it today? How does it relate to our understanding of who we are today?" And in asking these questions in a way that is outside, that is more personal and less generic, we come up with products and activities that are profit-making and that can benefit the local community and also raise the profile and the visibility of the neighborhood, and this is something that we've been working on and we're developing further and further. And finally on an urban level, this was quite difficult to approach because we were concerned about upsetting the existing dynamics of the neighborhood and potentially even doing something that is negative, not positive, and so we started off with two things: Deciding on the borders that we want to work within and also mapping the area, so preparing maps and updating them, et cetera, but also identifying the key problems. What is it? What are the most pressing problems, urban problems in the neighborhood and problems that we have to resolve before we work on anything else such as tourism or conservation? And we identified two main issues, waste and groundwater, and in both cases, we adopted a two-pronged approach where we work on studies that address the issue as a whole in a holistic way, and from them we prepare policy papers. We work with the government to propose solutions that we cannot implement but the government could potentially implement, but we also look at things that we as a small organization can do. So for example, in terms of groundwater, this is an endemic problem in Khalifa Street, quite difficult to resolve even if we fix the leakage in the pipes because this is not natural groundwater. This is water that is accumulating because of leakage of water supply pipes. So even if we do that in al-Khalifa, we still have water flowing from the neighborhood area because they're much higher than al-Khalifa, so we will always have a problem of high groundwater in al-Khalifa. This affects monuments in particular because their ground, their floor level is lower than

the street level, and normally the solution is dewatering, a system for lowering the groundwater level within the monument itself and its surroundings, and the water, which tends to be clean water, is then thrown into the sewage, so our solution was to look at ways of taking the water that comes from dewatering processes and using them for functions such as cleaning, irrigation, fire control, et cetera. So again, this brings us to our main approach of thinking of solutions that benefit both heritage or both monuments and the community, so linking their fates together, if you will. And in terms of waste management, the work that we did for the government was more to figure out what goes wrong with the waste management system as a whole, but then we identified plots, and with the collaboration of Cairo Governorate, transformed them into places for sport and recreation, as you see over here. We also do this kind of work within a holistic understanding of the areas where we work as a whole. So for example, for al-Khalifa Street, we are finally in the process of finalizing conservation and management plan based on a complete survey of the area, both buildings and open spaces. Again, the management plan will inform two things. It will go to the government to inform hopefully the decisions that we make concerning the area, but will also help us decide on what to do with this. And sometimes we link everything together. So this is a tiny little project that we love, we're very proud of. This is a project where we worked with a number of women in an endangered neighborhood called al-Hattaba. The neighborhood is, although it is historic, is in danger of demolition, so we have been lobbying with the government to try and convince them not to demolish the neighborhood, but also in parallel, we trained a number of women in the art of khiyamiyya, which is a traditional Egyptian craft, and together they worked on a quilt that tells their history of al-Hattaba and how they own it, in a way. The idea is to use it as a kind of advocacy tool to raise, again, visibility of the danger of al-Hattaba. So this is a very quick introduction to the work that we do in general, and now I'm going to focus on the main topic of the talk, which is the findings and the kind of research that happens within the conservation project as we're doing conservation. Just to give you an idea about the kind of findings and discoveries that we have done in previous conservation projects, this is the Mausoleum of Shajar al-Durr, and this was actually funded by the American

Research Center in Egypt, and what you see over here is the state that we found the interior of the dome in. This is the drum of the dome, and we knew that there was something there, but it had never been documented, and nobody really knew what the details were like, so we did ... There were 2 years of painstaking work where we basically peeled off all the plaster to reveal the original designs. Sorry, sometimes it's just ... Come on. It's freezing now. Sorry, it's freezing. I'm going ... I'm trying to fix it. For some reason, it's not moving. Ah, okay, here we go, and this was what it looked like before. This is the result. We are still doing research on this discovery. Many people think that it's an added feature because we do not have that many Ayyubid buildings in Egypt, and we do not have that level of painted decoration in the interior except for one building. This is the dome of the Abbasid Caliphs, very close to Shajar al-Durr. Just it's a 5-minute walking distance and very close in time as well. Shajar al-Durr is from 12th ... It dates to 1250, and the dome of the Abbasid Caliphs is from 1243, and you can see here again remains of decoration. This is actually under conservation by the Ministry of Antiquities at the moment, so we hope to see the result of the cleaning soon, but we can already see from this that many of the details are very similar to what we have in Shajar. This is another building that we worked on. I'm sorry. This date is incorrect. It's not from 1250. This was just wrong. This is the al-Sayyida Ruqayya Shrine, and this is a building that has been extremely well-studied. It features ... It's a Fatimid building. It features in [Indistinct] work quite intensively, extensively. It also features in the work of Yusuf [Indistinct] for example, but even there, we were able to find things that nobody knew about. Some things had been mentioned, but they were not documented, such as much of the remains of the decorative stucco and also this kind of pearl border that you see here on the ribs and also the arabesque border that you see here, but others nobody knew about, such as the rosette at the top of the dome that you see over here with an inscription. So these are the kind of things that we stumble upon as we work. The challenge here is not just to document, but actually to do the research and to publish and to let the world know that this is what we know as a result of the conservation project. Unfortunately, because ... everything else that we do sometimes, this takes quite a bit of time, and this is why I'm quite excited about this talk

because it's a chance to at least share some preliminary findings. I'm now going to talk about the al-Imam al-Shafi'i Conservation Project, which is ... and I'm going to talk in a little bit more detail. This is quite an extensive project. It's the biggest that we've done so far as Athar Lina. As I said before, this building is in al-Qarafa circle, the Southern Cemetery of Historic Cairo, this area over here. You can see it's a very beautiful building. It has the largest remaining wooden dome in Cairo. It dates from 1211 AD, and it's not just the spiritual significance of the building which I will talk about. It's also the fact that it is almost like a record of the history of Islamic architecture and decoration in Egypt. So what we knew of when we started was these phases, that prior to the ... First of all, that Imam al-Shafi'i was buried here, who is the founder of the Sunni or one of the Sunni rites, old rites of Sunni Islam was buried here in 204 ... In 819 AD, 204 Hijiri. Then some years, more than 200 years later, 1176, Salah ad-Din Ayyubid comes and builds a madrasa next to the dome, but he also ... We are told in the books that he also installed a wooden cenotaph above the grave of al-Imam al-Shafi'i, which we still have today. It's this. Then in 1211, his nephew, Sultan al-Kamil Muhammad comes and demolishes whatever existed and builds a new huge mausoleum, the one that we have today, not just for al-Imam al-Shafi'i but also his own family, so the mother of al-Kamil is buried there and supposedly also his son. And then you have ... it is a very important dome. It is very prestigious on the spiritual level, so you have a number of rulers and also powerful people kind of making the effort to work on it and to renovate it, most importantly al-Ashraf Qaitbay, who supposedly did not rebuild the dome but built quite a bit of it and in the 15th century, and then in the Ottoman period, Ali Bey al-Kabir renovates the entire interior, which is what you see here, so all of this is Ottoman. This is Ottoman. This is Ottoman, but the squinches, the system of the squinches, the geometry itself is Ayyubid. You have certain parts of the building such as the Kufic inscription that you see here, which is on the beams, is also Ayyubid. The wooden dome itself is mostly Ayyubid, et cetera, so you actually have a series of interventions, Ayyubid, Mamluk, Ottoman, and also in the 19th century when [Indistinct] built a mosque right next to the building, so it's really an amazing building in terms of the richness of the architecture and the decoration, but also one should not lose sight of the

fact that this is not any building, and this is not any many who is buried here. This is al-Imam al-Shafi'i, who of course is known as an Islamic scholar and is known for an entire school of Sunni jurisprudence, but there are other interesting things about him, most importantly that he was not just a scholar but also a poet. He also dabbled in politics every so often, and his history in Egypt is quite interesting because it features historic figures such al-Sayyida Nafisa, for example, the great granddaughter of Muhammad. Another thing that maybe not many people know about al-Imam al-Shafi'i is that as much as his Islamic treatises are extremely sophisticated and intellectual, his poetry is extremely human and soft, and we ourselves as Egyptians have retained parts of his poetry that we use in everyday life without even knowing that this comes from the poetry of al-Imam al-Shafi'i. So very briefly, the conversation work happened over two phases. Phase one was concerned mostly with emergency work, so we did the entire exterior, the stucco decoration, which was not in a very good condition. We worked on the lead cladding of the dome. We worked on the roofs, on insulating the roofs. We also had subsidence in the floors within the dome, so we worked on that, and we also had problems with the marble cladding, so we also worked on that, and in repairing the subsidence, we had to do excavation work, which opened a whole new world for us, and I will talk about it. The second phase, which we're currently working on, is concerned more with cleaning the interior of the dome, the painted decorations that I just showed, and also with site presentation and light, and by the way, we just lit up the exterior yesterday, actually, so we're quite excited. So what do we learn from a project like this, which is going to continue for 5 years? We're hoping to finish by mid-2025. First, we have the basic one, the documentation. We are very meticulous and anal about our documentation, so we do a lot of hand-tracing. We obviously combine it with surveying. We also do a lot of investigation of the structural systems within, and in doing so, we collect certain information that we already had, such as, for example, the shape of the profile of the dome, the exact measurements of the boat on top on top of the finial, which is here, the exact size of the lead panels on the dome from outside, et cetera, and then of course the detailed drawings, the detailed tracing of all the decorative features that we found on the exterior, we traced everything. On the interior this was impossible,

so we traced units and exemplars, just to keep so that we have a record of all the different decorative features that we found in al-Imam al-Shafi'i. So these are things that we already knew existed, and it was just a question of having a more detailed documentation of what we know, but sometimes what we know existed, we can add. So for example, this that you see here, these bluish-green tiles, we know from previous conservation projects that the dome most probably in the Mamluk period had been coated with ceramic tiles that were fixed with nails. These are the nails that you see over here, and we know that in the Ottoman period, these were covered with the lead cladding that we have today, so it was interesting to actually be able to uncover some of them, document what we could uncover. Not ... We didn't set out trying to uncover everything, but in the process of repairing the lead sheets, there were parts that were uncovered, so we documented them. But also we were interested in documenting the structure and system of the dome itself, and this is where it becomes more interesting. So we had the previous hypothesis from Creswell that this was a double dome with a series of horizontal rings intersected by ... So these are the horizontal rings that you see here, intersected by vertical ribs, and at some point here where the diameter of the dome becomes very big, you have another set of vertical ribs that are added just on this tier, but Creswell calls it a double dome. It is not a double dome. This is all we have. It's a single rib and beam system, but it's clad with wooden sheets, with wooden planks from outside and from inside, and it's surprisingly thin. It is shocking how thin and delicate the structure is, and to the point that we know that there used to be a dome that supposedly, according to historians, looked exactly like it on the Mosque of al-Zahir Baybars, which is later from the Mamluk period. That dome collapsed, and now the Ministry of Antiquities wants to rebuild it, and they came to us, and they needed the documentation that we had done of the dome. It is impossible, according to today's specifications and standards, to build a dome using these kinds of sections, so of course they're not going to do that. They'll probably go for a metallic, an iron-steel system. So in these cases, we are kind of correcting [Indistinct]. Sometimes we also find things by chance, and we're not sure whether this can be ... if this is part of the history of al-Imam al-Shafi'i or if it's something that was reused by chance. So this, for example, is one of

the elements of the marble paneling that was added in the Ottoman period, but when we removed it because it was in very bad condition so we needed to refix it, we found under here the remains of this inscription. As you can see here, it's obviously Mamluk. Here you can see "al-Malik al-Ashraf," so most probably Qaitbay, so it could belong to the work that Qaitbay did in al-Imam al-Shafi'i, but it might not. It might be that it was taken from somewhere else, but it's an interesting piece of information to have. But sometimes we also find things that we know are related to the history of the building. So in this case, this was found over here. Now, this is the dome. This is the current entrance on the eastern side, and this is the northern way, and this is where the marble cladding that I mentioned earlier is. When we removed the marble cladding, we found behind this wall and behind the partial or the marble cladding, this part of a frieze. This is very typically Ayyubid, this kind of cursive script, and it seems to be in its place, and it makes us wonder about whether the theories of previous scholars that the current northern window over here was the only entrance, it might have been that there were two entrances because this looks like the beginning of an inscription, so it might have been marking another entrance on this side. So for years, most scholars hypothesize that originally there was no entrance here, but that the original entrance was on the northern side opposite the qibla, and that this entrance was opened later maybe when this renovation happened or maybe in the Mamluk period, but we're starting to see indication that it might be that there were actually two entrances, one in the north and one in the east. One of them is this foundational inscription that is very obviously Ayyubid. The other is on the other side of the wall over here, so this is the other side, so the first inscription was here. This just moved a little bit. This is where we found this one, and this is really interesting because this was under the Ottoman cladding, but when you look at the inscription, you find that these are actually two layers [Indistinct] this is carved, the lower one, and the other one is written, the upper one. Now, the one on top is most probably early Ottoman, and it mentioned someone called the [Indistinct] that you see over here. The one below is interesting because you can very clearly read here "al-Sultan al-Malik al-Kamil Muhammad," so this is another foundation inscription again on top of this door that we did not know existed. Other

kind of work that we do or information that we come across comes from excavation. To be honest, we do not set ... This is not an excavation project, but in many cases that I mentioned, because we are repairing subsidence or we need to ... We have a modern floor that we need to remove and put a floor in stone or marble or whatever, we start not to dig but just to move the upper layers, and we come across layers of previous structures. Some we can understand. Some we cannot. In this case, this is the entrance vestibule, so this is this area, and we could understand certain things like, for example, this is very clearly a step, stairs, so these are stone slabs. If you remove them, you'll see steps leading down to a burial vault. We also could find remains of the marble, the original marble floor ... Not the original, but the one from the Mamluk period or the 19th century or Muhammad Ali period, so we found those over here, but we also found things like these. Now, this is very obviously some kind of channel, some kind of sewage or water channel, and this we found over there at quite a high level, but we could not quite understand what it was. So these are all things that we collect, and we kind of tabulate and have all the information, all the documentation, and then bit by bit, the pieces start to fall in place. But what I want to talk about more is this excavation. Now, this is an ... The previous excavation that I showed, this happened in this phase, but in the first phase, we found this, and this was our biggest find. This is our biggest find to date. This is the most exciting thing that I have ever found in my entire career, so here, I'm kind of building this up in a major way. This is the interior of the dome. As I mentioned before, we had subsidence in this area in particular, so normally what we do is, we do not like to introduce impermeable slabs such as, we don't like to use reinforced concrete, things of the sort. We like to put in a natural material that will not subside, that will not settle, but at the same time that allows water to ... that breathes, that breathes, that allows water to come out and to evaporate, et cetera. So we normally dig up to [Indistinct] centimeters to 1 meter and fill the entire floor with a mix of crushed stone and brick dust and dry lime, et cetera. It's a kind of technique that we use. We started to dig, and at the level of around maybe 40 centimeters, we started to find walls, and at the level of around minus 1 meter, we started to find it, and this is what we found: An entire mausoleum dating from ... Which is prior to the construction of the Ayyubid

dome that Al-Kamil had built. And the interesting thing here is that ... Two things: One, it was as if they had taken a knife through the building. As you can see, everything below the level of minus 40 below the floors of the Ayyubid mausoleum has been conserved. It's almost as if they had a sense of conserving what existed before and a sense of the sanctity of the mausoleum that existed prior to the one that they were going to build. That's one thing that was quite noticeable. The other thing that was very interesting was this bunch of things over here that you can see over here. Now, these are parts of some kind of dome structure. It was very obvious. You can see here, this is the drum of the dome. This is the ribbing of the dome. This is where ... This is also part of the drum, and this is where the window would have been, so what must have happened was, there was a dome structure here somewhere, and as they were demolishing, it collapsed, and they decided to leave it in place and just bury it there, and this is probably one of the reasons why we had subsidence, but it's a very interesting piece of information because now we don't just have a plan. We also have an idea about the three-dimensional aspects of the dome, what existed above what we have. So this was very interesting. We immediately started to recognize a type. We could see that this looked like what is typical of Fatimid mausolea, most particularly the later ones such as Yayha al-Shabib, for example, Badr al-Jamali, and we were able to reconstruct the architecture of the Fatimid dome that existed prior to the Ayyubid one. Now, one thing we need to note is that there is no mention of this dome, of this mausoleum in any way in any other source, so this was something that we had no idea about, so what we could see was that this is the qibla side, and these are the three mihrabs in the current building. There were also three mihrabs, and they were ... In front of them was a riwaq carried on one column, and probably here there was another column base, so this is what you see here. Most probably, this riwaq continued over here, and then this dome most probably stood on the double column that you see over here. There's probably another one over here somewhere, but we could not uncover it. And we found here that the floor was disturbed and interrupted, so there was probably one here, and there was probably one here [Indistinct]. On top of that was this dome structure that you see here, and the reconstruction that we have here comes from the information that we

got from these masonries, but we had one problem. If we put the dome in here in this squared area, we would be left with ... If it stands on this wall, it would be oval. It wouldn't be square, and if we put it on the places on the columns where we think the columns were, which are here and over here, we would be left with a very, very narrow corridor. That makes no sense. Then we noticed something else, that the fabric of this wall and this wall and this wall and this wall looked ... was had certain kind of characteristics, and this wall and this wall were totally different. They looked different. And then we also started to notice other things. One, that the interior of this mausoleum, which is this area over here, this area over here was clad with marble cladding, which is not something that we see in Fatimid mausolea at all. Two, in the finds, we found over 1,000 pieces of decorative stuff. Quite a few of them had inscriptions. We started to find cursive inscription, which is also not very typical of the Fatimid. We also found Kufic inscription which was in the Fatimid period and also in the Ayyubid, but one tends to associate cursive inscription with the Ayyubid period, so we started to go back to the sources and read up on exactly what happened when Salah ad-Din Ayyubi came and built his madrasa next to the existing mausoleum of al-Imam al-Shafi'i. Let me remind you again, now, the existing timeline is as follows, that when Salah ad-Din Ayyubi came, most probably this is the mausoleum that existed at the time. Then later, some 40 years later, his nephew comes and demolishes this mausoleum and builds the current dome, but Salah ad-Din Ayyubi did not just put the cenotaph. He is also said to have built a madrasa. It wasn't any old madrasa. This is a madrasa ... This was the first Sunni madrasa in Cairo. Remember Salah ad-Din Ayyubi removed the Fatimids, the Shia Fatimids and comes to re-Sunni-fy Cairo, if you will, so he introduces two types of Sunni institutions, the madrasa and the khanqah. The khanqah he builds in al-Gamali where the Fatimid palaces were, and the madrasa he built next to the mausoleum of al-Imam al-Shafi'i for obvious symbolic reasons because this is the grave of the founder of one of the four rites of Sunnism. It is said that the madrasa was here where the current mosque is over here at this point, and it is said that it wasn't just a madrasa. It also had hammam, a bath, a bathhouse, and it also had shops and ... Yeah, here it is. And Muhammad Ibn Jabir, who visiting at the time when it was

being built, says, "It is so big, it's almost as if it is a country on its own." Of course he's exaggerating because he really likes Salah ad-Din Ayyubi. And then later on, al-Marisi, who was writing in the 14th century, describes it again and says that it had a very generous waqf or endowment, and it didn't just have a bath. It also had a bakery, a forum and shops around it, et cetera, et cetera, so this was a big thing. It wasn't just a simple building, and this is our hypothesis that the madrasa was here. This is the wall that we're having problems with. This wall is this wall, and that what Salah ad-Din Ayyubi did is that he demolished part of the mausoleum so that to make room for his madrasa, and because this is the mausoleum of al-Imam al-Shafi'i, he could not leave it destroyed, so he rebuilt. He just almost shifted the wall from ... The original wall was here. He shifted it to here, and he clad the interior that now looked a bit wonky because part of it was Ayyubid and part of it was Fatimid, so he cladded with marble. He decorated it with these kinds of inscriptions, and let us not lose sight of the interesting fact that the word here is "Salah," and he also decorated probably the exterior of the dome as well because this inscription here looks as if it's an external inscription, not an interior one. So this is our hypothesis concerning the mausoleum that existed prior to al-Kamil's Ayyubid mausoleum and also the intervention of Salah ad-Din Ayyubi, and of course he also added the dome, as I mentioned. So what are we doing right now? And I am almost done, so we have plenty of time for discussion or questions. We are currently working on the interior, and it's the gift that does not stop giving. So in this case, what we're finding is, as we are cleaning the interior, the painted interior, we are also cleaning it of a lot of overpaint, so this very kind of garish pink color, this very bright white, this very bright red that you see here, bits of bright blue that you see here, this is all the work of conservation projects prior to ours, and what we find when we remove these new layers of paint is tiny details that had been painted over. So this for example transforms from something that's quite crude to something that is less crude because of all these beautiful white branches and tendrils and small flowers and blossoms that you see in the background over here. Also, the inscription, we see that they've painted in many cases over the letters or diacriticals, et cetera. We've also had a lot of fun and a lot of headache with one inscription in particular. Now this a very

interesting inscription. This inscription is in the upper part of the dome. It is a Kufic inscription, floriated Kufic inscription as you see. Before we went up, we put the scaffold up and went up and inspected it, we weren't sure whether it was Ayyubid or Ottoman because obviously because it's Kufic, we had hopes that it would be Ayyubid, but when we went up, we were more inclined to think that this is a neo-Kufic inscription from the Ottoman period. We also at the beginning thought it was [Indistinct], that we could not read the writing, but then we put a lot of effort into trying to figure out the logic of the writing, and we were lucky enough because it's a very famous Ayat, Ayat Kursi, so we were able ... As soon as we could decipher one word, we were able to decipher the rest, and what we started to see was that most, maybe 70 percent of what you see here is floriation, and only 30 percent is the actual letter. So for example, for the kaf, this is an example of one kaf, another, another. All of this means nothing. For the waw, so this is the waw. All of this means nothing, so everything in red is the actual letter, but everything in blue is something that the calligraphy artist added just to make our lives more miserable, and this was important for us not just to know but also because there were parts that were missing and had been renovated in a way that was quite unpleasant, so we actually needed to restore it [Indistinct] so we need understand the logic of the letters in order to add ... to restore the parts [Indistinct]. But this took us 6 months. It took us a month to document. It took us some time to understand, and then we had to retrace it two more times, every time understanding more about the logic of the inscription itself and learning more in the process. This is actually I think my last slide. This is also something that we only discovered a couple of weeks ago. These are the ceilings in the newer part of the area where we work. This is the Ayyubid dome. This part is all from the 19th century, from the same period as the mosque, which is also from the 19th century, and the idea was, in this area here, we would introduce a visitors center, and this passageway leads to the mosque, so we were just going to clean what we thought was the standard beige ceiling, but when we started to clean, this is what we started to find, a very beautiful painted decoration that we now have to start to expose, to uncover. And when we started to work here as well, we found this polychrome decoration, which is not as valuable as or as old as what

we have in al-Imam al-Shafi'i, but again, it adds to this very rich history of the site as a whole. And finally, I tried to keep this as short as possible because I thought it would be interesting to have a discussion and to have a longer question-answer session. As I said, all of these findings are very fresh, but we did a bit of research, but we haven't had time to do as much research as we would like, and these are one of the issues that you face when you work in a way that is very integrated where it's not just conservation or research, but it's also community work that we do, the work on the urban level, and so we kind of think that whenever we get a visitor to the site or whatever, we show them what we have, and we try to discuss it with them to get as much kind of crowdsourcing information, if you will, but we're hoping we after we finish the conservation project next year, that we would take a year to actually work on a publication, and so this, I'm hoping, is the beginning of a discussion and a debate on everything that we discovered at al-Imam al-Shafi'i and elsewhere, and finally, these are pages, our websites, our social media pages and our e-mail if you want to contact us, and of course finally a very big thank-you to all our sponsors and donors and also our partners. We work and we are very big on collaboration. We're very big on pooling resources, and none of this happens without the support that we get, whether from our donors, also from our partners, whether governmental or academic or other professions that we work with, and thank you all for welcoming me.

**Louise Bertini:**

Great, thank you so much, May. That was a wonderful lecture and wonderful to see the conservation work that your team is doing. If we have any questions, I invite you all to put them in the Q-and-A button that's at the bottom of your screen. Yeah, May, there's a question from Joseph. "What is the source of the marble used in the cladding?"

**May al-Ibrashy:**

I have no idea. that's a quick answer. the marble is ... Egypt is not a country that's very rich in marble, so it tends to be reused and reused and reused, and so even marble, the kind of standard colors such as white marble, you would find a mix of different types of marble within the same

wall, and so it's very difficult to tell where the marble comes from, but we know that most of it was reused, and the proof is in what I showed you, what exists ... the one with the inscription on the rear. So it's not that easy to find out where it came from for that reason.

**Louise Bertini:**

I don't think there's any other questions at this point. Oh, yes, there's another one. "How do you and your team trace the decorations and patterns?"

**May al-Ibrashy:**

Yes, well, we do a mix of things. We're very big on manual drawings for a certain reason, not just because it is really the most accurate, but because as you're doing the manual drawing, you're actually seeing and you're thinking, as opposed to when you work from a photograph or when you do a laser scanning or whatever. Having said that, we are not total Luddites. We do surveys, et cetera, but we tend to work in a hybrid system where we do the survey first, and we take all the points that we need, and then we check them and we do our drawings, and then we go up and we check them manually again. This is in general for the architecture drawing [Indistinct]. In terms of the tracings, in most the decoration and the inscriptions, we trace all the inscriptions. We trace any decoration that is different so as that we have an example of all the different decorative types that we found, but in some cases, we go back, as I said, and then we also do a condition survey where we trace all of the cracks, the discoloration, whatever, but then in some cases, we go back and retrace. In the case of the Kufic inscription, and this I did not explain in detail, one important thing that we did after we looked at it once or twice or three times is that we noticed that the original inscription is in relief, and the Kufic has been painted over at least two times, but the paint has obviously not in relief, so after tracing the paint, we have to go back and trace the relief itself, and in tracing the relief, we were able to understand the details of the drawing better, and we were able to do a better job in conservation. Then finally when we're done, if we have changed something, we trace it again. This is the post-conservation documentation. If we haven't, then we don't trace,

but we mark what we've done on the existing documentation, so actually for us, documentation is an ongoing process. It does not end, and it also continues after the conservation work is done because then we have to synthesize and put everything together. Of course we have the kinds of challenges that come from working on a dome on a curved surface for example, and also in layering all the different bits of information one on top of the other, so we end up with too much information. Then the question is, what is important? What is less so? What do we need to share with everyone? What should go into an art guide, et cetera? So one of the things actually that now we are very keen on is not just ... is for the visitors center not just to be a place where people come and see the finds or whatever, for all the finds to be stored there, but also our documentation to be there, so that's also a resource for research.

**Louise Bertini:**

You have a few more questions. The next one is, "Will you be able to provide updates on the more recent finds and ongoing work?" Or where could they find that?

**May al-Ibrashy:**

Right now we are focusing on a couple of very short articles just to share what we have, more for Shajar al-Durr and al-Ja'fari and 'Atika, and also maybe just for the excavation component of al-Imam al-Shafi'i, but the plan is for us to work on a much bigger publication. We're still looking for funding and figuring out how to do it, et cetera, but that basically combines all the work that we've done because there are things that I have not really referred to, but it's not just the conservation work or the research. It's also, it's not just the work on the visitors center that we're designing it right now. It's also work that we do in al-Imam al-Shafi'i to promote tourism so we have itineraries that people can follow through our codes for example. We also have a new website for al-Khalifa that will feature the site and feature all the sites of the Cemetery of al-Imam al-Shafi'i. We also are working on a number of activity kits and games that will be included in the visitors center, so we tend to share bits and pieces of these. The parts that are more for the layperson will be on the website, but the parts that are more related to

research will most probably go into a publication. So what do I think about what happened in the graves of al-Ghafir? What do you think I think? Of course it's a travesty, and we've been saying this. It's a number of problems. First, let me say that from my perspective, it's not al-Ghafir that is the bigger travesty. What a lot of people don't know is that not this year but last year, the area immediately south of al-Imam al-Shafi'i where the Mausoleum of al-Imam al-Layth is, part of it was removed, and there are huge flyovers going over there, so it's cutting through the cemetery. It is not just the graves and the buildings that were lost because they weren't really very old, but it's two issues: One, that this flyover is literally on top of the al-Imam al-Layth, which is truly ridiculous, and two, the cemetery traditionally from the Ottoman period onwards was called The Cemetery of the Two Imams, [Indistinct] al-Imam al-Shafi'i and al-Imam al-Layth, and al-Imam al-Layth is one of the few Egyptian scholars who are buried there, and he has a very interesting history. He's one of also the few confirmed burials that we have in the cemetery from that period, and he was held in great esteem. He still is, but he's not as famous as he used to be in the earlier period, so now you have a cemetery that was known after the two imams with a bridge cutting between the first imam and the second imam, so it's that serious. So this for me is the bigger problem. Of course with al-Ghafir, al-Ghafir is not as old a cemetery, but it's still a very important chapter in the history of architecture in Egypt because these are all Neoislamic buildings from the early 20th century. They tell a story that is very specific to that particular area related to the ruling families of the time because this was the area where the aristocracy was buried, and even legally speaking, both according to Egyptian law and according to the guidelines of UNESCO, this is a World Heritage site. You are not supposed to cut through Heritage sites with wide roads or bridges or et cetera, and I think the most shameful thing about that is it's not that difficult. It could easily have been avoided. I mean, it was just ... I think it was just an irresponsible, and I'm being polite here, act on the part of the government, and they knew it because what happened was, they had planned to do this demolition after Eid, after [Indistinct], and when ... And they had called people, and they had told them that when they saw that there might be a controversy, they actually did it 2 weeks prior, so they knew that it was going to be a problem,

and it's really not necessary. You're basically removing a sliver of land that is maybe 3, 4 meters wide. You don't really need it that much, so I think it is disgraceful. That's what I think. "When do we have ... what kind of" ...

**Louise Bertini:**

We have a next question, yeah, from Bill. "What type of fasteners were used in uniquely thin dome?"

**May al-Ibrashy:**

Just nails, nails that are this long. They're hand ... What's that word, hand-struck? So they're just ironsmith nails. That's basically it, nothing else, but I think what we should know is that it did collapse partially in the [Indistinct], not that it did not. It's an odd structure. One thing that might have held it well together is that the walls, the masonry walls that are holding it are 2 meters thick. These are huge, huge walls, so they are very stable, and when we asked our structural engineer to ... at the beginning, when we were doing our structural studies, and we asked about a simulation of earthquake issues for example, he was like, "Are you joking? These are 2-meter thick walls. They might crack, and you do have vertical cracks running through them, but the end of the day, the thickness makes them extremely stable." So this might be a reason why because domes, the biggest problem with domes is thrust, that they want to do this. They want to kind of open, so if they're held with 2-meter thick walls, then they will never open, and so they are held by tension, so this might be one of the reasons why a dome this thin did not survive this long, but it did collapse partially at some point, between [Indistinct]. "What is ... When dealing with a site as historically diverse as al-Shafi'i, what is your goal for final product of conservation that would be viewable by the public, a close approximation of Ayyubid structure, a mixture of different periods of art?" I think that's a very interesting question. For us, when you look at a building that is a historic building, you look for significance. You look for different layers of significance, so a building might be significant from an artistic perspective, from historic perspectives, spiritually or religiously, from the perspective of history of technology, for example, et cetera. And then what you do is, you accept the fact that you will not please all the different claims that these

different kinds of significance have on the building, that one will overshadow the other. From our perspective, the most important thing about this building is that it's spiritually significant. This is a building that is very popular not just among Egyptians but also among Muslims in general, particularly those who are Shafi'i, so people from Southeast Asia, et cetera, you have. We've closed the dome to visitors obviously, but we open it for 2 to 3 days annually, and we get 3,000, 4,000 visitors during those. It's unbelievable. So whatever we do, we cannot undermine in any way the right of these visitors to their dome. This was for us very important to the point that, when we saw that the conservation project would continue for quite a long time, we started to plan to open it while we were doing the conservation work, and what stopped us was the coronavirus, so this is the reason why we are so interested in designing the visitors center in a way that is very accessible so that whatever it is we need to hide in order to allow people to use the building freely, without kind of constraining them in any way, the information should be in the visitors center, plus it should also be on the website as much as we can, and this is why we are obviously working on the website, et cetera. But certain things, certain discoveries, for example the excavations, we were asked by the Ministry of Antiquities ... They didn't ask us to keep them exposed, but they floated the idea, and we had two problems with that. The first is the fact that it would undermine people's rights to visit the dome, but more importantly, there was a conservation issue here, that these structures are very stable underground. They're obviously damp because we have a problem with groundwater, but they also have a lot of salt, and what happens when we expose them, when we remove the soil, is that they start to dry out. When they dry, the salt crystallizes, and the structures start to disintegrate, and by the end of our documentation work, we started to notice that. We had to actually go in and consolidate some parts of the structure again, and it's impossible to remove the salt, and it's impossible to stop the wet-dry cycle because that means kind of isolating the entire dome, and that's an impossibility. We're in the cemetery. We're around graves. So the best thing to do is to actually bury them, so we did meticulous conservation to the point where I can rebuild. I can build it again now if I want to, and then we covered it completely, but then the conservation, the little model that I showed you

was an attempt to kind of reconstruct it in a way, but it actually will go into a simulation where you're able to see the building and see our hypothetical reconstruction of it [Indistinct]. The same goes for everything else that we try to do. Some things are impossible, but for example, when we went in, the number of nail that were used for hanging lights, and lights were not suitable for the place. They were emitting a lot of heat. We had nails on which loudspeakers were fixed, et cetera. These are things that we cannot allow, but when we were told, for example, to try and keep accessibility to the dome from outside so that they're able to hang lights temporarily during the Mawlid, yes, we were very happy to do that. So we try as much as possible to keep the right of the people to visit, but we also try to start to reframe the cultural significance of the building through the visitors center, through the tours that we run, through the website, et cetera. So this is how we were trying to go about it. "How do you ... The wall contains different types of marbles. How do you decide the conservation material? Please explain the examination procedures to decide the deterioration of the building materials." Okay, so what we do is, when we start, first of all, we have a number of ways to examine the material. We do analysis. We do material analysis for the material that we're going to work on. We are more interested in the mortars in particular because they're very tricky, and it's not that difficult to reconstruct mortar, particularly in the permeability of the mortar and also in the compressive strength and the rigidity of the mortars. We're also ... And the same goes for stone, especially if we're introducing new stone. We want it to be weaker and more permeable than the original stone so that if damage happens, it happens to our stone, not to the original stone. We also do the ... For marble, it's more visual. We try to match the marble as much as possible, but you have to understand something, that not all the material is available. It is not possible to ... Even if we wanted to, if we were able ... and we are able to make the effort to figure out which quarry the marble came from, in many cases, these quarries are no longer functioning because as I said, it's recycled marble. In some cases, it's simply marble that is not available in Egypt, but more importantly, it's important that there is a slight visual distinction between the old marble and the new one so that it's known that this is something that we have added, and we do this for everything that we do, so reversibility is

a bit of a myth, but definitely retreatability is, and also a clear documentation of what we have done, whether it's something that you can read on the wall just visually or the documentation that goes into reports, et cetera. But you have to understand that this is Egypt, so a lot of the materials that we use is material that we can get. It is not possible. We do not have the wide range of material that is available elsewhere, and also much of the material that people use in other kinds of contexts and other kinds of environmental settings might not be suitable for Egypt, so we are very careful about new material, new conservation material that has been tried in Europe, for example, or in the States because we have very specific conditions, most importantly, the types of salt and the type of damp that we have. So issues that might be faced elsewhere, leaking for example, to freezing or to the rain, things of the sort that we won't have, but we will have severe problems with salt, with how these materials react to salt, so if the tests have not been done, even if the material sounds amazing, we will not use. We will go for something that is low-tech and that is tried and tested, and also the more traditional, the better. So we use a lot of lime, a lot of brick dust, a lot of stone, a lot of marble dust. These tend to be the staple materials that we use, particularly in architecture conservation. "I believe you said this was a wooden dome. If so, what type of wood was used? Was any repair required to the wood under the tile and lead?" Our assumption is that the wood is sycamore, but we're not really sure. This is one of the things that we want to follow up on. At the beginning, we were worried that we needed to do extensive work, particularly with pest control because we were worried that the space between the cladding on both sides is not well ventilated, et cetera, but we tested it and found that it was usable. We didn't even need to fumigate, so what we did was, whatever was uncovered was treated with basic insecticide that we use for wood in general, that we treat all our wood with, and in very few cases we had to exchange damaged parts and put new ones, but in most cases it was fine, but we did a lot of work with the nails. Many of the nails were loose, and many of them were missing, so the loose ones, we actually, we introduced small wooden dowels that we fixed them, and then we made ... I can't remember the number, but there were hundreds of nails. We did them in the traditional way using manual ... We manufactured them manually, and

we added them in the places where they were missing. That was most of the work. Other than that, it didn't need it. "You mentioned tile to the dome at one point. Do any fragments survive? I might have missed that." Yes, [Indistinct]. We found under the lead, we found not just fragments, whole tiles fixed using nails, greenish-blue, very like ... I've forgotten the name of the dome, but there's a dome in [Indistinct] that has almost the same thing, and also Nasir Muhammad in the Citadel. It's a very strange system, and these nails, they make no sense. Fixing tiles with nails, and tiles don't even have holes in them, so they're just fixed in the joints. Obviously they start to fall, so we do have examples. Many of them are cracked in a million places, and we have to restore them, and then we covered them again with the lead cladding, so they do exist, but they're covered with lead, which is good because if they're uncovered, you wouldn't find them. It's just, they cannot withstand the elements. I think that's it.

**Louise Bertini:**

I think that's it, so thank you so much, Dr. al-Ibrashy. It was a wonderful lecture, and thank all of you for joining us today, so before you all log off, if you are not already a member and would like to access more fantastic member-only lectures, we'd love you to join us, and you can visit our website, [arce.org](http://arce.org), and join today, so thank you again, and we look forward to having you all join us at our next open lecture on September 13th. Have a good day. Thank you.

**May al-Ibrashy:**

Bye.

**Louise Bertini:**

Bye.