

# **A Case of Serial Production? Julio-Claudian “Tureen” Funerary Urns in Calcitic Alabaster and Other Coloured Stone**

**Simona Perna**

The production and consumption of copious quantities of repetitive material culture are recognised features of Roman culture and society. Undeniably, the replication or serial production of artefacts – namely similar items sharing the same production means<sup>1</sup> – is found in many pre-industrial, non-mechanised ancient societies, such as Pharaonic Egypt and Classical Greece. However, it reached its peak in the Roman period. Roman pottery, tiles, coins, glass, bricks, stone sculpture, architectural elements and sarcophagi, but also most paintings, mosaics and reliefs are all classes of ‘standardised’ objects and artistic productions that can be quite easily categorised and thus aptly lend themselves to the study of the mechanisms of ancient serial production.<sup>2</sup> The latter is synonymous with standardisation, large-scale manufacturing, mass-production, and production-to-stock.<sup>3</sup> These modern terms have been used to explain the making of many ancient repetitive objects, particularly from an economic perspective. However, whilst these modern concepts are useful analytical tools, it is important to appreciate the many differences between ancient and modern serial production. For example, the wider socio-cultural, aesthetic, and contextual implications behind the emergence of serial production often have been overlooked. It is now acknowledged that the demand for standardised objects in Roman society was primarily a socio-cultural phenomenon determined by the adoption of a universal visual language. This was triggered by, amongst other factors, competition, emulation, conspicuous consumption, social changes, and social mobility.<sup>4</sup> These factors, and the now recognised importance of the role of customers in shaping the style and selecting the images of artistic productions, make it apparent that serial production in the Roman world was a more heterogenous phenomenon than anticipated, which was often motivated by much more than purely economic factors.

A case in point may be represented by the early Imperial cinerary urns carved in calcitic alabaster and other coloured stones. The sixty-five examples gathered so far are characterised by a double-handled hemispherical body with lid, pear-shaped finial and a short foot.<sup>5</sup> Such a peculiar shape, which I have labelled ‘tureen’ for its resemblance to a modern soup-bowl, began to appear in élite tombs at the end of the 1<sup>st</sup> century BC and reached a standardisation in the Julio-Claudian period (fig. 1). The apparent sameness of these artefacts, together with their repetitive features and typological idiosyncrasies, point to a potential case of serial production. The limited overall output, geographic spread and time span characterise it as a small-scale phenomenon prompted by a boom in demand in a relatively brief period of time. I argue that the tureen production responded to both aesthetic and economic factors and while these are not mutually

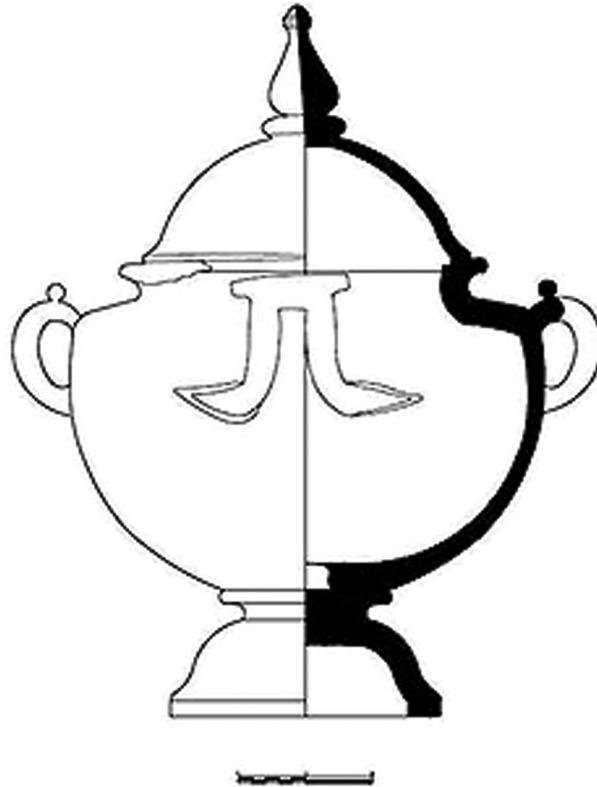


Fig. 1: Drawing of Tureen B from Rome, Museo Nazionale Romano, Terme di Diocleziano, Storage rooms; Inv. No. 531595.

exclusive, they are deeply rooted in ideological and socio-cultural aspects. To prove this point, and to further contextualise the hypothesis of a serial production, I shall illustrate the features of the tureens and discuss aspects of their semiotics, patronage, and distribution.

### **The Tureen Urns: Features and Semiotics**

The tureen urns are characterized by a hemispheric body with a narrow neck and a horizontal, round, or straight-edged shoulder. The body varies from elongated to shallow and, depending on the width and height ratios, three main variants may be identified: A (height is more than the maximum diameter); B (height and width almost correspond to a perfect cube); and C (height being less than their diameter). The surface of most tureens is undecorated, a factor which differentiates this funerary production from other contemporary Roman stone urns. A pair of loop handles projects out from the sides and may attach either on the shoulder or on the neck of the vase. The lower attachment is typically shaped as an elongated leaf, a late Classical/Hellenistic motif

that regained popularity in the Julio-Claudian period as a handle complement for vases in metal and other materials. The lid is either conical, domed or convex and presents a pear- or teardrop-shaped finial. This latter feature so markedly characterises these urns that it seems to have been more than a mere ornament. Similar finials, often in miniaturised form, can be found on Classical Greek and Hellenistic ceramics and on late Republican archaizing metal vessels. However, the tureens' finial presents strong similarities with the tear-bottles and ointment jars that were placed next to, inside, or on top of cinerary urns. The choice of a shape with a strong funerary connotation was therefore deeply semiotic, but I argue it was also a technical one. The foot is generally convex and, like the finial, finds parallels on vases in other media. The average complete height and diameter of the tureens are 50 and 45 cm respectively, with an average weight of 20 kg and internal capacity of 5.8 lt. The thickness of the urn's body and its parts is constant: about 2 cm at the shoulder and bottom and 1 cm on the walls.<sup>6</sup> It may be thus envisaged that the tureen responded to a system of proportions that was based on complex geometric and mathematical calculations transposed onto stone by careful squaring. Sixty out of the sixty-five tureens are carved from a yellow, semi-translucent, and honey-coloured stone traditionally called 'Egyptian alabaster'. The reasons behind the preference for such material are manifold, and include symbolic and aesthetic factors connected to the stone's colour and origin as well as its physical characteristics.<sup>7</sup> Of the rest, three tureens are carved from purple porphyry, one from pink/red granite, and one from olivine basalt, all of Egyptian origin.<sup>8</sup>

The tureen's shape is a melange of elements which appear to be carefully selected from a repertoire of Archaic, Classical, and Hellenistic metal and pottery containers. The overall profile of the urn in fact can be assimilated to that of a volute amphoroid crater (variant A); a *stamnos* or *dinos* (variant B); a shallow *lebes* (variant C). Since the Orientalising period, these shapes, particularly *dinoi* and *lebetes*, were imbued with complex eschatological connotations and had strong connections with the ritual sphere across the Mediterranean. The 6<sup>th</sup> century BC *dinoi* from Capua were produced exclusively for funerary purposes by specialised workshops at Capua. The tureen shape, especially variant B, shows the closest formal similarities with these latter objects, which also offer the closest geographical parallels. Without implying a direct relationship or historical continuity with the past meaning and use of these vessels, I suggest that the tureen is the synthesis of these meaningful iconographic prototypes. The shape of the tureen did not need to have carried a specific meaning, and may simply be a formal choice motivated by aesthetic perceptions. Nevertheless, it is possible that the ritual and ceremonial associations of those earlier containers were not completely lost, but were somehow still perceived as both sacred and apt for the funerary context in the Roman period. Lidded tureen-like vessels featured in sacro-idyllic Second Style frescoes and their contemporary mosaics and became more frequent in the Third Style frescoes from the Augustan period. This is the time around when the coloured stone tureen urns came into use (fig. 2). I argue that

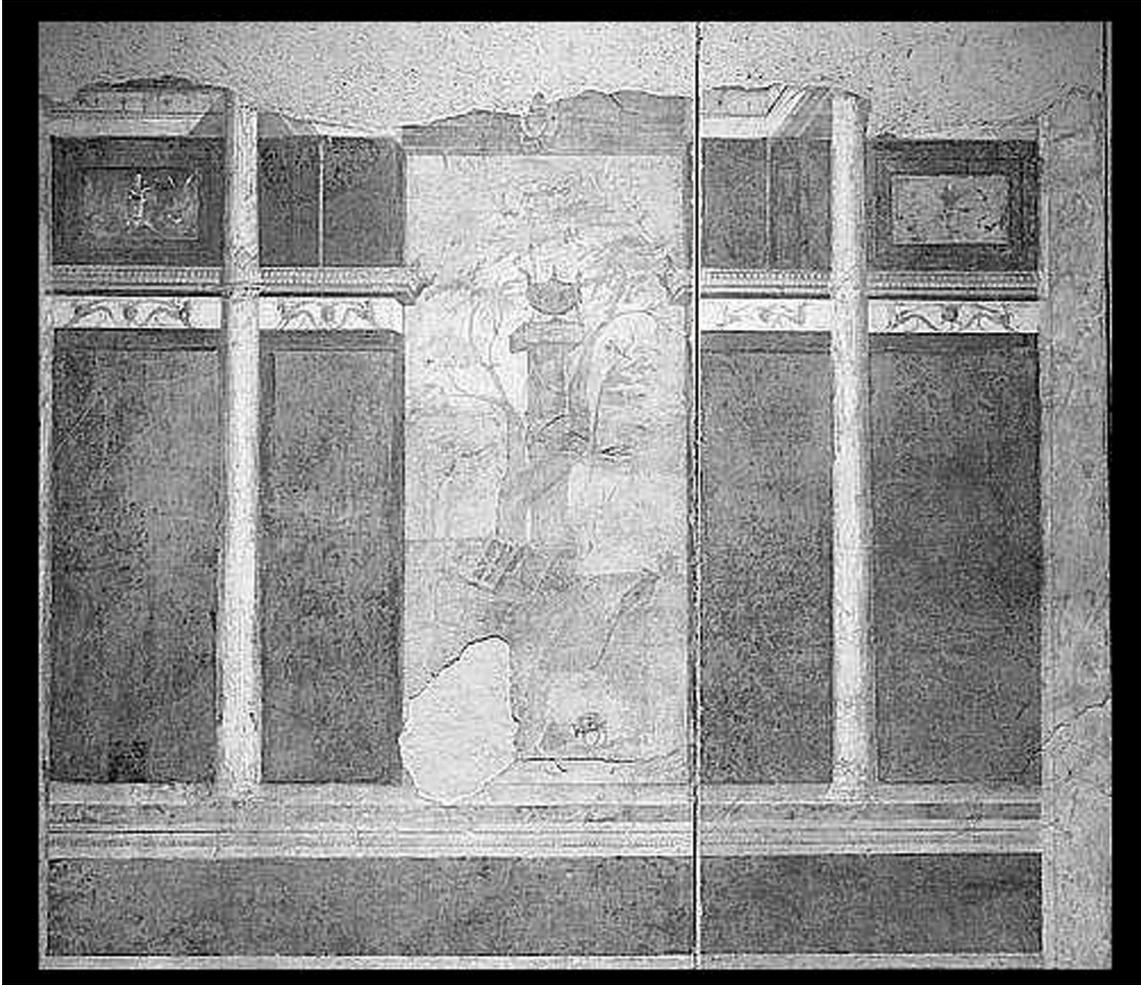


Fig. 2: Detail of a tureen-like vase on a pillar in a fresco: triclinium/oecus, House of “Livia” on the Palatine (Rome).

this is not a coincidence. Antiques, particularly Archaic, Classical, and Hellenistic vases, became sought after from the late Republican period into the Augustan age as they were deemed to possess, amongst other qualities, magical and apotropaic powers. “Necrocorinthia” is the definition given by Strabo to the many ceramic and metal objects the Caesarean colonists of Corinth began to dig out from ancient tombs to satisfy the increasing demand for antique art-works.<sup>9</sup> The phenomenon increased in the Augustan period when the demand for genuine antique metal vases led to the production of replicas. Capua was among the Italian centres that produced and reproduced metal works. I would not exclude that the local metal workshops, primarily those at Capua, were responsible for the dissemination into the late Republican period of a repertoire of traditional bronze vessel shapes that stylistically inspired the tureen. Augustan visual arts and propagandistic imagery

is packed with deeply evocative symbols that drew upon Archaic and Classical forms. The tureen urns, with their retrospective and eclectic shape, represent the physical and material manifestation of the Augustan allegorical syntax. The choice of the shape may be further understood considering the use of the new exotic stones. From the late Republican period onwards, marble became a powerful status marker and the taste for coloured stone items increased over time, but often with the contempt of moralists. I argue that the tureen was created with the intention to transpose a familiar formal language into an imported stone to fit a Roman ritual context. The classical-archaizing shape of the tureen, which appeared familiar and symbolically charged, encompassed people's desire to display a funerary urn in quintessentially Egyptian stone, but without having to give up a sense of tradition and piety.

### The Distribution and Patronage of the Tureen Urns

Stylistic similarities and contextual evidence suggest a period of production and use for the tureen that runs from the end of the first century BC (Early Augustan period) to the mid-second century AD (Antonine), with a peak in the mid-first century (Julio-Claudian). In particular, type A appears as the earliest, while B is the most ubiquitous variant with the highest number of examples. This suggests a certain degree of standardisation inside and outside Italy by the Julio-Claudian/Flavian period. The tureen urns mainly appear across the Western part of the Empire (table 1). Judging by the current total of examples, the tureens were produced for a fairly narrow group of individuals in Italy and in some provinces that sought to distinguish themselves in death by means of these exotic containers in fancy materials (fig. 3). Elaborate funerary monuments, the methods of burial of these urns, and rich caches of grave goods (e.g. jewellery, coins, vessels) buried with or within them, attest to a desire to display status through

Tureen Find-spots	Tureen Total	Tureen Average type
Italy	24	A, B, C
France	8	A, B
Libya	4	B
Croatia	2	B
Egypt	2	C
England	1	B
Spain	1	B

Table 1: Breakdown of the find-spots of tureen urns, total number and types.

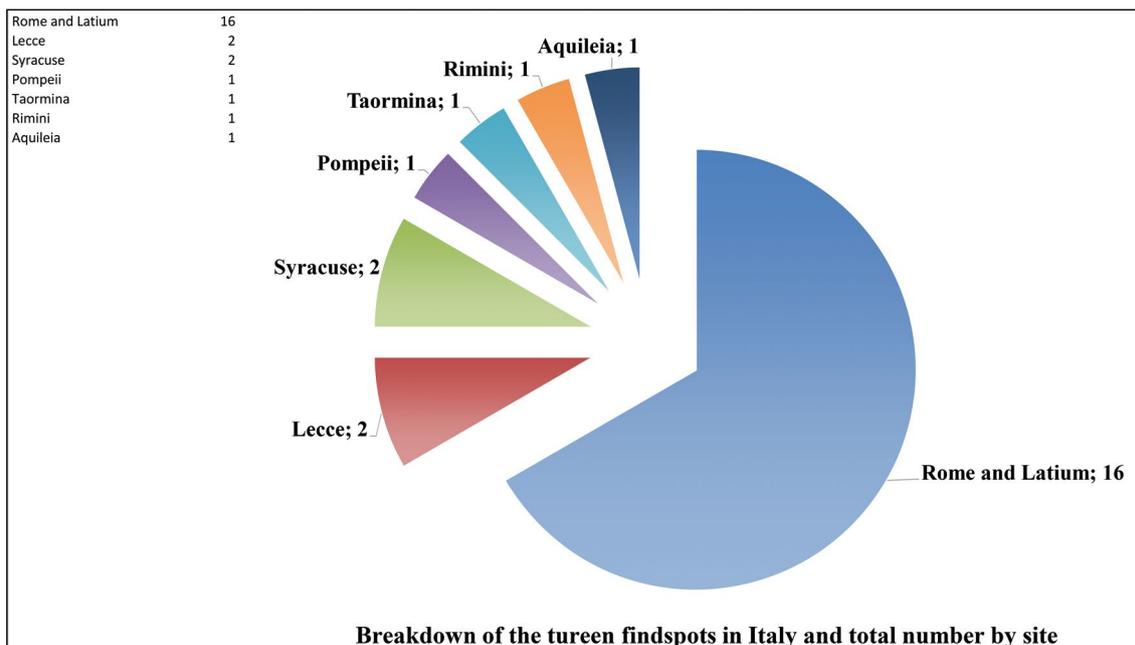


Fig. 3: Graph of the breakdown total of the tureens from Italy.

conspicuous funerary expenditure. Textual evidence confirms that the deceased were members of the high-ranking élite in Rome, including members of the Julio-Claudian family as well as imperial *liberti*, and in provincial contexts in Southern France (Aqua Sextiae) and Libya (Leptis Magna).<sup>10</sup>

### The Tureen Production: Technicalities, Tools, and Workshop Organisation

The reconstruction of the tureen carving procedure (*chaîne opératoire*) is based on the analysis of the working traces and metrology of several genuine examples (mainly of calcitic alabaster B-variants) and is thus hypothetical. However, cross-cultural comparison of both pre-industrial and modern stone working practices, complemented by the archaeological evidence make it highly plausible.<sup>11</sup> One of the most striking aspects of this production is that the foot and the finial were separately carved and joined to the body and lid, while most of the handles are carved in one piece with the body. As for the tools used, the evidence allows the following suppositions: a tubular drill was used for hollowing the interior of the body and the lapidary lathe (possibly propelled by hydraulic power) was used to fashion the lid, foot and finial.<sup>12</sup> This hypothesis is further supported by the fact that there is a great correspondence, as we have seen, between the tureen parts (namely the foot and the finial), and pottery and metal forms, which were normally turned. As Dorothy Kent-Hill observed “cross currents from one industry to another naturally became stronger when the forms developed in one industry were

Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Squaring	Roughing out/ cutting	Surface Preparation: Soaking/ coating	Tubular drilling	Hollowing by abrasion	Cutting/ Drilling/ Shallow carving/ abrading	Abrading/ polishing	Gluing/ pinning/ waxing
	Sawing			Cutting/carving			
				Lathe turning			

Table 2: Breakdown of the stages of the hypothetical carving sequence.

suiting to the other”.<sup>13</sup> I argue that the finial and foot were carved from the core that was extracted from the body through tubular drilling. The separate carving of these elements not only allowed a certain rationalization in peak production times and the efficient recoup of the costly debris, but it also avoided breakage of the protruding parts during consignment operations. Overall, the hypothetical manufacturing sequence was quite laborious as it was presumably carried out in some seven stages from roughing-out to polishing (table 2). According to mathematical calculations, the estimated total manufacturing time for a calcitic alabaster (Mohs 3.5) type B tureen measuring 50 cm × 45 cm is ± 70 days, but that may be halved depending on the division of labour. This figure is doubled in the case of tureens in porphyry, granite and basalt, which are harder stones (Mohs 7), although their body and foot seem to have been carved in one piece. It must be pointed out that this is only one of the many possible carving scenarios for the tureen urns, as methods would be adjusted by specialist artisans according to the quality and size of the stone block. The origin of the stones, particularly calcitic alabaster, suggests a specialised input (or training and apprenticeship) of entrepreneurial artisans almost certainly of Egyptian origin. From a technological perspective, the use of specific stone-drilling tools, such as the tubular bit, and equipment such as lathes (based on a presumed eastern origin of this tool), supports an Egyptian connection.<sup>14</sup> It may be persuasively argued that the Egyptians undoubtedly had the necessary know-how to carry out the work, having behind them one of the most prolific stone-vessel industries in antiquity. The technical similarities of the tureens show a fairly coherent workshop tradition particularly in Rome, where all three subtypes are attested and from whence the trend stemmed. Therefore, it can be inferred that production essentially took place in Rome by the initiative of one or a small group of nucleated workshops which relied upon specialist artisans or were run by the artisans themselves. On the other hand, the distributional pattern based on the known find-spots reveals tureen consumption clusters in certain areas, particularly in Southern France (Gallia Narbonnensis). It may be envisaged that the urban workshop(s) sent out their products upon commission to the end destination via preferential distribution networks. Artisans might have occasionally travelled to ensure the urn arrived safely, to finish the commission *in situ* or to meet the demand in those provinces where request was high.

### Variants of the Tureen Type: Technical Measures, Trademarks or Customisation?

Behind the apparent homogeneity of the tureens exist several variations of the lid, foot or finial profile, and of the handle's attachments. These variations are distinguishable into sub-types<sup>15</sup> and occur across all the three body types (A, B, C) without a clear set pattern. This is illustrated by the three calcitic alabaster tureens discovered in Rome in the same tomb dating to the Julio-Claudian period (fig. 4). They are stylistically very much alike, however, they have different lids, finials, handles and even body profiles (table 3). Given their common find-spot and possible provenance from the same workshop, these variations may be due to the individual taste of the persons buried in each one of them (members of the same familial nucleus?), different artisans, material constraints and/or even a slight chronological disparity. Therefore, these variants might well be due to the agency of both the artisan and patron. Firstly, they are an unequivocal sign of artisanal work where no two objects are completely alike, but also of the artisan's problem-solving skills in masking faults and adjusting the model according to the material. Despite the highest experience of the artisans and careful squaring, stone carving is a subtractive process and some flaws are beyond repair. Carving stone, regardless of its hardness, can be an arduous task and complications, such as overcutting and accidental breaking,



Fig. 4: The tureens from a funerary monument on the Via Laurentina – Tre Fontane (Rome, excavated 1957).

Tureen Type	Material	Measures	Lid Type	Finial Type	Handle Type	Foot Type	Findspot	Location	Inv. No.	Date
B	C. Alabaster	53 × 45 cm	a3	a1	b2	a1	Rome	Museo Nazionale Romano	531595	Julio-Claudian
B	C. Alabaster	50 × 50 cm	a2	a1	b2	a1	Rome	Museo Nazionale Romano	135737	Julio-Claudian
C	C. Alabaster	32 × 41.5 cm	a1	a2	b	a1	Rome	Museo Nazionale Romano	135538	Julio-Claudian

Table 3: Breakdown of the variations of the three tureens from Rome.

may arise due to the material's natural faults.<sup>16</sup> Secondly, the constraints imposed by the material, such as the quantity of stone, must have also influenced the result. Thirdly, the artisan would have had to respond to the customer/buyer's requirements, both aesthetic and financial, and to adjust the model in order to result in a "made-to-custom" product. A certain degree of customisation is detectable in other forms of repetitive Roman artistic productions, such as frescoes<sup>17</sup> and sarcophagi<sup>18</sup>, which show that customers (buyers or patrons) altered or adapted the visual language according to taste, requirements, and context. These resulted in unique products that combined personal preferences with large-scale trends. On the other hand, some of the tureen variations may be indicative of the existence of more than one workshop sharing technological know-how, or of different artisans within the same workshop. An interesting case in point may be represented by a ribbed motif, namely a series of horizontal lines across the centre of the loops of the handles. In one case, it takes the shape of a horizontal band tying the loops together at the centre. Such a pattern might recall the ribbons and fabric bands that were knotted around the handles and necks of cinerary urns and ritual vases in antiquity. The ribbing is found only on six urns and may well represent the "trademark" of a given workshop or artisan within it (table 4). This seems to be confirmed by the fact that there are five urns from Rome and only one from France which could have been imported directly from Rome. Or, at the most, they were carved locally by an itinerant artisan "of the ribbed handles", who was sent for or travelled to France. On the whole, the tureens show high standards of workmanship that had to be directly proportional to the value of the stone and to the social level of the commissioners.

### Conclusions: A Case of Serial Production?

The making of the tureens involved skilled artisans, tools, and techniques that reveal signs of rationalisation and production in series. However, given its idiosyncrasies we might speak of a serial production "sui generis" rather than "stricto sensu". First, the

Tureen Type	Material	Measures	Lid Type	Finial Type	Handle Type	Foot Type	Findspot	Location	Inv. No.	Date
B	C. Alabaster	43 × 42.5 cm	M?	M?	b1 ribbed	M	Rome?	Vatican Museums	204a	Julio-Claudian?
B	C. Alabaster	27 × 30 cm	–	–	a1 ribbed	–	Rome	Museo Nazionale Romano	516580	Julio-Claudian
B	C. Alabaster	30 × 25 cm	–	–	a1 ribbed	a1	Rome?	Capitoline Museums	3535	Julio-Claudian?
B	C. Alabaster	–	a3	a3	b3 ribbed	a1	Meynes, France	Chateau de Clauzone	–	Julio-Claudian?
C	C. Alabaster	28.2 × 50 cm	a1	a1	b ribbed	a1	Unknown	Rome?	–	Julio-Claudian?
C	C. Alabaster	22 × 40 cm	–	–	a1 ribbed	a1	Rome	Capitoline Museums	2354	Julio-Claudian

Table 4: Breakdown of the tureens with the ribbed handles and their different features.

extant number of tureens seems to suggest that overall it was a small-scale production. Thus, it shows that production in series did not always imply the reproduction of large numbers. Second, the variants within the standardised type characterise this as a serial production with a highly customised character, influenced by the consumer's choice, but also by a certain individuality of the product. This may represent the "signature" of a workshop or product of artisanal work. Given the small quantity of objects produced and the limited time span – early Augustan to late Flavian period –, such rationalisation and production in series might be understood and thus explained as responding to a sharp increase in the demand for these funerary items. Calcitic alabaster non-tureen urns began to appear in late Republican elite tombs in Rome and Italy, a factor which seems to have later stimulated the demand for tureen urns.<sup>19</sup> The impetus was given by a shift in the social fabric, which prompted early Augustan wealthy individuals (élite, sub-élite and non-élite) to seek novel, alternative means to express their status in death. The demand was met by highly skilled foreign artisans familiar with the materials and carving techniques who introduced novel tools – the tubular drill and lapidary lathe – and methods of production – separate movable elements, drill coring. In many ways, the actual standardisation of the tureen shape was determined by the élite embracing this form of funerary trend. Therefore, it can be argued that the tureen production was not a strictly economic phenomenon. The tureens make it apparent that ancient serial production responded to diverse criteria and presented itself each time with different facets. However, whilst this may be unsurprising for pre-industrial, non-mechanised societies where "systems changed and methods too, down to the individual workmen, it would be wrong to expect absolute uniformity and absolute standardisation"<sup>20</sup>, it requires more nuanced explanations. The example of the tureen urns shows that beyond sarcophagi, statues, and other 'standardised' stone objects, which have been taken as symptomatic of

Roman mass-production, there are additional categories of artefacts, whose manufacture somehow conformed to the principles of serial production. However, their economic and socio-cultural implications need careful examination in order to avoid oversimplification and, above all, interference with views deriving from modern industrial manufacturing.

### Notes

<sup>1</sup> On the definition of ‘serial production’, see Wilson 2008.

<sup>2</sup> On some of these categories see Harris 1980; Fülle 1997; Trimble 2000; Daehner 2007; Russell 2007.

<sup>3</sup> All roughly characterised by a certain division of labour, standardisation of sizes and forms as well as the creation of standardised interchangeable parts. However, these also are dependent upon the extent of the market, Wilson 2008, 393.

<sup>4</sup> On this, see for example Stuart 2008.

<sup>5</sup> Perna 2014.

<sup>6</sup> Perna 2015a.

<sup>7</sup> Perna – Barker 2018.

<sup>8</sup> Price 2007.

<sup>9</sup> Strabo, 8, 6, 23; Suet. Caes. 81.

<sup>10</sup> CIL VI 19; CIL VI 34939; CIL VI 22868, Perna 2012, 787–800.

<sup>11</sup> For a summary see Bevan 2007.

<sup>12</sup> Perna 2015b.

<sup>13</sup> Kent-Hill 1947, 256.

<sup>14</sup> Stocks 2003.

<sup>15</sup> Handle types: attaching on rim (a–a1–a2), shoulder (b–b1–b2–b3), or other (c). Lid types: convex (a1–a2), domed (a3), concave/conical (b), or other (c). Finial types: piriform (a1–a2), round (b), or other (c). Foot types: detached-high (a1–a2) or un-detached (b1–b2). These categories of course apply exclusively to genuine surviving elements; in many instances there are modern replacements (M) or parts that are irreparably missing (-).

<sup>16</sup> On this, see Rockwell 1993.

<sup>17</sup> Esposito 2017, 264–289 on IV-Style Pompeian frescoes.

<sup>18</sup> Huskinson 2015 on the semantic variables of strigillated sarcophagi, one of the most standardised forms of sarcophagi.

<sup>19</sup> Perna 2015b.

<sup>20</sup> Ward-Perkins in Dodge – Perkins 1992, 39.

### Image Credits

Fig. 1: by author. – Fig. 2: after Peters 1963, fig. 33. – Fig. 3: by author. – Fig. 4: after Perna 2012, 793 fig. 7. – Table 1–4: by author.

## References

### **Bevan 2007**

A. Bevan, *Stone Vessels and Values in the Bronze Age Mediterranean* (Cambridge 2007).

### **Daehner 2007**

J. Daehner (ed.), *The Herculaneum Women. History, Context, Identities* (Malibu 2007).

### **Dodge – Perkins 1992**

H. Dodge – B. Ward-Perkins (eds.), *Marble in Antiquity. Collected papers of J.B. Ward-Perkins* (London 1992).

### **Esposito 2017**

D. Esposito, *The Economics of Pompeian Paintings*, in: M. Flohr – A. Wilson (eds.), *The Economy of Pompeii, Oxford Studies on the Roman Economy* (Oxford 2017) 264–289.

### **Fülle 1997**

G. Fülle, *Arretine Sigillata Industry*, *JRS* 87, 1997, 111–155.

### **Harris 1980**

W. Harris, *Terracotta Lamps Industry*, *JRS* 32, 1980, 126–145.

### **Huskinson 2015**

J. Huskinson, *Roman Strigillated Sarcophagi: Art and Social History* (Oxford 2015).

### **Kent-Hill 1947**

D. Kent-Hill, *The Technique of Greek Metal Vases and Its Bearing on Vase Forms in Metal and Pottery*, *AJA* 51, 3, 1947, 248–256.

### **Perna 2012**

S. Perna, *The Colours of Death. Roman Cinerary Urns in Coloured Stone*, in: A. Gutiérrez Garcia – M. P. Lapuente – I. Rodà (eds.), *Interdisciplinary Studies on Ancient Stone. Proceedings of the IX ASMOSIA Conference Tarragona 2009* (Tarragona 2012) 787–800.

### **Perna 2014**

S. Perna, *Roman Cinerary Urns in Coloured Stone: Production and Significance* (Diss. Royal Holloway University of London 2014).

### **Perna 2015a**

S. Perna, *Cinerary Urns in Coloured Egyptian Stone – Appendix II*, in: P. Coombe – M. Henig – F. Grew – K. Hayward (eds.), *Roman Sculpture from London and the South-East. Corpus Signorum Imperii Romani Great Britain I*, 10 (Oxford 2015) 126–131.

### **Perna 2015b**

S. Perna, *Fabri Luxuriae. Production and Consumption of coloured Stone Vases in the Roman Period*, in: P. Pensabene – E. Gasparini (eds.), *ASMOSIA X, Proceedings of the Tenth International Conference: Interdisciplinary studies on ancient stone, Rome 2012* (Rome 2015) 1021–1031.

### **Perna – Barker 2018**

S. Perna – S. Barker, *Imitation Alabaster in Roman Wall-Painting: Varieties and Symbolism*, in: Y. Dubois – U. Niffeler (eds.), *Pictores per Provincias II – Status Quaestionis. Actes du Colloque de l'Association Nationale pour la Peinture Antique (AIPMA) Université de Lausanne, 12–16 septembre 2016* (Lausanne 2018) 405–412.

**Peters 1963**

W. J. T. Peters, *Landscape in Romano-Campanian Mural Painting* (Assen 1963).

**Price 2007**

M. T. Price, *Decorative Stone. The complete Sourcebook* (London 2007).

**Rockwell 1993**

P. Rockwell, *The Art of Stone Working* (Cambridge 1993).

**Russell 2010**

B. Russell, *The Roman Sarcophagus 'Industry': a Reconsideration*, in: J. Elsner – J. Huskinson (eds), *Life, Death and Representation: Some New Work on Roman Sarcophagi* (Berlin 2010) 119–147.

**Socks 2003**

D. A. Stocks, *Experiments in Egyptian Archaeology: Stone-Working Technology in Ancient Egypt* (London 2003).

**Stuart 2008**

P. Stuart, *The Social History of Roman Art* (Cambridge 2008).

**Trimble 2000**

J. Trimble, *Replicating the Body: the Herculaneum Women*, *JRA* 13, 2000, 41–68.

**Wilson 2008**

A. Wilson, *Large-scale Manufacturing, Standardization and Trade*, in: J. P. Oleson (ed.), *Oxford Handbook of Engineering and Technology in the Classical world* (Oxford 2008) 393–417.