Neolithic Stamps: Cultural Patterns, Processes and Potencies

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Decorated clay stamps carrying a culturally filtered range of abstract designs are one of the most visually striking but problematic categories of portable art found at Neolithic and Copper Age sites in western Asia and southern Europe. This article proposes a revised account of their production, consumption and changing values across space and time, by emphasizing their biographies, human relations and cultural embeddedness. They were sometimes worn as amulets, but primarily designed to be hand-held printing and impressing tools, used to reproduce copies of powerful graphic images on the surface of other cultural materials. It is argued that their potent signatures repeatedly attached, revealed and reproduced significant cultural concepts and relations across different people and practices and across the material and supernatural worlds.

This article is concerned with exploring the material, visual and cultural dimensions of one of the most visually striking but also enigmatic categories of artefact found at Neolithic and Copper Age sites in western Asia and southern Europe, variously described as stamps, stamp-seals or '*pintaderas*'.[1] Previous studies of these objects have tended to focus on the typological classification and stylistic comparison of their decorative motifs, at the same time as speculating on their functional and social significance (e.g. Buchanan 1967; Collon 1990; Cornaggia Castiglioni 1956; Cornaggia Castiglioni & Calegari 1978; Dzhanfezova 2005; Makkay 1984; 2005). It has been suggested, for example, that they were used as stamps to print or impress culturally significant patterns onto a range of materials (e.g. cloth, skin, bread and clay). It has also been claimed that their repeated application to certain kinds of people and property could have been used either in socio-economic transactions, to mark identity and ownership, or in socio-ritual performances, to signify and enhance spiritual potency. Adding to these studies, the goal of this article is to develop a revised account of these material things by exploring their various biographies, their reciprocal relations with people, and their embeddedness in cultural processes (cf. Gosden & Marshall 1999; Meskell 2005), with particular reference to their archaeological deposition contexts, their surviving forms and regional variations in their style. It is based upon a general synthesis of published information relating to the large number of examples of these objects from western Asia and southeast Europe, as well as a detailed and contextual reanalysis of the somewhat overlooked Italian 'corpus' of some 60 *pintaderas*, in particular 17 provenanced examples from the region of Puglia in southeast Italy. The geographical scale of this analysis is intentionally broader than that usually considered for this type of artefact, but is justified by the similarities (and differences) exhibited by these objects across this large area, and by the need to question established regional interpretative terminologies and traditions. The term 'stamp-seal' and the study of evolved glyptic art, bureaucratic sealing practices and traded commodities have, in particular, overshadowed and coloured interpretations of earlier prehistoric stamps, which need to be reconsidered in their own right. Patterns in these data are presented in the first part of the article, which emphasizes transformations in their form and function across space and time.[2] Related cultural processes of production and consumption are then discussed in the second part, with particular reference to the numerous examples of clay stamps with abstract designs.

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Patterns: Neolithic and Copper Age stamps, seals and sealings

The evolving practice of stamping spread westwards, from the Near East to southeast Europe and Italy, between the eighth and third millennia BC (Makkay 1984).[3] This diffusion channelled and filtered successive waves of culturally significant information and material via extended networks of communicative and mobile early farming communities, and contributed to the construction of their social relations and distinctions. Through this process, patterns of resemblance and contrast were established over space and time in the form and function of stamps and related objects, and in the identities of their owners.

The Near East

'Seals', characteristically engraved with recessed designs, are found widely on prehistoric sites in the Near East (e.g. Buchanan 1967; Collon 1990; Von Wickede 1990). The earliest examples date from the late eighth millennium BC, at Early Neolithic sites such as Ras Shamra, Byblos and Bouqras in the Levant, and Çatalhöyük in central Turkey (e.g. Hodder 2006; Mellaart 1964; Türkcan 1997; 2003; 2004; 2005). At the Levantine sites they are made either of baked clay or soft stones, including steatite and jadeite. At Çatalhöyük, on the other hand, all are of baked clay. Their fabrics range from medium to fine, and sometimes contain mineral or organic temper. They were moderately to well fired, and some were oxidized. Their surfaces, which vary in colour from red to orange, brown and grey, were well finished, being either well smoothed or burnished. These early Near Eastern examples take the form of 'stamp' and 'button' seals, with a generally circular, oval, rectangular or cruciform body, a curved or flat face, and a conical or rounded knob-handle on the back. A few have more irregular forms, including examples from Çatalhöyük with Z, leopard, bear, hand and 'quatrefoil' (four-leaved floral) shaped outlines. Some handles are perforated with suspension holes. The faces exhibit simple carved, grooved or incised linear-geometric and dot motifs. These include straight or oblique lines, zigzags, triangles, diamonds, squares, chevrons, concentric circles, spirals, meanders and dots. Such motifs sometimes echo and extend designs seen on other contemporary visual media, such as wall paintings, wall reliefs and painted ceramic bowls at Neolithic sites in central Turkey, although differences can also be noted. They are fairly small, palm-sized, objects. At Çatalhöyük, for example, they range from around two to nine centimetres long, one to six centimetres wide, and one to four centimetres high. None exhibit traces of pigments, and it is unclear what materials may have been stamped by these early 'seals', although moveable textiles, leather, human skin and bread have commonly been suggested. However, it is unlikely that they were used on clay, since no clay impressions or 'sealings' occur in this early period. Details of breakage and wear are incompletely documented, although, out of the nine examples found during the 2003–04 excavations at Çatalhöyük, four were whole, one had a broken handle, one was broken in half, two were worn and broken along the edges, and another was heavily worn. Their places of deposition vary from mundane to explicitly ritual contexts. At Çatalhöyük, for example, they have been found in middens, houses and 'shrines', including human burials situated below their floors. Of the latter, two seals were recently found in a multiple burial. One of these, with a broken perforated handle, had been placed between the lower jaw and upper chest of a relatively well articulated body. Their function has been tentatively interpreted in terms of markers of ownership, classification or identity.

The use of seals developed considerably in the Near East from the sixth millennium BC (e.g. Ferioli *et al.* 1994). Sun-dried clay sealings with stamp-seal impressions now appear. Hundreds of sealings have, for example, been recovered from the Late Neolithic 'burnt village' of Tell Sabi Abyad in Syria, destroyed in around 6100 BC (Akkermans & Duistermaat 1997; Duistermaat & Schneider 1998). They were all made of local clay. The majority had originally been attached to small, transportable, basketry and ceramic containers. They were then detached, temporarily retained as receipts in one or two 'archive' rooms, and later dumped in specific refuse areas. Most display one or more stamp-seal impressions, distinctive designs being a naturalistic 'capricorn' (horned goat) and 'bucranium' (ox-skull) and geometric Z-shaped lines and zigzag lines combined with triangles. These sealings have been interpreted as simple, local, storage control devices, which defined the property of a person or group, and assured restricted access to that property. Cylinder seals appeared later, at around 3700 BC, in the early Middle Uruk period in southern Mesopotamia and Khuzistan in southwest Iran, in a period of profound social change characterized by state formation (e.g. Collon 1987; Pittman 2001). They are small cylinders, generally made of stone, around which the engraved design was carved. Some were perforated longitudinally so that they could be worn on a string or pin. The continuous imprint produced by the cylinder seal, when rolled on clay balls, sealings or tablets, offered both more space than the stamp seal for the visual communication of information, and greater security when rolled over the entire surface

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of sealings (Nissen 1977). They sometimes came to replace stamp seals, as at Tepe Gawra, but elsewhere stamp seals continued in use, the visual rhetoric of their stamped impressions being sufficiently different from that of rolled impressions.

The materials, shape, size and designs of the evolved seals varied according to period and area. In Mesopotamia, increasing quantities of exotic coloured stones were used, such as black steatite, serpentine, lapis lazuli, agate, carnelian, haematite and obsidian, although examples made of limestone, bone, ivory, faience, glass, metal, wood and terracotta are also known. New and more sophisticated motifs also appeared on seals alongside traditional linear-geometric designs, some of which were now drilled rather than engraved. These include stylized representations of animal, human and supernatural figures, architecture and furniture, and scenes such as temple ritual. In addition to being classified as stylistically varied 'glyptic' art-works, these visual images can be regarded as a legible, standardized and patterned set of symbolic messages, intended for various audiences in different contexts. At Tepe Gawra, for example, seals and sealings were concentrated in archaeological contexts with specialized productive, religious and social functions, to which access was increasingly controlled (Rothman 1994; Speiser 1935; Tobler 1950). These included structures interpreted as craft workshops, temples, large public buildings, kitchens and storerooms. A few examples were also deposited here in tombs, including two stamp seals worn suspended from the neck and wrist of the deceased. More generally, these evolved Near Eastern seals have been interpreted primarily as administrative tools, but also as items of jewellery, protective amulets, votive objects and heirlooms, used repeatedly to mark ownership, status, authority, authenticity, ratification, legality and protection.

Southeast Europe

The production and use of 'seals' first spread from the Near East into southeast Europe, via communicative and possibly colonizing early farming communities in Turkey, Thrace and eastern Macedonia, in the late seventh millennium BC, in association with the Karanovo I–II, Starčevo-Körös and Greek Early Neolithic cultures (e.g. Budja 2003; Childe 1939, 18; Makkay 1984; 2005; Perlès 2001). Clear similarities have been noted, for example, between the material, shapes and decorative techniques of the stamp seals found at Nea Nikomedeia in Greek Macedonia and earlier examples from Çatalhöyük (Onassoglou 1996; Rodden 1965). Following a possible decline in their use in the Middle Neolithic, an innovative new 'seal' tradition was then established in the Late Neolithic and Copper Age, from the fifth millennium BC. It spread again from Turkey to southeast Europe, via Thrace, and especially into new cultural regions, such as the Lengyel complex in central Europe, in association with painted pottery and possibly also 'secondary' agricultural products (e.g. Budja 1998; Makkay 1984). New seal forms included conical clay stamps with circular or oval bases, and clay cylinders.

In both phases, seals generally appear in small quantities, between one and four per site, although larger numbers occur at a few places such as Nea Nikomedeia, where 21 examples were recovered. The majority of the 430 archaeologically surviving examples from southeast Europe catalogued by Makkay (1984; 2005) are made of clay, although some polished stone examples occur in Greece, made of rocks such as serpentine, steatite, marble and alabaster, while others may have been made of wood. They range in size from around four to nine centimetres in length or diameter. Their forms also vary. In Bulgaria, for example, their flat bases are quadrangular, elliptical, oval, round or cross-shaped, and their handles are cylindrical, conical, rounded or pointed (Dzhanfezova 2003). Some of their handles are perforated with a hole. Their faces are characteristically decorated with deeply engraved and impressed lines and dots. Traces of red, yellow and white paint have been identified in the channels of four examples from the sites of Olteni-Vármege and Frumuşica-Cetățuia in Romania. Geometric motifs appear exclusively. These include straight, curving and zigzag lines, rows of dots, triangles, rectangles, crosses, chevrons, circles, spirals, meanders, labyrinth- or maze-like interlocking rectilinear lines, and steps. In Bulgaria, there is a clear relationship between the shapes of the bases and the types of decoration found on them. Round bases tend to exhibit circles, spirals and crosses; oval and elliptical bases have bands of straight and zigzag lines; while quadrangular bases are mostly decorated with curvilinear patterns, including meanders and combinations of lines and triangles. It is worth noting here that, according to experiments undertaken by Dzhanfezova (2003, 103), the 'positive' marks engraved on the stamps would not have been significantly different to the 'negative' marks made by them. Some of these motifs may have been inspired by the products of basketry and weaving, while similar decorative motifs sometimes appear on contemporary ceramic vessels, figurines and 'altars'. As with decorated pottery, different combinations of these motifs led to a range of decorative patterns, which exhibit both similarities and differences on different geographical scales. At one extreme, some very similar patterns occur right across the Balkans, including bands of zigzag lines and interlocking rectilinear lines forming a maze-

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like pattern. At the other extreme, different motifs were combined to such an extent at Nea Nikomedeia that every stamp exhibits a different linear-geometric pattern. In between, a number of regional distinctions have been noted: between the Balkans and Anatolia, with the latter characterized by more curvilinear patterns; between the northern and southern Balkans, with horizontal wavy and zigzag lines, spirals and impressed dots specific to the North; and between Thessaly and the rest of Greece, with a complex design of interlocking meanders concentrated in the former. These patterns also evolved over time. In Greece, for example, a small range of geometric patterns was employed in the Early Neolithic, and a range of maze-like patterns then appeared in the Middle Neolithic, followed by some even more complex patterns in the Late Neolithic (Onassoglou 1996).

The use of these objects remains difficult to interpret. Most were deposited in the cultural levels of settlements, including Starčevo and Körös culture pits, Cucuteni or Karanovo VI house floors, a 'shrine' at Nea Nikomedeia, a 'hoard' at Čoka I, and graves at Pilismarot-Basaharc and Sofia-Slatina. At the latter, one was found near to the skull of a male skeleton. Within these contexts they are sometimes associated with special fired clay objects, including painted pottery, anthropomorphic and zoomorphic vessels and figurines, 'altars', pins and 'amulets' (Budja 2003). The majority have been found as complete or only slightly damaged objects, although a number of worn examples show traces of heavy use (Chapman 2001). In the absence of any preserved artefacts with positive prints, it is widely agreed that they were used to decorate perishable organic materials, such as human skin, leather, textiles and bread. This stamped decoration had the special potential of being repeated and multiplied (or 'cloned'): on the same and different objects, by members of the same and different communities, and by successive generations. The presence of some perforated examples also suggests that at least a few were suspended on strings, probably to be worn and displayed about the person. The Greek stone examples may also have been regarded as particularly valuable, compared to their clay counterparts, because of their rarity, the quality of the raw material selected, and the care required for their manufacture (Perlès 2001).

Overall, this suggests that, in southeast Europe, 'stamp seals' were used and valued in both quotidian and ritual contexts as mark-making tools and as ornaments, which carried a culturally specific range of familiar signs (cf. Winn 1981). More specifically, the visual similarities and differences exhibited, both by the decorated stamps themselves and by the things decorated by them, may have been used actively to identify, highlight and communicate socio-economic connections and distinctions between different objects and people, although it is difficult to be more specific than that (cf. Bailey 1993, 212; 2000; Halstead 1989, 74). Such 'messages' could have been expressed in symbolically-laden cultural activities, performed both within settlements and between more distant communities. The stamps could also have been used to confer magical protection and strength on ritually marked people and property, and, likewise, used as amulets (cf. Dzhanfezova 2003; Kuncheva-Russeva 2003). It is, however, unlikely that they were used in a primarily economic manner to mark and identify traded property, or not at least until their reintroduction in the third millennium BC, in the Aegean Early Bronze Age, along with bureaucratic sealing practices from the Near East (Younger 1987), although even then their socio-ritual significance may have continued.

Italy

The westward spread of stamp-related ideas and practices from Anatolia via intercommunicating groups in southeast Europe culminated in the adoption of *pintaderas* by local communities in the Italian peninsula, and in the establishment of two somewhat distinct regional traditions (Cornaggia Castiglioni 1956; Cornaggia Castiglioni & Calegari 1978; Graziosi 1973, 96–7). Here, this process appears to have occurred *after* the initial introduction of farming and its associated material culture, and to have continued throughout the Neolithic.

In the south, the oldest examples can be dated to the late sixth millennium BC, notably at the site of Rendina in Basilicata, where the ceramic assemblage is characterized by evolved impressed and early painted pottery (Cipolloni Sampò 1977–82, 283–5, fig. 78). The majority of southern specimens come from the Adriatic coastal region of Puglia (see below). Rare outlying examples have also been found, however, in Sicily, including on the Acropolis of the island of Lipari, in association with south Italian Serra d'Alto style painted pottery (Bernabò Brea & Cavalier 1956, 31, fig. 15). A few elaborate forms and motifs, including concentric rectangles and meanders, appear exclusively in the southern region. However, long-distance stylistic connections can be traced between these examples, across the Adriatic Sea, to the southern Balkans, and especially to the central Greek region of Thessaly, where some contemporary southeast Italian painted pottery designs may also have originated.

In northern Italy, *pintaderas* occur in larger numbers. Here, they are mainly associated with the Square Mouthed Pottery culture (VBQ), whose earliest phase also dates from the late sixth millen-

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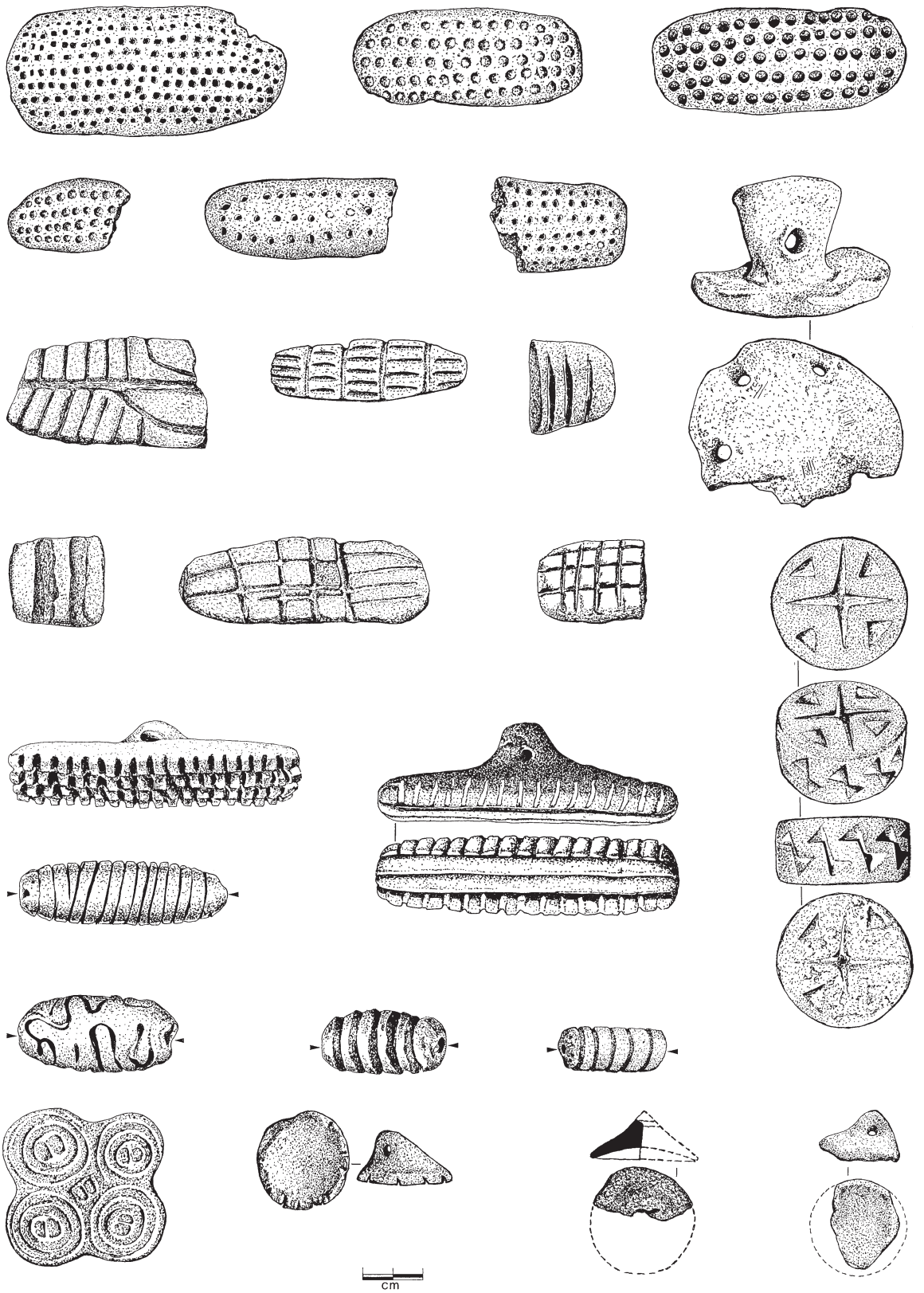


Figure 1. *Stamps from the Caverna delle Arene Candide, northwest Italy (after Cornaggia Castiglioni & Calegari 1978).*

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nium BC, although they continued to be used during the Final Neolithic in the fourth millennium BC, albeit to a lesser extent. Their distribution extends right across northern Italy, together with an outlying example from the Marche region of east-central Italy. However, the largest quantities have been found at the two extremes, in the Veneto region to the east and in Liguria to the west, especially in the coastal caves of Finale, including the Caverna delle Arene Candide where a total of 26 examples has been recovered from the extensively excavated VBQ deposits (Bernabò Brea 1946, 203–8; 1956, 96–7; Tiné 1999, 326–8) (Fig. 1). The predominant northern form is elongated, although circular examples are also present. A few cylindrical 'rollers', perforated longitudinally, have also been found, although these might be interpreted as another category of object such as beads. Further regional differences can be seen in the decorative motifs and patterns on various geographical scales. Rows of impressed points are, for example, an exclusively northern decorative element, which predominate in Liguria, but are outnumbered by linear-geometric motifs, including spirals, in the Veneto. Transverse bands of straight parallel lines and concentric linear circles are also common and exclusively northern motifs. Traditionally, the origins of these north Italian features (including the VBQ style) have been sought in the archaeological cultures of the Danube basin in eastern Europe, including the Vinča culture. However, the Trieste Karst arguably played an equally important role in mediating contacts between southeast Europe and northern Italy, including the transmission of *pintadera* styles, particularly given their presence at sites such as the Grotta delle Gallerie near Draga (Battaglia & Cossiansich 1916, 31–3; Greif & Montagnari Kokelj 2002). Cultural exchanges between the north and south Italian traditions should also not be ruled out (Bagolini 1977; Tiné 1999, 327).

All of the Italian *pintaderas* are made of fired clay, whose fabrics are very similar to all but the finest local Neolithic pottery. They are clearly hand-made, some rather roughly, leading to slightly asymmetrical forms and decorative motifs. Certainly the majority are not as skilfully decorated as the finest contemporary ceramics. They range in size from around three to fifteen centimetres in length. Their flat or curved bases may be circular, oval, rectilinear or 'irregular' in outline. Their lug-handles vary from pointed to cylindrical and flattened, and just over a quarter of these are perforated. Their surfaces are smoothed. The decoration was usually deeply indented into the soft clay, using tools of varying width to impress, incise or groove the surface. However, in a few exceptional cases, the decorative surface was cut away to form a relief pattern. When used to apply paint, excised stamps may be more effective than incised stamps, whose grooves can clog up with paint (Cornaggia Castiglioni & Calegari 1978, 9). More generally, the Italian decorative motifs form exclusively geometric patterns. Relatively simple motifs include rows of dots, zigzag, undulating and intersecting straight lines, transverse and longitudinal bands of lines, lozenges, and radials; while more visually complex motifs include concentric circles and rectangles, spirals, and meanders. Similar motifs occur on various styles of decorated pottery, from different regions and periods, as well as on Neolithic painted cave walls and decorated clay figurines in Puglia. However, no exact parallels have been identified, and none of these objects can be claimed to have been stamped by the *pintaderas*, with the possible exception of a sherd of pottery exhibiting what is claimed to be the imprint of a two centimetre wide *pintadera*, found on the surface at Ripalta in the Bari province and assigned to the Neolithic (Caramuta 2002, 68, fig. 7). Traces of coloured ochre and a white plaster-like substance were, however, noted on the face and in the holes and grooves of some examples from the Caverna delle Arene Candide (Bernabò Brea 1946, 119; 1956, 96–7).

In terms of their deposition contexts, the Italian *pintaderas* have been found in settlement deposits, including a large circular pit on the Rocca di Rivoli (Pit V, which may have been deliberately filled with fragments of objects chosen to represent culturally significant activities practised in and around the house: Dalla Riva 2004), in cave deposits, and in a few human burials, including an inhumation grave at the Cava Bassa of Quinzano near Verona (e.g. Barfield 1976, 66–7). Many (just over half) are fragmentary, usually broken in the middle, either side of the handle, or at the ends, and at the base or tip of the handle. A few also display signs of wear, although whether this occurred before or after their deposition is unclear. More generally, they are associated with material assemblages that sometimes also include fired clay figurines, whose ultimate origins can likewise be traced to the material cultures of the East.

Little is known about the use of the Italian *pintaderas*. Their immediate function has been widely interpreted, with reference to ethnographic analogies, as stamps used to decorate peoples' bodies with coloured painted motifs of symbolic, ritual, and perhaps also protective, significance (e.g. Barfield 1971, 44; Issel 1893, 14–15). Their use as textile stamps has also been suggested by a few scholars, but rejected by Barfield (1976, 67), on the grounds that their surfaces were generally too rough to be used in this way.

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Southeast Italy

By considering the evidence from the region of Puglia in more detail, some of these general patterns can be refined. Here, a total of 17 *pintaderas* has so far been found at Neolithic and Copper Age sites. 15 of these have been published, albeit to varying degrees of detail, while two remain unpublished but on display in museums (see Table 1 and Fig. 2).

Their fabrics can generally be classed as coarse, and only rarely as fine. One example from the Grotta dei Cervi (No. 14) also contains some visually distinctive white inclusions. Their post-firing surface colours are uneven and vary, on and between objects, from yellow to orange, brown, grey and black. The form of their bases is predominantly rectangular, either with straight sides and ends, straight sides and curved ends, or curved sides and ends, of which at least one of the latter could also be described as oval. The exceptional example from the Caverna dell'Erba (No. 10) can be roughly described as cruciform with two rounded and two splayed and slightly curved ends. The bases are generally about 1.5 centimetres thick. They vary in width from 1.5 to 7.2 centimetres, with an average of 4.3 centimetres. The intact examples vary in length from 5.1 to 8.7 centimetres. However, at least one of the broken examples could have measured up to around 12 centimetres long (No. 1). Their handles are positioned centrally, and are either conical or flattened and placed transversally to the long axis of the base. Only two examples of handles are whole (Nos. 2, 14). They measure about two centimetres in length. The example from the Grotta dei Cervi is also perforated (No. 14). When intact, these *pintaderas* would originally have weighed between around 50 and 300 grams. They are clearly hand-made, a few quite roughly, which in at least one case resulted in a slightly uneven decorated surface. Their surfaces are, however, smoothed, particularly the decorated surface.

Decoration occurs only on the lower face of these *pintaderas*, and is exclusively linear and geometric. Eight general sets of motifs can be defined.

1. a band of parallel straight lines, which may also serve as a border (Nos. 1, 9, 15);
2. multiple parallel straight and zigzag or undulating lines (Nos. 8, 10, 17);
3. a band of zigzag or undulating lines, sometimes forming a band of triangles or lozenges, which may also serve as a longitudinal border (Nos. 1, 2, 7, 15);
4. interlocking angular and slightly curved lines (Nos. 3, 4);
5. interlocking parallel rows of repeated meander or step and zigzag motifs (Nos. 5, 6, 13, 14, 16);
6. a single S-spiral band (Nos. 10, 12);
7. a band of repeated S-spiral motifs (Nos. 9, 11).
8. circles (No. 2).

The example from the Caverna dell'Erba (No. 10) again stands out as exceptional, in that its decoration cuts across these categories, combining a single S-spiral band with multiple parallel straight lines, which transversely fill two opposed triangles (Cornaggia Castiglioni 1956, 145). The decorative motifs are generally neatly executed, although clearly done by hand and eye, leading to slight irregularities and asymmetries in most of the patterns. The simpler linear motifs seem to have been applied to the wet surface of the modelled clay prior to firing, sometimes leaving slight ridges of displaced clay along the sides of incised, grooved or gouged lines (Nos. 1, 2, 3, 4, 8, 10, 12, 15, 16, 17). These lines vary in depth from shallow grooves of about 1 millimetre in depth, to notably deeper incisions and grooves, about 1.5 to 4 millimetres deep. However, many of the more complex interlocking meander, step, zigzag and spiral patterns stand out in relief, and can be described as excised, probably having been cut out when the clay surface was harder, but still before firing (Nos. 5, 6, 7, 9, 11, 13, 14).

These examples of *pintaderas* come from sites distributed fairly evenly throughout Puglia (Fig. 3). Although the precise form and decoration of each object is uniquely different, their component motifs are more widely shared, both within and beyond the region. Indeed, a few stylistic groupings can be identified in different parts of the region, the most notable example being the concentration of the S-spiral motif in the southern half of Puglia (Nos. 9, 10, 11, 12). This motif also occurs in the broadly contemporary Serra d'Alto style of pottery, both in its painted and relief decoration and in the profile of its most elaborate rolled handles, and in the painted cave art of the Grotta dei Cervi at Porto Badisco and Grotta Cosma in the Lecce province (Graziosi 1973, 97). General stylistic similarities in the decorative motifs can also be noted with broadly contemporary examples of stamps (as well as pottery and figurine decoration) from northern Italy, Basilicata (to the west), the eastern Adriatic, Greece and the rest of the Balkans (e.g. Bagolini 1977; Palma di Cesnola 1966, 96). However, the closest stylistic parallels are usually to be found within the region. For example, the pattern comprising interlocking parallel rows of repeated step and zigzag motifs, exhibited on the example from the Grotta Santa Croce in the Bari province (No. 6), is very similar to that found on examples from Greece, Serbia and Hungary (cf. Makkay 1984), although the closest (but still not precise) parallel is provided by an example from the Grotta delle Venere in the Lecce province to the south (No. 16).

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Table 1. *Neolithic* pintaderas *from Puglia.*

No.	Site name & location	Context & period	Brief description	Museum	Primary references
1	***Cala Tramontana***, Isola di San Domino, Tremiti archipelago, Foggia prov.	Inhumation cemetery Final Neolithic	Rectangular Zigzag band l. 6.2, w. 6.6, h. 1.6 cm (frag.)	Zorzi collection, Sezione di Preistoria, Museo Civico di Storia Naturale, Verona	Cornaggia Castiglioni & Calegari 1978, 26, tav. VIII. Pu12; Palma di Cesnola 1966, 96; 1967, 380–82, fig. 7.3; Zorzi 1958
2	***Cala degli Inglesi***, Isola di San Domino, Tremiti archipelago, Foggia prov.	Surface find Middle–Late Neolithic	Rectangular with curved end Zigzag band with circles l. 6.5, w. 3.5, h. 3.5 cm (frag.)	Zorzi collection, Sezione di Preistoria, Museo Civico di Storia Naturale, Verona	Cornaggia Castiglioni 1956, 144–5, tav. 9.1; Cornaggia Castiglioni & Calegari 1978, 26, tav. IX.Pu11; Zorzi 1949–50, 228, tav. V.5
3	***Punta Vuccolo***, Isola di San Domino, Tremiti archipelago, Foggia prov.	?Surface find Middle Neolithic	Rectangular Interlocking angular lines l. 4.2, w. 7.2, h. 2.0 cm (frag.)	Cornaggia Castiglioni collection, Museo Civico di Storia Naturale, Milano	Cornaggia Castiglioni & Calegari 1978, 27, tav. VIII.Pu13
4	***Grotta Scaloria***, Manfredonia, Foggia prov.	?Upper cave burial chamber (Camerone Quagliati/ Scaloria Alta) Early–Final Neolithic	Interlocking curved lines l. 6.5, w. 4.7, h. 2.5 cm (frag.)	Inv. 21841, Quagliati collection, Museo Nazionale Archeologico, Taranto	Cornaggia Castiglioni & Calegari 1978, 26, tav. XI.Pu9
5	***Pulo di Molfetta***, Bari prov.	?Base of the doline (Pulo) ?Late Neolithic–Early Copper Age	Oval Interlocking rows of meander motifs l. 5.5, w. 4.2, h. 2.0 cm (frag.)	Giovene Collection, Museo Diocesano 'Achille Salvucci' del Seminario Vescovile, Molfetta	Cornaggia Castiglioni 1956, 143, tav. 15.3; Cornaggia Castiglioni & Calegari 1978, 26, tav. XI.Pu5; Jatta 1914, 86, fig. 51; Mayer 1904, 86–8, tav. III.19; 1924, 67–9, fig. 12, tav. IX.19
6	***Grotta Santa Croce***, Bisceglie, Bari prov.	Disturbed deposits in front of cave Early–Final Neolithic	Oval Interlocking rows of step/zigzag motifs l. 3.5, w. 4.0, h. 1.8 cm (frag.)	Majellaro collection, Museo Civico Archeologico 'F.S. Majellaro', Bisceglie	Battisti *et al.* 1998, 123, tav. LII.2; Caligiuri & Battisti 2002, 96, fig. 4; Cardini 1956, 244; Cornaggia Castiglioni 1956, 143–4, tav. 16.2; Cornaggia Castiglioni & Calegari 1978, 26, tav. VI.Pu6
7	***Cave Mastrodonato***, Via Trani, Bisceglie, Bari prov.	Surface find Middle–Final Neolithic	Rectangular with curved end Zigzag band l. 6.0, w. 1.5, h. 2.9 cm (frag.)	Inv. CVMD 44285, Majellaro collection, Museo Civico Archeologico 'F.S. Majellaro', Bisceglie	Battisti *et al.* 1998, 123, tav. LII.3; Cardini 1956, 244; Cornaggia Castiglioni 1956, 144, fig. 17.1; Cornaggia Castiglioni & Calegari 1978, 26, tav. VII.Pu7
8	***Grotta Sant'Angelo***, Ostuni, Bari prov.	Cave deposits Middle Neolithic–Copper Age	Rectangular with curved end Multiple parallel straight lines l. 5.1, w. 4.0, h. 0.75 cm	Inv. 53543, Drago collection, Museo Nazionale Archeologico, Taranto	Cornaggia Castiglioni & Calegari 1978, 26, tav. IX.Pu10
9	***Grotta Sant'Angelo***, Ostuni, Brindisi prov.	Cave deposits Middle Neolithic–Copper Age	Rectangular Band of S-spiral motifs	Coppola collection, Museo di Civiltà Preclassiche della Murgia Meridionale, Ostuni	Unpublished
10	***Caverna dell'Erba***, Avetrana, Taranto prov.	Cave deposits Middle Neolithic–Copper Age	Cruciform with curved ends S-spiral band and multiple parallel straight lines l. 4.5, w. 5.1 cm	Inv. 53309, Puglisi collection, Museo Nazionale Archeologico, Taranto	Bagolini 1977; Bernabò Brea 1956, 214; Cornaggia Castiglioni 1956, 145, tav. 15.2; Cornaggia Castiglioni & Calegari 1978, 26, tav. X.Pu8; Graziosi 1973, 97, tav. 113f

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Table 1. *(cont.)*

No.	Site name & location	Context & period	Brief description	Museum	Primary references
11	***Campo Belmonte Domenico***, Laghi Alimini, Otranto, Lecce prov.	Surface find Middle–Final Neolithic	Spirals (frag.)	Unknown	Piccinno & Piccinno 1978, 131
12	***Grotta dei Cervi***, Porto Badisco, Lecce prov.	Cave deposits Middle Neolithic–Copper Age	Oval S-spiral band l. *c.* 6 cm	Museo Archeologico Nazionale, Taranto	Graziosi 1995, fig. 8g
13	***Grotta dei Cervi***, Porto Badisco, Lecce prov.	Cave deposits Middle Neolithic–Copper Age	Rectangular Interlocking rows of meander motifs l. *c.* 7 cm (frag.)	Museo Archeologico Nazionale, Taranto	Unpublished
14	***Grotta dei Cervi***, Porto Badisco, Lecce prov.	Stratum 3 of east entrance to cave Late–Final Neolithic	Curved rectangular Interlocking rows of meander motifs Perforated l. 8.7, w. 4.0, h. 3.7 cm	Lo Porto collection, Museo Archeologico Nazionale, Taranto	Cornaggia Castiglioni & Calegari 1978, 27, tav. XI.Pu17; Lo Porto 1976, 638, tav. XLVIII.2
15	***Grotta delle Veneri*** Parabita, Lecce prov.	Cave deposits Neolithic	Rectangular with curved end Bands of parallel straight and zigzag lines l. 3.5, w. 2.2 cm (frag.)	Radmilli collection, Museo Provinciale 'Castromediano', Lecce	Cornaggia Castiglioni & Calegari 1978, 27, tav. XII.Pu14
16	***Grotta delle Veneri*** Parabita, Lecce prov.	Cave deposits Neolithic	Rectangular Interlocking rows of step/zigzag motifs l. 3.8, w. 2.6 cm (frag.)	Radmilli collection, Museo Provinciale 'Castromediano', Lecce	Cornaggia Castiglioni & Calegari 1978, 27, tav. XII.Pu16
17	***Grotta delle Veneri*** Parabita, Lecce prov.	Cave deposits Neolithic	Rectangular Multiple parallel undulating lines l. 3.0, w. 2.0 cm (frag.)	Radmilli collection, Istituto di Paletnologia, Università di Pisa	Cornaggia Castiglioni & Calegari 1978, 27, tav. XII.Pu15

On a local scale, three somewhat poorly defined types of deposition context can be identified for these pieces. Nine or ten examples were found in cave deposits (Nos. 5, 8, 9, 10, 12, 13, 15, 16, 17), which can be broadly assigned to the Neolithic and Copper Age, and especially to the Middle Neolithic phase onwards, between the sixth and third millennia BC. The precise nature of these deposits is debatable: some could be regarded as resulting from residential occupations of the caves, while others could be interpreted as resulting from more specialized ritual practices, such as mortuary or initiation rites. Only one of these examples comes from a specified stratigraphic context: this is one of the examples from the Grotta dei Cervi (No. 14). This was found during Lo Porto's 1975 excavations in the east entrance to the cave system, in Stratum 3, an intact stratified deposit containing hearths, numerous animal bones and much pottery, including Final Neolithic Serra d'Alto and Diana style ceramics, which can be broadly dated to around 4000 BC (Lo Porto 1976, 638). The poorly recorded example from the Pulo di Molfetta (No. 5) is included in this group. In the early twentieth century, it was conserved in the Museum of the Episcopal Seminary of Molfetta, (although there is no trace of it there today). Mayer (1904, 85) suggests that it comes from the Pulo (a 32 metres deep doline), and clearly notes that it did not come from his own excavations in the adjacent Fondo Spadavecchia settlement site (*contra* Cornaggia Castigiloni 1956, 143). It was probably found during Giovene's eighteenth-century excavations in the base of this doline, under the remains of the more recent nitrate factory, since it is the material from this excavation that forms the core of the Seminary's prehistory collection. Other material found by Giovene in the base of the Pulo includes the remains of human and animal bones, pottery vessels, flint artefacts, polished stone axe-blades, charcoal and ashes, which can be broadly assigned to a period between the Late Neolithic and Early Copper Age, i.e. between the mid-sixth and fourth millennia BC.

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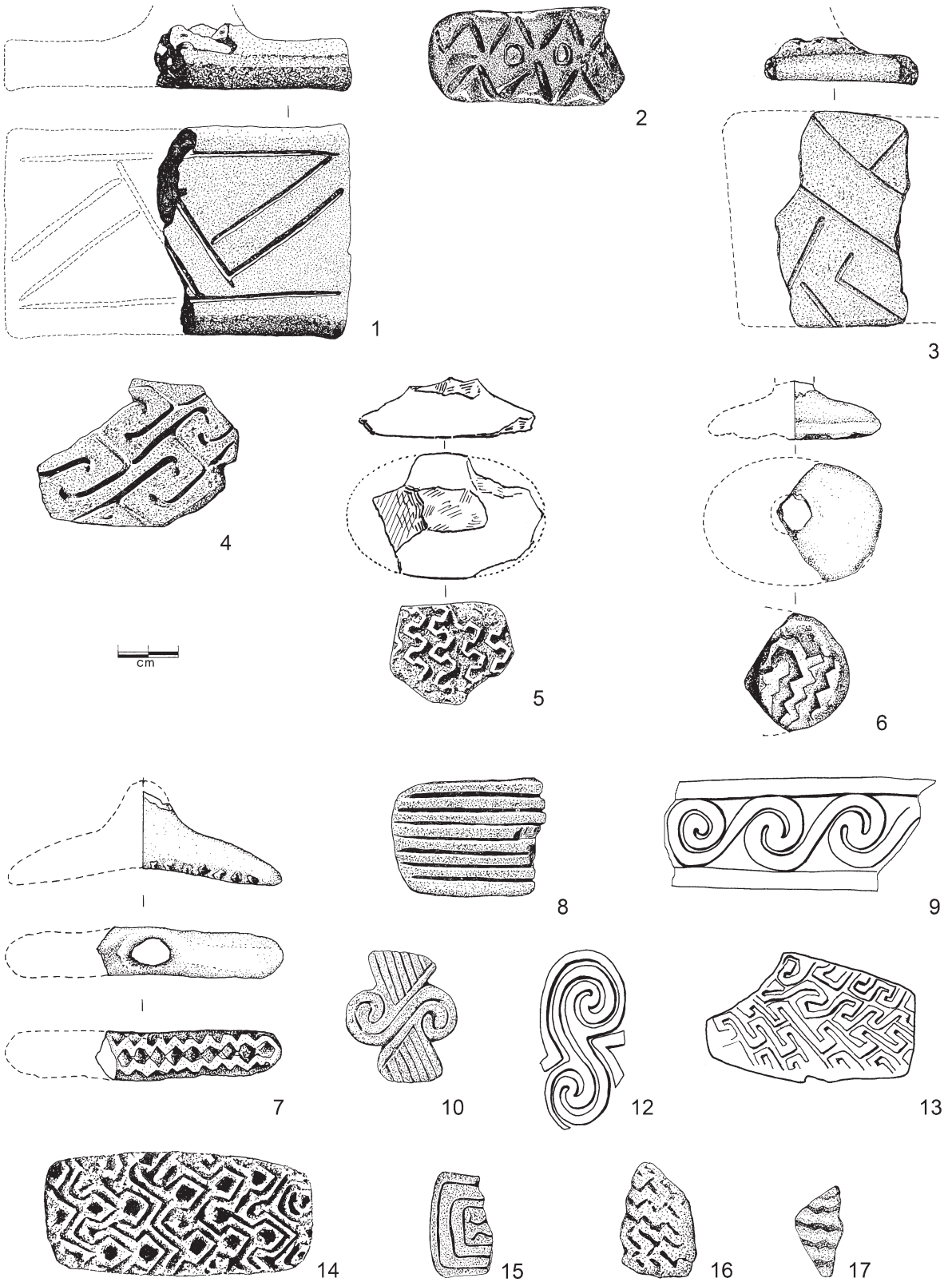


Figure 2. *Stamps from Puglia, southeast Italy (after Battisti* et al. *1998; Cornaggia Castiglioni & Calegari 1978; Mayer 1924; and originals in the Ostuni and Taranto museums): 1) Cala Tramontana; 2) Cala degli Inglesi; 3) Punta Vuccolo; 4) Grotta Scaloria; 5) Pulo di Molfetta; 6) Grotta Santa Croce; 7) Cave Mastrodonato; 8–9) Grotta Sant'Angelo; 10) Caverna dell'Erba; 12–14) Grotta dei Cervi; 15–17) Grotta delle Veneri.*

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Five more examples come from the disturbed upper and surface deposits of open-air 'villages' (Nos. 2, 3, 6, 7, 11), all of which can be assigned to the Neolithic, and especially its Middle, Late and Final phases, dating to between the sixth and fifth millennia BC. One or two examples also come from mortuary contexts. The best, but still not precisely, recorded of these is the example from the Final Neolithic cemetery site at Cala Tramontana on the Tremiti island of San Domino (No. 1). Here, during Zorzi and Palma di Cesnola's 1958 excavations, a group of four crouched skeletons were discovered together with 'grave goods', which included Diana style ceramics, flint artefacts, a miniature polished stone axe-blade, and a fragment of a large *pintadera* (Zorzi 1958, 209). Another example, from Grotta Scaloria (No. 4), may also come from a mortuary context. It probably comes from Quagliati's 1932 excavations in the vast upper chamber of this cave system, known as Scaloria Alta or Camerone Quagliati, since it is housed in the Taranto Museum, where the rest of Quagliati's excavation material was consigned, and is not mentioned in more recent excavation reports. The upper chamber contained stratified deposits covering all phases of the Neolithic period. In its Middle and Late phases, the bodies of numerous individuals were deposited in this chamber, buried according to primary and secondary rites, in association with animal bones, pottery vessels, polished and chipped stone tools, shell and bone ornaments, and charcoal, radiocarbon dated to between around 5700 and 5250 BC. It is possible, but by no means certain, that the *pintadera* comes from these mortuary deposits.

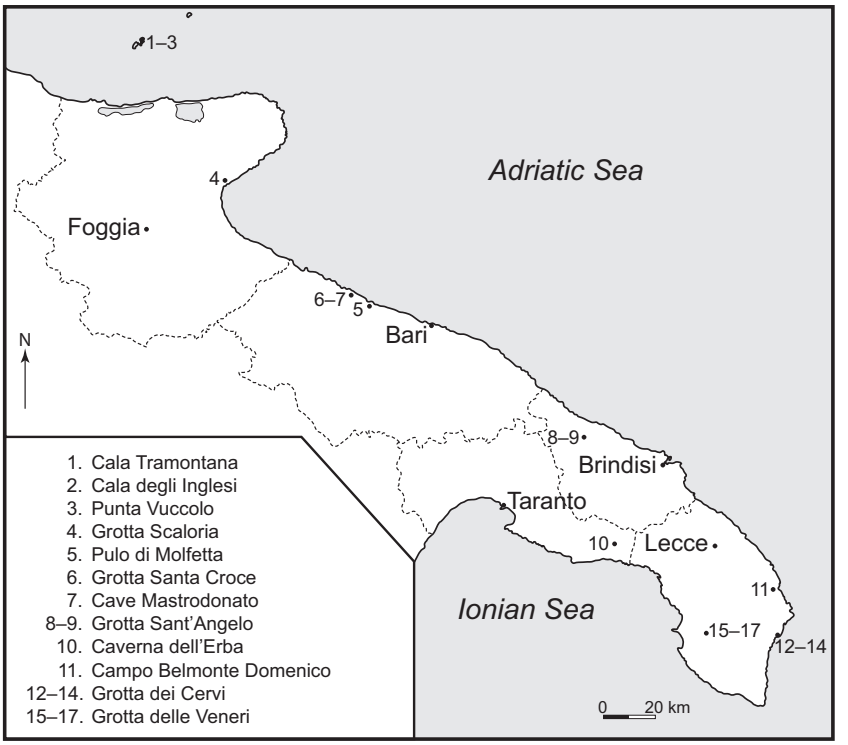


Figure 3. *Distribution of stamps in Puglia, southeast Italy.*

Hints of the long-term life-histories of these Puglian examples are provided by the nature and scale of their breakage, which may have occurred prior to, as well as during and after, their archaeological deposition. None appear to be 'wasters', split apart during the firing process, according to comparisons with the irregular form of such fragments produced during experimental firings (carried out by John Robb). The prehistoric examples do, however, exhibit different degrees of breakage. Three whole or only slightly damaged examples come from cave deposits (Nos. 10, 12, 14). That from the Caverna dell'Erba was certainly found intact, as demonstrated by the published photographs of this object (e.g. Cornaggia Castiglioni 1956, tav. 15.2), but now lacks the corner of one of its 'wings', which may have been broken off during the course of its museum care. Three more are broken at one end, perpendicular to the long axis, together with slight or moderate damage to the handle (Nos. 2, 7, 9). Two of these come from settlement deposits and one from a cave. This kind of damage may have resulted from their use as stamps, particularly as a consequence of too much pressure being applied to one end. Five are broken more or less in half, also perpendicular to the long axis, and at the top or base of the handle (Nos. 1, 6, 8, 15, 16). This kind of breakage may also have resulted from their use. They all come from caves, with the exception of the large specimen from the cemetery of Cala Tramontana (No. 1), which may represent an example of a fragment intentionally deposited as part of a mortuary assemblage, and even of an intentionally broken and curated piece (cf. Chapman 2001). Five more examples, comprising irregular-shaped middle portions of *pintaderas*, exhibit more extensive damage to their ends, sides and handles, which could have resulted from a wide range of processes, in a variety of contexts, extending over a wide span of time (Nos. 3, 4, 5, 13, 17). None of these broken parts look as if they originally belonged to the same object.

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Processes: material, visual and cultural reproduction

Stamps made of baked clay were widespread, but generally infrequent, material elements of Neolithic and Copper Age cultures in the Near East, Balkans and Italy. They were composed of unexceptional clays, which their makers probably obtained from relatively accessible local sources, and then worked nearby, perhaps alongside the production of other commonplace and more unusual clay-based products such as daub, pottery vessels, clay tokens and ceramic figurines. Small numbers were quickly modelled by hand, a few quite roughly, and then smoothed. When dried to leather-hard, they were neatly engraved using a range of simple and familiar cutting tools and techniques, perhaps sometimes following the lines of preliminary markings. They were then converted into a solid state through firing, probably in simple hearths, ovens or bonfires, possibly together with other artefacts, with only loosely controlled oxidizing and reducing conditions, which gave them variable, matt and earthy, surface colours. The general impression is, then, that these baked-clay examples were made by people in an unspecialized 'domestic mode of production', with only limited investment in materials, time and skills. However, other materials were also used to make stamps. These included more highly valued exotic, rare, very durable, coloured, more skilfully and laboriously carved, drilled and polished stones, particularly in Mesopotamia from the sixth millennium BC, but also found occasionally as far away as Greece.

The engraved faces of the clay stamps exhibit a wide but culturally and technically constrained set of patterns, based upon subtle permutations of repeated elements. These range from simple groups of lines and points to more visually and cognitively challenging geometric and curvilinear shapes and combinations including spirals, meanders and interlocking designs. These were carefully organized within, and framed by, the outline of the stamp's face, which was predominantly rectilinear, but also took other regular shapes and even figurative forms. Like simple relief prints today, such designs characteristically form bold, clear-cut, shapes and repetitive, balanced, patterns (e.g. Martin 1993; Pipes 2003). They often deliver a powerful graphic impact, particularly where rhythmic patterns, figure-ground tensions and slight asymmetries cause optical dynamism and ambiguity. These memorable visual forms also reproduced the style of other stamps, transmitted and transformed across long distances of time and space. Furthermore, they also echo (but do not precisely reflect) the appearance of other contemporary, decoratively elaborated and culturally significant, products made of plaster, clay and coloured pigments. These include house and cave walls, ceramic vessels, clay tokens, anthropomorphic figurines and 'altars', all of which sometimes occur in the same archaeological contexts as the stamps, but were not decorated by them. Similarities may also have existed with archaeologically 'invisible' organic artefacts, including the products of basketry and weaving. (Subtle analogies with the dynamic repetitive symbols, patterned sounds and movements of embodied performances may also have existed, particularly in cases where the performers and their props might have been animated by stamped decoration.) These diverse elements of Neolithic material culture were unified by the reproduction and display of visually striking abstract motifs and compositions. Abstract images depend upon agreed social conventions to encode and express meanings about the world or human life. These may be clear and overt, but can equally be open, malleable and ambiguous. Either way, they have the power to attract, captivate, and even dazzle the eye of the beholder, and may well have been aesthetically perceived as pleasing and potent ancestral symbols that animated the Neolithic material world with human-like social agency and sacred power (Skeates 2005, 53–4, 88–9; cf. Gell 1992). More explicit, albeit stylized, figurative representations of animal, human and supernatural forms, as well as objects and scenes, were confined to the Near East and Anatolia, where they became even more standardized from the sixth millennium BC.

It is above all the forms of the stamps' bodies that set them apart as a distinctive category of artefact. The key component is the flat or curving face which serves as the well-proportioned platform for the engravings that cover it completely. The primary importance of this part of the artefact may seem self-evident, but is emphasized both by the evolution of cylinder seals which increased the surface area that could be engraved, and by the fact that on neither artefact type was the appearance of the engraved surface ever compromised by perforation. The second most important component of the artefact is the plain handle positioned centrally on the opposite side.

These features, combined with the relatively small size and light weight of the objects, indicate that they were primarily designed to be hand-held portable artefacts. Historic and ethnographic parallels and experimental reconstructions lend weight to the traditional archaeological assertion that these objects were primarily tools used by people as stamps, (although we do not know this for certain). What sets such objects apart from other hand-held artistic tools, such as brushes, gouges and sharp points (which were

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also used in the Neolithic to produce similar images on a range of media), is their ability to reproduce — simply, quickly and manually — a large number of almost identical copies of an original graphic image, without significantly compromising the potency or 'aura' of the original (Benjamin 1968). Furthermore, when applied to the surface of things as decoration, such images would have been intrinsically functional. As anthropologists such as Alfred Gell have emphasized, 'Decorative patterns applied to artefacts attach people to things, and to the social projects those things entail' (Gell 1998, 74; cf. O'Hanlon 1989; Rubin 1988; Schuster & Carpenter 1996). In other words, these powerful cultural symbols could have repeatedly highlighted social and cultural relationships between various categories of object and people, in the variety of mundane situations and more overtly ritual performances where they were displayed to audiences, and over time. More specifically, they could have been used to attach, reveal, reinforce and reproduce a range of culturally and personally significant concepts: of classification, identity, status, genealogy, production, ownership, order, authority, protection, fertility, potency, quality, authenticity, morality and value. The act of stamping may also have been equally significant.

It is less clear what kinds of things would originally have been marked by the stamps, although it is safe to assume that stamping practices would have varied over space and time. Two alternative techniques can be distinguished. On the one hand, stamps can be used to print coloured images (either monochrome or multi-coloured) onto materials such as human skin, leather, textiles and paper. This is done by coating or filling the image raised in relief or sunk in hollows with a sticky or dry pigment, and then transferring this in reverse to a dry or lightly oiled recipient surface by direct pressure. In Neolithic Romania and Italy, hints of this practice are provided by the traces of pigments identified on the faces and in the grooves and holes of a few stamps. (Scientific and experimental archaeology could help us here to evaluate the residues of pigments and of any stamped materials left in depressions on the stamps.) On the other hand, stamps can also be used to impress their solid patterns in soft materials, such as clay, dough, butter and wax. In the Near East, they were certainly used in this way, to mark clay sealings, from as early as the sixth millennium BC. Either way, the use of stamps results in the surface of other things becoming loaded with cultural meanings, in varying degrees of permanence.

Other dimensions of these mark-making tools are highlighted by the minority of examples found in all regions whose handles were perforated prior to their firing. These suggest that at least some were intended to be suspended on a string or leather thong, including from peoples' necks and wrists, to judge from their positioning in relation to a few articulated bodies in inhumation burials. (Again, scientific analysis of any wear patterns, including any on the perforations, might tell us more.) From a strictly practical point-of-view, this would have helped people carry around and look after these special artefacts, without having to hold them in their hands, as they engaged in various activities. However, their attachment to the human body, particularly within symbolically significant mortuary deposits, also suggests that they may, at least sometimes, have been ascribed an added value, as carefully curated, culturally meaningful, tools, intimately associated with the bodies of particular individuals, which could not be left behind, even in death (cf. Charvát 1994, 13). More specifically, they might have been used as amulets and perhaps also as body ornaments (although their main decorated faces would have hung downwards and hence not been immediately visible). In this way, they could, like the patterns they carried, also have been used as personal markers of protection, identity, or other meanings, which reinforced relations between different people, their material world and the supernatural. The same could apply to the large and perhaps intentionally fragmented example from Cala Tramontana, one decorated half of which was placed in a grave, the other decorated half perhaps having been retained in cultural circulation, possibly as a symbolic indication of kinship links between the living and the newly-dead (cf. Chapman 2000; 2001). Values are, again, likely to have been variable across space and time, with, for example, the lower degree of damage seen in south-east Europe compared to Italy, and especially Puglia, perhaps broadly reflecting differing degrees of cultural value and care accorded to these objects.

They may have been made to last, given the fact that only small numbers appear to have been produced at most Neolithic sites, and in relatively durable materials, and that some were intended by their makers to be suspended. More specifically, they may have been retained and repeatedly re-used by, and on, the same and different people and objects, even over generations, becoming worn, clogged-up and damaged in the process, either until their use was no longer required or until they were completely broken (either accidentally or intentionally). They could then have been discarded or more formally deposited in or around the variety of places where they were used, ending up on the floors of houses, kitchens, workshops, 'archives', storerooms and religious buildings, in settlement pits and refuse areas, in cave deposits, and in inhumation graves and in a 'hoard', during the course of an overlapping range of economic, social

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and ritual practices. (The fact that they were never repaired, unlike fineware pots, also indicates that they were replaceable, even disposable.) They then undoubtedly sustained further post-depositional damage and wear, right up to the present day. Ultimately, however, the material biographies of these tools are of minimal significance compared to the power of the symbolic messages that they, in their own small way, helped to carry and reproduce.

Conclusions

By emphasizing the biographies, human relations and cultural embeddedness of clay stamps found in western Asia and southern Europe between the eighth and third millennia BC, it is possible to propose a revised account of their production, values, consumption and transformation across space and time. They were made in an unspecialized manner, using readily available resources. They were primarily designed to be handheld and portable printing and impressing tools. As such, they were used by people to reproduce copies of a powerful graphic image on the surface of other cultural materials: simply, quickly and repeatedly. They were also sometimes used as personal amulets. Their engraved faces exhibit a wide but culturally filtered and technically constrained set of patterns. These culturally meaningful and memorable images reproduced those seen on other decorated elements of material culture, which were successively transmitted and transformed across long distances of time and space via extended networks of early farming communities, to whom the visual expression of social and symbolic relations clearly mattered. Their striking abstract designs had the power to captivate audiences, particularly as pleasing and potent ancestral symbols that animated the Neolithic material world with human-like social agency and sacred power. More specifically, these powerful signatures could have repeatedly attached, revealed and reproduced significant cultural concepts and relations across different people, their material world and the supernatural, during the course of the overlapping range of social, economic and ritual practices where they were displayed. Ultimately, what seems significant is not so much the archaeologically surviving artefacts, but the enduring symbols that they helped people to generate.

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Notes

1. The term '*pintadera*' stems from the Spanish word, '*pintar*', meaning 'to paint', and was originally used by travellers to describe the stamps used by native Mexicans and the Guanches of Gran Canaria (Cornaggia Castiglioni 1956, 109).
2. All dates are in calendar years BC, based upon calibrated radiocarbon chronologies.
3. The distribution of prehistoric stamps in other parts of the world, including central and southeast Asia, the eastern Mediterranean, the Canary Islands and the Americas, lies beyond the scope of this paper, but is outlined, for example, by Cornaggia Castiglioni (1956).

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