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Ellen Swift

Materiality and Object Design and Function: Perspectives from Artefacts

Abstract: The aesthetic qualities of materials used for artefacts have rarely been considered, and aesthetics in relation to the functionality of objects is especially neglected. The paper addresses these issues through an examination of a particular object category, vessels and containers, with a focus on three types of materials, namely glass, metal and organic materials. Firstly, definitions relating to aesthetics are discussed, followed by an overview of our knowledge of aesthetic cultural values in the Roman period. The paper then investigates evidence, principally from the surviving objects of the Early Roman period, but also drawing on written sources, that allows us to gain an understanding of the ways that these materials may have been aesthetically valued in contemporary culture. It finally considers the social functions of the aesthetic features of artefacts.

Defining Aesthetic Qualities

Philosophical approaches to aesthetics provide a broad spectrum of definitions, ranging from those that seek to investigate aesthetic features as abstract qualities considered completely separately to their social context, to those in which aesthetics is embedded within social relations and cannot be considered separately¹.

There are also differences in whether aesthetic responses are considered to be truly aesthetic only when they are a reaction to exceptional or extreme experiences, or are contemplative in nature, or whether they are regarded as habitual to everyday life and a part of ordinary social actions and responses².

Aesthetic responses are generally agreed to be those grounded in the senses, but often involving a cognitive aspect; in practice it is impossible to separate sensory and cognitive responses³. They are widely agreed to involve pleasurable sensations or feelings, and this was also central to ancient aesthetic understanding⁴. Functionalist approaches originating in Socratic thought, in which objects are considered beautiful only if their properties and material qualities are well-suited, or 'appropriate' to their function⁵, are clearly situated in the context of real-world, everyday uses and involve both sensory qualities and cognitive values.

For the purposes of this paper I am following Yuriko Saito's definition of an aesthetic response as one that is a reaction to the sensory or design qualities of an object, and can be a part of quotidian experience⁶; also, one that is socially situated, and which has implications for social relations⁷. In this view, aesthetic judgements are not absolute but contextual, socially constructed, at

1 For discussion, see Hanfling 1992; Leddy 2012, 23–54.

2 See e. g., Saito 2007; Leddy 2012. In this volume, Adrian Hielscher's paper takes the former approach, defining aesthetics as primarily contemplative and detached from context, separating out aesthetics from questions of function and meaning. I take the latter approach, situating aesthetics within the social context and viewing sensory aesthetic responses as interrelated with experiences that relate to other artefact properties.

3 Collinson 1992, 113; Saito 2007, 9 f.; Leddy 2012, 30.

4 Collinson 1992, 170; Destrée 2015, esp. 472–478. As Destrée describes, the importance of pleasure and the senses in ancient aesthetics is clear in debates in ancient philosophy, which discuss whether aesthetic pleasure, including that related to multiple senses, could be distinguished from more prosaic bodily pleasures.

5 For an overview, see Leddy 2012, 24–27. See also Haug – Hielscher, this volume, on the ways in which materials may be suited to diverse uses, and so termed 'polyfunctional'.

6 Saito 2007, 9 f.

7 Wolff 1982; Sorell 1992.

least in part, and subject to change⁸. The approach taken is consistent with the attitudes that we find in ancient sources, as further discussed below.

Since aesthetic experiences are sensory experiences, so-called phenomenological approaches, which in archaeology encompass a range of divergent perspectives, are also relevant. Those that consider bodily experience, sensation and sensorial worlds are most useful in considering the aesthetics of materials⁹. A principal critique of phenomenological approaches in archaeology is that any individual and subjective sensory account differs too much from the socially embedded world of past sensory experience to be meaningful¹⁰. Yet it may still be useful to delineate possible sensory experiences in relation to examples of artefacts, especially since we can integrate what we know of Roman material experience from written sources (considered further below) into our approach. This is done not in any belief that modern perceptions replicate ancient experience, but rather to broaden our range of perspectives when thinking about the networks of sensory relationships within which ancient artefacts and their materials would have been situated.

In addition to exploring a range of likely or possible aesthetic factors impacting design choices for artefacts, I am interested in the potential for social action created by the aesthetic aspects of objects – what do the aesthetic features of objects, including the qualities of their materials, achieve in terms of social relations for their makers, owners, users and viewers? Anthropological perspectives that stress the socially situated nature of artefacts as things that have agency in the social world are important to the approach taken¹¹, as is Thorstein Veblen's theory of conspicuous consumption, which has much to offer, especially in any examination of Roman elite culture in particular¹². There will be a focus on material choices for objects and the aesthetic qualities of these materials, but other aesthetic features of objects will also be mentioned where relevant¹³.

Ancient Perspectives on Materials and Aesthetics

Roman writers interested in aesthetics drew on perspectives from the Greek and Hellenistic periods encompassing aspects such as mimesis, unity and proportion, harmony and balance, and variation including a variety of senses¹⁴. Their influence on everyday aesthetics during the Roman period can be traced in books such as the architect's manual by Vitruvius¹⁵, as well as in surviving art works from the Roman world¹⁶. In particular, Pliny's *Naturalis historia* constitutes a Roman discourse drawing on this wider tradition. It can be considered broadly representative of traditional aesthetic convention among the elite, providing some insights into Roman perceptions of material aesthetics, although naturally Pliny also has his own agenda, which must be taken into account, and this often involves critique of luxury¹⁷. Most of Pliny's remarks relate to luxury materials, although occasionally other types of material are considered. His observations about functional materials imply that value judgements for functional objects were based on practical

⁸ Bourdieu 1984; Saito (2007, 54–103) provides a modern case study in relation to environmental aesthetics.

⁹ For an overview, see Thomas 2006. Olsen (2010, 130–132) and Hamilakis (2013, 65–68) provide further perspectives on the philosophical writings of Maurice Merleau-Ponty, which largely inspired this approach.

¹⁰ Thomas 2006, 48. A fully reflexive approach that first documents a scholar's own sensorial biography has been suggested as a remedy (see Hamilakis 2013, 119), but is beyond the scope of a short article like this.

¹¹ Gell 1998.

¹² Veblen [1899] 1928.

¹³ In a paper of this length, it is not possible to systematically cover all materials. Ceramics is a very large field of study and so this category of material has been omitted.

¹⁴ Contributions in Destrée – Murray 2015, part 3.

¹⁵ *Vitr. De arch.*; Thomas (2015) discusses Vitruvius in relation to the aesthetics of buildings.

¹⁶ See Ravasi 2015.

¹⁷ See Anguissola and Haug – Hielscher, this volume, on Pliny's attitude to luxury; for further consideration of Pliny on materials, see Bradley 2009, 100–110.

features. Yet these are often also features that had an aesthetic aspect owing to their sensory qualities¹⁸. Paper, for instance, is judged on its breadth, fineness, whiteness, stoutness and smoothness. Changes in the ways that grades of paper were valued/used based on their functional performance are also noted by Pliny, including the practical drawbacks of thin high-quality paper, which led to its eventual use for correspondence only¹⁹. Qualities that are described as particularly valued for gemstones include specific colour tones and consistency of colour, brilliance or shine, and transparency; other aspects mentioned include weight and smell²⁰. Pliny's value for natural features here contrasts with his account of the value of other materials such as metals, in which auxiliary features such as economic value play a stronger role²¹.

For metals, positive intrinsic qualities such as resistance to corrosion and reflectivity are mentioned by Pliny, as well as unpleasant aspects like the taste of metal²². As part of his critique of luxury, Pliny stresses the importance of choosing uses appropriate to particular materials by criticising inappropriate use of gold and silver for prosaic everyday functional objects like shoe nails or cooking equipment. The concept of *decorum*, which can be broadly defined as appropriateness in terms of nature, culture and/or tradition, was widely felt to be important in Roman elite culture and governed many aesthetic decisions²³. To give an example pertinent to the specific class of objects under consideration – vessels and containers – Martial's epigrams prescribe that luxury containers should have similarly luxurious contents²⁴. Mimetic qualities were also important in Roman material choices – for instance, it is evident from a range of ancient sources that ivory was thought to be the optimal material to represent flesh in statuary, based on not only its colour, but also its texture, lustre and warmth on handling, which mimicked the properties of skin²⁵. Colour terms in themselves were often derived from materials, and may have had additional connotations relating to material qualities across a range of senses – for instance 'marbled' as smooth, cold and white²⁶.

Returning to Pliny's observations in his *Naturalis historia*, they display his awareness of how contingent aesthetic choices and values could be. The established, desirable and yet apparently abstract sensory qualities of materials are clearly interrelated with other scales of value, including rarity, exoticism and currency²⁷. Fashions in materials are recognised, showing his perception that material value is not necessarily absolute²⁸. It is also clear that for Pliny, the value of materials could be enhanced through craft practices²⁹. Discourses of luxury more widely emphasise the same factors, as features that enhance the value of luxurious materials with prized aesthetic qualities³⁰. Pliny notes that the worn appearance of silver plate and so-called 'murrhine ware' gives both value by attesting to their antiquity³¹, elucidating further the subjective nature of aesthetic appreciation, in which a feature such as wear (with both visual and haptic aspects) could become desirable in a particular context. These examples illustrate that aesthetic judgements in the Roman period were

18 Destrée and Murray (2015) provide an extensive treatment of all aspects of ancient aesthetics including sensory ones.

19 Plin. HN 13, 24.

20 Plin. HN 37. See Lang, Anguissola and Haug – Hielscher, this volume.

21 Anguissola, this volume.

22 Plin. HN 33. See also Anguissola, this volume, on gold in particular, which she suggests was valued because it was impervious to change and thus reliable.

23 See Rowland – Howe 1999, 151; Swift 2009, 16 f.; Haug 2020, 1–3.

24 Mart. 10, 49; 14, 12. 97.

25 Lapatin 2001, 16; Platt – Squire 2018, 91–97.

26 Bradley 2009; 2013.

27 See also Anguissola, this volume, on the tension in Pliny between economic and aesthetic values for gold.

28 Plin. HN 33, 55 on fashions in different metals, for example.

29 Haug – Hielscher, this volume.

30 Lapatin 2015.

31 Plin. HN 33, 55; 37; Mastrososa 2014, 106. Murrhine ware is probably fluorspar: see Tressaud – Vickers 2007; Lapatin 2015, 122–123.

not disinterested, but were rather entangled in the attribution of social values and the assertion of status and power, and also had wide implications for social relations.

Of course, these perspectives only show us viewpoints from elite culture, and we know very little about how aesthetic appreciation may have differed among those of lower social status or diverse, non-Roman cultural backgrounds, especially in the western Roman provinces that had no history of deep Hellenistic cultural influence. We can however see that everyday artefacts in non-elite materials do often conform to elite aesthetic norms. Many ordinary Roman artefacts, as well as prestigious ones, show careful attention to established Roman aesthetic values such as symmetry, proportion and cultural ‘appropriateness’ or *decor*.

Two principal points we can take from the above discussion when examining objects used in everyday life in relation to design, aesthetics and materials are as follows:

1. An aesthetics of all the senses is needed when considering objects – visual qualities, but also smell, texture, temperature, weight and taste may all have been important considerations in constructing a pleasurable experience for users, or minimising qualities that were perceived as unpleasant.
2. Aesthetic judgements were not absolute but context-dependent – for instance depending on aspects such as the fashions of the time, cultural preferences that varied among different social groups, and judgements on what material was felt to be appropriate in a certain situation or for a particular function. Aesthetic objects did not have abstract qualities, perceived in a disinterested way, but were implicated in social relations.

Glass

In this section, we will investigate some of the ways in which glass vessels conform to, or diverge from, the norms of elite Roman aesthetic appreciation, and how they illustrate other aspects of aesthetics in Roman culture.

One of the ways that glass as a material was valued in Roman culture was for the aesthetic qualities it shared with precious and semi-precious stones, which included degrees of transparency, colour (or colourlessness, to imitate rock crystal), relative hardness and shine. Glass was often used to imitate these more valuable materials³². To give an example, marbled and layered glass was sometimes used to create a resemblance to variegated marbles or other semi-precious stones, with this practice developing alongside the increasing use of ornamental stone during the 1st century B.C. and peaking during the 1st century A.D. The imitations, used mainly for vessels such as dishes and bowls, are often quite specific and have been well-documented for particular types of semi-precious stone such as agate, alabaster, onyx, red and green porphyry, as well as cipollino and giallo antico marbles³³. To mimic the natural veining and imperfections of stone, an irregular appearance to the decorative detail is needed, and this can be created readily due to the flexibility and versatility of glass as a material, thus meeting the established aesthetic criterion of variegation. Another short-lived fashion dating from the 1st century A.D. was for strongly coloured, thick-walled cast glass vessels (Fig. 1), which may have also originated as an imitation of vessels made from semi-precious materials, although the association is not so clear in this case³⁴. The phenomenon of imitation is a complex one, covered in other contributions to this volume³⁵. Here, we can make the broader

³² On rock crystal and its glass imitations, see Vickers 1996; Stern 1997.

³³ Cisneros Cunchillos et al. 2013. For some examples of stone vessels, see Belli Pasqua 1989. See also Lang, this volume, on valued qualities of precious and semi-precious stones.

³⁴ Tait 1991; see also Cisneros Cunchillos et al. 2013.

³⁵ Flecker, this volume, speaks of ‘creative appropriation and emulation and intermaterial exchange’; Engels, this volume, argues for complex interdependencies between similar forms in different materials. Both question the assumption of one-directional influence from a so-called original to its apparent imitation.



Fig. 1: Cast glass vessel; New York, Metropolitan Museum of Art, inv. 81.10.128.

point that although these types of glass vessels illuminate adherence to established aesthetic norms such as symmetry, variegation and so on, the way that they ceased to be fashionable after the 1st century A.D. illustrates that aesthetic conformity did not necessarily give them enduring value.

Vessels produced in glass often contained food or drink. One aspect of glass as a material in relation to the design of containers is its pliability³⁶. It can be easily moulded into diverse forms, which can be designed to suit the intended use of the object as a vessel for various commodities, following the Roman concept of *decorum* (appropriateness). Matching the theme of decoration to the function of a vessel, for example, is very common in Roman culture. This can constitute either the decoration applied to the vessel, or the figurative form of the vessel itself³⁷. Instances in moulded glass include grape-shaped flasks that would be considered appropriate as wine containers, or date-shaped bottles that probably contained date oil³⁸.

Clearly the visual qualities of glass were regarded as important, and a passage from Achilles Tatius provides evidence that transparency was a visual material quality that could be admired. It compares the transparency of a glass drinking cup to that of the water from the Nile that it contains³⁹. This immediately suggests that glass vessels may have been perceived as particularly ‘appropriate’ for drinks such as water and wine⁴⁰, because the colour and transparency of the glass vessel itself mimicked the aesthetic qualities of the liquid that it was designed to hold. The material evidence provides support for this view. Completely colourless drinking vessels with watery themes in their decoration are relatively common in surviving glassware (Fig. 2 shows a 2nd century A.D. example), and it is evident from Roman conventions of *decorum* or ‘appropriateness’, as described above, that they were designed to hold water⁴¹. The choice of colourless glass, which was not easy to produce, was significant in how it resembled the water itself⁴². There is also some evidence of

³⁶ This quality is the subject of comment (if misunderstood) in Roman literary sources: see Stern 1994, 441 f.

³⁷ See Swift 2009, 123–127 for examples, including dining vessels with Bacchic themes and toilet articles depicting Venus. For the Late Roman period, see also Schneider 1983, 32–34; Elsner 1995, 265 f.; 2003.

³⁸ Multiple examples of each are known, for instance, Stern 1995, 149–157. 232–238; Grossmann 2002, 40 f., Figs. 34 f.; New York, Metropolitan Museum of Art, inv. 91.1.1295; 17.194.255; New Haven, Yale University Art Gallery, inv. 1955.6.64; 1955.6.65; 1930.394; London, British Museum, inv. 1878,1230.60; 1856,1226.1178; 1856,1226.1168; 1868,0110.502. See also Swift 2021.

³⁹ Ach. Tat. 4.18, with thanks to Anna Anguissola for her reference to it at the conference.

⁴⁰ These are the two types of drinks shown within drinking cups depicted in Roman wall paintings: Naumann-Steckner 1991, 95 Pls. XXb; XXIIa.

⁴¹ Swift 2009, 133 f.; for some examples, see Painter 1975; Fleming 1997, 9.

⁴² Discussed further in Swift 2009, 132–137. Both decolourised and deliberately coloured glass were available from the Hellenistic period onwards: see Stern 1994, 475. On methods of decolourisation, see Jackson 2005.



Fig. 2: Colourless glass cup with Nilotic scene; London, British Museum, inv. 1868,0501.919.

purple glass being used for wine jugs, whose function can be inferred from their decoration with Bacchic imagery⁴³. The coloured translucent glass imitated the wine that the vessels were designed to contain. These kinds of associations appear to be long-lived, with examples from both the earlier and later Imperial periods⁴⁴.

Vessels are often important in aesthetic terms in the way that they present their contents to the user⁴⁵. The quality of translucency/transparency corresponds to functionalist aesthetics in the way that the user could see immediately how much liquid was left inside a vessel without having to look into the top of it, for instance. Choices in whether to use opaque or translucent glass could relate to the desire to conceal or reveal the contents of a vessel (discussed further below for metal vessels) – in the case of transparency, displaying the promise of the experience to be enjoyed, and/or assuring its quality⁴⁶. The use of transparent glass also heightens the quality of fragility that can potentially be associated with this material.

Roman literary sources cite friability as a negative characteristic of glass, as well as ceramic and stone⁴⁷, and this fragility does not, at first sight, seem to suit a functionalist aesthetic. Thick-walled cast glass vessels were less fragile than the semi-precious stone vessels they may have imitated; for example, the mineral structure of flourspar can lead to planar breakage (cleavage) which does not occur in glass. Yet cast glass was susceptible to conchoidal fracture, and complex forms such as *diatreta* were difficult to create without breakage⁴⁸. Glass blowing facilitated the production of thinner walled vessels, increasing in degree the desirable quality of transparency (discussed above) but also considerably increasing vessel fragility⁴⁹. It might be supposed, therefore, that the choice of glass for tableware does not conform to functionalist aesthetics. However, for vessels intended for food and drink, an aesthetics of all the senses is important, and on these terms glass has positive attributes from a functionalist aesthetic perspective. It would have been considered

⁴³ Swift 2021. For a specific example from the Late Roman period, see Whitehouse 2001, 127–129, 633.

⁴⁴ For later Roman examples, see Whitehouse 1997, 199; Swift 2009, 135, Figs. 3, 20.

⁴⁵ Saito 2007, 120; Swift 2009, 108.

⁴⁶ Martial (4, 85) observes that a transparent vessel allows the user to assess the quality of its contents.

⁴⁷ Mart. 14, 115. The problem of glass cracking when used with heated liquids was addressed by Roman authors: see Mart. 12, 74; 14, 94; Matthews 1969, 41.

⁴⁸ On cleavage and fracture, see Hall 1994; on flourspar in particular, including references to its fragility in Roman literary sources, see Tressaud – Vickers 2007, 148. For *diatreta*, see Vickers 1996.

⁴⁹ For an account of glass-blowing techniques and the production of very thin walls, see Stern 1994, 444–450.

aesthetically appropriate as a material despite its fragility, because of its demonstrable value in fostering a pleasant eating and drinking experience, one that did not involve the unpleasant tastes and smells associated with metal vessels⁵⁰. Glass bottles could be used to store liquids without any contamination of the contents, and glass jugs and cups as tableware were particularly suited to mildly acidic substances like wine or grape juice, which reacted with metal surfaces.

Beyond functional practicality, fragility can be considered useful as a material property in other ways too. It was important in the social construction of relative value for glass as a material, for instance, performing conspicuous consumption by its frequent need for replacement. Its fragility during the production process increased the economic value of complex forms like *diatrete*⁵¹.

Glass vessels, in general, conform to established aesthetic principles of unity, balance and symmetry⁵², in both their design and decoration or its absence. Shapes that dominate, such as circular bowls, platters, beakers and dishes, are obviously symmetrical, and handled vessels often maintain mirror-image symmetry and balance through the presence of paired handles, for instance on the popular kantharos and amphora forms. Techniques such as casting and moulding facilitate symmetry and a uniform appearance. Particular decorative motifs are normally disposed to construct a balanced design, rather than irregularly positioned. A more marked departure from Roman aesthetic conventions is sometimes evident, however. Let us consider as an example mosaic glass bowls produced during the 1st century B.C. to 1st century A.D. (Fig. 3). The bowls are circular and therefore symmetrical in overall form, and feature recognisable flower motifs, but these are distorted and composed into designs that are very irregular and lacking in symmetry and balance⁵³. Unlike the marbled or layered glass described above, from which this decorative style probably developed, the effect is very singular and does not mimic a natural material, the main context in which such variegation otherwise occurs⁵⁴. Judged against conventional Roman aesthetic standards, it would perhaps be thought disordered and unappealing. However, such bowls were clearly valued items, and their appearance must have been judged aesthetically pleasing to their purchasers⁵⁵. The effects that could be produced by experimentation with materials and techniques are likely to have been valued because they were distinctive innovations and displayed well the capabilities of the materials used. They make use of the singular properties of glass, and show how distinctive design could create value for a glass object in its own right, rather than as a proxy for another substance.

Some colours of glass were more difficult to produce than others. The technological demands of producing opaque red glass⁵⁶, for instance, can be suggested to have affected the incidence of its use, since among the many catalogues of Roman glass vessels that exist, opaque red as a base colour is unusual, while at the same time terracotta red was highly favoured for ceramic vessels (e. g., Arretine ware, or terra sigillata)⁵⁷. As a further example, we can take a representative selection

50 Its value in this regard is documented in literary sources: see Petron. Sat. 40–41; Plin. HN 34, 48; see also Stern 1994, 479; Ingemark 2014, 207; Swift 2017, 110.

51 Precisely this relationship between fragility and economic value is expressed in Plin. HN 33, 2 in relation to semi-precious stone.

52 Vitr. De. Arch 1, 2; discussed in Swift 2009, 16f.; see also Destrée – Murray 2015, part 3; Ravasi 2015, 250–251.

53 For more on mosaic glass, see Tait 1991a, 48–56; Dawes 2002; Facchini 2011; Freestone – Stapleton 2015. The overall pattern in this type of vessel also has the effect of disguising its form: see Haug – Hielscher, this volume.

54 The phenomenon is an example of the ‘creative appropriation’ discussed by Flecker, this volume.

55 This is evident both from the fact of their existence, and because their value is indexed through their complex technique of manufacture and requirement for specialist craft knowledge: see Dawes 2002. The flourishing of new workshops in Italy for the production of mosaic glass (see Facchini 2011) seems likely to relate to its distinctive and desirable aesthetic qualities, rather than wider characteristics general to glass vessels as a category, which could be met by other types of production.

56 Bateson 1981, 74; opaque red requires the control of internal oxidation processes (Freestone – Stapleton 2015, 71). For more on the production methods of coloured mosaic glass, including opaque red, see Freestone – Stapleton 2015.

57 See, for example, Whitehouse 1997; 2001, 210. 774 (the former glass catalogue has no examples; the latter has one probable opaque red vessel, decorated with other colours). In a catalogue of 184 examples, Facchini (2011) has one



Fig. 3: A fragment of a mosaic bowl; New York, Metropolitan Museum of Art, inv. 17.194.396.28.

of mosaic glass fragments from the Princeton University Art Museum. Fifteen fragments from fourteen glass vessels (bowls, dishes and plates), all dating from the late 1st century B.C. to the early 1st century A.D., illustrate typical colour combinations. Five fragments contain no red glass⁵⁸, eight include red as one among the multiple minor colours used⁵⁹, and only two are predominantly red in colour, with other colours used as accents⁶⁰. Although it has been proposed that opaque red glass was made to imitate stones such as haematite and red marbles⁶¹, the challenges presented by its production could also have led to an enhanced economic value that extended beyond its imitative properties, and this would certainly have been the case for its use in the above mosaic glass, which cannot be argued to mimic semi-precious stones.

Following this discussion of the qualities of glass as a material for vessels, let us illuminate these further by considering the vessel shown in Fig. 1 from a phenomenological perspective. This will further highlight some of the possibilities offered by glass as a material, in relation to experience and sensation. The vessel is heavy, of similar weight to an equivalently sized stone vessel⁶², and its bevelled rim and carinated form provide both visual and tactile variation. Like stone vessels, it is cold to the touch. The way that the vessel wall changes shape provides a contrast with its uniformly smooth surface. The glass is translucent and strongly coloured, so that in good lighting conditions, light shines through its walls (contrasting with darker areas such as the base), and cast a green light onto the surface on which it was placed. These effects would be most visible in daytime or under well-lit conditions, when colours are more visible to the human eye. If such effects were valued in Roman culture, the object may have mainly been used in this kind of context in order to maximise them⁶³. The colour and light effects would change when the vessel was filled with particular contents, for instance, making the filled areas look more opaque. The colour of any contents could have been chosen to either harmonise or contrast with the strong

vessel with an opaque red base colour (Facchini 2011, 115, 125), one with a translucent red base colour (Facchini 2011, 115, 129), and three with a red base colour for which the opacity is not specified (Facchini 2011, 132, 178–180). For some further examples of rare opaque red vessels, see Cisneros Cunchillos et al. 2013, 288.

⁵⁸ New Jersey, Princeton University Art Museum, inv. y1939-87c. y1939-49a-b. y1939-87 f. 1995-155.

⁵⁹ New Jersey, Princeton University Art Museum, inv. y1939-50. y1929-295. y1939-87a. y1939-87g. y1939-87i. y1931-25. y1939-87d. y1939-87b.

⁶⁰ New Jersey, Princeton University Art Museum, inv. y1939-87e. y1939-87h.

⁶¹ Cisneros Cunchillos et al. 2013, 288.

⁶² Glass has a similar specific gravity to that of rock crystal, and slightly less than that of marble.

⁶³ See Swift (2021) on objects which, by contrast, have contrasts in lightness and darkness which would have been evident in poorly lit conditions. For more on the valued qualities of colour, see Bradley 2009; Sassi 2015.

colour of the vessel; perhaps the former is more likely if the Roman value for *decorum* (see above) is taken into account.

To sum up, the aesthetic features of glass that were clearly valued in Roman culture include its quality of resemblance to other substances (especially as regards colour and degree of transparency), yet also its more distinctive features that could not be easily replicated in other materials, as well as qualities beyond the visual, such as those of touch, and the absence of strong taste and smell.

Metals

Metal vessels are opaque, can exist in a variety of colours, and have surface textures ranging from matte to highly polished. Let us examine these various features in relation to aesthetic appearance. While the physical properties of the material are generally well-suited to the common functions of vessels used in dining and toiletry, surface properties such as oxidation do have implications for their effective practical function, and so will be considered in detail.

The colour of metal is an obvious aesthetic property that was important in antiquity, and although metal is not as versatile in terms of colour as glass, much variety can be created with the use of a range of metals and their combination in different alloys. The existence of polychrome objects, created by using gilding, patination and/or inlays of different metals, shows the purposeful deployment of colour as an aesthetic feature of metals. A well-studied example is a group of bronze objects with a black patinated surface, which Alessandra Giumlia-Mair identifies as the prized alloy ‘Corinthian bronze’⁶⁴. They have multi-coloured inlays (red, silver, gold and orange) and scientific analysis has determined that these were made from different metal alloys of varying composition. The group includes two vessels, a jug and patera, and all were probably produced in Egypt during the 1st century A.D.⁶⁵. Further examples of bronze vessels with silver or other inlays can also be cited⁶⁶. More commonly, silver vessels often feature gilding as an element of their decoration, creating a subtler polychrome effect⁶⁷.

As has been mentioned above, the opacity or relative transparency of a vessel can relate to the way it presents its contents to the user. That the designers of Roman vessels were interested in the possibilities that opaque metal vessels held for concealment and revelation is well illustrated by the extant objects which, when used with particular contents, would have concealed a visual surprise at the base of the vessel. The most famous examples are the Hercules and Cybele bowls from the Hildesheim treasure (Fig. 4 shows the Hercules bowl or *phiale*)⁶⁸. However, other less elaborate instances can also be cited, which are perhaps also more likely to have had a functional use than the Hildesheim bowls, such as a 1st century A.D. copper alloy patera with a modelled head of Medusa

⁶⁴ Giumlia-Mair 2015; see also Jacobson – Weitzman 1992. See Haug – Hielscher, this volume, for Pliny’s remarks on Corinthian bronze. For patination more widely, see La Niece – Craddock 1993.

⁶⁵ Giumlia-Mair 2015.

⁶⁶ For example, London, British Museum, inv. 1884,0409.4, a bronze cup dating to the early 1st century A.D. with silver inlay, and inv. 1853,0218.6–7, two inkpots with a black surface decorated with silver and gold-coloured inlay. For polychrome metal inlays in furniture, see Devogelaere 2017.

⁶⁷ See, for example, 1st century A.D. examples in London, British Museum (inv. 1867,0508.1410 and 1872, 0604.1100); see also Lapatin 2015, 101–104 Pls. 75–79, for further 1st century B.C.–1st century A.D. examples. For more on gilding, see Oddy 1993; Lapatin 2015, 32.

⁶⁸ It has been suggested that such elaborate vessels were for display rather than for use. See Painter 2001, 24 f., for discussion of a similar *phiale* (M14, Pl. 14) from the Insula of the Menander hoard at Pompeii, which was found with a stand for display. Matthews (1969), however, proposes that *phialae* were used for wine; Lapatin (2015, 37) cites their earlier use as ritual vessels in libations. There is wider evidence that valuable pieces of silver in general, such as antiques, were actually used: see Mastrorosa 2014, 105.



Fig. 4: Hildesheim Hercules bowl; Berlin, Altes Museum, inv. 3779,2.

projecting from the centre bottom of the vessel⁶⁹. Her terrifying gaze was revealed as the contents were poured out⁷⁰.

Objects made from materials like copper alloy (especially brass) would be bright and resemble gold when freshly made, but would quickly tarnish. Silver also tarnishes over time to a grey or black colour. The scales of value that Pliny sets out for metals are based on how different materials age, with gold the favoured material, as it was impervious to change, and the oxidation of base metals, especially the rusting of iron, noted as a significant drawback⁷¹. However, as noted above, for some metal objects that were markedly aged in appearance, this could constitute a positive feature, as it attested to their antiquity⁷². This prompts a consideration of the aesthetics of ageing in relation to metals.

Although deliberate patination of metals did exist, and for silver it has been argued that this was intended to imitate the natural patina that would build up on the surface over time⁷³, there is also plenty of evidence that the original appearance of vessels was valued and maintained through cleaning and polishing. There are references in Roman literary sources to vessels made of copper alloys and silver being polished. Beetroot juice is mentioned as a cleaning product for silver and copper in a list of recipes, and other cleaning substances included ashes, vinegar, chalk, brine and alum. The polished vessels were coated with a protective layer of oil or fat that also enhanced their shine⁷⁴.

⁶⁹ For the Hildesheim bowls, see Gehrig 1967; Hitzl et al. 1997, 32–87; Faust 2015, 91–101; Medusa patera: London, British Museum, inv. 1882,0405.1.

⁷⁰ This example was found in a grave, but a similar patera with Medusa is depicted in the frieze decorating the late 1st century A.D. Temple of Vespasian and Titus in Rome (see Ludi-Blevins 2017, 242 Fig. 5), depicting objects used in ritual practice.

⁷¹ Plin. HN 33 f. He also discusses other factors that affect value: see Haug – Hielscher, this volume.

⁷² Pliny (HN 33, 55) suggests that wear on silver increased its value. Martial (8, 6) refers to antique silver as ‘smoky silver’, which seems to refer to tarnish on silver as a feature that indexed its prized age (many thanks to Dunstan Lowe for an opinion on this). The value that antiquities (including silver tableware) enjoyed, and Roman practices of collecting, are discussed by Mastrorosa (2014).

⁷³ As noted above; see also references to patinated silver in Plin. HN 33, 46; Vickers 1995, 191 f., on naturally patinated silver. Boardman (1987) argues that silver was never deliberately blackened; however, Pliny (HN 20, 46) gives a recipe for this. See also discussion in Flecker, Engels, and Haug – Hielscher, this volume.

⁷⁴ Croom (2011, 89–91) brings together the primary evidence; her sources include especially Leyden Papyrus X.

If we contemplate what polishing achieves beyond the immediate result of a shiny reflective surface, we can consider the idea that it aims to return a vessel to the appearance of newness, although since no one who had seen the vessels on more than one occasion would be deceived by this, the value of polished silver perhaps relied instead on other factors. Certainly, the aesthetic qualities of brilliance and shine were admired⁷⁵, but this is unlikely to represent a disinterested form of aesthetics, when we consider that labour was required to keep silver in this condition: the richest households would employ a slave specifically to look after silver plate⁷⁶, and this knowledge no doubt informed the viewer's pleasure in, and admiration of, these qualities as something only the rich could afford to maintain. We can even consider that the value of silver would actually be enhanced on account of the known labour costs of maintaining it in good condition⁷⁷, so its susceptibility to tarnishing could be considered as a property that increased its value from a design perspective. A more immediate factor from the point of view of functional aesthetics is that the shiny, polished surface of metal vessels offered an assurance to the user that the metal was free of unpleasant-tasting corrosion products. Any verdigris remaining on copper alloy vessels, for example, significantly impaired flavour, and might even cause illness⁷⁸. Evidence from other types of objects demonstrates analogous actions taken by craft producers to minimise unpleasant tastes, for instance coating copper alloy spoons in white metal ('tinning') to prevent the mouth coming into contact with the unpleasant tasting copper underneath⁷⁹.

At one extreme, returning an object to an appearance of newness could merely have been part of a regular cycle of cleaning tasks, which both demonstrated and renewed its aesthetic value⁸⁰, or it may have been carried out especially to prepare an object for a special occasion. In this scenario, polishing became a way of ritualising an important occasion by marking out the items involved as different to the norm.

Although there is much evidence that the shiny appearance of metals was highly valued, as we have seen above, patinas were sometimes deliberately created. Black patinated silver could have been produced to resemble natural patinas on antique objects, giving the illusion of age⁸¹, and we should also consider whether the oxidised, green appearance of bronze was valued in particular circumstances, instead of a bright, reflective surface. There are many extant Roman period bronze vessels with a green surface; some have been 'restored' to a coppery appearance through conservation (Fig. 5). However, it is difficult to establish their original appearance during the period of their use. Experimental archaeology research has established that artificial patinas of a green colour, along with other colours such as red, black and metallic tones, can be created using acid and alkali reagents, and so this can also be considered as a possibility. Further scientific analysis may help to establish their use more certainly, for instance identifying areas of patinated metal that lie underneath other original features⁸².

Lead-glazed ceramic vessels made principally in Asia Minor during the 1st century A.D. (Fig. 6) have a green colour on their exterior surface similar to oxidised bronze and occur in a range of forms that also exist in metal, such as drinking cups, bowls, jugs and paterae⁸³. A deliberate imitation of

⁷⁵ Plin. HN 33; Haug – Hielscher, this volume, for further discussion of Pliny on this topic. See also Sassi 2015 on the admiration of these qualities in ancient aesthetics.

⁷⁶ Croom 2011, 90.

⁷⁷ On conspicuous waste, including activities that are deliberately time-consuming, see Veblen [1899] 1928, 68–101.

⁷⁸ Croom 2011, 89 f.

⁷⁹ See, for instance, London, British Museum, inv. 1922,0701.1; 1978,0102.532; 2010,8043.1; from metal analysis of a sample from Richborough, tinning appears to increase as a practice in the later Roman period: see Bayley 1984.

⁸⁰ For more on the aesthetics of cleaning, see Saito 2007.

⁸¹ See n. 79 f., above. Some scholars have further argued that ceramics with a black colour may imitate patinated silver, for instance Vickers (1995) but this is widely disputed: see Flecker, this volume; Boardman 1987.

⁸² Devogelaere 2017.

⁸³ Hochuli-Gysel 1977, 21–50 Pls. 1–18, 43–65; Greene 2007, 659.



Fig. 5: Roman copper alloy jug; New York, Metropolitan Museum of Art, inv. 96.18.3.



Fig. 6: Example of a green lead-glazed ceramic vessel; New York, Metropolitan Museum of Art, inv. 43.11.2.

metalware has been suggested⁸⁴, although it has also been pointed out that the relief decoration commonly found on the ceramic vessels is rarely found in bronze⁸⁵. As regards form, parallels with silver have been more frequently documented⁸⁶, but some of the particular forms used are certainly found in both 1st century A.D. bronze specifically and lead-glazed ceramic⁸⁷. The question is not a simple one and is discussed in more detail by Manuel Flecker⁸⁸; he concludes that such glazed fabrics were probably inspired by metal vessels, in line with wider trends observable during the 1st century A.D. for the imitation of one material by another⁸⁹, but the vessel fabrics, forms and glazes show some notable differences from the metal originals, and also continued to develop in a more independent fashion through their period of production.

Although we cannot argue, therefore, that lead-glazed ceramics were intended to deceive a viewer through their imitation of patinated bronze vessels, the green glaze that was chosen for these vessels may well have been chosen for its superficial resemblance to verdigris, and could thus be taken as indirect evidence that a patinated green surface was valued as an index of antiquity for some bronze vessels, in a similar way to the wear on antique silver mentioned by Pliny above⁹⁰.

⁸⁴ Gabelmann 1974; Vickers 1995, 191 f.; Greene 2007, 659; see also Flecker, this volume.

⁸⁵ Hochuli-Gysel 1977, 23.

⁸⁶ Hochuli-Gysel 1977, esp. 22 f.

⁸⁷ Paterae with handles terminating in a ram's head: in bronze, see New York, Metropolitan Museum of Art, inv. 1989.281.87 and London, British Museum, inv. 814,0704.906; 1814,0704.907; in lead-glazed ceramic, see Hochuli-Gysel 1977, 187 W25–26, Pls. 60–61. One-handed drinking cup with flat base and flaring rim (*kalathos*): in bronze, see London, British Museum, inv. 1884,0409.4; in lead-glazed ceramic, see Hochuli-Gysel 1977, 173 W8–11, Pl. 11. Small trefoil mouthed jug with flattened top to body and relief decoration at the handle base: in bronze, see London, British Museum, inv. 1856, 1226.656; in lead-glazed ceramic, see Hochuli-Gysel 1977, 174 W12–13, Pl. 57. For Late Republican forms in bronze more widely, see Feugère – Rolley 1991, esp. the chapter by Boube (1991) on jugs.

⁸⁸ See Flecker, this volume.

⁸⁹ See Flecker, and Engels, this volume; above, on marbled glass; Bradley 2009, 87–110 on imitation of materials more widely.

⁹⁰ In another example, extant green-dyed bone objects can be shown to have been dyed using copper oxides, and so had an even more similar appearance to copper objects which had developed verdigris: see Ferrand et al. 2014. They were probably made as deliberate imitations of such antique objects. As with the vessels, verdigris-covered metal furniture or fittings for furniture may have been valued since the oxidised coating indexed the furniture's antiquity. There is some evidence of furniture with green-dyed hinges (from Pompeii, for example: see Ferrand et al. 2014, 1038), which could have been successfully used to mimic antique furniture: see Swift 2021.

Such vessels in copper alloy would presumably have been employed for display purposes rather than actual use, unless the interior was kept free of oxidation through assiduous cleaning; similar vessels in ceramic were more practically useful, while still conforming to an aesthetic that valued the aged appearance of antique bronze.

As a final example of potential aesthetic experiences in relation to metal vessels, let us briefly examine the Hildesheim bowl (Fig. 4) from a phenomenological perspective, as we did above using the example of a glass bowl. Its central figure in high relief is the stand-out feature and would also have been so in antiquity⁹¹. Silver vessels generally had thin walls, both to eke out expensive materials⁹² and to facilitate repoussé work, and although this central figure appears to be a solid cast figurine, in fact its interior is hollow, meaning that the vessel would appear much heavier visually than it actually was when held in the hand⁹³. If the bowl was intended mainly for display, this might be a deliberate deception, since a heavier item would be more valuable. Yet evidence of wear to the central figurine in particular suggests that it may have been handled repetitively, perhaps with enjoyment of this tactile experience⁹⁴. The directionality of the central motif means that the vessel would have been viewed and handled predominantly from one angle. Other visual features are the colour contrast between the silver of its body and the gilded rim, and the reflective shine of the silver, each perhaps juxtaposed with the aesthetic qualities of any contents. If used as a dining vessel, the taste of the silver would be less obtrusive than that of copper alloy, even if it did not offer the neutrality of glass.

It is clear from this brief discussion that although metal did not offer quite the range of qualities that glass did in terms of aesthetic features, a range of surface textures and colours could be exploited, and the changes that occur to metal surfaces over time were a notable feature of the aesthetics of this material, creating problems in functional terms, as well as new aesthetic possibilities.

Organic Materials

Organic materials like ivory, bone, wood, amber and jet were used widely in the Roman period for small artefacts⁹⁵. These materials have distinctly different sensory qualities to those of inorganic materials like glass, metal and stone. Compared to the latter, they are relatively light in weight and less cold to the touch. Their particular features were utilised in ways that are consistent with the known aesthetic preferences of elite Roman culture, for example the use of ivory to mimic flesh in statues, as mentioned above. However, organic materials also had qualities that are likely to have been perceived unfavourably in aesthetic terms with regard to use in making vessels for eating and drinking. Even in the waterlogged and dry contexts in which wood survives well, there is relatively little evidence that wood was used for utensils intended to handle food and drink, like spoons, for example⁹⁶. Use of wood for such items may have been avoided because it was a relatively porous

⁹¹ Cicero's account of the Verres scandal makes clear that figurative elements in silver plate were highly prized in the Late Republic (Cic. Ver. 2, 4). See Lazzaretti 2014 on Verres and Cicero's attitudes towards collecting; see also Lapatin 2015, 36–38.

⁹² Vividly illuminated in Mart. 8, 33.

⁹³ Kent Hill 1943. Manufacturing techniques for the Hildesheim silver plate are discussed by Niemeyer (2007) who concludes that there is no evidence the central figurine was filled with a substance such as solder: see Niemeyer 2007, 175.

⁹⁴ The wear could also result from particular attention to the figurine when cleaning the object. The bowl's history must also be considered; since it was found in the antiquarian period, wear to the object could have occurred after it was found, although this is perhaps less likely.

⁹⁵ For an overview of the use of organic materials for luxury objects, see Lapatin 2015, 171–192.

⁹⁶ Pugsley (2003) studied Roman domestic wood from Britain; the most prolific sites for wooden artefacts, Carlisle, London and Vindolanda, collectively produced only four examples, not all of them definitely spoons: see Pugsley 2003, 8 f. 157 f. cat. nos. T061. T062. T065. T075.

material that absorbed the flavours and smells of the food that it was used with⁹⁷. Wood was possibly also avoided for eating vessels for the same reasons, at least by those who could afford to buy ceramic wares⁹⁸. Instead, organic materials were used to make containers for other purposes⁹⁹.

In many instances there is likely to have been a reflexive relationship between the properties of particular materials that were useful in functional or symbolic terms and the way that these materials came to be valued aesthetically. Textual evidence illustrates that boxwood, for instance, was well understood in the Roman period as optimal for the manufacture of small wooden objects, thanks to its density, hardness, fine grain and light colour. Many of these properties made it especially suited to the creation of small, turned wooden containers¹⁰⁰. The way that it resembled ivory was probably also important, especially as a similar material – bone – was only available in relatively small lengths and thicknesses. The popularity of boxwood is borne out by the existence of many extant examples of small cylindrical boxes turned in boxwood, as well as other objects, like combs¹⁰¹.

Qualities that made specific woods suitable for particular uses are likely to have been valued also for their utility from the perspective of functionalist aesthetics¹⁰². Yet these qualities would also have been admired because they were shared with more valuable materials, and it is also not difficult to see how qualities such as the weight, smoothness and light colour of boxwood could have been perceived to be, or developed into, pleasing and desirable features irrespective of their functional utility in practical terms. Such qualities were probably felt to be appropriate and valuable in part merely because they were established as the ‘correct’ qualities for the categories of objects concerned and thus adhered to established cultural conventions.

A substance like amber or resin had multiple sensory qualities in aesthetic terms, including visual qualities such as transparency, colour and light reflectivity, which caused a shiny appearance, as well as the warmth and possible resinous smell that might be generated on rubbing this substance in the hands¹⁰³. Amber as a material thus corresponded to ancient aesthetic preferences for variegation across the senses, making it easy to understand how it brought pleasure to its elite users when used as a material for a range of artefacts, including easily handled small containers¹⁰⁴. It also had perceived magical and medicinal properties that would have been enhanced by its sensory aspects¹⁰⁵. Pliny tells us that different grades of amber were available, and these were judged according to aesthetic qualities such as colour and transparency. Notably, he criticises amber as a singular material, in the sense that it had neither a practical nor a display function, providing only a personal satisfaction. By this, he presumably means that amber was not available in sufficiently large pieces to be used as a material for display purposes, as in furniture or architectural decoration, for example¹⁰⁶. Yet amber usage probably did have a display element, albeit in smaller objects like figurines, *pyxides* and caskets that often have deeply cut relief decoration providing tactile as

⁹⁷ Swift 2017, 110. Beechwood may be an exception, as according to Ulrich (2007, 250), the seasoned wood has an absence of odour and taste. Pugsley’s corpus of wooden vessels and kitchenware from Roman Britain, however, does not contain any examples in beech among those with the type of wood identified: Pugsley 2003, 155–158.

⁹⁸ Pugsley 2003, 100–108.

⁹⁹ For more on boxes in organic materials, see Sobel 1991; Pugsley 2003, 60–82; Swift 2017, 197–200.

¹⁰⁰ Ulrich 2007, 231, 245 f. Ulrich notes that the Greek word for boxwood is *pyxos*. See also Mols 2002, 226.

¹⁰¹ Pugsley (2003) provides many examples across the range of objects produced.

¹⁰² An exceptional example is citrus wood that was extremely durable, and resistant to wine stains: see Matthews 1969, 31; Lapatin 2015, 180 f. However, this wood was prized because of its scarcity, exoticism, decorative grain and aromatic smell as much as for any functional qualities.

¹⁰³ Probably the scent referred to in connection with amber mentioned by Pliny and Martial emanated from resin that had not yet become completely fossilised: see Plin. HN 37, 11 and Mart. 3, 65.

¹⁰⁴ See Calvi 2005 and Strong 1966 for some examples. For more on amber in the ancient world, see Causey 2011; Lapatin 2015, 181–182. On variegation as an aesthetically desirable feature, see Grand-Clément 2015.

¹⁰⁵ Causey 2011, 70–88; Davis 2018.

¹⁰⁶ Plin. HN 7, 12.

well as visual interest¹⁰⁷. It is also interesting to consider Pliny's remark about private enjoyment in relation to the function of a luxury material like this in providing private, personal confirmation and reassurance to its owner of their own elevated position in society. This stemmed from not only the aesthetic pleasures that the object afforded the visual, olfactory and haptic senses, but also from the owner's ability to purchase such an object, and its status as a luxury material because of its rarity and exoticism as an imported material from beyond the Roman frontier.

This brief survey of organic materials highlights the contrast between wooden objects, with their many possible modes of aesthetic appreciation, from functional efficiency to imitative qualities, and elite substances like amber, easily judged by established Roman aesthetic criteria. It also illuminates the differences in sensory qualities between organic and inorganic materials.

Discussion

It is evident that aesthetic preferences in relation to objects, and in particular with regard to the materials chosen for vessels and containers, were complex. There were a variety of reasons why specific materials were deployed. Valued aesthetic features could include appreciation of the functional suitability for a specific purpose displayed by particular materials (for example, boxwood's suitability for the manufacture of small boxes). However, there was also appreciation of a more indirect conformity to the principles of *decorum*, or 'appropriateness', in which the imitative nature of material qualities were particularly appreciated, whether because they imitated more precious materials across multiple senses (for example, bone for ivory), or resembled the products that the artefacts were used with (transparent glass vessels for water). Concepts of *decorum* could have also extended beyond imitation, so that, for example, using the 'correct' materials for a particular object may sometimes have been regarded as a necessary component in that object's completeness.

Aesthetic features of vessels and containers often corresponded to visual aspects valued in Roman aesthetics, such as symmetry, balance and harmony, although there is also evidence of different aesthetic principles in operation, as discussed above for mosaic glass. We can see that qualities such as reflectivity, and the opacity or transparency of a material, were valued alongside more obvious features such as colours. Sometimes the potential of particular materials to create innovative effects is demonstrated in a way that suggests it was also valued. The importance of other sensory qualities beyond the visual can also be demonstrated, such as weight, pleasant odours and an absence of strong taste. Visual aesthetic qualities (for instance, reflective surfaces of vessels and equipment used for dining, illuminating an absence of unpleasant-tasting surface corrosion) could, on occasion, stand as an assurance that other sensations would also be pleasant in relation to the experience of using an object. The use of substances such as amber, which possessed a range of notable sensory qualities, exemplifies the way in which Roman elite culture made full use of the variety of sensual stimulation that given materials made possible.

As mentioned at the beginning of this paper, and as is also very evident from the examples discussed, aesthetic preferences with regard to objects have to be understood in the context of social relations, most obviously, in the assertion of status and power. These affected how particular material qualities were regarded, and this is worth exploring in a bit more detail.

At the most basic level, pleasing aesthetic qualities exist in order to attract and attach people to objects. Most obviously, we can consider this from the perspective of conspicuous display, for instance, the way in which the desirable and pleasing visual and (other) sensory features of an object, including its material qualities, might create admiration or envy in an onlooker. This then

¹⁰⁷ For some examples of amber containers, see London, British Museum, inv. 1866,0412.3a; 1866,0412.3; 1877,0309.1. See also Calvi 2005, cat. nos. 497–499 Pls. 117 f.

enhances the pleasure that the object's owner enjoys and the value that they themselves place upon the object¹⁰⁸. We can also consider it, however, from the producer/seller's point of view (in the ancient world, this was often the same person). During the manufacturing process, the craft producer's own scale of aesthetic values would assist them in producing an artefact from specific materials. These would also be likely to please others, and the producer would gain enjoyment and a sense of pride in their craft from successfully endowing an object with a range of desirable aesthetic material qualities, such as those discussed above for glass, metal, wood and amber vessels and containers. As Saito notes, aesthetic qualities are an important factor in the decisions people make about purchasing goods¹⁰⁹, and the craft producer's motive – to attract the consumer and to foster consumption – was aided by the use of materials and designs that were considered pleasing in cultural terms, whether visually, or in the creation of the pleasant sensory experiences of touch, taste, smell and hearing. It is clear from the design features and materials used for artefacts that fostering aesthetic pleasure was a concern of those producing not only elite goods, but everyday ones as well.

Material qualities like the fragility of glass, potentially appreciated in aesthetic terms, could also be exploited in the pursuit of power relations (as we see in Pliny's reference to the fragility of 'murrhine' ware and vessels made from expensive materials like rock crystal)¹¹⁰. Apart from the cheapest items of this kind, fragile objects could only be readily replaced by the wealthy, and so formed a perfect arena for conspicuous consumption. Materials that were particularly susceptible to tarnishing, like shiny metal, had aesthetic qualities that were also useful in status assertion due to their demanding maintenance requirements.

As noted already, aesthetic judgements were contingent on context. For instance, marks of ageing in materials, such as surface oxidation, patina or wear marks, were sometimes perceived as desirable features because of the way that they indexed the antiquity of an object, even though in other contexts these qualities were perceived negatively in aesthetic terms.

Evidence for changing fashions in the types of vessels and containers that were considered aesthetically pleasing has also been discussed, for instance in relation to glass vessels. Aesthetic preferences would therefore have been complex to navigate for those unfamiliar with prevailing cultural conventions and the ways in which these could vary. Moreover, the display of objects that exemplified accepted aesthetic preferences (or 'good taste') attested to an education in the correct cultural values – a process that was in itself an expensive one. Luxury objects exhibiting aesthetic preferences that differed from established conventions, noted above, are likely to have been significant in status assertion. They could have been used in status games that played with the opposites of established norms, perhaps within particular social cliques. They might also reflect rapidly changing aesthetic values, or demonstrate the influence of new technology in relation to specific materials that brought about such changes over a period of time.

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108 Gell 1998.

109 Saito 2007, 56.

110 Plin. HN 33, 2.

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