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BRILL

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"THE ILLUSION OF AN AUTHENTIC EXPERIENCE": A LUSTER BOWL IN THE ASHMOLEAN MUSEUM

> *The* raison d'être *of the collector is to provide a livelihood for the dealer and a profitable sport for the faker.*[1]

Sir Alan Barlow's bequest of Islamic ceramics in 1956 marked a turning point in the collecting of Islamic art by the Ashmolean Museum. His gift of 167 objects constituted a remarkable overview of five centuries of ceramic production in a region stretching from modern-day Iraq to Turkmenistan, and provided a valuable core of Persian material to what would subsequently become the third-largest Islamic collection in the United Kingdom.[2] To this day, much of Barlow's legacy anchors the permanent ceramic display in the Sultan bin Abdul Aziz al-Saud's Islamic Middle East Gallery of the museum, which presents visitors with a time-lapse view of the achievements and transformations in this medium between the seventh and the nineteenth centuries, from North Africa to Afghanistan.

Until 2013 an impressive luster bowl from the Barlow bequest occupied a prominent spot in the installation, in a section dedicated to fritware (or stonepaste) and its rise as the medium of choice for both underglaze and overglaze decoration (fig. 1, a and b). However, the bowl's deformed profile and uneven signs of wear singled it out as an object with more than one story to tell. Conservation work undertaken in 2008 in preparation for a reinstallation of the Ashmolean collections had already uncovered extensive overpainting, applied during a previous restoration to conceal the bowl's fragmentary state and improve its appearance.[3] UV examination later confirmed that the object consisted of 158 fragments, with many of the break edges in the joins showing little or no contact or appearing slightly misaligned (fig. 2, a and b). Oliver Watson, the curator of Islamic art at the time, also identified stylistic discrepancies in the epigraphic band decorating the rim. Examined under a microscope, parts of the inscription appeared to be copies of text available elsewhere on the bowl, cold-worked after firing and blended in with the original section through careful retouching (figs. 3 and 4). In spite of this, the decoration appeared remarkably coherent and the sequence of fragments virtually uninterrupted, thereby ruling out the possibility that the object was a pastiche of sherds taken from multiple medieval vessels, as attested on a number of repaired Islamic wares, including other examples in the Ashmolean collection.[4]

These various interventions highlighted a complex history of "restoration" that made the bowl an ideal candidate for an extended analysis designed to assess the extent of its genuineness. Such an investigation would delve into the issues of authenticity of museum collections in general,[5] and of Islamic ceramics—notorious for their extensive repairs—in particular.[6] In addition, by building on recent case studies by conservators and curators in several international institutions,[7] it promised to contribute to the ongoing debate about the roles and responsibilities of traders, dealers, and early collectors in shaping Western collections of Islamic art.[8] In 2008, due to time and financial restrictions, the museum conservators were only able to remove the restoration materials covering the original surfaces and stabilize the bowl (fig. 5, a and b). Not until 2014, thanks to the support of Gilliane and Richard Sills, was a more systematic examination undertaken, carried out as a collaboration between the University of Oxford and Cranfield University.[9] This article presents the results of that joint effort and offers conclusions that broaden our understanding

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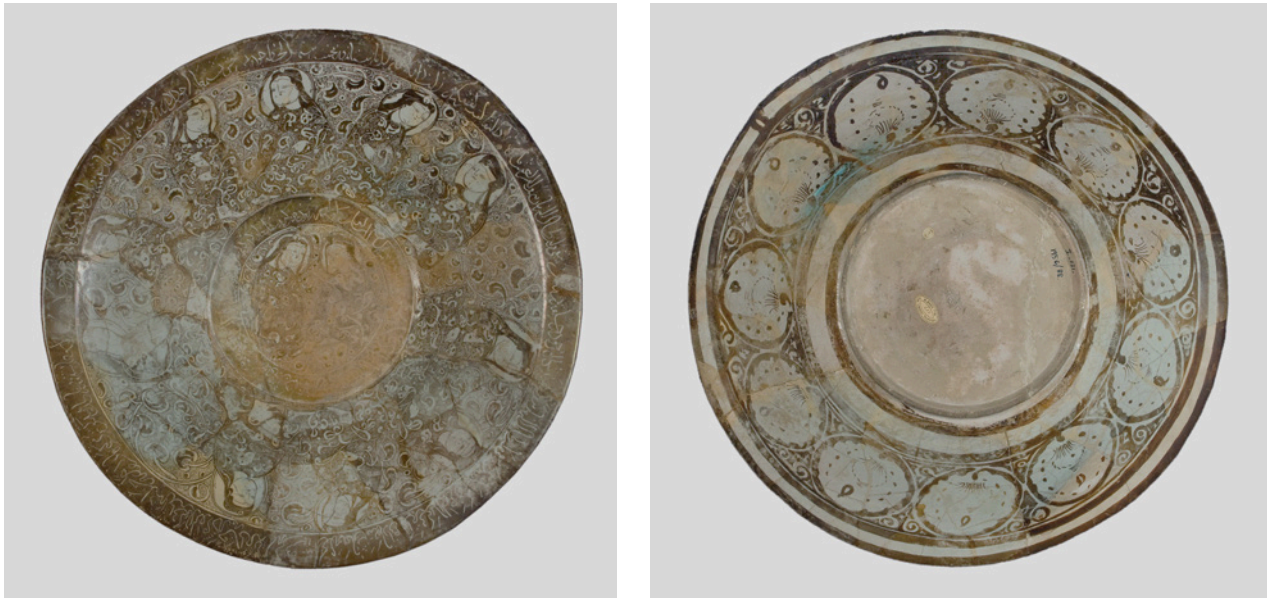
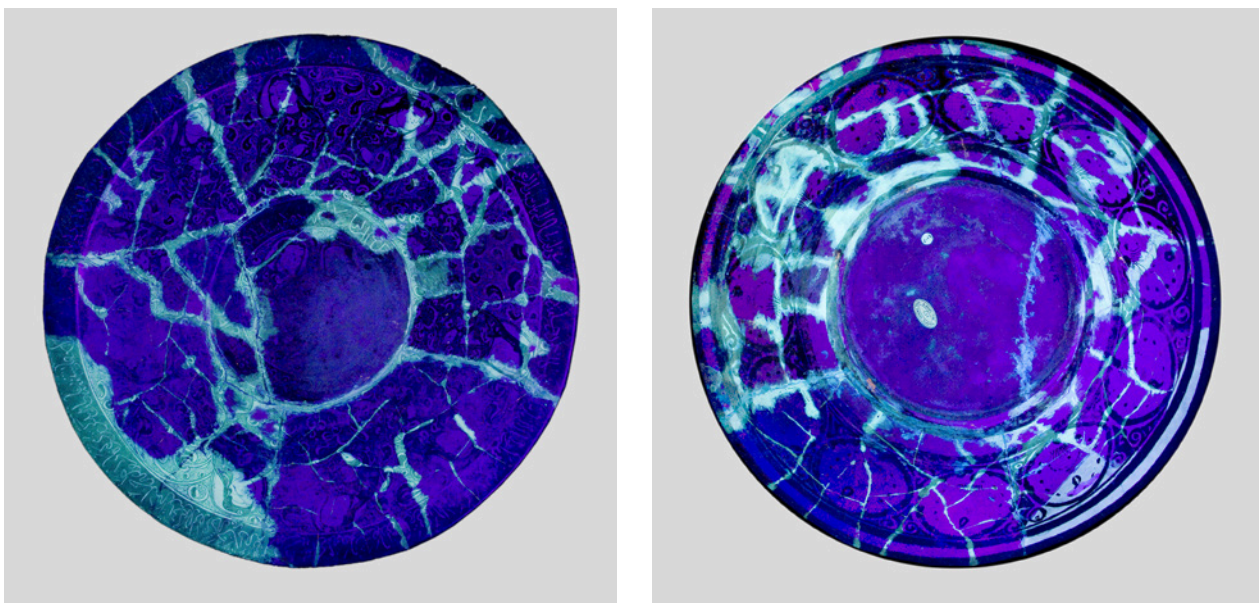


a *b*

Fig. 1, a and b. Interior and exterior (prior to the 2008 restoration) of a bowl with seated figures and epigraphic decoration, Kashan (Iran), 1200–1220, fritware with overglaze painting in luster. Ashmolean Museum, presented by Sir Alan Barlow, 1956, acc. no. EA1956.88. (Photos: © Ashmolean Museum, University of Oxford)



a *b*

Fig. 2, a and b. UV photos of the interior and exterior of the bowl, showing the fragments making up the vessel prior to the 2008 treatment. (Photo: courtesy of Dana Norris)

Fig. 3. Detail, under magnification, of an original section of the epigraphic band of the bowl. (Photo: courtesy of Dana Norris)

Fig. 4. Detail, under magnification, of a fragment replicating the text reproduced in fig. 3. (Photo: courtesy of Dana Norris)

of the faking and forging of Islamic artifacts at the height of their being collected in Europe.

BACKGROUND

Before being dismantled for treatment and examination in 2014, the bowl was one of the largest Islamic luster vessels in any public collection.[10] Measuring an impressive 49.5 cm (19 1/2 in.) in diameter, this large conical salver has flaring sides and an everted rim. Its interior (fig. 1a) is decorated with a continuous frieze of seated couples set against a dense background of vegetal scrolls, and with epigraphic bands combining Arabic and Persian verses (see Appendix). On the outside of the bowl (fig. 1b) are interlocking roundels inscribed with a motif that Robert Mason has named "ray-dot circle."[11] With its bold moon-faced figures and textured backgrounds, the interior decoration exemplifies the so-called Kashan Style, which marked the aesthetic and technical zenith of early thirteenth-century Persian lusterware production.[12] Other diagnostics—the half-palmette leaves, the combination of painted and scratched motifs, the execution of figures in reserve against the luster background—situate the object among those that "show off the lustre technique at its most brilliant," as noted by Watson.[13] The bowl could thus be considered the successful outcome of a technique that became globally famous for its complex process and elusive results—an outcome so hard to achieve that, in his 1558 treatise on ceramics, an essential source on Italian *maiolica*, Cipriano Piccolpasso remarked on the enchanting yet "treacherous" (*fallace*) nature of luster-making: "For oft times of 100 pieces of ware tried in the fire, scarce six are good …"[14] Reviewing the key aspects of the luster process and the challenges accompanying its execution may thus be useful, adding perspective to the analyses of the bowl discussed in the next section.

Luster painting is an overglaze decorative technique realized with a pigment containing metallic compounds.

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The main ingredients are copper and silver oxides, in a diluting medium, mainly clay, that protects the pigments and facilitates the reduction process.[15] This mixture is applied on previously glazed and fired vessels, which are then subjected to a second firing at a temperature between 500° and 600°C.[16] The introduction of wood and other combustibles into the kiln triggers the production of carbon monoxide, which attracts the oxygen present in the metal oxides, causing the precipitation of the metallic particles and their subsequent adherence to the surface of the glaze.[17] As a result of this process, a thin metallic layer is left on the surface of the object, revealed in its full sheen after polishing.

Many factors play a role in the successful execution of the luster-painting technique. Among the more controllable variables in the whole process, the substances included in the glaze, their concentration, and their status (finer or coarser) are as relevant as those present in the actual metallic mixture.[18] In particular, the percentage and ratios of fluxes in the glaze have a direct effect on the lustering temperature.[19] As for the metallic compounds in the mixture, their concentration is only partially relevant for the final color, lusterware's most sought-after effect. Color is linked to the wavelength of light and the way it enters the eyes; its perception therefore is dependent not only on how much light a substance absorbs or reflects, but also on the composition of that substance. Copper and silver absorb light differently when used in combination rather than in isolation.[20] All of these variables, added to the thickness of the applied pigment, the level of integration of glaze materials during the first firing (since underfired glazes behave differently from those that are overfired), the intensity and duration of the reduction process, the fuel employed for the purpose, and the position of the vessel in the kiln, produce a huge range of variations.[21] Available evidence in museums and from excavations reflects both the broad range of results obtained in luster-making and the changing criteria for judging quality and success.[22]

Even if the appearance of the body and glaze of luster vessels can be credibly reproduced (at least to the naked eye), achieving the distinctive metallic film on their surface—its color and characteristic iridescence—is therefore a considerably different matter. This requires deep knowledge not only of a highly complex method and its secrets, preserved in the Islamic tradition mainly through personal transmission rather than via standard manuals, but also of the minute variations caused by external and hard-to-control factors.[23] In this, luster painting differs from the equally prized overglaze technique known as *mīnā'i*, which, however time-consuming and complex, has been replicated with considerable success, as examinations of restored Islamic *mīnā'i* vessels have recently demonstrated.[24] What the analyses conducted on the Ashmolean bowl have revealed is that, in the early twentieth century, traditional knowledge and production of fine lusterware were not only alive but also geared towards the creation of impressive "restorations" designed to sustain the growing interest of Western ceramics collectors.[25]

2014 EXAMINATION

In 2014 the Ashmolean Museum fortunately was able to research and further conserve the bowl, building on the work undertaken in 2008. The composite nature of the thirteenth-century vessel having been established, the main objective of the new investigation was to determine whether the sherds were all original to it. Other aims included reassembling the fragments in closer alignment to reflect the original shape and improve stability, determining the composition of each type of fragment, identifying restoration materials, and, ultimately, understanding the history of the object.

The bowl was dismantled and cleaned in January 2014. As each sherd was removed, its original location was marked on an image of the bowl. The individual fragments were cleaned mechanically under a microscope, after which small amounts of deionized water and acetone were applied on cotton swabs. Due to the rough texture and fragility of the body, the break edges were then steam cleaned on the lowest pressure setting to remove the remaining residue from the adhesives and fill materials. After drying, the fragments were photographed and bagged individually, with associated numbers. It became clear as the vessel came apart that it consisted of two distinct fabrics. The first body type, making up about 60% of the vessel—the upper portion as viewed in fig. 5a—was coarse and light pink with black inclusions. The second body type, found in the

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a

b

Fig. 5, a and b: Interior and exterior of the bowl after the 2008 restoration. (Photos: © Ashmolean Museum, University of Oxford)

lower part, had a finer and whiter texture with fewer inclusions. Also present were five types of adhesives, three fill materials, paint, staples (rivets), and an orange powder found in some of the joins. Some fragments of both body types appeared to have been ground or sanded down on the edges. Due to the amount of adhesive and filler on the surface, however, it was not possible to assess the extent of such intervention before dismantling and cleaning. Therefore, notes and samples of the adhesives were kept as the sherds were cleaned.[26]

A close examination of the white sherds revealed that they were "fired restorations" rather than fragments taken from other medieval vessels, a more frequent restoration process for Islamic lusterware.[27] Several factors support this conclusion. Because the bowl was unusually large, finding fragments matching its proportions as well as its body type and decoration would have been highly unlikely. In addition, the joins between the fragments in the largest area of restoration appeared very tight, with almost no wear or degradation. Visual examination suggested that this section had been fired to match the extant part of the bowl and then intentionally broken to give it a degraded appearance more consistent with that of the original fragments. The location of the ground edges on the original sherds was always adjacent to the restoration sherds (fig. 6). The orange powder deposits also appeared along these same edges, only where they were filed down. A grey fill material was found in these same spots, specifically where the majority of the other joins had been bonded with translucent brown adhesive, possibly animal glue.

Unsurprisingly, one of the weakest joins was between the two halves of the bowl, where the pink and white body types met. There was movement in the join when the object was treated in 2008. Examination of this area revealed the presence of a third adhesive, possibly a type of PVA (polyvinyl alcohol), which appeared white and elastic when softened with water. As the weak area is likely to have failed in the past, this substance may well be the trace of a subsequent attempt to stabilize the object. Evidence of shellac or a similar adhesive was also found along a large firing crack located on the border of the original section of the bowl; in the same area were traces of at least two large iron staples, which would once have spanned the crack. The staples would have been introduced to stabilize the vessel soon after its manufacture, and therefore predate its burial and subsequent fired restorations.

The evidence produced by these preliminary observations led the team to broaden the research to determine the composition of the bodies, glazes, and lusters on both parts of the bowl. For corroboration, a similar examination was also undertaken on another luster vessel in the Ashmolean collection (fig. 7), bearing the date of

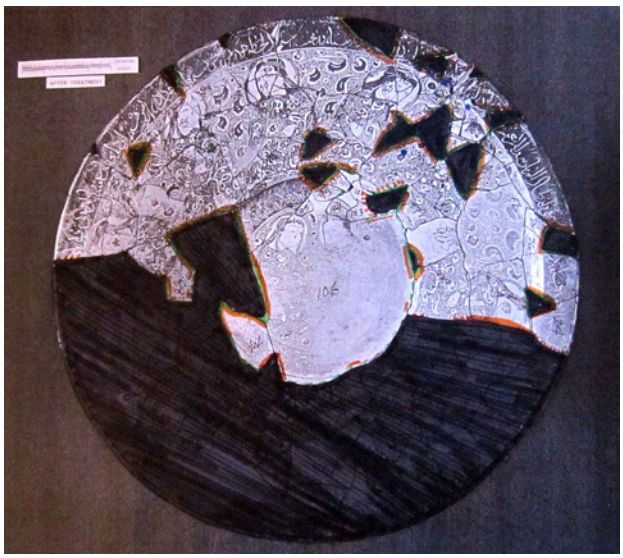

Fig. 6. Upper portion of the bowl, with ground-down break edges marked in green; lead-based, powdery deposits in orange; and holes from iron staples in blue. (Photo: courtesy of Dana Norris)

Fig. 7. Dish with riders, signed by Abu Zayd, Kashan, dated 604 (1207–8), fritware with overglaze painting in luster. Ashmolean Museum, gift of Gerald Reitlinger, EA1978.2320. (Photo: © Ashmolean Museum, University of Oxford)

604 (1207–8) and the signature of the most famous medieval Kashan potter, Abu Zayd.[28]

X-RAY FLUORESCENCE ANALYSIS

During the summer of 2014, at Cranfield University, Shrivenham, micro X-ray fluorescence (XRF) analysis was carried out on twenty-four of the 158 sherds, drawn both from the original and the restored parts of the Barlow bowl (fig. 8) and from a dated fragment of Abu Zayd's dish. The aim of the analysis was to establish the major and minor elements in the composition of all bodies, glazes, and lusters, and in turn to identify any compositional groups that could help to differentiate sherds. XRF was chosen as a non-invasive screening technique that could suggest sample sites for further analysis.

The sherds were analyzed using a Seiko SEA6000 benchtop micro-XRF in a helium environment for optimal detection of light elements.[29] A measurement time of 100 seconds at 50 kV and 1000 μA was used for all analyses. The analysis area was set to 1.2 × 1.2 mm, and one or two analyses were conducted on the body, glaze, and light- and dark-brown luster of each sherd. Analyses of the bodies were made from the flattest areas of the cross-section edges, while the glaze and luster measurements were taken on flat sections of the inner and outer surfaces. The peak intensities of identified elements were then processed and plotted in scatter plots and ternary diagrams in Excel in order to identify compositional groupings. Results for bodies, glazes, and lusters follow.

Bodies

The bodies of the sherds from the bowl and the Abu Zayd dish all consist of silica, lime, alumina, potash, iron, lead, and titanium, with traces of rubidium, strontium, and zirconium. The bodies of the majority of sherds from the bowl fall into two main groups, based on calcium and iron counts (figs. 9 and 10): high calcium and high iron (Group 1), and low calcium and low iron (Group 2). Three sherds (4, 98, and 154) are compositionally similar to the high-iron group but have slightly elevated calcium counts, which may be due to localized lime in the analysis area.[30] Likewise, the dated sherd from Abu Zayd's dish fits most closely with the high

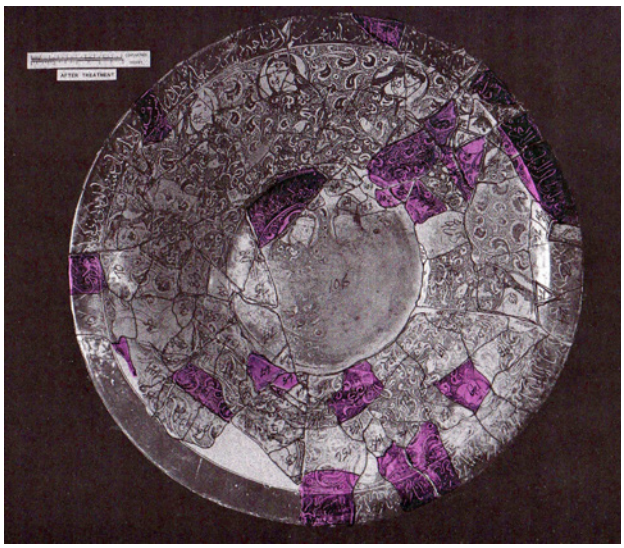

Fig. 8. The Barlow bowl, with sherds selected for micro-XRF analysis indicated in pink. (Photo: courtesy of Dana Norris)

calcium, high-iron group, but has a slightly higher calcium count. Not surprisingly, sherds with high iron all have pink-colored bodies, whereas the white sherds all fall into the low-iron group.

Glazes

The glazes from both vessels consist of silica, lead, tin, potash, and iron.[31] The glazes of the sherds from the Ashmolean bowl can be subdivided into two distinct groups (figs. 11 and 12), one with low lead and high tin (Group 1), and the other with high lead and low tin (Group 2). The dated sherd from Abu Zayd's dish fits closely within the low-lead, high-tin group.

Luster

Both the dark brown and the light brown luster were found to be colored by copper and iron. Silver was not

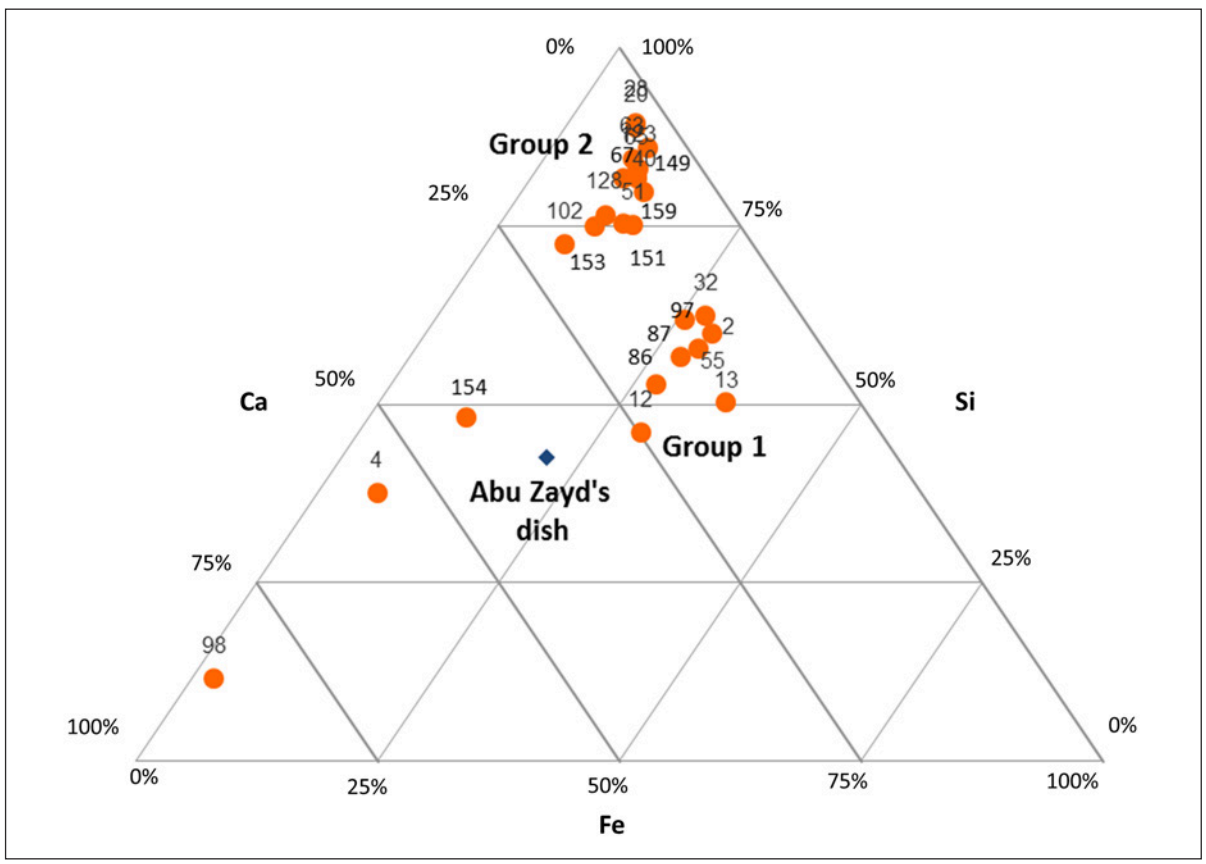

Fig. 9. Ternary diagram of iron, lime, and silica peak areas in the bodies (peak intensity counts normalized to 100%).

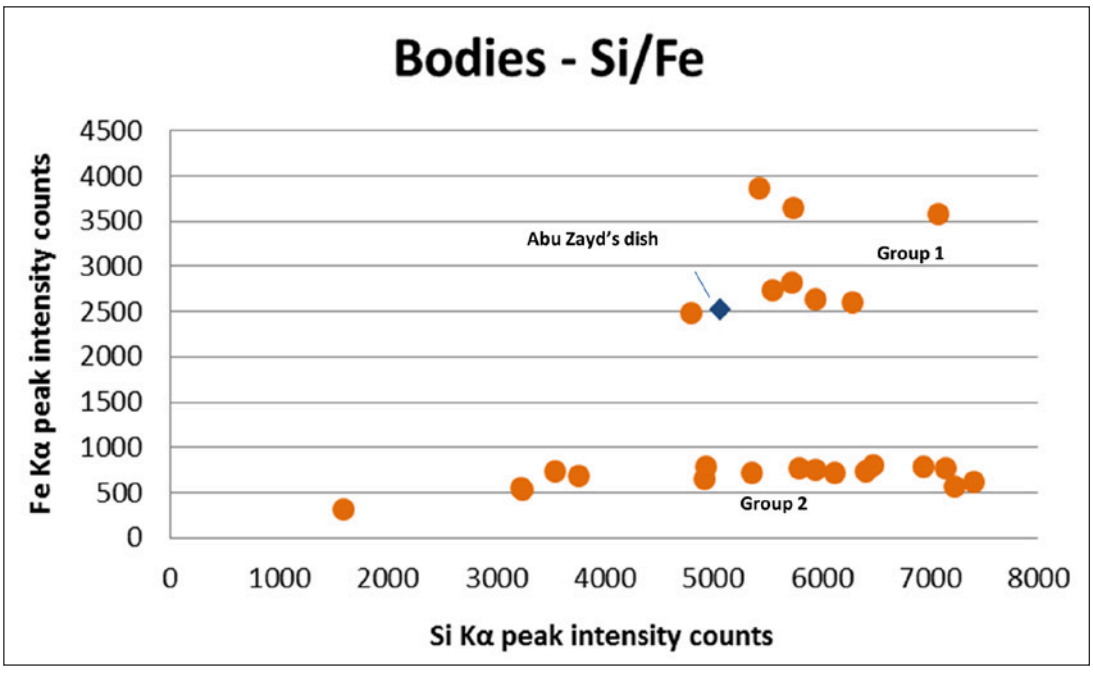

Fig. 10. Scatter plot of iron and silica peak-intensity counts.

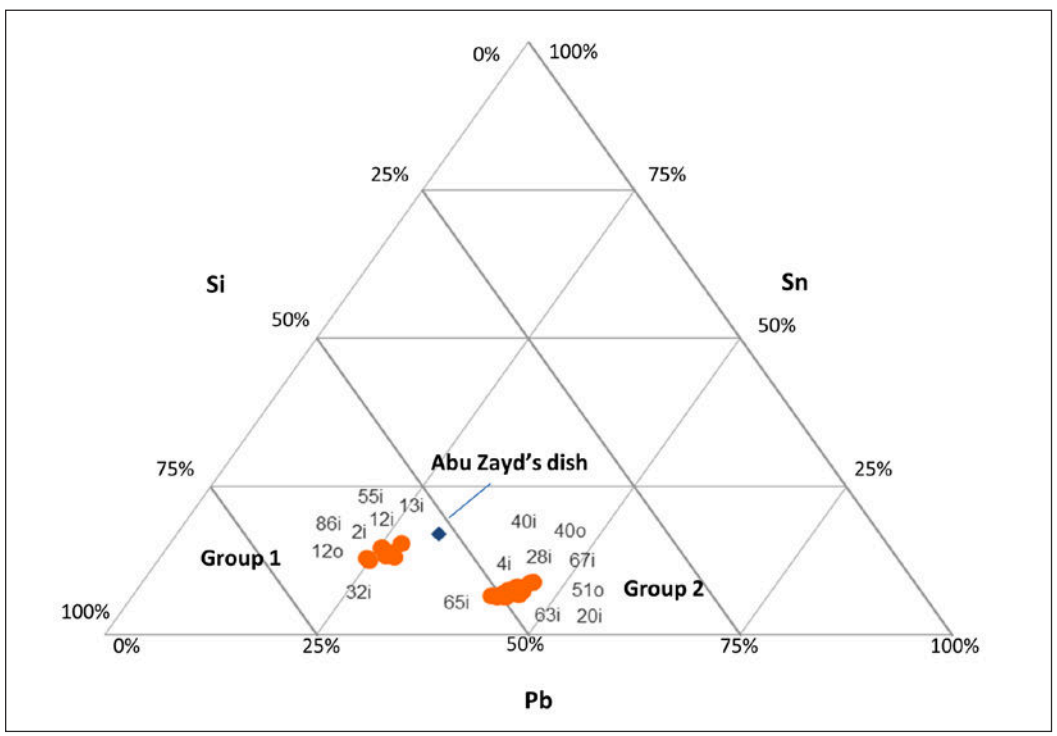

Fig. 11. Ternary diagram of lead, calcium, and tin peak areas in the glazes (peak intensity counts normalized to 100%).

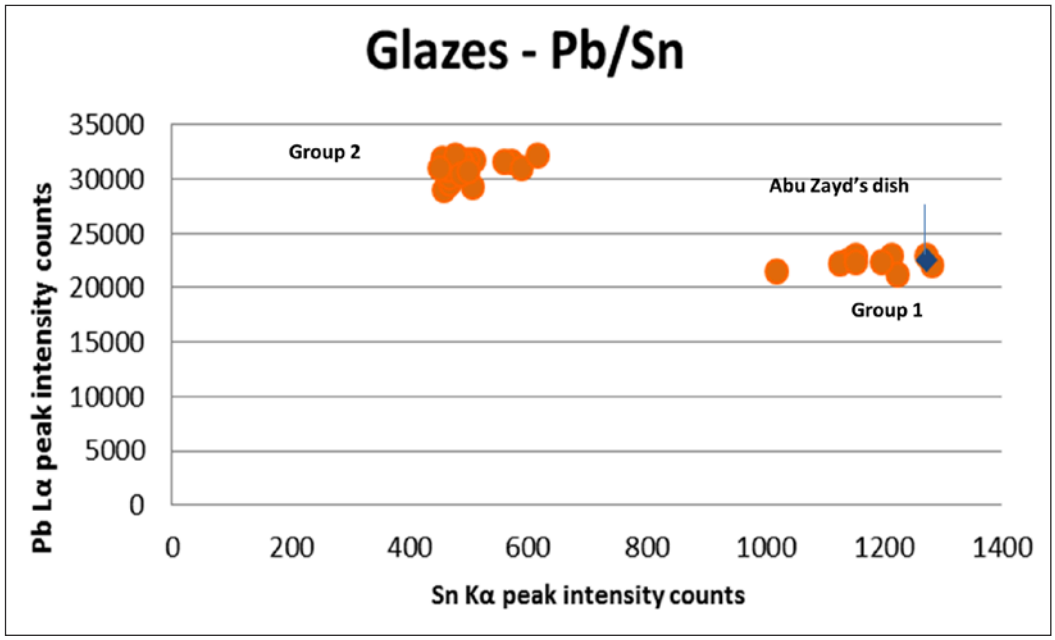

Fig. 12. Scatter plot of tin and calcium peak-intensity counts in the glazes.

detected.[32] There are two distinct groups of light and dark lusters (fig. 13): those with high counts of both copper and iron (Group 1), and those with low copper and iron counts (Group 2). The difference in counts is likely due to the thickness of the luster application, the low counts observed in Group 2, for example, deriving from a thinner layer of luster. The light- and dark-colored lusters in each group have similar counts of copper and iron, which suggests either that other chemical components caused the shade difference, or that light areas represent degraded dark luster that became discolored during the manufacturing process. The dated sherd from Abu Zayd's dish exhibits high copper and iron, and as such fits within Group 1.

The compositional groups of the twenty-four sherds originating from the Ashmolean bowl are summarized in Table 1; Table 2 presents these divisions by sherd in order to show which fragments fit into common body, glaze, and luster groups and permit important conclusions. Body Group 1 is only found with Glaze Group 1 and Luster Group 1, and this combination is only present on sherds that are thought to be original. Body Group 2 is only found with Glaze Group 2 and Luster Group 2, and this combination is only attested on sherds that are thought to be later additions. As expected, the dated sherd from Abu Zayd's dish has glaze, luster, and body types that are most consistent with those of the presumably original sherds from the bowl. The XRF analyses, therefore, corroborate the initial observations, confirming that the two principal groups of sherds are distinguished by composition. The sherds thought to be original have a composition consistent within the group and with the dated sherd from Abu Zayd's dish. It is thus reasonable to assume that these sherds likewise can be dated to the early thirteenth century. The sherds that are thought to be later additions have a consistent body, glaze, and luster type, with the exception of the bodies of sherds 4, 98, and 154, which show distinctly higher lime content. As the glaze and lusters of these sherds accord with the rest of the modern fragments, however, the high lime content may be due to XRF spot-targeting a lime-rich area of the body.[33] The consistency of this group also indicates that the later sherds derive from a single ceramic object, rather than from different objects. The examination therefore confirms that the Ashmolean bowl consists of two ceramic objects that have been put together to form one.

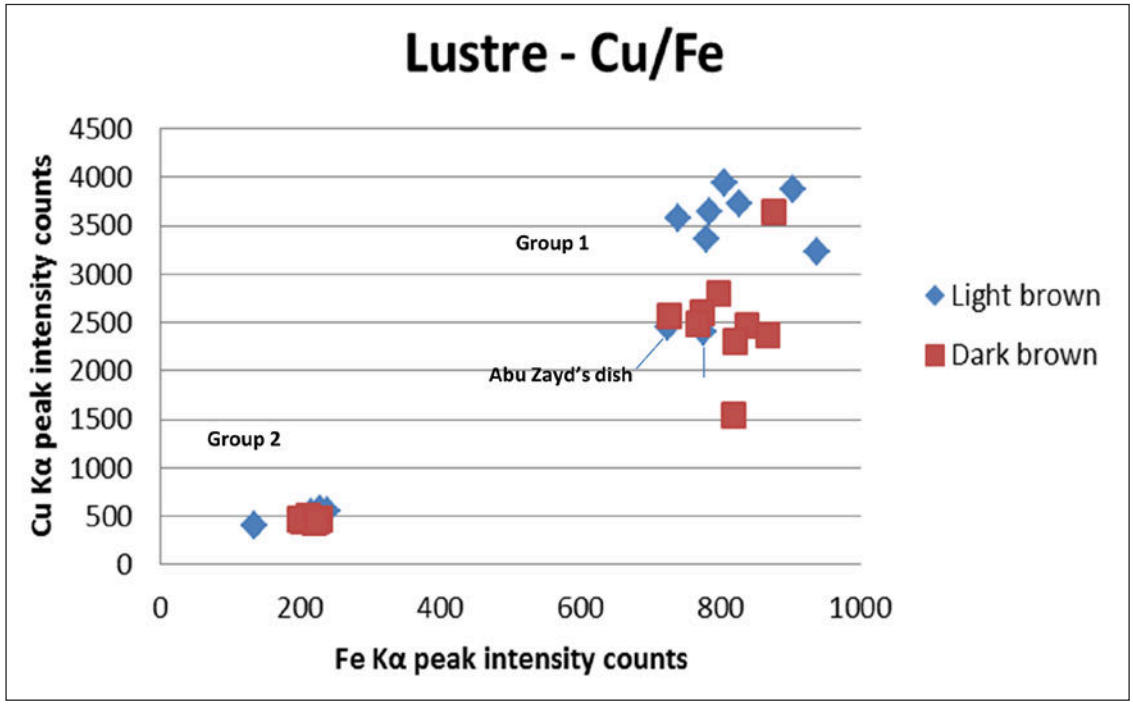

Fig. 13. Scatter plot of copper and iron peak-intensity ratios in light and dark lusters.

SCANNING ELECTRON MICROSCOPE ANALYSIS

In the spring of 2015, scanning electron microscope (SEM) analysis was carried out at the Research Laboratory for Archaeology and the History of Art, University of Oxford, in order to examine the microstructure and chemical composition of the two sherd types identified above, to determine the technologies employed, and to suggest the time periods of production. Two samples, labeled 3 and 158, were selected as representative, respectively, of the original section and the repair (fig. 14). Sections through the glaze and into the body were first mounted in Caldofix (Struers) epoxy resin and left in the oven at 75°C for ninety minutes to set. A flat surface was obtained on the mounts using 320, 800, and 2500 grit SiC abrasive discs and 9, 3, 1, and 0.25 μm diamond-polishing pastes. A JEOL SEM (JSM-5910) with Oxford Instruments EDS (INCA 300 System) was employed. The system was operated at 20 kV with a 120-second measuring time, and backscattered electron (BSE) images were obtained in order to study the microstructures. The accuracy of the system was checked by the analysis of the Corning C glass standard. Bulk compositions of bodies and glazes were determined by analyzing areas of approximately 1 mm × 0.8 mm for bodies and 0.5 mm × 0.4 mm for glazes. Average composition of five areas was reported in each case (Tables 3 and 4). Analytical totals varied

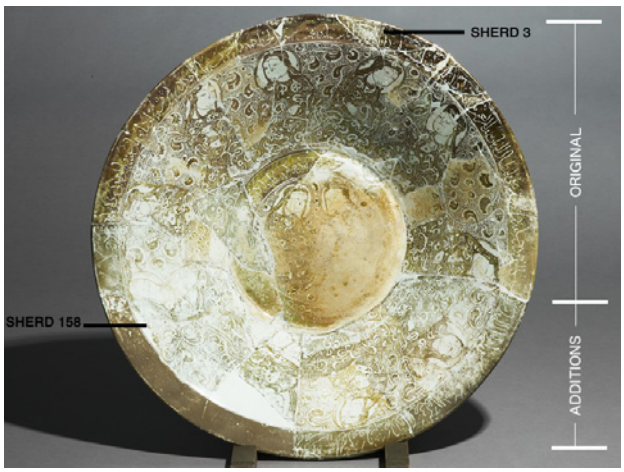

Fig. 14. Sherds selected for SEM examination.

Table 1 Summary of compositional groups

Bodies	Group 1	Low lime and high iron
	Group 2	Low lime and low iron
Glazes	Group 1	Low lead, high tin
	Group 2	High lead, low tin
Lusters	Group 1	High copper, high iron
	Group 2	Low copper, low iron

Table 2 Sherds by body and glaze

Bowl sherd #	**Body group**	**Glaze group**	**Dark brown group**	**Light brown group**	**Bowl visual observation**
2	1	1	1	–	Original
12	1	1	1	1	Original
13	1	1	1	1	Original
32	1	1	1	1	Original
55	1	1	1	1	Original
86	1	1	1	1	Original
87	1	1	–	1	Original
97	1	1	1	1	Original
20	2	2	–	2	Later
28	2	2	2	2	Later
40	2	2	–	2	Later
51	2	2	2	–	Later
63	2	2	–	2	Later
65	2	2	–	2	Later
102	2	2	–	2	Later
123	2	2	–	2	Later
128	2	2	2	2	Later
149	2	2	2	2	Later
151	2	2	2	2	Later
153	2	2	2	2	Later
158	2	2	2	–	Later
67	2	2	2	–	Later
4	3	2	2	–	Later
98	3	2	–	2	Later
154	3	2	2	–	Later
Abu Zayd's dish	1	1	1	–	

Table 3 Chemical composition of bodies (percentage by weight, normalized to 100%)

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	K_2O	CaO	TiO_2	MnO	FeO	SnO_2	PbO
Sherd 3	2.8	1.1	4.9	85.5	0.3	0.4	1.2	2.0	0.6	0.0	1.0	0.2	nd
Sherd 158	0.4	0.1	9.4	79.4	0.2	0.3	0.7	1.0	0.5	0.0	0.4	0.2	7.4

Table 4 Chemical composition of glazes (percentage by weight, normalized to 100%)

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	K_2O	CaO	TiO_2	FeO	CuO	As_2O_3	SnO_2	PbO
Sherd 3	9.3	1.7	1.2	52.0	0.1	1.5	2.9	0.1	0.5	0.1	0.1	9.0	21.5
Sherd 158	2.7	nd	2.7	26.1	nd	0.9	0.5	nd	0.1	0.1	nd	5.4	61.5

between 61.2% and 75.1% for bodies and between 98.4% and 102.5% for glazes.

Body

Sherd 3: Table 3 shows the composition of the body with 2% CaO and 1% FeO, matching the Body Group 1 suggested by micro XRF analyses. Quartz grains are variable in size and may be up to 400 μm in diameter. They are poorly sorted and sub-angular in shape with diffused boundaries (fig. 15a). Glass fragments, normally between 125 and 250 μm in diameter, account for the second dominant inclusion. During the firing process, the glass was diffused in the body, leaving holes, often with concave boundaries, surrounded by vitrified halos. Analysis of the frit-glass fragments was impossible as they were mostly lost. However, from the analysis of the surrounding halos, it is obvious that the glass was of alkaline composition.

Sherd 158: Table 3 shows the composition of the body containing 1% CaO and 0.4% FeO (see Body Group 2 above). The fabric of this second body type is more finely grained than that of Sherd 3. Quartz grains are sub-angular and are less than 400 μm in diameter (fig. 15 b). The sharp boundaries of the quartz grains, as well as the limited extent of the vitrification phase, also suggest that the body was underfired. Glass fragments are significantly small, normally around 20 μm in diameter, and hence must have been ground before being added to the body paste. Fine grinding of frit fragments could have increased their dispersion in the body. This, in turn, resulted in a more extensive glass phase that bonded grains together. The frit, which remained in situ in some cases due to the underfiring, is of high lead composition, consisting primarily of 47.3% PbO, 24.6% SiO_2, 13.7% CaO, and 8.8% Al_2O_3.

Glaze and Interaction Layer

Sherd 3: The original glaze is of lead-alkali type with 21.5% PbO and 10.8% Na_2O+K_2O, opacified with 9% tin oxide (Table 4). The composition fits well with Glaze Group 1 as analyzed by micro XRF and might be interpreted as an essentially alkaline glaze, opacified by the use of a lead-tin calx. Air bubbles are retained in the glaze layer, a fact that may contribute to its hazy appearance. Glaze thickness varies somewhat, averaging around 350 μm (fig. 16a). The body-glaze interaction layer has well-defined boundaries and is about 50 μm in thickness.

Sherd 158: The glaze on this fragment contains significant amounts (61.5 %) of lead oxide (Table 4, and see Glaze Group 2 above). Opacification is achieved by 5.5% tin oxide, the particles being smaller in size than those in Sherd 3 (fig. 16b). The thickness of the evenly distributed glaze is about 170 μm, but is almost negligible for the body-glaze interaction layer. Despite the use of fine-grained lead-rich glass fragments in the body of Sherd 158—as opposed to the alkaline-fritted body of Sherd 3—the extent of vitrification is very limited. This,

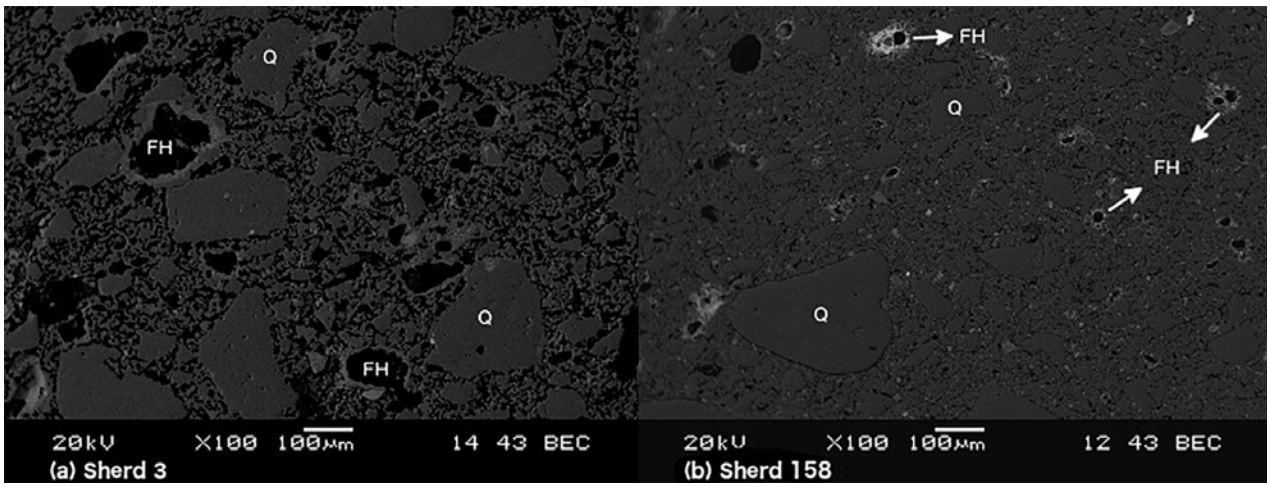

Fig. 15. SEM-BSE image of the bodies of (a) Sherd 3, and (b) Sherd 158 (Q = quartz; FH = frit hole). (Photo: courtesy of Moujan Matin)

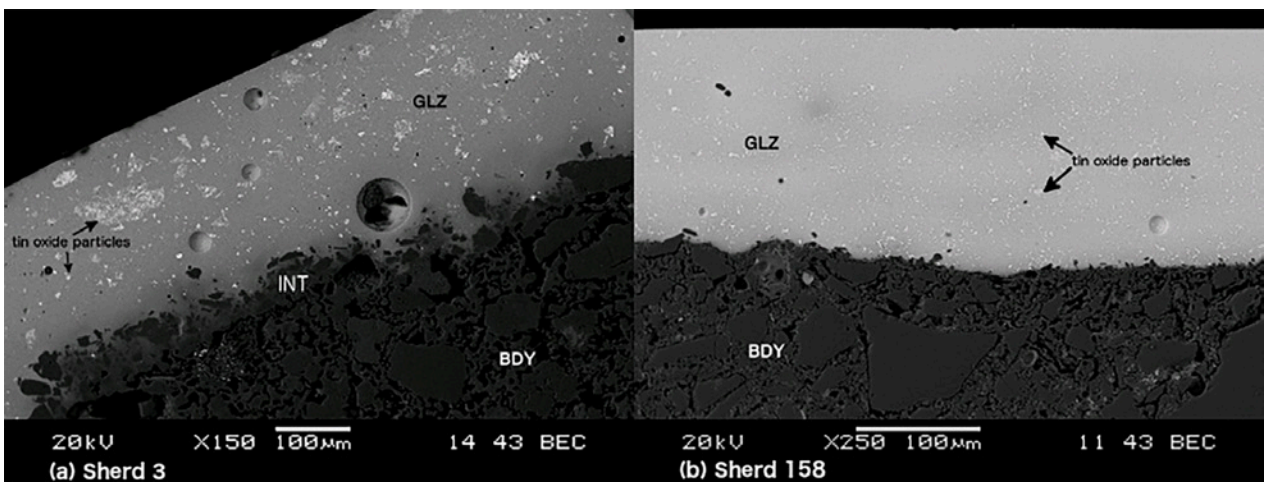

Fig. 16. SEM-BSE image of the glazes of (a) Sherd 3, and (b) Sherd 158 (GLZ = glaze, INT = interaction layer, BDY = body). (Photo: courtesy of Moujan Matin)

together with the lack of an interaction layer, suggests a lower firing temperature and a shorter soaking time (i.e., the period of time at which the maximum temperature is maintained).

It may be worthwhile, in summary, to review some aspects of the chemistry of luster production. Replication studies conducted in 2005 and 2007 have shown that luster decoration is produced by the ionic exchange between the alkali ions of the glaze and the copper and silver cations of the luster layer.[34] Luster glazes must therefore contain alkalis in order to enable the introduction of copper and silver. The use of lead in the glaze composition, on the other hand, is fundamental for the metallic shine. Therefore, glazes over which luster decorations are applied must contain mixtures of alkalis and lead.[35] The glazes on Sherd 3 and Sherd 158 are significantly different in composition. The lead-alkaline glaze of Sherd 3 accords with typical medieval Iranian lusterware glazes. Sherd 158, in contrast, contains an abnormally high lead content and does not match any of the compositional categories of historical lusterwares. This suggests that Sherd 158 is likely to be of modern

production. The fine grinding of the body frit and the use of very high lead-content glaze are in fact unknown in lusterware production before the eighteenth century, which offers a *terminus post quem* for the execution of the fired restoration.

THE TIMELINE OF THE BOWL

The investigation and treatment of the Ashmolean bowl has been an opportunity to gain further insight into its complex history, whose main phases can be summarized as follows. The bowl was first produced by traditional methods in Iran, most probably in Kashan, in the early thirteenth century. It was wheel thrown, as throwing and trimming marks indicate, before being glazed and fired. Possibly because of its considerable size, the vessel developed a small crack at the rim during the first firing. This aspect, however, was either unnoticed by the potter or considered an acceptable flaw, given that an elaborate pictorial and epigraphic program in luster was painted on the vessel's surface before a second firing occurred. While obtaining the desired lustrous effect, the firing also caused the above-mentioned crack to increase, as melted glaze and luster around its edges reveal. The fissure, which extended at least 5 cm inward from the rim of the bowl, was at this point secured with iron staples and filled with shellac, which was applied either before or at the same time as the metal fittings. This tells us that the vessel was not discarded but went on to be used in some capacity.

At some point the bowl broke and was buried. It is clear that the breaks preceded the burial because chemical degradation is present on the cross sections, in addition to appearing unevenly around the surface of the object. Approximately 60% of the vessel was retrieved under unknown circumstances at some time in the early twentieth century, if not earlier. A fired restoration was made at this point to replace the missing parts and produce a new, complete object. This was done not only for profit, but likely on commission and possibly with a recipient in mind, given the expertise and resources involved. It is plausible that the fired restoration started as a wheel-thrown bowl, similar to the original. At the same time, given the limited plasticity of stonepaste, it is also possible that a plaster mould based on the original section was created, and used to make the repair. The replica was then covered with tin-opacified glaze, fired, and broken into a few fragments, which were ground down to fit the lost areas of the thirteenth-century bowl.[36] Once fitted, these areas were painted with luster, removed, and then fired a second time following the traditional reduction method.

While the surface of the new fragments was likely polished in the usual manner, a number of sherds also show evidence of mechanical abrasion, probably applied to distress their appearance. Furthermore, the glaze melted over the edges of the four main sections of the fired restoration, indicating that these fragments were refired, possibly in an attempt to adjust the color or improve the appearance of the overall design. Once this process was completed, these sections were systematically broken into smaller sherds as a way to imitate the size of the thirteenth-century fragments.

Further adjustments to optimize the use of the newly fabricated fragments, and possibly to resolve issues caused by shrinkage during the firing processes, also appear to have been deployed. While rejoining the largest component of the fired restoration, which makes up nearly 40% of the vessel's wall, for redisplay, it became evident that this section was the product of three carefully aligned parts. Two of these had tight joins and had been systematically broken to match the distressed condition of the original fragments, while a third, wedge-shaped fragment was fitted between them, allowing for changes in position that could improve the bowl's overall profile (fig. 17).

After the newly fired ceramic fragments were complete, the object was finally recomposed and bonded with water-soluble animal glue. Gaps around the restorations that were inserted into the wall of the medieval section of the vessel were then filled with a grey material. The orange lead-based powder was added to these joins too, although the reason for its addition remains unclear. Many of the smaller gaps were also repaired with plaster, and a large plaster fill was produced for the rim. Placing a visibly modern repair in this area was possibly intended to keep the object from looking too "complete" and to divert attention from the fact that many of the fragments were modern. Finally, the joins and fills were extensively hand painted to obscure the condition of the object and visually integrate them with the fired

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Fig. 17. Largest component of the fired ceramic restoration during bonding, showing the two large fragments with tight joins and the third, wedge-shaped fragment between them. (Photo: courtesy of Dana Norris)

restorations. This presumably is the condition in which the bowl arrived in Alan Barlow's hands.

PROVENANCE

Research on the circumstances of the bowl's purchase and provenance has suggested interesting scenarios whose full development deserves a separate study. The final remarks that follow therefore offer only the preliminary considerations that will drive future research efforts aiming to establish whether the Ashmolean bowl is an exceptional one-off or, given the remarkable result achieved, the exemplar of an established enterprise yet to be uncovered.

The earliest published mention of the bowl occurs in the small catalogue accompanying an exhibition of early Islamic wares held at the Oriental Ceramic Society, London, from April 26 to June 7, 1950.[37] Here the object is acknowledged as belonging to the Barlow family, whose interest in Islamic ceramics had by that time been supplanted by a passion for Chinese wares.[38] In his comprehensive study of the Barlow holdings of Islamic ceramics, Géza Fehérvári states that the collection was almost complete by the 1931 exhibition of Persian art at the Burlington House, with most purchases made between 1905 and 1926.[39] The original record cards, however, contain information that extends this period to at least 1940, with several objects acquired at the sale of the George Eumorfopoulos Collection that year.[40]

These cards also carry numbers preceded by the letter *P*, added at some point to record Barlow's growing Persian holdings.[41] Their sequence, although not necessarily reflective of the exact order in which the associated objects were acquired, nevertheless maintains a certain chronological progression.[42] Therefore, even though the card corresponding to EA1956.88 does not record a date of purchase, the acquisition dates present on the cards immediately preceding and following it putatively limit the acquisition of the bowl to a period between the late 1920s and the early 1930s. This is corroborated by the numbering on some of the Barlow objects included in

the Burlington House exhibition of 1931 and the associated publication, *A Survey of Persian Art*, published in 1938–39—numbering that is higher than that appearing on the card for the bowl.[43]

A far more important piece of information, however, is recorded on this card, revealing the identity of the dealer who was its source: Khalil Rabenou.[44] The Rabenou brothers, Ayoub (1902–84) and Khalil (1906–61), are well known to anybody with an interest in the collecting of Islamic art and Near Eastern antiquities.[45] Active in Tehran, Paris, and the United States from the 1920s to the 1950s, they became leaders in the purveying of fine works of art and artifacts to private collectors and museums alike, competing with other prominent dealers and benefiting from alliances with leading scholars of the time.[46] Their friendship with Arthur Upham Pope is possibly the best-known such relationship, and its impact on Islamic-art collections in America has been extensively investigated.[47]

Connections with scholars provided not only endorsement but also clients, leading to partnerships whose ethical ramifications may leave us perplexed today: "I have done him what he regards as important services and, in general, the confidence and gratitude of an Asiatic once secured is a dependable quantity. I would personally trust him with anything." Such was Pope's assessment of Khalil Rabenou in a letter to Sidney Fiske Kimball, director between 1925 and 1955 of the Pennsylvania Museum (which in 1928 became the Philadelphia Museum of Art), meant to reassure Kimball about the acquisition from Rabenou, with Pope's mediation, of a Sasanian stucco panel.[48] Other tribulations of the purchase aside,[49] this sale involving Rabenou was the earliest such transaction to raise questions of authenticity. Maurice Dimand, then in curatorial charge of Islamic art at the Metropolitan Museum of Art, New York, was highly critical of the panel and other objects after seeing them at the 1931 London exhibition. A letter sent by Pope to H. F. Jayne, curator of Oriental art at the Pennsylvania Museum, contains interesting information about Dimand's criticism of both Pope and his sources: "He attacked a great number of pieces in the Exhibition as false, indicated that they were there with my knowledge and connivance, told people I was an agent *for Paris dealers*, that I took commissions both ways, and more to the same effect."[50] The close collaboration of Pope with the Rabenous had also surfaced in previous correspondence, in which Pope obliquely refers to experimental techniques tested in Paris, where the brothers had a shop, to improve the aspect and stability of objects, many of them originating from their own excavations.[51]

While such circumstantial evidence does not prove that the two Rabenou brothers were directly involved in commissioning forgeries of the kind brought to light by the Ashmolean analyses, it points to the times, places, and players on which future investigations should concentrate.[52] Twentieth-century luster production in Iran also requires further exploration.[53] The skill shown in executing the fired restoration and completing the Barlow bowl, added to the mastery and attention to detail visible in the decoration and inscriptions of the new section (possibly the only areas where the faker's skill could be challenged) points to a maker fully conversant with the Persian decorative language employed in the ceramic medium. This may ultimately indicate that the production site of the repair is in Iran, rather than Europe, forcing us to reconsider the alleged loss of knowledge and expertise suggested by recent observers, and to investigate the involvement of local craftsmen in supplying this material to the Western market.[54]

Last but not least, other elements of the analysis conducted at the Ashmolean and at Cranfield University but at the time set aside as inessential—e.g., the adhesives documented on the vessel and the body composition and high-lead glaze content of the fired restoration (especially as these elements relate to nineteenth- and twentieth-century lusterware produced in both Iran and Europe)—could be compared with information obtained from related or similar studies, and the combined data used to further clarify aspects of the production and circulation of these forgeries. More to the point, examination of Islamic luster vessels with comparable characteristics and provenance in international collections could produce significant information about the circumstances of, and individuals involved in, the procurement of inauthentic artifacts, exposing the network that sustained it. The authors of this article hope that their findings will stimulate others to undertake similar analyses, not only to illuminate the history of public collections but, chiefly, to expand current knowledge of the

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challenges accompanying the collecting and care of antiquities.

AFTERWORD

It was decided that redisplaying the Ashmolean bowl with a summary of the findings of our research project would provide a stimulating case study and an excellent addition to the permanent display of Islamic fakes and forgeries. The decision on how to reassemble and present the object was based on the information gained from visual and microscopic examination, XRF, and SEM-EDX analysis. Due to the complex nature of the vessel, the decision was made to "reassemble" it by keeping the two body types separated, and opting for minimal filling and no retouching (fig. 18).[55] Less harmonious and elegant at first sight, this presentation nonetheless manages to attract a great deal of public attention, drawing visitors to the complicated life of the vessel and to the range of activities taking place "behind the scenes" of the museum.

APPENDIX: TRANSCRIPTION AND TRANSLATION OF THE INSCRIPTIONS ON THE BOWL, BY DR. MANIJEH BAYANI

Around the rim, starting from the plaster repair, anticlockwise:

A poor copy of different parts of the original text:

...سر بر زلفش نوشتم
اي دل تو همان شيفته و ناداني
... ... كي تر ... كني ز ... (؟)
در حلقه
... يبقي و ان طال الزمان به
... (؟)

Original text:

... خود ز حلقه ... (؟)

"... itself from the ring of [your hair?] ..."

Original text:

ان طال الزمان به

"The good remains no matter how much time passes, and evil is more wicked than you could imagine."[56]

Original text:

... گفتي اي ... دل ... (؟)
... ... باز ستانم و ز محنت رستم
يك لحظه چو در پيش رخش بنشستم
جان ... چو دل در سر زلفش بستم

"... you said O ... heart ...
... will get it back and would be rescued from affliction sitting before her for a moment,
I tied [my] soul ... heart, on her hair"

Original text:

اي دل تو همان شيفته و ناداني
هر بد كي تو مي كند ز ... (؟)

"O heart you are the same enamored and ignorant one whatever evil you commit is from ..."

Copy of the original text:

... چو در حلقه ... يبقي

Around the base:

Original text:

... ود چون گيرند
سنگ خار گهر تو

"... as they take (?)
the *khār* stone [is?] your essence ..."[57]

Fig. 18. The bowl as it appears today. (Photo: © Ashmolean Museum, University of Oxford)

Copy of the original text:

... وز چون گیرند
سنگ خار گهر تو

Original text:

... تو بر کشند

"... of yours to take (?)"

NOTES

Authors' note: The authors would like to express their gratitude to Richard and Gilliane Sills for generously sponsoring the project, and to Mark Norman and Daniel Bone, former and current head of conservation at the Ashmolean Museum, for their assistance and encouragement over the years. Thanks are also due to Prof. Oliver Watson for his guidance and suggestions throughout the course of this study, to Dr. Manijeh Bayani for reading, transcribing, and translating the inscriptions, and to Dr. Melanie Gibson and Dr. Mariam Rosser-Owen for commenting on previous drafts of this article. Versions of this paper were presented at the ICON Ceramics and Glass Group Conference (Sept. 7–8, 2017, University of Oxford), the Oriental Ceramic Society (Mar. 20, 2018, Hong Kong), and the Ashmolean Research Seminar (Oct. 18, 2018, Oxford).

1. Sir Alan Barlow, "The Collector and the Expert," *Transactions of the Oriental Ceramic Society* 14 (1936–37): 87–102, at 88. The phrase "illusion of an authentic experience" used in the title is borrowed from Laura Van Broekhoven, "Authenticity and Curatorial Practice," in *Creating Authenticity: Authentication Processes in Ethnographic Museums*, ed. Alexander Geurds and Laura Van Broekhoven (Leiden: Sidestone Press, 2013), 151–61, at 157.
2. The donation comprised over 50% of the Islamic material purchased by Barlow throughout his life. Other specimens were donated at almost the same time to the British Museum and the Victoria and Albert Museum, London, and to the Fitzwilliam Museum, Cambridge. Ottoman ceramics, mostly Iznik ware, remained with the family until their sale through Bonhams in the early 2000s.
3. The paint extended at least 1 cm across the original surface adjacent to each join.

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4. These include a plate signed by Abu Zayd (EA1978.2320), which was examined for comparative purposes at the same time as Barlow's bowl and is discussed later in this article.
5. See Geurds and Van Broekhoven, *Creating Authenticity.*
6. See Oliver Watson, "Fakes and Forgeries of Islamic Pottery," *The V&A Album* 4 (1985): 38–46; Watson, "Fakes and Forgeries in Islamic Pottery," *Oriente Moderno* n.s. 23, no. 2 (2004): 517–39; Watson, "Authentic Forgeries?" in Geurds and Van Broekhoven, *Creating Authenticity*, 59–71.
7. Among the most significant ones are Meg Loew Craft, "A Visual Review of Compensation Philosophies for Islamic Ceramics," *Objects Specialty Group Postprints* 2 (1994): 73–88; Holly Salmon, "A Comparative Analysis of Lusterware from the Calderwood Collection of Islamic Art" (unpublished conservation report, Straus Center for Conservation and Technical Studies, Harvard Art Museums, Cambridge, MA, 2003); Kirsty Norman, "Restoration and Faking of Islamic Ceramics: Case Histories," in *Ceramics from Islamic Lands*, ed. Oliver Watson (London: Thames and Hudson, 2004), 69–89; Keelan Loftin, "Conserving the Mihrab (Prayer Niche)," https://www.shangrilahawaii.org/stewardship/conservation-of-the-collection/mihrab-prayer-niche; Keelan Overton, "From Pahlavi Isfahan to Pacific Shangri La: Reviving, Restoring, and Reinventing Safavid Aesthetics, ca. 1920–40," *West 86th: A Journal of Decorative Arts, Design History, and Material Culture* 19, no. 1 (2012): 61–87; Anthony B. Sigel and Mary McWilliams, "History in Pieces: Conservation Issues in Islamic Ceramics," in *In Harmony: The Norma Jean Calderwood Collection of Islamic Art*, ed. Mary McWillams (Cambridge, MA: Harvard Art Museums, 2013), 37–50; and Blythe McCarthy and Renata Holod, "Under a Microscope: The Examination of the Siege Scene Plate," Freer Sackler Research Online, 2012, https://archive.asia.si.edu/research/articles/minai-battle-plate.asp.
8. For instance, on the controversy surrounding Arthur Upham Pope and his museum consultancies, see *Arthur Upham Pope and a New Survey of Persian Art*, ed. Yuka Kadoi (Leiden and Boston: Brill, 2015). For a recent discussion on the role of dealers in the acquisition of Persian luster for the Victoria and Albert Museum, London, see Moya Carey, *Persian Art: Collecting the Arts of Iran in the Nineteenth Century* (London: V&A, 2017), esp. 69–116.
9. The donation supported the costs of examination, treatment, and final reassembling of the bowl.
10. A useful list of similar oversize vessels available in European and American collections is provided in McCarthy and Holod, "Under a Microscope." Interestingly, all but one are painted in luster, and some appear to be reconstituted fragmentary bowls.
11. Robert J. T. Mason, *Shine Like the Sun: Lustre-Painted and Associated Pottery from the Medieval Middle East* (Costa Mesa: Mazda, in assoc. with the Royal Ontario Museum, 2004), 125 and 149, fig. 6.5, motif KL.17.
12. Oliver Watson, *Persian Lustre Ware* (London: Faber and Faber, 1985), 88–108.
13. Watson, *Persian Lustre Ware*, 88.
14. Cited in Alan Caiger-Smith, *Lustre Pottery: Technique, Tradition and Innovation in Islam and the Western World* (London: Faber and Faber, 1985), 214. Comparisons between Piccolpasso's text and that of Abu'l Qasim (see n. 15) indicate that Italian and Islamic lusterwares were prepared following analogous recipes. See S. Padovani et al., "XAFS Study of Copper and Silver Nanoparticles in Glazes of Medieval Middle-East Lustreware (10th–13th century)," *Journal of Applied Physics* 83, no. 4 (June 2006): 521–28, at 521.
15. Abū'l-Qāsim Kāshānī, *Arāyis al-jawāhir wa-nafāyis al-aṭāyib*, an oft-cited Persian treatise, provides specific quantities for the compounds used in "the enamel of two firings," which is how luster is described; see James Allan, "Abū'l-Qāsim's Treatise on Ceramics," *Iran* 11 (1973), 111–20, esp. 114, paragraph 27. Prior to it, Muḥammad al-Jawhar al-Nīshāpūrī's *Jawharnāma-yi Niẓāmī*, composed in 1196, offered alternative recipes; see Yves Porter, *Le prince, l'artiste et l'alchimiste: La céramique dans le monde iranien, Xe–XVIIe siècle* (Paris: Hermann, 2011), esp. 98–106 and 242–51. A detailed discussion on the various ingredients employed in this technique can also be found in Caiger-Smith, *Lustre Pottery*, 203–6.
16. Abu'l Qasim indicates that the kiln is "specially made for this purpose" and that the vessels receive "light smoke for seventy-two hours until they acquire the color of two firings [which is like gold]": Allan, "Abū'l-Qāsim's Treatise," 114. This low temperature, lower than that used for Spanish or Italian lusterware, was sufficient for the reduction process due to the presence of alkali in eastern Islamic glazes; see Alan Caiger-Smith, "Ceramic Lustre," *Ceramic Review* 219 (2006): 51–53, at 52.
17. The consequences of extended firing after the glaze begins to soften are discussed by Caiger-Smith, *Lustre Pottery*, 207–8. In particular, he draws attention to the fact that rather than adhering to the surface, the film of reduced metal is absorbed into the glaze, producing a dull result. Recent research has also shown that the luster layer does not sit on the outer surface of the glaze; as observed by Caiger-Smith, "During the periods of reduction, a very fine layer of colorless glaze, between 10 and 20 nanometres thick, develops on the outermost surface above the lustre film"; see "Ceramic Lustre," 52.
18. Caiger-Smith, *Lustre Pottery*, 198–203. See also I. Borgia et al., "Characterisation of Decorations on Iranian (10th–13th century) Lustreware," *Journal of Applied Physics* 79, no. 2 (2004): 257–61, and T. Pradell et al., "Ionic-Exchange Mechanism in the Formation of Medieval Luster Decorations," *Journal of the American Ceramic Society* 88, no. 5 (2005): 1281–89.
19. This and the following technical explanations are addressed in some detail by potter and scientist Frank Hamer in the final section of Caiger-Smith's *Lustre Pottery*, 221–36.
20. For other factors and a summary of some of the most frequently observed side effects in Kashan luster, see Oliver

9789004386983_MuqJ36_text_proof-01.indb 19 20-5-2019 19:42:46

Watson, "Persian Lustreware from the 14th to the 19th Centuries," *Le monde iranien et l'Islam* 3 (1975): 63–80, esp. 64; and Watson, *Persian Lustre*, 34–36.

21. Observations on the relations between ratios of copper and silver and the color of the luster appear in S. Padovani et al., "Copper in Glazes of Renaissance Luster Pottery: Nanoparticles, Ions and Local Environment," *Journal of Applied Physics* 93, no. 12 (June 2003): 10058–63, and in S. Padovani et al., "XAFS Study of Copper and Silver Nanoparticles."
22. Mehdi Bahrami, "Contribution à l'étude de la céramique musulman en Iran," *Athār-é Īrān* 3 (1938): 209–29, at 225–29, figs. 141–43; Mehdi Bahrami, *Gurgan Faiences* (Cairo: Le scribe egyptien, 1949), 97 and 123–25; Mohammad Y. Kiani, "Recent Excavations in Gurgan," in *The Art of Iran and Anatolia from the 11th to the 13th Century*, ed. William Watson (London: University of London School of Oriental and African Studies, 1975), 126–33; Oliver Watson, "Lustre Wasters: Attribution, Provenance and Art Historical Politics," in *Sifting Sands, Reading Signs: Studies in Honour of Professor Géza Fehérvári*, ed. Patricia Baker and Barbara Brend (London: Furnace, 2006), 231–49; Alison L. Gascoigne and Rebecca Bridgman, "Pottery from Jām: A Mediaeval Ceramic Corpus from Afghanistan," *Iran* 48 (2010): 107–51, at 118.
23. Initially utilized on glass, luster was first applied to ceramics in ninth-century Iraq, before traveling to Egypt and then spreading westward to North Africa and Iberia and eastward to Syria and Iran. The complexities of the technique suggest that it remained the monopoly of a few, and that these few were also primarily responsible for its transmission; see Watson, *Ceramics from Islamic Lands*, 38–40.
24. See McCarthy and Holod, "Under a Microscope," on a Freer *mīnā'ī* dish; see also a bowl in the Doris Duke Collection of Islamic Art at Shangri La, Honolulu (acc. no. 48.338), which closer examination proved to contain early twentieth-century *mīnā'ī* repairs: https://www.shangrilahawaii.org/Islamic-Art-Collection/Search-The-Collection/?id=4399; and Leslee Katrina Michelsen and Johanna Olafsdotter, "Telling Tales: Investigating a Minā'ī Bowl," in *Envisioning Islamic Art and Architecture: Essays in Honor of Renata Holod*, ed. David J. Roxburgh (Leiden: Brill, 2014), 66–87. An earlier example was also discussed by Murray Pease, "Two Bowls in One," *The Metropolitan Museum of Art Bulletin* 16, no. 8 (Apr. 1958): 236–40.
25. This contrasts with the observation of Caiger-Smith who, following a visit to a pottery workshop in Isfahan in 2001, lamented the absence of local knowledge of lusterware and expressed the fear that, by then, it could have "died out"; see Alan Caiger-Smith, "Chance Discovery," *Ceramic Review* 196 (July–Aug. 2002): 49–51. More recently, Oliver Watson similarly remarked on the scarcity of evidence confirming the continuation of the production of fine luster, even though the likelihood of its having been completely lost during the nineteenth and twentieth centuries is minimal; see his "Almost Hilariously Bad: Iranian Pottery in the Nineteenth Century," in *Islamic Art in the 19th Century: Tradition, Innovation, and Eclecticism*, ed. Doris Behrens-Abouseif and Stephen Vernoit (Leiden and Boston: Brill, 2006), 333–62, at 342.
26. After cleaning the areas from which the fragments with the ground-down edges were removed, the presence of an orange powder was recorded on photographs of the fragments; this information was then annotated on a photograph of the entire bowl.
27. See, for instance, a bowl in the Calderwood Collection, Harvard Art Museums, Cambridge MA (acc. no. 2002.50.75), which was proven to consist of fragments from eight different luster vessels (Salmon, "A Comparative Analysis of Lusterware," 24 and figs. 4.6–4.9), or five, according to a more recent analysis (Sigel and McWilliams, "History in Pieces," at 40–42); equally relevant is the study of another large salver in the Doris Duke Foundation of Islamic Art (acc. no. 48.148) declared a pastiche (Keelan Overton, "Filming, Photographing and Purveying in 'The New Iran,'" in Kadoi, *Pope and a New Survey of Persian Art*, 326–70, at 363).
28. For an overview of his work, see Sheila Blair, "A Brief Biography of Abu Zayd," *Muqarnas* 25 (2008): 155–76.
29. The instrument is capable of analyzing elements from aluminium (Z13) to uranium (Z92).
30. Further analyses would be needed to confirm the homogeneity of these bodies.
31. Soda, the typical alkali in Islamic glazes, cannot be detected using the XRF instrument.
32. Silver was below XRF's detection limit.
33. Further XRF analysis of these sherds would help to confirm this.
34. Pradell et al., "Ionic-Exchange Mechanism"; Judit Molera et al., "Key Parameters in the Production of Medieval Luster Colors and Shines," *Journal of the American Ceramic Society* 90, no. 7 (2007): 2245–54; and, more recently, Trinidat Pradell et al., "Technology of Production of Syrian Lustre (11th to 13th Century)," *Journal of the European Ceramic Society* 38, no. 7 (2018): 2716–27.
35. Three compositional categories have been distinguished: low-lead content (PbO<15%), medium-lead content (15%<PbO<35%) and high-lead content (35%<PbO<55%). The earliest lusterwares of the ninth century, probably produced in Iraq, have low and very variable lead contents. High-lead glazes are typical of the Egyptian production from the tenth century. Syrian luster glazes, on the other hand, are essentially alkaline; lacking any substantial lead content, they hence have less metallic shine. Medieval Iranian luster glazes generally fit into the medium-lead compositional category. See Mason, *Shine like the Sun*, 128–36, and Trinidat Pradell et al., "Technology of Islamic Lustre," *Journal of Cultural Heritage* 9 (Dec. 2008): 123–28, at 125.
36. Some of the edges of the original sections were also filed down to accommodate the repairs.
37. Arthur Lane, "Catalogue of an Exhibition of Early Islamic Wares," *Transactions of the Oriental Ceramic Society* 25 (1949–50), cat. no. 117 and pl. 31.

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38. Sir Alan Barlow and Michael Sullivan, *Chinese Ceramics, Bronzes and Jades in the Collection of Sir Alan and Lady Barlow* (London: Faber and Faber, 1963).
39. Géza Fehérvári, *Islamic Pottery: A Comprehensive Study Based on the Barlow Collection* (London: Faber and Faber, 1973), 15.
40. These include a beaker (EA1956.89) and three bowls (EA1956.61, EA1956.115, and EA1956.165); Sotheby's & Co., *The Eumorfopoulos Collections: Catalogue of the Collection of Persian Ceramics and Islamic Glass, Egyptian, Greek and Roman Antiquities, Choice Medieval and Renaissance Works of Art, etc. Formed by the Late George Eumorfopoulos Which Will Be Sold by Auction by Messrs. Sotheby and Co. at Their Large Galleries on Wednesday, 5th June 1940* (London: Sotheby & Co., 1940), nos. 25, 29, 31, and 49.
41. This system is also used for many of Barlow's Chinese ceramics, whose numbers, in contrast, are preceded by the letter *C*. These Chinese ceramics were transferred from the University of Sussex to the Ashmolean Museum in 2001.
42. In addition, these numbers also appear on stickers affixed to the individual objects, although use and manipulation of the objects over the years have caused some of them to be lost.
43. For instance, a tenth-century plate with accession number EA1956.132, listed as P 115, published in Arthur Upham Pope, *A Survey of Persian Art from Prehistoric Times to the Present*, 6 vols. (London: Oxford University Press, 1938–39), vol. 5, pl. 572A.
44. While the first name is lacking in this instance, references to Khalil Rabenou in relation to other objects added to Barlow's collection around the same time make it safe to surmise that he was also responsible for the acquisition of this bowl.
45. Ayoub and Khalil having been born into a family of dealers, their interest in Islamic and Near Eastern antiquities was nourished from an early age. Their uncle Benjamin Mahboubian was himself an expert in Persian art, a passion passed down to his sons, Mehdi and Houshang Mahboubian, and sons-in-law, including Edward Safani, also a gallery owner; see https://www.safani.com/about-us. Their businesses contributed significantly to the formation of public and private collections in both Europe and America.
46. The brothers were notoriously in competition with the Kevorkians; see Judith A. Lerner, "Arthur Upham Pope and the Sasanians," in Kadoi, *Pope and a New Survey of Persian Art*, 182, and Abolala Soudavar, *Iranian Complexities: A Study in Achaemenid, Avestan, and Sasanian Controversies* (Houston: Soudavar, 2018), 8.
47. Specifically in Kadoi, *Pope and a New Survey of Persian Art*. See especially the articles in pt. 4, dedicated to Persian Islamic art. Other members of the Rabenou family, such as Khalil's wife, Elsa, and Yris Rabenou, are known to have sold objects to Western museums; see https://www.britishmuseum.org/research/search_the_collection_database/term_details.aspx?bioId=93045.
48. Lerner, "Arthur Upham Pope and the Sasanians," 183, also cited in Gluck et al., *Surveyors of Persian Art*, 155.
49. As discussed by Lerner, "Arthur Upham Pope and the Sasanians," 178–95; this is also described as one of the earliest major deals struck by Pope and Khalil Rabenou.
50. The letter, dated February 10, 1931, is cited in Lerner, "Arthur Upham Pope and the Sasanians," 191. Italics added for emphasis.
51. "He is the most important of the diggers … " notes Pope in a letter dated November 15, 1928; "… He is the head of a sort of clan tightly organized and disciplined that has ramifications at various parts of Persia." (Lerner, "Pope and the Sasanians," 183–84, also cited in Gluck et al., *Surveyors of Persian Art*, 154–55.) In a December 3, 1928 letter to Kimball, Pope notes, "The stucco has a powdery chalky surface and the vibration loosened the application completely. I am wondering whether something could not be done in the way of a fixative to hold in place what colour there is. I am going to make some experiments when I get to Paris … and if successful will have the fragments in Persia treated before they are shipped" (Lerner, "Pope and the Sasanians," 184).
52. Abolala Soudavar has also claimed connections between the Rabenous and Iranian fakers in relation to both manuscripts and metalwork; see Soudavar, *Reassessing Early Safavid Art and History: Thirty-Five Years After Dickson and Welch 1981* (Houston: Soudavar, 2016), 86–89, and Soudavar, *Iranian Complexities*, 8–9.
53. As early as 1901, C. H. Read, the director of the Victoria and Albert Museum, advised great care in collecting "vessels of Persian lustred pottery," the skillful imitations of which were already circulating; cited in Watson, "Fakes and Forgeries," 42.
54. See n. 25, above.
55. The shards were bonded with a 50% solution of B72 in acetone, but since the break edges of the fired restoration had been abraded and did not fit together well, the B72 was too weak to hold the sections together. The break edges between the three main sections were sealed with 15% B72 in acetone and then bonded with Fynebond (epoxy resin) bulked with fumed silica (silicon dioxide).
56. This couplet is included in the *Kalīla wa Dimnah* (trans. Mujtabā Mīnuvī [Tehran: Intishārat-i Dānishgāh-i Ṭihrān, 1362/1983], 407) and appears on similar lusterware, including a Kashan tile in the Victoria and Albert Museum, London (see Pope, *Survey of Persian Art*, vol. 5, pl. 726c), and a bowl in the Harvey B. Plotnick Collection (see Oya Pancaroğlu, *Perpetual Glory: Medieval Islamic Ceramics from the Harvey B. Plotnick Collection* [Chicago: Art Institute of Chicago; New Haven and London: Yale University Press, 2007], cat. no 86).
57. *Khār*/*khāra*, a very hard stone, can be translated as "granite." This passage could thus mean "your heart, which is as hard as granite, is your essence…"

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“The Illusion of an Authentic Experience”: A luster bowl in the Ashmolean museum

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Leoni F, Norris D, Domoney K, et al., (2019) “The Illusion of an Authentic Experience”: A luster bowl in the Ashmolean museum. In: Muqarnas: An annual on the visual cultures of the Islamic world, Leiden: Brill, pp. 229-249

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