



A Ceramic Mould from Vindolanda: Craft and Industry along the Roman Frontier

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ABSTRACT

This short contribution presents an enigmatic clay mould recovered from a tile kiln in Vindolanda's North Field. This complete mould contains an impression of Apollo in bust form, but its exact use is unclear. This paper presents the mould and discusses its potential use for the manufacture of ceramic figurines. Found in an industrial area of the site, its discovery also provides valuable evidence for craft production along this frontier and hints at a largely unknown provincial industry.

Keywords: Vindolanda; clay mould; figurines; craft production; Roman frontier; provincial industries

INTRODUCTION

The archaeological site of Vindolanda is located approximately halfway along the northern frontier of Roman Britain and comprises a multi-phased auxiliary fort and its associated extramural settlement, which were occupied between the first and sixth centuries C.E.¹ Best known for its exceptional preservation of organic materials like leather and writing tablets, continued archaeological exploration of this site has brought to light new and exciting insights into the daily lives of those living along this frontier.²

Between 2009 and 2014, the Vindolanda Trust along with a small team from the University of Western Ontario carried out a total of five seasons of excavation in Vindolanda's North Field, located northwest of the fort and its adjacent settlement.³ In addition to a series of early defensive ditches and several later stone buildings, these excavations uncovered an industrial area featuring two ceramic kilns and associated hydraulic infrastructure (i.e. wells, channels and tanks).⁴ These kilns, on the basis of their context, design and associated ceramics, were likely in use from as early as the late first century C.E. The largest of the two kilns appears to have

¹ R. Birley 2009.

² R. Birley 1994; 2009; Birley and Blake 2005; 2007; A. Birley 2013; Blake 2014; Birley and Alberti 2021.

³ Greene and Meyer 2017.

⁴ Greene and Meyer 2017, 220–1; Buck *et al.* 2019; Harvey and Greene 2024; Greene and Harvey *in prep.*

been used to produce brick and tiles, and it was during the excavation of this rectangular kiln that a seemingly complete clay mould was found (FIG. 1).⁵ Despite its excellent preservation, the use of this mould is not entirely clear, but its discovery sheds further light on craft production in this industrial area of the site. It is hoped that its presentation here will result in the recognition and publication of additional moulds of this type.

ARCHAEOLOGICAL CONTEXT

The clay mould presented here was recovered during the 2014 excavation season in the North Field. It was found in a fill layer (V14-61N) near the bottom of the large kiln's combustion chamber along its south-eastern edge, which bordered the flue (or kiln opening). The layer that produced this mould comprised thick grey/brown clay characterised by crushed sandstones, tile fragments and kiln wasters. Besides this mould, no other small finds or registered objects were recovered from this layer, but it did contain ceramics dating from the late first century to the first half of the second century C.E. It is likely that this fill dates to the end of the kiln's use when it was filled in after its abandonment. As a result, the findspot of the mould may reflect a secondary deposition. Once removed from the soil, the clay mould only required limited conservation that included dry hand-cleaning to remove dirt from its surfaces. It is currently on display at the Vindolanda Museum.

DESCRIPTION OF THE MOULD

This seemingly complete mould weighs 181 g and measures 91 mm high, 69 mm wide and 43 mm deep (FIG. 1). It is roughly oval in shape and contains a deep impression of an individual's face, upper chest and shoulders. The mould is made of baked local clay. The back of the mould is convex in shape with an uneven and seemingly unfinished surface marked by numerous impressions that were likely made by fingers or tools. Nodules of grey-brown clay adhere to its surface, and there are some small areas of red and black discolouration. Its sides are rounded yet uneven, with small areas of black, red and grey discolouration.

The front of the mould is dominated by the impression of a human figure comprising a frontal view of the head, shoulders and upper chest of the individual (FIGS 2, 3). The head is deeply impressed into the clay. The face is oval-shaped, and the mouth, nose (with nostrils), down-turned eyes and heavy brow are all well defined. The hair of the figure is parted in the centre with waves loosely brushed back and affixed in a flat topknot towards the front of the head. The width of the head (including the hair) is 39 mm, and the total height of the head (from chin to top of the topknot) is 38 mm.

The sharp and well-defined details of the face and hair suggest that the impression of the head was made by pressing an archetype (discussed in greater detail below) into the clay. In contrast to the head and face of the figure, the neck, shoulders and chest are poorly defined and seem to have been rendered by impressing the clay with a finger or tool. The chest and shoulders are slightly asymmetrical and are outlined on the bottom with deep linear impressions. There is no sign of clothing, but horizontal smoothing, probably from a finger or tool, is visible across the bare chest. Significantly, there is no apparent attempt to depict breasts on the figure. The breadth of the shoulders is 55 mm, while the entirety of the figure (from top of the topknot to bottom of chest) is 73 mm high. Surrounding the impression of the figure, the edges of the mould are

⁵ Vindolanda Museum number SF18689.



Fig. 1. Clay mould with impression depicting bust of Apollo from the Vindolanda North Field (SF18689).

uneven and unfinished, and there are no signs of locator knobs designed to receive a second mould for creating the backside of the figure.

The identity of the depicted figure is not definitive, but it is most likely a representation of the god Apollo. Although the soft facial features and loosely brushed-back hairstyle bear a noticeable resemblance to those seen on figurines of Dea Nutrix as well as small ceramic busts of women found in Roman Britain and the wider Roman West,⁶ the absence of breasts on the individual's bare chest suggests that it does not portray a woman. Of course, some degree of caution is needed when making an assumption of gender based on the prominence of breasts, as they are not always emphasised in busts of women in pipeclay.⁷ In addition to the figure's youthful appearance and bare chest, further support for its identification as Apollo comes from the hairstyle and the distinctive knot towards the front of the head, which commonly appear on depictions of the deity.⁸

If this mould does contain a depiction of the god Apollo, it would not be the only representation of this deity found at Vindolanda. In 2016, only two years after the discovery of the clay mould,

⁶ See, for example: Rouvier-Jeanlin 1972, nos. 321, 342–343, 354, 365, 785, 799, 802, 806; Jenkins 1977, 284, 373–5, figs. 2, 15, 18, 79–81; van Boekel 1987, no. 87; Beenhouwer 2005, nos. 332–353, 613–614, 623.

⁷ Bossard 2016, figs. 8 and 9. In these examples, however, the female figures are not bare-chested and are fully clothed.

⁸ Simon and Bauchhenss 1984, *passim*.



Fig. 2. Close-up image of the face on the clay mould from the Vindolanda North Field (SF18689).

excavation of a packing layer under a fourth-century floor of a barracks building in the fort produced a small copper-alloy bust of Apollo (FIG. 4).⁹ This metal bust is of comparable size to the impression on the mould (78 mm tall, 60 mm wide) and similarly shows the deity with a bare chest and wavy hair tied in a knot towards the front of his head.¹⁰ There are, however, several stylistic differences between this metal bust and the clay mould that clearly rule out the possibility that this copper-alloy bust was either the archetype or the product of the clay mould.

DISCUSSION

The clay object presented here is unquestionably a mould, but its exact use is much less clear. Although its impression bears a similarity to the copper-alloy bust of Apollo discussed above, it is unlikely that this mould was used for metal casting. There is no extensive discolouration within the impression, which would have resulted from being in contact with molten metal, nor is there any sign of luting clay to seal the joins and prevent leakage. This mould also does not appear to be part of a bivalve casting mould as there are no locator knobs to receive the second

⁹ Vindolanda Museum number SF20534.

¹⁰ I am grateful to Barbara Birley, curator for the Vindolanda Trust, for sharing this information.



Fig. 3. 3D model of the impression, depicting the bust of Apollo as it would have been produced by the mould from the Vindolanda North Field. (Courtesy of Rhys Williams)

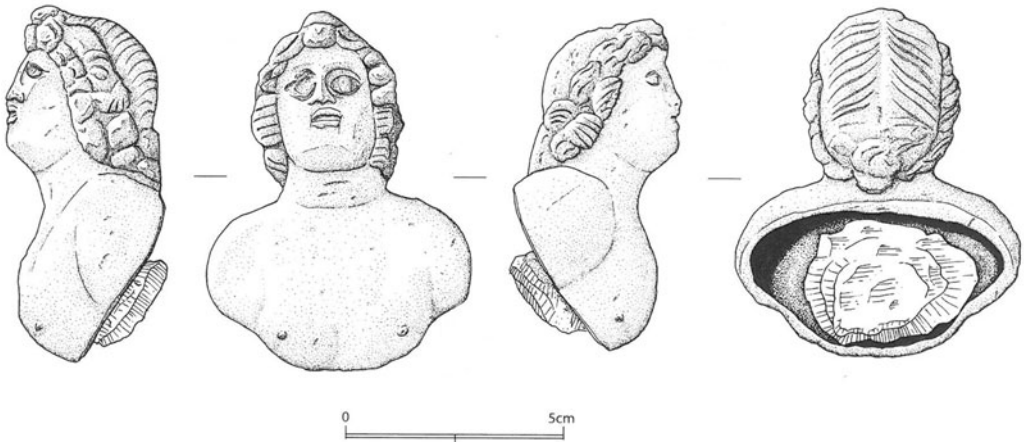


Fig. 4. Drawing of copper-alloy bust of Apollo found at Vindolanda (SF20534). (The Vindolanda Trust, drawing by M. Hoyle)

mould or an in-gate and sprue cup in which to pour the metal. The absence of these features, therefore, helps to rule out the possibility that this mould was used for metal working.¹¹

Instead, the discovery of this mould within a ceramic kiln is strongly indicative of its use to produce ceramic figurines or appliques, although the possibility that this clay mould was only a

¹¹ I am grateful to Justine Bayley for her assistance in determining that the mould was likely not used for metal casting. For an overview of metal-working along Hadrian's Wall, see Allason-Jones and Dungworth 1997.

product of the North Field kilns and was intended to be used elsewhere cannot be ruled out. Assuming, however, that this mould was produced for the manufacture of ceramic figurines or appliques, this interpretation presents several points worthy of comment. The first concerns the origin of clay figurines found in Roman Britain. Pipeclay figurines, produced from distinctive yellowish-white clay, have been recovered from sites throughout Roman Britain,¹² including at Vindolanda,¹³ but there is no definitive evidence for their production in the province.¹⁴ Instead, these figurines were imported from production centres in central Gaul and in the Rhine–Moselle region.¹⁵ If, therefore, the mould from Vindolanda was indeed used for ceramic figurines, it would constitute unexpected evidence for an otherwise largely unattested industry in Roman Britain.

Another point of curiosity relates to the form of the figurine produced by this mould, that is, a small bust of the god Apollo (FIG. 3). Although clay statuettes of Apollo do exist (and have been found in Roman Britain), the catalogued motifs of pipeclay figurines contain only full-bodied representations of the deity.¹⁶ As yet, there are no documented examples of clay busts of Apollo from Roman Britain, and thus this mould represents a possible new figurine type.

It is also noteworthy that the appearance of the Vindolanda mould is unlike those often associated with the production of pipeclay figurines. In contrast to the uneven and seemingly crude edges, sides and backside of the Vindolanda mould, figurine moulds found at production centres in central Gaul and the Rhine–Moselle region are often smoothed and finished, sometimes even bearing inscriptions.¹⁷ That is not to say, however, that such seemingly unfinished moulds are not found. For example, a mould of a Bacchus figurine uncovered in Karden, Germany appears to have been similarly crudely produced.¹⁸

While it is virtually certain that the Vindolanda mould was not used to produce pipeclay figurines, it is possible that a head of such a figurine was used as an archetype for the mould. Possible archetypes include the head of a Dea Nutrix figurine or a head from a clay bust of a woman, both of which were often depicted with similar hairstyles to the one of Apollo on this mould.¹⁹ Indeed, the facial features and hair on the depicted figure bear a striking similarity to those of Dea Nutrix figurines.²⁰ Although there are no known exact comparanda that can be definitively identified as the impression source for this mould, several catalogued heads from Dea Nutrix figurines and busts of women are comparable in size and show a close affinity to the one on the mould (e.g. Rouvier-Jeanlin nos 358–359, 802–804).²¹ These examples are characterised by an oval face and similarly styled hair that is loosely pulled back in soft raised rolls. They differ, however, in the presence and style of the knot on the top of the head.

Unsurprisingly, these pipeclay figurines are commonly broken (either deliberately or accidentally) at their necks, where they are structurally weakest, and it is possible that one such detached head was used to form the impression of the Vindolanda mould.²² This use of a

¹² See Jenkins 1977, 280–416; Fittock 2017, 211–87.

¹³ Fittock 2017, *passim*. These figurines have not yet been published in detail, but they do not appear to be the impression source for the mould published here.

¹⁴ Fittock 2017, 81–2.

¹⁵ Jenkins 1977, 208–9; van Boekel 1987, 203–16.

¹⁶ Rouvier-Jeanlin 1972, 63, 221; Jenkins 1977, 363–6; van Boekel 1987, 246–59; Beenhouwer 2005, 605–6.

¹⁷ van Boekel 1987, 216–31; Bémont *et al.* 1993, 158.

¹⁸ van Boekel 1987, fig. 17.

¹⁹ Rouvier-Jeanlin 1972, nos 321, 342–343, 354, 365, 785, 799, 802, 806; Jenkins 1977, 284, 373–5, figs. 2, 15, 18, 79–81; van Boekel 1987, no. 87; Beenhouwer 2005, nos 332–353, 613–614, 623.

²⁰ I am grateful to Matthew Fittock for pointing out this similarity.

²¹ Rouvier-Jeanlin 1972.

²² A fragmentation analysis of figurines from Roman London by Matthew Fittock has revealed the extent to which pipeclay figurines, including those of Dea Nutrix, were broken at the neck and has suggested that deliberate fragmentation may reflect ritual activity (Fittock 2015, 125–9).



Fig. 5. Clay mould with impression of draped female, found during excavations of the eastern colonnade of Lincoln's forum in 1878. (Reproduced with kind permission of Lincoln Museum)

detached figurine head may explain why the face and hair of the impression of Apollo are rendered in relatively fine detail while the deity's neck and bare chest are much more crudely formed.

If not used to produce pipeclay figurines, this mould may have been intended to create moulded objects using the local boulder clay found abundantly at Vindolanda. Appliques, such as those used to decorate the necks of face flagons, are one potential product, but none of the known examples of face flagons from Roman Britain depict Apollo, nor do any of the appliques from these vessels bear a close similarity to the figure on the Vindolanda mould.²³ An alternative explanation is that this mould was used to create figurines from local clay, but this theory must remain speculative because of the general lacuna in scholarship on locally produced figurines in Roman Britain and the apparent absence of these objects in excavation reports. It is also entirely possible that this mould was only a product of the Vindolanda North Field kilns and was intended to be used elsewhere, or that it was created as a trial piece or for the one-off production of a votive and was discarded soon after use. It may also have been intended for an ephemeral material like wax, but these theories cannot be definitively proven, and thus the purpose of the Vindolanda mould remains uncertain.

The interpretation of this enigmatic mould is frustrated in part because of a lack of published comparanda from Roman Britain. A similarly enigmatic clay mould, however, comes from Lincoln, where it was uncovered during excavation of the eastern colonnade of the city's forum in 1878 (FIG. 5).²⁴ Now housed in Lincoln Museum,²⁵ this mould contains the impression of a bust of a robed female with an ornate hairstyle comprising modelled curls. Modern castings of the mould interpret it as depicting the figure in profile, but it was initially published as 'half of an unusual mould of hard-baked clay',²⁶ and a vertical break bisecting the figure strongly suggests that this mould originally contained a frontal view of the woman, much like the mould from Vindolanda. In its current state, the Lincoln mould measures 131 mm high, 60 mm wide and 29 mm deep and is thus approximately equal in size to the one presented here. It also

²³ Döwner 2000, 99–146.

²⁴ Hawkes *et al.* 1946, 16–17; Lee 2017.

²⁵ LCNCC: CL.1979.7.

²⁶ Hawkes *et al.* 1946, 16.

similarly features a crudely finished backside with numerous preserved fingerprints. From its initial publication, the undated mould from Lincoln has been assumed to have been made from a copper-alloy steelyard weight, and while its intended use remains unclear, a proposed theory is that it produced decorative attachments for furniture.²⁷ Although this mould is an intriguing parallel for the one from Vindolanda, it provides no further clarification for its specific use. When these two enigmatic moulds are viewed together, however, they hint at the existence of an as-yet unexplored craft industry in Roman Britain.

CONCLUSIONS

Although the use of the Vindolanda mould remains uncertain, its discovery in the North Field is further evidence that this area of the site was used for craft production and industry. While the presence of imported pipeclay figurines at Vindolanda demonstrates its connection to the wider empire, this mould and the industry it reflects suggest that local supply and self-sufficiency along this frontier was still very important.²⁸ This self-sufficiency is also demonstrated by the existence of the brick and tile kiln in which the mould was uncovered.²⁹ Regardless of its use, this mould (and the similar mould from Lincoln) provides a glimpse into a local industry about which very little is known. It is hoped that, with its publication, similar moulds will be identified, and this local industry can be brought to light.

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²⁷ Lee 2017.

²⁸ Bowman 1994, 43–8.

²⁹ Harvey and Greene 2024.

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