

Heavy metal and the beauty industry: an unexpected connection from ancient Afghanistan

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There is a very long history of use of cosmetic in the Middle East [1]. In Iraq, excavated graves dating to the third millennium BC have been found to contain individual shells holding specific colours: black/dark brown, blue, green, purple, red, yellow or white. Scientific analyses of those found at Ur indicate that the black/dark brown was usually manganese (pyrolusite), whereas the white was usually calcined bone but sometimes a lead-rich mineral (cerussite, laurionite and gypsum), whereas lead sulphide (galena) has so far only been found in a pair of cosmetic shells from Kish; the other colours were sourced from azurite (blue), oxidised copper minerals, notably atacamite and paratacamite (green), and ochre (red, yellow and purple) [2]. Although not previously described, it is clear from the appearance of the cake that they must have been mixed with a considerable amount of binder which has since evaporated and caused the pigment to contract, rather like shoe-polish in a poorly lidded container. Moreover, impressions of a pointed applicator on some examples from Ur indicate that they had been used immediately prior to burial and the pigment most likely applied as eye-liner; on others there are impressions of woven textile, possibly from a small purse used to contain the shell and keep it moist. Isotopic analyses suggest that south-east Arabia was the source of the green, blue and black/dark brown pigments, and it is telling that the tradition of placing black (manganese mineral pyrolusite (MnO₂)) or green (atacamite) cosmetic within shell containers is attested from that region from the late third millennium BC onwards [3].

A different tradition existed in eastern Iran, Afghanistan and Central Asia where cosmetic was stored in small metal or chlorite flasks [4]. Some others were carved from other types of stone and have a lightly curving form which most likely imitates the tip of an animal horn: doubtless, many more were made from this material, as in Morocco today, but have not survived as horn is a perishable organic material [5]. The cosmetic flasks were used with small

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metal applicators with swollen tips resembling modern cotton buds. They have been excavated in graves belonging to male and female burials, matching the results of anthropological analyses of human remains found in third millennium BC graves excavated at Abu Salabikh (Iraq) which proved that some of the burials with cosmetic sets were male [6]. They confirm that the use of eye-liner was not gender-specific. This is hardly surprising: while travelling through Nuristan in 1969, Peter Levi remarked that “Women, young men and boys wore blue eyeshadow” [7], and there is a widespread belief in Arabia that lining the eyes with a dark material not only accentuated the eyes, but also has positive medical effects as it reduces the effects of solar glare and is a remedy for conjunctivitis [8].

The metal flasks are small, robust and relatively heavy for their size. Most were copper alloy but some are of silver. The majority are plain and have a globular, flared or tapered cylindrical body, with or without a flat base. Others are decorated with protruding heads of ibex or similar horned animals. More unusual examples take the form of a tube supported on the back of an animal; in exceptional cases, the entire flask takes a zoomorphic or anthropomorphic form. Soon after the first archaeological discoveries, villagers across northern Afghanistan started to loot cemeteries and large numbers of objects entered the antiquities market [9]. In recent decades the British Museum has played an important role in monitoring the illicit trafficking of antiquities from the Middle East and advising law enforcement agencies on the identification and return of such objects, including thousands of looted antiquities from Afghanistan which it has successfully returned to the National Museum of Afghanistan in Kabul [10]. Among these were a large number of cosmetic flasks, many with their metal applicators corroded *in situ*, and traces of white or dark grey pigment noted within. Scientific analysis of residue within 15 flasks in the Musée du Louvre proved that the black was composed of 80% lead sulphide (galena) mixed with 20% manganese oxide (pyrolusite), whereas the white was lead carbonate (cerussite). In some cases, the latter possibly resulted from natural deterioration of the galena but in others it was identified as deliberate use of cerussite which, in one case, had been mixed with an inorganic carbonate compound [11]. These results confirm earlier suggestions that the residues are the solidified remains of dark and pale varieties of cosmetic which were popular across this region but the colours and pigment source contrast with what is known from Mesopotamia. The prevalence of lead oxides almost certainly reflects a by-product of the metal industry and these regions were rich in ores and have a lengthy history of metal-working [12]. The presence of applicators implies that the contents were originally in the form of a paste which could be easily applied, for instance around the eyes, but the existence of large numbers of chlorite and metal palettes also suggests that larger amounts could be mixed and applied to the face as a form of skin-whitener or foundation [13].

We now turn to some representations of individuals in Afghanistan and the Indo-Iranian

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borderlands at this early period. Some of these are in the form of ladies, shown seated on the floor with their legs folded beneath them. They are carved from blocks of greenish chlorite, in larger cases from two or even three parts joined together in the horizontal plane, and depicted wearing tufted garments probably intended to represent quilted textile [14]. The only parts of their bodies shown are their heads and necks, arms and occasionally protruding feet. These are invariably carved from pale white limestone or marble and, in the case of the busts, originally held in place with a close-fitting V-neck collar overlay later stripped away by looters, presumably because they were of precious metal, but sometimes leaving reddish traces of the mastic originally used to hold it in place [15].

The contrast between the pale gleaming face and the dark dress is striking but has not been previously remarked upon except in terms of modern aesthetics. I here raise the possibility that this was not simply a stereotypical convention, but was deliberately created in order to represent a concept of beauty and the visual impact of facial whitening amongst strata of society in these regions in antiquity. Unfortunately, heavy metals such as lead penetrate thin skin and the repeated application of lead-based facial whiteners have the effects of aging the skin, hair loss, mental deterioration, and shortened life expectancy [16]. Was this therefore the point of origin for the wig? If so, it would explain the manufacture of a realistic hairstyle on the so-called ‘helmet’ (made of gold sheet with a padded lining) in the tomb of Meskalam-dug at Ur, and the detachable carved stone ‘wigs’ on statues and statuettes found in Mesopotamia and Bactria at this very period [17]. If these hypotheses are correct, it shows how deeply embedded this practice is, and how the medical side-effects of the application of lead-based cosmetic will have affected and scarred countless thousands through the millennia, and long before Venetian ceruse became all the rage in Europe and skin lighteners and fairness creams became a major part of the modern fashion industry [18]. Through further scientific analysis of ancient cemetery populations, we may appreciate the full extent of this tragic and unforeseen side-effect of the metal and beauty industries, and how throughout history cultural practices may impact on personal health as well as social fashion.

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