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Of marks and meaning : a palaeographic, semiotic-cognitive, and comparative analysis of the identity marks from Deir el-Medina.

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THE ORIGIN OF THE MARKS

Identity marks have been used throughout Egyptian history. They are amply attested at several sites in Egypt, in the Early Dynastic Period as potmarks, and in the Old, Middle and New Kingdoms as potmarks, builders' and quarry marks. The use of identity marks for individual workmen, however, and the extent to which they were used on ostraca for administrative purposes are peculiar to Deir el-Medina and the Theban necropolis. Also, the intensity of applying the marks in private context on personal objects such as neck supports, pots, bowls, stools, combs and linen found in the village, the workmen's huts as well as in tombs, and their use in graffiti throughout the Theban mountains is unique for the community. How can we explain this? To what extent are the marks from Deir el-Medina a continuation of earlier practices? Why and when do we begin to observe the trend toward individuality and personal use?

In this chapter we discuss the marks from the Theban necropolis in a broader Egyptian context in order to find out how the system came about, in form as well as in function and usage. We begin with a discussion of potmarks (section 1), followed by a discussion of builders' marks (section 2), and finally a discussion of quarry marks (section 3). We will see that a core group of forms had been used at least since the Old Kingdom, but that their meaning and manner of usage was limited to the geographic and temporal frame of each particular system.

1 POTMARKS

Nearly as old as the introduction of pottery itself is the practice of applying marks to jars, bowls and other types of vessel.¹ In Ancient Egypt the origin of this practice can be traced back to the Predynastic period, but it was not until the Early Dynastic period, in particular dynasties 0-1, that they were frequently and systematically applied at several sites throughout Egypt, among which Abydos, Saqqara, Tarkhan, Minshat Abu Omar, Kafr Hassan Dawood, Abusir, Tell el-Farkha, Tell Ibrahim Awad and Adaïma.² Old Kingdom corpora of potmarks are known, among others, from Buto and Giza; Middle Kingdom corpora derive particularly from Kahun, Gurob and el-Lisht; and New Kingdom potmarks have been found for example at Qantir, Amarna, Malqata and Karnak. By the time of Thutmosis III, when we encounter the first traces of habitation in Deir el-Medina, the practice of applying marks onto pots and vessels had thus been known for some 1700 years already. Did this practice inspire the form and usage of the Deir el-Medina identity marks?

¹ Van den Brink, 'Corpus and Numerical Evaluation of the 'Thinite' Potmarks' in Friedman & Adams (eds.), *The Followers of Horus*, 265.

² *Ibid.*, 265, 270; Van den Brink, *The International Potmark Workshop*: <http://www.potmark-egypt.com/>. For individual corpora, see Bréand, 'The corpus of pre-firing potmarks from Adaïma (Upper Egypt)' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1015-1042; Kroeper, 'Corpus of Potmarks from the Pre/Early Dynastic Cemetery at Minshat Abu Omar' in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 187-218; Mawdsley, 'The corpus of potmarks from Tarkhan' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1043-1072; Tassie et al., 'Corpus of Potmarks from the Protodynastic to Early Dynastic cemetery at Kafr Hassan Dawood' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 203-235; Wodzińska, 'Potmarks from Early Dynastic Buto and Old Kingdom Giza' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1073-1095.

a. The forms of potmarks

In Table I2-1 we have tabulated the most common potmarks from the Early Dynastic period and the Old, Middle and New Kingdoms. With respect to their forms we can make the following remarks.

The potmarks from the Early Dynastic period can be roughly divided into two groups:

1. Linear abstract geometric marks that consist of dots and strokes;
2. Representations of concrete objects, buildings and creatures;

The marks of the first group show various combinations of dots and strokes, for instance , , , , , , , , , .³ They could represent counting systems, although it is not clear what exactly was counted (pots, batches, contents).⁴ The marks of the second group show resemblance to early hieroglyphic signs. They have not been interpreted, or 'read', with certainty, but it is assumed that they represent place names or the names of institutions or estates that functioned as administrative centers in a regional network of (re)distribution of products. This suggestion was made by the archaeologist Van den Brink and will be discussed in more detail in section 1.b below.⁵ Yet, it is interesting to note here that the most frequent potmark which occurs in the Early Dynastic period is the square, alone or in combination, for instance: , , , , , , , , , .⁶ The square has been interpreted as *hw.t*, and as such it may refer to a location, institution or estate. Especially in combination with the fish it has been suggested to refer to a locality in the Delta: in view of the occurrence of this mark at Minshat Abu Omar Kroeper stated that 'In particular the large amount of double signs consisting of squares (*hw.t*) with fish or other signs may indicate a place of origin from some centre of distribution in the Delta, especially as some main estate names in the Delta known from the Old Kingdom contain a fish sign in the name.'⁷ Because of the fact that the largest concentration of fish- and *hw.t*-marks has been found at sites in the Eastern Delta⁸ this is the most plausible origin of the mark. A few fish- and *hw.t*-marks were found at Abu Roash, and those found at sites in the Nile Valley mostly come from the Memphite region (primarily the elite cemetery at North Saqqara with smaller amounts at Abusir, Tura and Tarkhan near the Fayum), with a small amount deriving from Umm el-Qaab. This distribution pattern is in accordance with the large royal administrative centers that acquired or appropriated goods, particularly wine and other foodstuffs from (East) Delta localities.⁹

The idea that potmarks refer to a locality, institution or estate has become widely supported and is considered plausible with respect to Van den Brink's suggestion of a (re)distributional network. In

³ Taken from Table I2-1: the first five from Abu Roash, the latter three from Adaïma. References are given with Table I2-1.

⁴ Bréand, 'The Corpus of Pre-Firing Potmarks' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1033-1035; Mawdsley, 'The corpus of potmarks from Tarkhan' in *ibid.*, 1050. Bréand mentions the suggestion made by Fairervis that vertical lines could have referred to simple numbers and one horizontal line could indicate the number 10. This remains, of course, hard to proof.

⁵ Van den Brink, 'Corpus and Numerical Evaluation of the 'Thinite' Potmarks' in Friedman & Adams (eds.), *The Followers of Horus*, 265-296.

⁶ Taken from Table I2-1; references are given there.

⁷ Kroeper, 'Corpus of potmarks from Minshat Abu Omar' in Kryzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into the Stone Age of Northeastern Africa*, 216. See also Tassie et al., 'Corpus of Potmarks from Kafr Hassan Dawood' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 215. For Old Kingdom locations or estates in the Delta with a fish in their name, Tassie et al. refer to Bietak, *Tell ed-Dab'a II*.

⁸ In addition to Minshat Abu Omar also at Kafr Hassan Dawood, Ezbet el-Tell/ Kufur Nigm, Minshat Ezzat, and Tell el-Samara. See Tassie et al., 'Corpus of Potmarks from Kafr Hassan Dawood' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 215-216.

⁹ *Ibid.*, 216.

addition to the fish- and *hw.t*-combination, there are several other sign-groups that are notably recurrent, first of all marks that make use of what are presumably *k3*- and *mr*-signs, for instance: , , , , , , , and in combination with *hw.t* .¹⁰ The three mountains combined with a circular sign that in one instance at least seems to be *njw.t* is also recurrent, for instance: , ,  and .

Van den Brink suggests that the frequency of some marks may reflect the existence of a few large administrative centers versus smaller centers throughout the country.¹¹ The overall idea that the marks refer to toponyms, institutions or estates is interesting with regard to the builders' marks from the Old and Middle Kingdoms some of which, as we will see, are references of a similar nature.

The marks found on Early Dynastic pottery discussed by Van den Brink do not include the so-called *serekhs*, which are contemporaneous and may also be found incised or stamped on pottery. *Serekhs* are rectangular enclosures representing a palace façade in which the names of kings were written. They are generally not considered part of the same potmark tradition and date slightly earlier than the systematically applied Early Dynastic potmarks.¹² Nevertheless, they are of interest with respect to the development of early hieroglyphic writing and the nature of potmarks as related to script. The *serekhs* are considered part of the same tradition to which also the Early Dynastic dockets and seal impressions belong: they represent the early writing tradition in that they consistently make use of signs in linguistic context, while the potmarks remained to be used in nonlinguistic context. The dockets and seal impressions even become hieratic over time, while the potmarks may include signs of writing, but never become hieratic. The potmarks, at least in the Early Dynastic period, show a fairly consistent corpus in which signs of writing may be included, but always combined with abstract geometric marks and representations of other nature. The fact that they are found in the same archaeological context on the same types of vessel as the linguistic dockets, seal impressions and *serekhs* is understood as an indication for them being clearly part of a separate, nonlinguistic system of communication.¹³ This nonlinguistic system continued to be used on pottery while the dockets, impressions and *serekhs* in the 1st and 2nd dynasties at Umm el-Qa'ab show the development to hieroglyphic writing.¹⁴ Hieroglyphic script presumably influenced the nonlinguistic system of potmarks to some extent, lending it several of its signs and possibly even linguistic values, but it did not change the nonlinguistic nature of that system; it did not turn it into writing. Bréand, who studied the Early Dynastic potmarks from Adaïma in Upper Egypt, refuted a relation of these potmarks to the 'official' system of hieroglyphic writing. By using the term 'official' she refers to Regulski's suggestion that '... the creation of a writing system was a conscious

¹⁰ Taken from Table I2-1; references are given there.

¹¹ Van den Brink, 'Corpus and Numerical Evaluation of the 'Thinite' Potmarks' in Friedman & Adams (eds.), *The Followers of Horus*, 275.

¹² *Ibid.*, 267. They are not included in Table I2-1.

¹³ Both Kroeper and Tassie et al. argue that, since abstract marks appear together with preformal hieroglyphic marks, and both occur on vessels in the same graves and are therefore contemporaneous, it cannot be said that the hieroglyphic-like marks developed out of the abstract signs. Rather, the potmarks in general and early hieroglyphic writing were two different systems, although their relation can be detected in an adaptation of some hieroglyphic signs as marks or, vice versa, of some marks as hieroglyphic signs. Kroeper, 'Corpus of Potmarks from Minshat Abu Omar' in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 188; Tassie et al., 'Corpus of Potmarks from Kafr Hassan Dawood' in Midant-Reynes & Tristant, *Egypt at its Origins 2*, 218, 220.

¹⁴ For examples, see Dreyer, *Umm el-Qa'ab I*; For the development, see Regulski, 'The origin of writing' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins 2*, 985-1009.

court initiative in a time when many clusters of alternative systems of communication existed'.¹⁵ Bréand explains that, since the abstract potmarks consisting of dots and strokes at Adaïma appear at the same time as the official numerical system depicted on the labels in Tomb U-j at Umm el-Qa'ab, they cannot be considered 'an 'official' transcription of numerals, and therefore cannot be identified as hieroglyphic signs'.¹⁶ They do 'not belong to the official counting system, and they are not readable as signs encoding the language'; rather, they are a 'non-official system of counting ... *an alternative system of communication* which cannot be deciphered outside of its context of use, and can therefore not be considered as a transcription of hieroglyphic signs'.¹⁷ In sum, potmarks on the one hand and *serekhs*, dockets and seal impressions on the other are considered two different systems, which share some signs, but follow their own traditions. The non-linguistic system potmarks were therewith apparently not considered 'less' than the developing writing tradition as they clearly continued to be used throughout Egyptian history, and even up to the present day. When we look at the potmarks from the Old, Middle and New Kingdoms we do see some changes, such as the lack of the fish- and *hw.t*-combination perhaps due to the disappearance or a change in the (re)distributional network from Early Dynastic times.¹⁸ Yet, we still encounter the combination of linear abstract geometric marks consisting of dots and strokes that may relate to a counting system with hieroglyphic-like marks. Of the latter, , , ,  and  are particularly recurrent, marks that we also encounter in Deir el-Medina from dynasty 18 onwards. It is conspicuous that, in contrast to the Early Dynastic potmarks which are primarily incised prior to the firing process of the pots regardless of their graphic form, the 'counting marks' of later times are pre-fired whereas the concrete and hieroglyphic-like marks are generally incised post-firing. This difference is usually related to a difference in function, an idea to which we return in section 1.b below.

¹⁵ Regulski (ibid) quoted in Bréand, 'The Corpus of Pre-firing Potmarks from Adaïma' *BMSAES* 13 (2009), 60.

¹⁶ Bréand, 'The Corpus of Pre-firing Potmarks from Adaïma' *BMSAES* 13 (2009), 60-61.

¹⁷ *Ibid.* Italics are mine.

¹⁸ Van den Brink, 'Corpus and Numerical Evaluation of the 'Thinite' Potmarks' in Friedman & Adams (eds.), *The Followers of Horus*, 271 notes that the number of potmarks associated with the (re)distributional network dropped during the reigns of Djer and Djet. The occurrence of potmarks faded out almost completely during the reign of Qa'a, the last king of Dynasty 1.

Table I2-1: Potmarks¹⁹

Early Dynastic Period	
Abu Roash ²⁰	
Adaïma ²¹	
Kafr Hassan Dawood ²²	
Minshat Abu Omar ²³	

¹⁹ The Table contains selections only. For a more complete overview of potmarks, see The International Potmark Workshop (<http://www.potmark-egypt.com/>).

²⁰ Klasens, *The Excavations of the Leiden Museum of Antiquities at Abu-Roash* (1957-1959).

²¹ Selected from Bréand, 'The corpus of pre-firing potmarks from Adaïma' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1021 (Table 1).

²² Tassie et al., 'Corpus of Potmarks from Kafr Hassan Dawood' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 223-225, 227.

²³ Kroeper, 'Corpus of potmarks from Minshat Abu Omar' in Kryzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research Into the Stone Age of Northeastern Africa*, 187-218.

Tarkhan ²⁴	
Buto ²⁵	
Umm el-Qaab/ Abydos ²⁶	
Old Kingdom	
Balat ²⁷	

²⁴ Mawdsley, 'The Corpus of potmarks from Tarkhan', *BMSAES* 13 (2009), 216-219; The International Potmark Workshop (<http://www.potmark-egypt.com/>).

²⁵ Köhler, *Tell el-Fara'in – Buto III*, pls. 12, 23.12, 41-6, 52.9, 65-67, 72.

²⁶ Köhler, 'Bearbeitung der Keramik' in Dreyer et al., 'Umm el-Qaab', *MDAIK* 52 (1996), 52-53.

²⁷ Soukiassian, Wuttman & Pantalacci, *Le palais des gouverneurs de l'époque de Pépy II*, figs. 262-263, 265-266.

Giza ²⁸	
Middle Kingdom	
Kahun and Gurob ²⁹	
Qasr el-Sagha ³⁰	

²⁸ The first two lines: Wodzińska, 'Potmarks from early dynastic Buto and old Kingdom Giza' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1078-1079, 1082-1084. The first 14 are pre-firing marks, the last seven are post-firing marks. The latter three lines: Kromer, *Siedlungsfunde aus dem frühen Alten Reich in Giseh*, Tafel 28-29.

²⁹ Selected from Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 125-142. Only the pre-fired marks are published there. The last two lines present post-fired marks: the first 5 are from Gallorini, *idem*, 115-116; the remainder is selected from Petrie, *Illahun, Kahun and Gurob*, pl. XV and Petrie, *Kahun, Gurob, and Hawara*, pls. XVII-XVIII (on 'foreign pottery').

El-Lisht	
New Kingdom	
Amarna ³¹	
Karnak ³²	
Malqata ³³	
Qantir ³⁴	

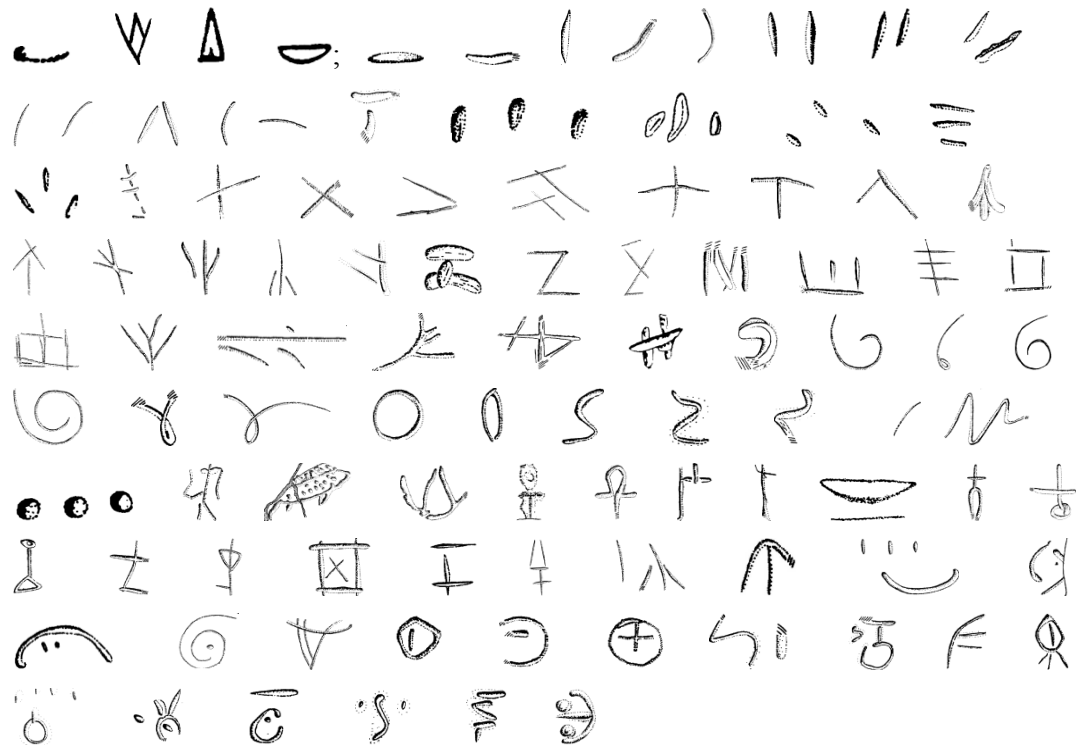
³⁰ Šliwa, 'The Middle Kingdom Settlement at Qasr el-Sagha', *Studies in Ancient Art and Civilization* 5 (1992), 31 (fig. 10). The final mark occurs on a limestone axe (idem, 32 (fig. 14.1)).

³¹ Hope, 'Some Remarks on Potmarks of the Late Eighteenth Dynasty' in A Leahy and J. Tait (eds.), *Studies on Ancient Egypt in Honour of H.S. Smith*, 129 (fig. 4); Stevens, *Akhenaten's Workers II*, chapter 8.

³² Hope, 'Some Remarks on Potmarks of the Late Eighteenth Dynasty' in A Leahy and J. Tait (eds.), *Studies on Ancient Egypt in Honour of H.S. Smith*, 125 (figs. 2-3).

³³ Selected from *ibid.*, 140-143.

³⁴ The first three lines contain marks on moulds, selected from Hamza, 'Excavations of the Department of Antiquities at Qantir', *ASAE* 30 (1930), figs. 12-13. The latter nine lines: Ditze, 'Gedrückt – Geritzt – Gekratzt' in Pusch (ed.), *Die Keramik des Grabungsplatzes Q1. Teil 2*, 290-481.



Late and Ptolemaic

El-
Assasif³⁵



³⁵ Budka, 'Benchmarks, team marks and pot marks from the Asasif' in Haring & Kaper (eds.), *Pictograms or Pseudo Script*, 91.

b. The function of potmarks

The meaning and function of marks on pottery have received multiple interpretations since the 19th century, depending among others on the context in which the marked pottery was found as well as on whether the marks were incised before or after the firing process. While some hypotheses are now considered unlikely there is probably not one explanation, and multiple possibilities must be kept in mind. We present an overview of traditional interpretations and discuss them in the light of the marks from Deir el-Medina, especially those on pottery.

b.1 Alphabetic characters

One of the first theories concerning the interpretation of potmarks equated them with early Greek alphabetic letters. This was first suggested by Hayter-Lewis and Brugsch in 1881 respectively 1886 with regard to the marks on faïence tiles from Tell el-Yahudieh. Brugsch dated the tiles in the Ptolemaic period, and Hayter-Lewis thought the marks to be Ptolemaic restorations. Both argued to interpret them as the Greek letters A, E, I, Λ, M, O, C, T, and X,³⁶ and so did Naville and Griffith in 1890.³⁷ The hypothesis was refuted by Hamza in 1930.³⁸ He compared the marks on the Tell el-Yahudieh tiles with marks he found on terracotta moulds from Qantir and concluded that many of them were equivalent. He pointed out that, since the moulds from Qantir dated to the reign of Ramesses III, the idea that the marks were Greek letters was ‘absolutely absurd’.³⁹ Rather, he suggested to re-interpret each of the ‘letters’ as simplified or cursive hieroglyphic or hieratic signs (fig. I2-1). As such, they would simply be ‘incised by the Egyptian artist as a sort of initial’.⁴⁰



Fig. I2-1 ‘Greek letters’ on the Tell el-Yahudieh tiles reinterpreted as hieroglyphic or hieratic potmarks by Hamza, *Excavations of the Department of Antiquities at Qantîr*, *ASAE* 30 (1930), 55, 57-58.

In 1977, however, the theory of the Greek letters was resurrected in Velikovsky’s book *Ages of Chaos III Peoples of the Sea*. Velikovsky refuted Hamza’s hieratic equivalents, especially the first form Ψ of which Hamza had suggested that it represented a lotus flower, because it would never have ‘been found on a papyrus or on stone and, of course, is not included in the complete catalogue of hieratic signs’.⁴¹ It is unclear what Velikovsky meant with ‘complete catalogue of hieratic signs’, as a complete catalogue is as

³⁶ Aston (David), ‘Theban Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script*, 49; Hayter-Lewis, ‘Tel-el-Yahoudeh’, *TSBA* 7 (1881), 182; Brugsch, ‘On et Onoion’, *RT* 8 (1886), 5; Hamza, ‘Excavations of the Department of Antiquities at Qantîr’, *ASAE* 30 (1930), 57; Griffith, *The Antiquities of Tell-el-Yahudieh*, 41.

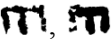
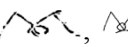
³⁷ Naville and Griffith cited in Velikovsky, *Ages in Chaos III*, 24 with footnotes 1 and 2.

³⁸ Hamza, ‘Excavations of the Department of Antiquities at Qantîr’, *ASAE* 30 (1930), 31-68.

³⁹ *Ibid.*, 57.

⁴⁰ *Ibid.*, 58. See the next section b.2 below.

⁴¹ Velikovsky, *Ages of Chaos III*, 28.

yet non-existent.⁴² He argued that the marks on the tiles were ‘well-shaped Greek letters’⁴³ and used this observation to support his radical change in chronology, placing Ramesses III and the 20th dynasty 800 years later in the early 4th century BC.⁴⁴ However, before the chronology is changed, a different explanation for the marks on the tiles must be offered. They are very simple geometric forms that may indeed show similarity to Greek letters,⁴⁵ but in that case may just as well be considered similar to African scripts, or marking systems from the Near East, even Mongolia, medieval Europe or present-day Norway. In Part III of this dissertation the universality of such simple geometric forms is discussed.⁴⁶ The combination of hieroglyphic signs and such geometric forms that is found on the faience tiles is precisely the mix that is encountered in other ancient Egyptian marking systems, including the marks from Deir el-Medina. Thus, forms for the lotus flower among the marks include  in dynasties 19 and 20.⁴⁷ The form , interpreted as the hieratic *p*, the number 60 or the sign 𐎢 is found as  and  among the identity marks between dynasties 18 and 20.⁴⁸ The form  can be recognized in  and  in dynasty 20⁴⁹; and the forms  and  are frequent among the identity marks in dynasty 18, but are seen among potmarks ranging from prehistoric Minshat Abu Omar until at least New Kingdom Qantir (Table I2-1). Without equating the marks on the faience tiles with the identity marks from Deir el-Medina (any kind of relation between them in form and/or usage remains uncertain), it should at least be recognized that the forms of the marks on the tiles, rather than being Greek letters per definition, may simply have been part of inherently Egyptian potmark traditions. To strengthen this idea, compare the forms in Table I2-1, where we find forms such as , , , ,  and  already in prehistoric and Old Kingdom times.

With respect to the 12th dynasty potmarks found at Kahun and Gurob Petrie had argued in 1890 that, rather than early Greek letters, the ‘strange signs scratched on pottery’ actually represented early Phoenician alphabetic characters connected to an early Libyo-Greek community of Aegean origin around 2500 BC.⁵⁰ This idea was related to a theory suggested by the Egyptologist De Rougé in 1859 which stated that ‘the origin of the Phoenician alphabet’ lies in Egyptian hieratic writing.⁵¹ Petrie considered this ‘the most probable truth’.⁵² He argued that the hieratic from which the Phoenician alphabet derived was ‘expressly the hand of the XIIth dynasty, and not that of the XVIIth or later times’; ‘the Phoenician alphabet must therefore have been developed before 2000 BC.’⁵³ This would coincide, he said, with the presence of prisoners of Mediterranean origin who were taken captive during the wars at the end of dynasty 11, and who were employed at public works such as at Kahun and Gurob. They would not have

⁴² Möller’s *Hieratische Paläographie* I-III is based on merely 32 sources.

⁴³ Velikovsky, *Ages of Chaos* III, 28.

⁴⁴ *Ibid.*, 53.

⁴⁵ See *ibid.*, 26-27.

⁴⁶ The reader is reminded of the traditional bias the west and western scholars have dealt with: our focus on the alphabet feeds a recognition of it in forms we can at first not otherwise explain.

⁴⁷ Potsherds Bruyère Rap. 48-51, pl. XVII.017-0.18; Theban Graffito 3975.

⁴⁸ Ostraca IFAO OL 6788, IFAO ONL 6223, Stockholm MM 14130 and Cairo JE 46864.

⁴⁹ Ostrakon BTdK 586; Theban Graffiti 2844 and 3624.

⁵⁰ Petrie, *Illahun, Kahun and Gurob*, 11.

⁵¹ Petrie, *Kahun, Gurob and Hawara*, 43-44.

⁵² *Ibid.*.

⁵³ *Ibid.*.

been able to read Egyptian and could therefore have initiated a system of marks based on Egyptian hieratic, which they used on pottery and which would develop into the Phoenician alphabet.⁵⁴

This hypothesis is nowadays rejected. Although a relation between Egyptian characters of writing and the development of an early Semitic alphabet is generally assumed, the suggestion that this development had already taken place before 2000 BC has been much debated.⁵⁵ The role assigned by Petrie to the potmarks from Kahun and Gurob is, moreover, to be questioned because several of the marks occur as potmarks already in the Early Dynastic period and the Old Kingdom: compare, for instance, the linear abstract geometric counting marks as well as the marks $\aleph$, Ψ , Δ , $\triangle$, $\otimes$ and $\star$ from Kahun and Gurob in Table I2-1 with marks from Abu Roash, Buto, Minshat Abu Omar, Tarkhan and Old Kingdom Giza. Again, as seen with the marks on the faïence tiles, they rather may have been part of an inherently Egyptian potmark tradition.

b.2 Potters' or artists' marks

In addition to the idea that potmarks were early Phoenician characters, Petrie played with a number of other interpretations, one of which came forth from his realization that some potmarks had been made before the pots had been fired, while others had been made post-firing. The difference he explained in terms of function: the pre-firing marks functioned as potters' marks that referred to the potters of a particular workshop, and the post-firing marks functioned as ownership marks referring to the later owners of the pots.⁵⁶ Similar interpretations were suggested by the Egyptologist Firth, who argued that potters' marks from Nubia enabled an individual potter to identify his own products after they had been fired in a communal kiln,⁵⁷ and by the Egyptologist Junker, who argued the same for potmarks from El-Kubanieh.⁵⁸ With respect to the Qantir bread moulds Hamza even suggested the potters' marks to be the signatures of artists; they were 'equivalent to the initials of modern artists', 'symbols which the Egyptian artist scratched on the back of every mould that his hand produced, so as to mark off his work from that of any other in the same factory'.⁵⁹

A major problem for the interpretation of potmarks as aids to distinguish the products of individual potters, however, lies in the fact that very few pots were actually marked. Hamza reported to have found more than ten thousands moulds and only 'some of them bear marks'; indeed, 'Thousands of moulds ... do not bear any mark at all'.⁶⁰ While he considered this reason to refute the idea that the marks were trade-marks, functioning to distinguish the work of one factory from that of another ('for, if that was the idea, each mould should have been marked'⁶¹), the same reasoning may in fact argue against his interpretation of the marks as artists' marks.⁶² The statistical infrequency of marked pottery is a general

⁵⁴ Petrie, *Kahun, Gurob and Hawara*, 43-44.

⁵⁵ On chronology and development, see Sass, *The Alphabet at the Turn of the Millennium*.

⁵⁶ Petrie, *Tarkhan I and Memphis V*, 28.

⁵⁷ Firth, *The Archaeological Survey of Nubia I*, 52. Interestingly, exactly the same function has been suggested for ancient Peruvian pre-firing potmarks by the anthropologist Christopher Donnan. On the basis of ethnographic analogy to the present-day practice of potters, he suggests that the marks were made 'to facilitate the identification of the pots of each potter during production and prior to the actual marketing of the pots'. Donnan, 'Ancient Peruvian Potters' Marks through Ethnographic Analogy', *American Antiquity* 36.4 (1971), 460, 464-466.

⁵⁸ Junker, *Friedhöfen von El-Kubanieh-Nord*, 80; Junker, *Friedhöfen von El-Kubanieh-Süd*, 74.

⁵⁹ Hamza, 'Excavations of the Department of Antiquities at Qantir', *ASAE* 30 (1930), 53.

⁶⁰ *Ibid.*, 57.

⁶¹ *Ibid.*

⁶² Hamza attempted to explain the small amount of artists' marks on the moulds by saying that 'some artists did not mind much about marking their work'. Yet, this contradicts the distinguishing function he ascribes to the marks, as well as the comparison he

phenomenon. Aston, in his study of Theban potmarks, points out that marked vessels are relatively rare if one considers the best documented New Kingdom sites (Amarna, Malkata, Qantir), as well as the major New Kingdom cemeteries at Gurob and Saqqara.⁶³ For Qantir, Ditzte mentions that only an ‘unbedeutende Prozentsatz’ of 0.0291% of potsherds was marked.⁶⁴ For Late Period and Ptolemaic pottery from El-Assasif the numbers are also low: 0.8% of the complete vessels was marked (5 out of 600), and only 0.1% of all sherds was marked (16 out of 14800).⁶⁵ The statistics are not much better for Middle Kingdom Kahun and Gurob: Gallorini speaks of only a ‘small percentage of marked vessels in the overall excavated pottery’.⁶⁶ With respect to Old Kingdom Heit el-Gurob at the Giza Plateau Wodzińska remarks that 0.17% of the vessels yielded potmarks; for Old Kingdom Buto the number is 1.3%.⁶⁷ It seems that potmarks were more frequently applied in the Early Dynastic period, with 14% of all ceramic vessels from the cemetery of Minshat Abu Omar marked; 8-12% of the vessels from Tarkhan; and 4.9% of the ceramic vessels as well as 0.72% of the stone vessels from Kafr Hassan Dawood.⁶⁸ However, for Adaïma the percentage of marked vessels equals only to 0.55% of the entire assemblage, which moreover covers a period of approximately 700 years (c. 3300-2600 BC). The average creation of marks could then be calculated to be less than one per year.⁶⁹ In other words, the marking of pottery was ‘far from a systematic practice’.⁷⁰ With the exceptions of Kahun and Adaïma, all percentages are totals including both pre- and post-firing marks.⁷¹ The number of pre-firing marks alone thus comes down to even less. In this light, a consideration of pre-firing marks as ‘potters’ or ‘artists’ marks with a distinguishing function is highly unlikely; it seems indeed that ‘most of the time the ‘artists’ did not want their work to be recognized’.⁷²

b.3 Workshops, institutions, estates: provenance and/or destination

The hypothesis of potters’ or artists’ marks was effectively dismissed by the Egyptologist Dunham in 1965. After study of Nubian potmarks on both ceramic and metal vessels over a period ranging from the Egyptian Middle Kingdom to the Meriottic period he found that many of them were of the same type. On the basis of the different materials, which may indicate specialization, and the long period of usage he postulated that the marks could not refer to a particular potter or manufacturer, but were rather indicative of a particular estate or concern, such as the royal house.⁷³ Similarly, Gallorini considers the idea that the marks from Kahun referred to different workshops. She found that the same types of mark occur on vessels in Marl clay and in Nile silt.⁷⁴ If the marks would be individual potters’ marks, these finds are incongruent with the general assumption that potters specialized either in Marl clay or in Nile silt vessels,

himself makes to early dynastic marks on page 56, where he argues that the great amounts in which the latter occur proofs that each workman was ‘anxious to distinguish his work’.

⁶³ Aston (David), ‘Theban Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script*, 52. See also Hope, ‘Some Remarks on Potmarks’ in Leahy & Tait (eds.), *Studies on Ancient Egypt in Honour of H.S. Smith*, 138-139.

⁶⁴ Ditzte, ‘Gedrückt – Geritzt – Gekratzt’ in Pusch (ed.), *Die Keramik des Grabungsplatzes Q1. Teil 2*, 273.

⁶⁵ Budka, ‘Benchmarks, Team marks and Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 81.

⁶⁶ Gallorini, ‘Incised marks on pottery and other objects’ in *ibid.*, 122.

⁶⁷ Wodzińska, ‘Potmarks from early dynastic Buto’ in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1075-1076, 1090.

⁶⁸ Kroeper, ‘Corpus of Potmarks from Minshat Abu Omar’ in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 215; Mawdsley, ‘The corpus of potmarks from Tarkhan’ in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1046; Tassie et al., ‘Corpus of Potmarks from Kafr Hassan Dawood’ in Midant-Reynes & Tristant, *Egypt at its Origins* 2, 203.

⁶⁹ Bréand, ‘The Corpus of Pre-Firing Potmarks from Adaïma’ in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1022.

⁷⁰ *Ibid.* in *BMSAES* 13 (2009), 53.

⁷¹ The numbers for Kahun and Adaïma concern pre-firing marks only.

⁷² Aston (David), ‘Theban Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script*, 51.

⁷³ Dunham, ‘A Collection of Potmarks from Kush and Nubia’, *Kush* 13 (1965), 131-147.

⁷⁴ Note, however, that this only concerns 7 out of 116 mark types in total. Gallorini, ‘Incised marks on pottery and other objects from Kahun’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 113.

and that vessels of different fabric were produced either in different workshops or in one workshop by different potters. Either the assumption of specialization is incorrect, or the marks do not refer to individual potters. The latter idea Gallorini supports with the observation that differences between mark-types are minor and inconspicuous; there is nothing in the design of the marks that suggests an intention of clearly separating one individual type (i.e. potter) from another.⁷⁵

A specialization of potters is also adhered to by Wodzińska, who argues for specialization in different shapes of pottery, ‘a practice that can also be observed in modern Egyptian pottery workshops’.⁷⁶ She found differences in the marks from Heit el-Gurob that occur on conical respectively flat bread moulds and argued that they must indicate different workshops or production areas. Yet, she also suggested that the marks could perhaps be linked to different recipients; that is, they could indicate the specific baking area within the settlement that specialized in conical or flat loaves.

The interpretation of potmarks as indicators of a workshop, institution or estate, either as the production area or as the destination to which the pottery was to be sent, is a plausible one. According to Gallorini, the marks could have been applied by the potters themselves, or by someone not directly involved in the production, in order ‘to facilitate the identification of batches ordered from different workshops, to ease the daily account keeping, or with the aim of distinguishing lots of production destined to supply particular royal projects.’⁷⁷ In fact, she finds support for the idea that the marks were indicators specifically of destination in the presence of marked vessels in the foundation deposit of the valley temple of Sesostri II at Kahun; in the presence of exclusively marked vessels in the deposits outside the southern wall of the inner enclosure of the pyramid of Sesostri I at el-Lisht; and in the fact that many of the Middle Kingdom sites with large amounts of pre-firing marks were either newly founded settlements in relation to royal domains (e.g. Ezbet Rushdi, Qasr el-Sagha, Kahun, the Nubian forts, Gebel el-Asr), or royal funerary complexes (Lahun, Dahshur, el-Lisht).⁷⁸ Such sites would presumably have ordered large batches of pottery which were needed during construction and maintenance of the sites. For the post-firing marks from Kahun Gallorini suggests a similar function, where the mark  is of ‘particular interest as the same combination is found in the Kahun papyri to render the place-name Ankh-Senwosret’; it may indicate one of the destinations of the vessels.⁷⁹ As such, the mark is very similar to builders’ marks from nearby contemporary pyramid sites at el-Lisht and Dahshur, which have also been argued to be abbreviations for place names or the names of institutions, estates or domains, and which were used on the construction sites as well as in the Kahun and other account papyri with the only difference that the builders’ marks did not concern the destination of workmen, but rather their provenance. We discuss them in section 2 of this chapter.

The destination hypothesis is furthermore suggested by Budka with respect to Late Period and Ptolemaic potmarks from el-Assasif. She argues that in some cases a relation of the potmarks to the

⁷⁵ Gallorini, ‘Incised marks on pottery and other objects from Kahun’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 112, 120.

⁷⁶ Wodzińska, ‘Potmarks from early dynastic Buto’ in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1087.

⁷⁷ Gallorini, ‘Incised marks on pottery and other objects from Kahun’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 119-120.

⁷⁸ *Ibid.*, 121-122 with footnotes 55-58. With regard to Gebel el-Asr, she refers to Shaw & Bloxam, ‘Survey and Excavation at the Ancient Pharaonic Gneiss Quarrying Site of Gebel el-Asr’, *Sudan & Nubia* 3 (1999), 17. However, we will see that Shaw appears to suggest a different function for the marks at Gebel el-Asr, which is in congruence with Arnold’s suggestion for marks on very similar vessels at el-Lisht: indicators of capacity. See below.

⁷⁹ Gallorini, ‘Incised marks on pottery and other objects from Kahun’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 115-116. Note, however, that the mark is post-fired and can therefore also indicate ownership. See below.

context in which the vessels were found, that is ‘a relation to the cemetery, graves and burials’, is likely. In particular the find of post-firing marks on Ptolemaic Hadra ware from cemeteries and burial sites seems to suggest a funerary destination since similar marks on Hadra ware were not found in domestic context.⁸⁰ Aston remarks that the hypothesis is feasibly possible where the pottery industry was state controlled. He mentions New Kingdom amphorae which bear pre-fired stamps that refer to certain temples, ‘a case in point being amphorae impressed pre-firing with the stamps of the temple of Seti I at Abydos, found in Swiss excavations near the tomb of Seti I in the Valley of the Kings.’⁸¹ Yet, he considers the hypothesis unlikely in the case of locally made pots to fill local demand. Hope refutes the idea altogether with regard to the potmarks on late 18th dynasty blue painted vessels from Karnak, Amarna and Malqata. Only certain examples of two specific types of jar among his material were marked, while in the case of workshop marks, he says, ‘one would expect to find the same mark/marks upon a wider selection of vessels with greater regularity.’ Moreover, he found a number of at least twenty different designs and wonders why, ‘If the marks were to indicate destination, ... was one mark not used?’⁸²

The hypothesis that assigns a function of indicating provenance and/or destination to potmarks is thus not an all-encompassing explanation, yet it may have been the main function of potmarks in the Early Dynastic period. It has been mentioned that Van den Brink considered these marks in the context of a system of (re)distribution. Especially the figurative and hieroglyphic-like potmarks dated to dynasties 0-1, which were primarily incised prior to the firing process, could relate to various workshops, institutions, estates and domains within a regional network of the (re)distribution of food and other products. A study of 2474 marks from 15 sites throughout Egypt led Van den Brink to the following conclusions:

- 78.6% of the potmarks derived from the Royal Tombs at Umm el-Qa’ab or from the Great Tombs at Saqqara. This percentage seems to reflect a high degree of involvement of the earliest kings in the practice of marking pots, while the sharp decline in number of potmarks outside of Umm el-Qa’ab and Saqqara perhaps reflects a lesser involvement of the provinces in the marking practice;⁸³
- Relatively few potmarks were applied to vessels before and during the reign of Horus Aha, the first king of dynasty 1. During the following reigns of Djer and Djety there was a steady increase in the frequency of potmarks, with a peak in the reigns of Merneit and Horus Den/Udimu. During the reigns of Anedjib and Semerkhet the frequency of marking vessels appears to be reduced to the same level as seen during the reigns of Djer and Djety, while the practice of marking almost faded completely during the reign of Qa’a, the last king of dynasty 1.⁸⁴ This trend appears to suggest a systematic use of potmarks initiated by the Thinite royal administration.

Van den Brink argued that the potmarks ‘reflect, and should be linked to certain authoritative and perhaps centralized administrative bodies, responsible for the collecting and/or (re)distributing of commodities

⁸⁰ Budka, ‘Benchmarks, team marks and pot marks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 82-83.

⁸¹ Aston (David), ‘Theban Potmarks’ in *ibid.*, 51-52.

⁸² Hope, ‘Some Remarks on Potmarks of the Late Eighteenth Dynasty’ in Leahy & Tate (eds.), *Studies on Ancient Egypt in Honour of H.S. Smith*, 136-13, figs. 2-3.

⁸³ Van den Brink, ‘Corpus and Numerical Evaluation of the ‘Thinite’ Potmarks’ in Friedman & Adams (eds.), *The Followers of Horus*, 270.

⁸⁴ *Ibid.*, 271.

contained in these marked vessels'.⁸⁵ The fact that many of the potmark-designs are found on several of the 15 sites under study suggests that 'the information contained in' them 'was not limited 'physically' to the place where these vessels were produced'⁸⁶; rather, it demonstrates a more complex mobility of the vessels. The idea of an administrative network was supported by separate studies on the potmark corpora from Tarkhan, Minshat Abu Omar and Kafr Hassan Dawood.⁸⁷ Thus, the majority of a total of 356 marks from Tarkhan could be allocated to those groups of marks recognized by Van den Brink in the material from various sites. A total of 76 marks are unique to Tarkhan, a fact which Mawdsley explains as indicating ultimate destinations of jars in Tarkhan. This would imply the assumption that some products were pre-ordered and delivered to exact destinations.⁸⁸

The systematicity and the frequency with which potmarks were applied in the Early Dynastic period is not seen in later times. Gallorini remarks that therefore an administrative network of (re)distribution cannot be assumed for potmarks from the Old, Middle and New Kingdoms. While certain designs of potmarks seen in the material from Kahun are also found at other sites (e.g. Qasr el-Sagha, Tell el-Dab'a, Tell el-Mashkuta, as also Deir el-Medina), these designs are usually simple and universal, and we cannot assume that the marked vessels from these sites were supplied or distributed by the same center.⁸⁹ A single workshop, institution, estate or domain, either as provenance or as destination remains therefore one of the most plausible explanations for potmarks after dynasty 1.

b.4 Internal workshop codes

It has been suggested that pre-firing potmarks functioned as internal workshop codes. Ditze, for instance, remarks that potmarks may relate to specific phases in the *chaîne opératoire*, the manufacturing process. She suggests that they may have functioned to inform the next person in the assembly line whether a particular batch of vessels was to be white slipped or red slipped. Only the first vessel of a batch would have to be marked, since if each batch was kept together, the next worker needed only to find the marked pot to know what should be done to the whole batch.⁹⁰ Gallorini as well considers the idea of internal workshop codes: it is conceivable that the Late Middle Kingdom marks from Kahun functioned in connection with particular aspects of the manufacturing process, conveying information on for instance the date of production, the length of the drying phase, or the completion of an order.⁹¹ Also, a potter may have marked the last vessel made during the day, each day with a different sign to distinguish groups of vessels that were shaped over a period of a few days. This information may have been helpful at the time of loading the kilns, to avoid mixing vessels that had been left to dry for different lengths of time. However, Gallorini admits that the data that emerge from Kahun, as well as from other sites, seem to suggest that not all pottery types were marked with the same frequency (although this is part be due to

⁸⁵ Van den Brink, 'Corpus and Numerical Evaluation of the 'Thinite' Potmarks' in Friedman & Adams (eds.), *The Followers of Horus*, 274.

⁸⁶ *Ibid.*. See Table I2-1 for the distribution of potmark-designs.

⁸⁷ Mawdsley, 'The corpus of potmarks from Tarkhan' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1043-1044, 1048; Kroeper, 'Corpus of Potmarks from Minshat Abu Omar' in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 216; Tassie et al., 'Corpus of Potmarks from Kafr Hassan Dawood' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 215.

⁸⁸ Mawdsley, 'The corpus of potmarks from Tarkhan' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1046. See also Hope's idea of the marking of pre-ordered batches of vessels for a specific cultic function below (*Indicators of festive function*).

⁸⁹ Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 121.

⁹⁰ Ditze, 'Gedrückt – Geritzt – Gekratzt' in Pusch (ed.), *Die Keramik des Grabungsplatzes Q1. Teil 2*, 279-280.

⁹¹ Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 119.

unsystematic recording in the site's archaeological history). If the marks were related to the production process, one would expect to find them relatively evenly distributed over all types.⁹²

Closely related to the idea of workshop codes is the suggestion that the marks were *aides-mémoires* for the potters themselves. With respect to some of the pre-firing marks from Early Dynastic Adaïma Bréand argues that they could have been applied by the potters either to count the pots or as an indication for stacking in the kilns.⁹³ A similar function was suggested by Wodzińska for the post-firing potmarks on jars from Heit el-Gurob. Ethnographic research has revealed that modern potters of el-Nazla in the Fayum make nine basic types of pots, each with a different function and name. The potmarks from earlier times may also indicate specific type or function. When the function of a jar changed over time, this may also have been indicated by means of a mark scratched onto the surface.⁹⁴ In contrast to internal workshop codes, which had to be understood and followed by the workshop in general, the more personal nature of *aides-mémoire* would account for a less systematic application.

b.5 Indicators of content

In 1897 Quibell suggested that potmarks were notes that referred to the contents of jars.⁹⁵ This idea was followed by Seidl who, with respect to potmarks from Bogazköy, suggested that they 'könnten ein Gefäß für eine bestimmte Menge einer bestimmten Ware auszeichnen'.⁹⁶ Yet, with respect to the Early Dynastic marks from Minshat Abu Omar Kroeper refuted the idea: 'The possibility that the marks may be an indication of contents seems rather small since most marks were already applied at the ceramic workshop/s, and similar marks are found on different vessel types.'⁹⁷ Furthermore, she notes that the 27 of 322 pots with marks found in Minshat Abu Omar, which actually had remains of contents in them (mostly consisting of animal and fish bones, botanical remains and shells in a mixed context), could not be related in any consistent way with the marks. Tassie et al. refute the hypothesis for similar reasons with respect to the potmarks from Kafr Hassan Dawood.⁹⁸

Gallorini rules out the possibility that the marks from Kahun could have been indicators of content. Of 103 large storage jars with pre-firing marks, 55 had the marks applied on the rim and 44 on the shoulder. But since these storage jars were used for transport and long term storage of grain or other dry commodities, they would be sealed with a dish and a mixture of mud and chaff that was smeared all around the upper part of the vessel. The marks would become invisible and therefore would have been 'of no importance after the jars were filled up and during transport'.⁹⁹ In contrast, post-firing marks on large storage jars from Heit el-Gurob were located on the highly visible upper part of the shoulder. Therefore, Wodzińska does not rule out the possibility that they referred to 'the contents of the stored products inside

⁹² Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 120.

⁹³ Bréand, 'The Corpus of Pre-Firing Potmarks from Adaïma' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1036-1037.

⁹⁴ Wodzińska, 'Potmarks from early dynastic Buto' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1089.

⁹⁵ Quibell, *The Ramesseum*, 20.

⁹⁶ Seidl, *Bogazköy-Hattusa*, VIII, 74.

⁹⁷ Kroeper, 'Corpus of Potmarks from the Pre/Early Dynastic Cemetery at Minshat Abu Omar' in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 216.

⁹⁸ Tassie et al., 'Corpus of Potmarks from the Protodynastic to Early Dynastic Cemetery at Kafr Hassan Dawood' in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 221.

⁹⁹ Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 113.

certain ceramic vessels', especially not 'if they were different from the original contents' or 'if they were used to contain a specific product.'¹⁰⁰

b.6 Indicators of capacity

The idea that potmarks rather refer to the capacity of jars was first postulated by Petrie in 1921, and then by Brunton in 1927, 'although the latter had to rather sheepishly admit that the same mark sometimes occurred on different sized vessels'.¹⁰¹ Nevertheless, as Aston remarks, the idea was further suggested by Lacau and Lauer as well as by Kromer with regard to Old Kingdom potmarks from Saqqara and Giza.¹⁰² In view of the Early Dynastic potmarks, it could indeed be suggested that those consisting of dots and strokes were numerical indicators of capacity. Yet, Bréand argues that the marks from Adaïma could not have been measures of quantity or capacity of goods 'because similar signs occur on bowls and jars.'¹⁰³ For the same reason she refutes the idea that the marks identify a product that was transported and/or stored, because 'By definition, an open form, like a bowl, cannot be used for the transport or the storage of goods.'¹⁰⁴ Kroeper also refutes the idea for the potmarks from Minshat Abu Omar, arguing that 'parallels could not be found as regards volume or size and the amount of strokes or points scratched into the surface of the vessels.'¹⁰⁵

The marks from Kahun also did not function to indicate capacity. Gallorini notes that two marks in particular occur on vessels of different shapes, sizes, volumes and fabrics. For instance,  is found on all types of large storage jars (in Marl C1 and C2), on a small jar with pointed base (Nile C), and on a beer jar (Nile C). The mark  occurs on large storage jars, medium- and small-sized ovoid jars, on large ovoid bottles, but also on basins and lids.¹⁰⁶ The unlikelihood of the hypothesis is stressed by Wodzińska as well, who argues that the vessel types with marks from Giza were rather standard in size and that their capacities were commonly known. Moreover, if the capacity was marked, 'such cases would have been rare since potmarks generally are not very numerous.'¹⁰⁷

With regard to pre-firing marks on the inside of the rims of 22 large, open-mouthed, flat-bottomed jars that were found along the southern enclosure wall of el-Lisht, dated to dynasty 12, Arnold does suggest a function of indicating capacity.¹⁰⁸ The same idea seems to be suggested by Shaw for another group of 22 large 12th dynasty storage jars found at Quartz Ridge at the gneiss quarries of Gebel el-Asr. He emphasizes the similarities between both groups, both bearing pre-firing marks on the inside of the rim. The jars from Quartz Ridge in addition show post-firing numbers on their shoulders. Shaw suggests that vessels of this type were probably produced in the Memphis-Fayum region and were

¹⁰⁰ Wodzińska, 'Potmarks from early dynastic Buto and old Kingdom Giza' in Friedman & Fiska (eds.), *Egypt at its Origins* 3, 1089.

¹⁰¹ Aston (David), 'Theban Potmarks' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 51. See Petrie, *Corpus of Prehistoric Pottery and Palettes*, 27; Brunton, *Qau and Badari I*, 18.

¹⁰² Aston (David), 'Theban Potmarks' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 51. See Lacau and Lauer, *La Pyramide à degrés V*, 24; Kromer, *Siedlungsfunde aus dem frühen Alten Reich in Giseh*, 70. Kromer, however, was hampered by the fact that most of his vessels were too fragmentary to prove his hypothesis.

¹⁰³ Bréand, 'The Corpus of Pre-Firing Potmarks from Adaïma' in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1036.

¹⁰⁴ *Ibid.*

¹⁰⁵ Kroeper, 'Corpus of Potmarks from the Pre/Early Dynastic Cemetery at Minshat Abu Omar' in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 216.

¹⁰⁶ Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 113, 114, 120.

¹⁰⁷ Wodzińska, 'Potmarks from early dynastic Buto and old Kingdom Giza' in Friedman & Fiska (eds.), *Egypt at its Origins* 3, 1089.

¹⁰⁸ Arnold (Dorothea), 'Pottery' in Arnold (Dieter), *The Pyramid of Senwosret I*, 115.

particularly suited to the transportation and long-term storage of dry substances.¹⁰⁹ However, the same problem arises as we saw with the hypothesis on the marks being indicators of contents: during transport and storage, when the jars were sealed, the marks were no longer visible. They are, then, no longer functional in informing about the amount of products transported or stored.

b.7 Direct references to the supposed meaning

There have been attempts to equate potmarks with abbreviations of hieroglyphic words. Parkinson, for instance, suggested that an *jn*-sign could have something to do with bringing the pot to a certain destination.¹¹⁰ With regard to a post-firing mark in the form of *nfr* on a cooking pot from 12th dynasty Kahun Bourriau argued that ‘The hieroglyphic sign *nfr*, which means ‘good’, ‘fortunate’, or ‘beautiful’..., rather than any precise meaning, was intended simply to confer good luck. Perhaps it guaranteed that the food would not burn!’.¹¹¹ Aston argues that this interpretation is unlikely to be correct, because only very few potmarks lend themselves to a direct relation with a hieroglyphic word.¹¹² Yet, Hope does refer to the idea with respect to late 18th dynasty marked blue-painted pottery from Karnak, Amarna and Malqata. He suggests that ‘the marks convey a wish or quality deemed appropriate for the context in which the vessel was to be used. This can easily be understood for such signs as *nh*, *w3d*, *mn*, *nfr*, *sš*, the possible *hnp*, *dd* and *w3s*, and combinations thereof.’¹¹³

b.8 Indicators of festive function

However, Hope preferred the hypothesis that the 18th dynasty marked vessels were destined for use at a particular festival. He argued that the jars found at Karnak North were intended for use in the Aten temples at East Karnak, possibly during the *h3b-sd* jubilee festival of Akhnaton. Contemporary marked blue-painted vessels from Malqata would have been intended specifically for use during the three jubilees of Amenhotep III.¹¹⁴ At both sites, similar types of vessels were marked: types that could easily be carried and could have been used for making offering.¹¹⁵ He thus relates the practice of marking blue-painted vessels in 18th dynasty Karnak and Malqata to a specific festival function or cultic use: the vessels intended for these festivities were commissioned in large consignments and marked as such.¹¹⁶

b.9 Ownership marks

Among Petrie’s suggestions for the function of potmarks was, finally, the interpretation that post-fired marks indicated ownership. Ownership marks ‘must, by their very nature, be post-fired, since the owner

¹⁰⁹ Shaw & Bloxam, ‘Survey and Excavation at the Ancient Pharaonic Gneiss Quarrying Site of Gebel el-Asr’, *Sudan & Nubia* 3 (1999), 17.

¹¹⁰ Aston (David), ‘Theban Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 51. See Parkinson, *Cracking Codes: The Rosetta Stone and Decipherment*, 95.

¹¹¹ Bourriau, *Umm el-Ga’ab. Pottery from the Nile Valley before the Arab Conquest*, no. 119.

¹¹² Aston (David), ‘Theban Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 51. See the relatively infrequent occurrence of hieroglyphic signs as potmarks in Table I2-1.

¹¹³ Hope, ‘Some Remarks on Potmarks of the Late Eighteenth Dynasty’ in Leahy & Tate (eds.), *Studies on Ancient Egypt in Honour of H.S. Smith*, 127.

¹¹⁴ This idea suggests why fewer marked blue-painted vessels of similar type as those at Karnak were found at Amarna. *Ibid.*, 128-130.

¹¹⁵ *Ibid.*, 126.

¹¹⁶ *Ibid.*, 138-139. A similar idea was referred to by Tassie et al. in particular with regard to painted marks and short inscriptions on vessels. See Tassie et al., ‘Corpus of Potmarks from the Protodynastic to Early Dynastic Cemetery at Kafr Hassan Dawood’ in Midant-Reynes & Tristant (eds.), *Egypt at its Origins* 2, 211.

can only mark the pot once it has come into his possession'.¹¹⁷ Aston notes that the idea was also followed by Bruyère who, with regard to potmarks from Deir el-Medina, pointed out that the same marks appeared not only on pots, but also on household linen, wooden items, toilet objects and tools.¹¹⁸ For the marks from Kahun Gallorini argues that it is difficult to find proof of ownership in the material due to the fact that Petrie, the excavator, rarely recorded find-spot and context. However, she does remark that amongst the post-firing marks we can sometimes 'recognize personal names'.¹¹⁹ Moreover, in one instance four body sherds from four different large storage jars, which were all incised with the same mark type, were found together in a room in one of the houses in the southern part of town.¹²⁰ This may indicate ownership, although it does not rule out other hypotheses, especially since the original find-spot and context of the sherds remain unknown. Wodzińska suggests the function of ownership marks with regard to the post-firing marks from Heit el-Gurob. She argues that 'Vessels used in the daily consumption of different kinds of food could have carried marks indicating their owners. The Heit el-Gurob site is characterized by white carinated bowls, which probably served as receptacles used in daily consumption by the workmen housed in the galleries. These bowls could have been easily taken to the activity areas by the workmen, where could have contained the food to be eaten during work. Notably, the marks executed after firing on the white carinated bowls are usually unique, and their motifs are not frequently repeated.'¹²¹ This is a situation which, as we will see, may be very comparable to the application of marks on pottery by the workmen in the Theban necropolis.

With regard to all these hypotheses that have been suggested to explain the phenomenon of potmarks, Aston remarks that none of them is entirely convincing.¹²² Many of them concern only part of the potmark corpus (such as those marks that resemble hieroglyphs, or only pre- or post-firing marks), or they are incongruent with the (lack of) systematicity and frequency of applying potmarks. It must be assumed that potmarks served multifunctional purposes. Thus, Ditze found that none of the hypotheses was able to fully explain the function of potmarks from Qantir and she states that it is 'nicht möglich, das Auftreten der Topfmarken durch einen einzigen Interpretationsansatz zu erklären'¹²³; and Budka explains the fact 'that identical potmarks were used on different vessels in different contexts, but also that they were found on the same types of vessels in similar contexts' by proposing 'a multifunctional use of these marks'.¹²⁴ Even with regard to the Early Dynastic marks, for which a function within a system of (re)distribution was suggested, Bréand concludes that 'The variety of signs, the different types of functional categories [of pottery] on which they occur, and the different positions of the potmarks on the vessels point to the fact that the various markings do not all have a single meaning, and suggest that there were several systems involved.'¹²⁵ Certainly, given the time-span within which potmarks are encountered,

¹¹⁷ Unless a buyer told a potter to make a certain mark in the pot at the time of manufacture. Aston (David), 'Theban potmarks' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 52.

¹¹⁸ *Ibid.*; Bruyère, *Rapport sur les Fouilles de Deir el Médineh (1948-1951)*, 60.

¹¹⁹ Gallorini, 'Incised marks on pottery and other objects from Kahun' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 115.

¹²⁰ *Ibid.*, 115-116.

¹²¹ Wodzińska, 'Potmarks from early dynastic Buto and old Kingdom Giza' in Friedman & Fiska (eds.), *Egypt at its Origins* 3, 1089.

¹²² Aston (David), 'Theban Potmarks' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 49. Cf. Ditze, 'Gedrückt – Geritzt – Gekratzt' in Pusch (ed.), *Die Keramik des Grabungsplatzes Q1. Teil 2*, 500.

¹²³ *Ibid.*, 500.

¹²⁴ Budka, 'Benchmarks, team marks and pot marks' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 83.

¹²⁵ Bréand, 'The Corpus of Pre-firing Potmarks from Adaima (Upper Egypt)', *BMSAES* 13 (2009), 58.

from the Predynastic period ‘throughout Dynastic and Post-dynastic Egypt virtually until the present day’,¹²⁶ it is sensible to keep in mind that reasons for applying potmarks as well as the specific meaning given to them may have differed from one period to another.

If we now turn to the marks from Deir el-Medina, especially those that occur on pots, and compare them to the practice of marking pottery in general, we can establish the following characteristics:

- While after a relatively intensive and systematic usage of potmarks in dynasties 0-1 the phenomenon becomes quite rare, potmarks in the Theban necropolis are suddenly relatively numerous, especially from dynasty 19 onwards. The number of marks on pots that were placed in tombs even increases through time;¹²⁷
- The number of post-fired potmarks in the Theban necropolis is much larger than in any of the potmark corpora from earlier times. In the Early Dynastic period post-fired marks were the exception rather than the rule, while in later times the numbers for pre- and post-firing marks are fifty-fifty at best;¹²⁸
- As Bruyère and Aston already remarked, the marks found on pottery in the Theban necropolis are the same as those seen on a variety of objects, as well as on the marks ostraca and in graffiti.¹²⁹ Even sequences of marks on ostraca and the combination of different marks on pottery can be compared. For instance, consider the mark  on the sherd of a vessel that is Nagel *Céramique* 049 fig. 31 nr. 315 (fig. I2-2 below). This mark has been attested as the identity mark for the scorpion-controller *Jmn-ms*. Davies identifies the scorpion controller *Jmn-ms* with *Jmn-ms* (ii).¹³⁰ However, if we would assume instead that he was identical with *Jmn-ms* (xi), son of *Sz-Wzḏ.t* (ii), we can account for the second mark that occurs on the Nagel sherd, which is  or . *Sz-Wzḏ.t* (ii) is indeed attested with this mark in the administrative lists on the marks ostraca. This strongly suggests, not only that there is a correlation between the marks that occur on pottery and those on the marks ostraca – they were clearly part of the same system –, but also that the potmarks from Deir el-Medina were presumably owners’ marks referring to the workmen from Deir el-Medina. Aston explains the context in which they may have been used, which makes a function as owners’ marks very likely. He states: ‘in a normal settlement the need for owners’ marks would be less necessary since the pots used in a given house must presumably belong to the householder, and there would thus be no question as to who owns what, but with the Deir el-Medineh workforce, we have a group of men who went away from their village to work in the Valley of the Kings for periods of ten days at a time, where in a more communal, and probably more regimented working environment, certain individuals may have felt the need to mark their

¹²⁶ Van den Brink, ‘Corpus and Numerical Evaluation of the ‘Thinite’ Potmarks’ in Friedman & Adams (eds.), *The Followers of Horus*, 265.

¹²⁷ Aston (David), ‘Theban Potmarks’ in *Pictograms or Pseudo Script?*, 52, 54, 58-62.

¹²⁸ In Early Dynastic Minshat Abu Omar only 9 of the 322 marks were incised after firing. In Old Kingdom Heit el-Gurob 51.97% of the potmarks was pre-fired, while 48.03% was post-fired. In contrast, of the New Kingdom Theban potmarks, only 10 out of 91 potmarks (10.98%) was pre-fired. Kroeper, ‘Corpus of Potmarks Minshat Abu Omar’ in Krzyzaniak, Kroeper & Kobusiewicz (eds.), *Recent Research into The Stone Age of Northeastern Africa*, 216; Wodzińska, ‘Potmarks from early dynastic Buto’ in Friedman & Fiske (eds.), *Egypt at its Origins* 3, 1076; database *Symbolizing Identity*, search terms ‘pottery’, ‘pre-firing’, ‘post-firing’.

¹²⁹ For an overview we refer to the Database *Symbolizing Identity*, where the marks on pottery as well as on other objects and on ostraca and in graffiti are collected.

¹³⁰ Davies, *Who’s Who at Deir el-Medina*, 233.

own property, otherwise just like Goldilocks and the three bears there will come the question “Who has been eating out of my dish?”. It would also explain why the same mark occurs on a variety of different vessels; in the Valley of the Kings this is usually dishes, ringstands and storage jars [perhaps the typical repertoire that a particular workman used], and at the same time why a number of different marks occur on the same type of vessel.¹³¹ As such, the potmarks from the Theban necropolis are comparable to the marks on the white carinated bowls from Heit el-Gurob, for which Wodzińska, as we have seen, suggested a function as owners’ marks to identify the property and foodstuffs of workmen.

In general, however, it can hardly be argued that the marks from Deir el-Medina found inspiration in the phenomenon and tradition of marking pottery.¹³² Some forms of marks are indeed similar to potmarks that occur already in the Early Dynastic period, and marks such as , Δ , $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and ∇ seem to recur throughout history – although it is to be noted that $\frac{1}{2}$ occurs in Deir el-Medina only from dynasty 19 onwards and is seen neither on ostraca nor on pottery before that time. We will see, however, that these forms are not exclusive to the potmark tradition and their inclusion in the corpus from the Theban necropolis may just as well have been inspired by the tradition of builders’ or quarry marks to be discussed in sections 2 and 3 below. The intensive use of marks in the Theban necropolis and their systematic functionality on ostraca, pottery, in graffiti and on domestic and funerary objects of various kinds is in sharp contrast to the infrequency and lack of systematic application of potmarks in general. The phenomenon of marking pottery will have been known, but nothing points to a direct derivation of the former from the latter in form and in function.

All in all, the search for an origin of the Deir el-Medina identity marks in the phenomenon of potmarks seems to be the least promising.



Fig. I2-2 The sherd Nagel *Céramique* 049 fig. 31 nr. 315 with the marks $\frac{3}{5}$ and $\frac{1}{2}$ or $\frac{1}{3}$ of, presumably, *Jmn-ms* (xi) and *Sz-Wzd.t* (ii).

¹³¹ Aston (David), ‘Theban Potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 54, 58.

¹³² See also Haring, ‘Popular, but unique? The early history of the royal necropolis workmen’s marks’, in: Dorn & Polis (eds.), *Deir el-Medina and the Theban Necropolis in Contact* (in press).

2 BUILDERS' MARKS

'Builders' inscriptions' is a broad term applied to written notes and marks that are encountered on construction sites from the Old Kingdom (first seen in the Djoser pyramid complex) into Graeco-Roman times, but that are especially known from Old and Middle Kingdom pyramid, tomb and temple sites. The notes and marks were applied to building blocks during various phases of transport and treatment of the stones in the process from the quarry to their final place in the construction. They were 'von nicht offiziellem Charakter'¹³³ and can be seen as a preliminary administration system that kept track of the work's progress. It is generally assumed that the information was taken over by professional accounting scribes and incorporated into the administrative hieratic papyri archives (e.g. the Kahun and Reinsers Papyri).¹³⁴ The notes and marks allow to reconstruct different phases of the construction process and they contain information about the workmen involved. After the blocks were placed in their position in the masonry, however, they lost their function and were not meant to be seen any longer. This is apparent from the positioning of the marks on those rough unprocessed faces of the blocks that were invisible after the blocks had been set in place, as well as from the fact that several notes and marks were erased when no longer needed, or damaged during later phases of treatment such as the dressing of the stone, the cutting of lever holes or the mortaring of stones.¹³⁵

Felix Arnold distinguished the following kinds of builders' inscriptions:¹³⁶

- Control notes
- Team marks
- Setting marks
- Measurement lines

We are particularly concerned with the team marks, which convey the identity of teams of workmen who were assigned a specific task or phase in the process of construction. However, we shall see that these marks are closely connected to the written 'control notes'. For the sake of comprehension, it is necessary to first create a context based on the written notes, in which we can subsequently place an interpretation of the nature and function of team marks.¹³⁷

a. Control notes: the context

The notes are short (Old Kingdom) or longer (Middle Kingdom) texts that were written on the building blocks and that usually mention the date, phase of transportation and the workmen in charge of a block of stone.¹³⁸ They were painted, most often in red ochre, but sometimes in black ink or yellow ochre. According to Arnold, the notes were clearly written by scribes, who may possibly be identified as the

¹³³ Andrassy, 'Teammarken der Bauleute des Alten und Mittleren Reiches' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 5.

¹³⁴ *Ibid.*, 15; Arnold (Felix), *The Control Notes*, 14.

¹³⁵ *Ibid.*.

¹³⁶ *Ibid.*.

¹³⁷ We will not go into the setting marks and measurement lines here, as they do not convey identity. For further information, see Arnold (Felix), *The Control Notes*, 14-15.

¹³⁸ *Ibid.*, 14.

scribes present in every crew of workmen to assist the overseer.¹³⁹ Yet, not every scribe used the same degree of care in the execution of a note. On the basis of quality Arnold distinguished two groups of notes that would reflect different grades of literacy:¹⁴⁰

1. The first group contains notes with characters that are approximately 1 to 2 centimeters in height, written with a thin brush approximately 2 millimeters in width. The notes are generally in cursive style and carefully executed. They were probably written by scribes who were accustomed to writing accounts with the same implements and ink as were used on papyrus;
2. The second group contains the majority of notes, which have characters ranging from 5 to 20 centimeters in height. They were written with a thick brush that was approximately 1 to 2 centimeters in width. They generally contain more abbreviations than the smaller notes and sometimes leave out information, such as the date.

When the notes are complete, they contain the date followed by a formula that indicates the phase of transport, and in a second line information about the workers who were responsible for that phase (fig. I2-3). This format as well as the formulas that are used, are similar to the texts known from account papyri.¹⁴¹ They present the same administration, which was apparently kept on site in the form of notes and marks that were later processed into neat documents. The formulas for transport generally express three kinds of effort:

- ‘removing’ (*šdj*) a block of stone (from a certain place);
- ‘transporting’ (*jth, jn(j)*) a block of stone (from one place to another);
- ‘delivering’ (*rdj, sꜥk*) a block of stone (to a certain place).

The location from or whereto the stone was moved is sometimes mentioned, but was usually excluded. Its addition probably became important especially when different phases of transportation were performed by different teams of workmen. In such a case, the number of control notes written on a stone would reflect the number of separate operations carried out by different teams.¹⁴² Indeed, there are stones that carry more than one note. This occurs, however, without any perceivable regularity and is therefore difficult to interpret.¹⁴³

The formula in the notes allow to reconstruct the following phases of transportation:¹⁴⁴

Phase 1 Removal from quarry. Arnold remarks that the more specialized work in the quarries was done by *jk.y.w*, ‘quarrymen’, not by the unskilled laborers who were assigned the transport of the blocks. The notes do not mention actions or people involved in the actual quarrying of the

¹³⁹ Arnold (Felix), *The Control Notes*, 19, 22. He remarks that a crew of workmen was supervised by a *hrp*, ‘controller’, who was assisted by a scribe. Cf. Griffith, *Hieratic papyri from Kahun and Gurob*, 40.

¹⁴⁰ Arnold (Felix), *The Control Notes*, 14.

¹⁴¹ E.g. the Kahun and Reisner papyri. *Ibid.*, 19; Griffith, *Hieratic papyri from Kahun and Gurob*, pls. 15-19. A close parallel to the control notes is pl. 22. See also Simpson, *Papyrus Reisner I-III*.

¹⁴² Arnold (Felix) suggests that such a system may have been initiated because some workmen lived in the vicinity of the construction site while others lived nearer to the quarry. Each team of workmen would have been employed during that phase of transportation that took place closest to his living quarters. Indeed, it could be conceived that such a system is logistically efficient since only the stones, and not entire teams, would have to be shipped from the quarries to the building site. *Ibid.*, 19.

¹⁴³ It should be kept in mind, however, that some notes may have been removed during the operations, while others may still be hidden on invisible sides of the blocks. *Ibid.*, 20.

¹⁴⁴ This is a summary of the phases given by Arnold (Felix) in *The Control Notes*, 19-22.

stones inside the quarry. The only action they mention is the removal of the blocks: *šdj(.w) m ḥtt <jn> NN*, ‘removed from the quarry <by> (the workmen) NN’; or *jn(j.w) m ḥtt*, ‘brought from the quarry’.¹⁴⁵ The notes and their closely associated team marks should therefore not be confused with ‘masons’ marks’ or ‘quarry marks’.¹⁴⁶

- Phase 2 Shipment. The actual shipment of the blocks is rarely mentioned in the notes. We only know of a formula encountered in one note published by Arnold, which says *šdj(.w) m ḥtt rdj(.w) <m> ⲙⲉ*, ‘removed from the quarry, delivered <at> the ship’.¹⁴⁷
- Phase 3 Landing and unloading. These actions are better represented. The ships docked at *mry.t*, the ‘embankment’. Formulas that refer to this are *rdj(.w) mry.t*, ‘delivered <at> the embankment’, and ⲙⲉ *smz(.w) t3 rdj(.w) mry.t* ‘the ship docked, delivered <at> the embankment’. Unloading is referred to in the formulas *šdj(.w) m ḥnm.t*, ‘removed from the eight-ship’¹⁴⁸ and *jn(j.w) ḥr mry.t*, ‘brought from the embankment’.¹⁴⁹
- Phase 4 Storage and delivery. The stones were brought from the embankment probably to workshops and storage rooms near the quay. Two notes recorded by Arnold speak of the delivery of the stones to the ‘ramp’: *rdj(.w) ḥr smz*.¹⁵⁰ Arnold suggests that this ramp led up to the actual construction site where the stones would be put in place. Other notes mention *rdj(.w) js n ///*, ‘delivered <at> the workshop of ///’;¹⁵¹ *jt(j.w) m ʕ.t*, ‘taken from the chamber’;¹⁵² *rdj(.ʕ) r m3ʕ mr*, ‘delivered at the *m3ʕ* of the pyramid’;¹⁵³ and *sʕkk(.w) mr*, ‘brought <to> the pyramid’.¹⁵⁴

All actions mentioned in the notes were performed by workers who are sometimes identified through their place of origin, the institution from which they came, or through the name and titles of the official who supervised them or had dispatched them to the construction site. The notes include this information in written form as ‘place X’, ‘institution Y’, or ‘official NN’, referring in brief to ‘men from place X’, ‘men from institution Y’ and ‘men from official NN’.¹⁵⁵ The same information could, however, also be added in the form of single team identity marks.

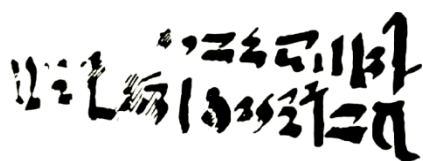


Fig. 12-3 Control note from the southern pyramid at Mazghuneh, giving in the first line the date (‘year 2, 3rd month of summer, day 2’), followed by information about what was done and by whom (‘what the individuals of the troops <of> the southern province brought’. Arnold (Felix), *The Control Notes*, 174 (Ma1).

¹⁴⁵ Arnold (Felix), *The Control Notes*, e.g. 94 (NW15d), 95 (NW16a.2), 98 (NW28.c), 107 (N12), 109 (N16).

¹⁴⁶ *Ibid.*, 20. See section 3 below.

¹⁴⁷ Ideographic writing of ⲙⲉ; therefore, the reading is uncertain. E.g. *ibid.*, 130 (E1.3).

¹⁴⁸ E.g. *ibid.*, 107 (N11). The eight-ship is a special kind of boat, cf. p. 20.

¹⁴⁹ E.g. *ibid.*, 103 (NW46).

¹⁵⁰ E.g. *ibid.*, 76-77 (W27-28). For *smz*, see Goedicke referred to by Arnold on pp. 21-22, note 37.

¹⁵¹ E.g. *ibid.*, 106 (N7).

¹⁵² E.g. *ibid.*, 83 (W44).

¹⁵³ Arnold (Felix) notes that the determinative used with the word *m3ʕ* (ⲙⲓⲥ) ‘seems to indicate that the term did not have the usual meaning of riverbank..., but rather was the name of a workmen’s village. The purpose of the *m3ʕ* is uncertain’ (*ibid.*, 21, 67 (W3)).

¹⁵⁴ E.g. *ibid.*, 104 (N1), 108 (N13).

¹⁵⁵ This is metonymic reference. For metonymy, see Part II, chapter 2, especially sections 1.d, 2 and 3. Cf. Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 7.

b. Team marks

In referring to the workmen the marks are in close connection with the notes, but they are often superimposed on, or covered by the notes, which indicates that they were made during a different phase of the work. The marks were painted in red or yellow ochre or in black ink, drawn in charcoal or scratched into the stone. They indicate the teams of workers who are mentioned in the notes and who carried out the work.¹⁵⁶ Arnold's suggestion that these workers were unskilled laborers who were recruited or forced to do heavy unspecialized work was briefly mentioned above. He furthermore argued that, while the control notes were clearly written by scribes, the workers themselves must have executed the marks:¹⁵⁷ not only are the marks much larger and more crudely executed, having been applied with easily accessible implements such as a chisel, rough brush or a stick one end of which was hammered soft; also, their simple designs (linear, geometric, or simple hieroglyphic) could be easily memorized and used to mark stones by illiterate laborers.¹⁵⁸ Andrassy remarks that, in this respect, the simple cross was a logical choice by those members of the 'team of the foreign land of *Dsds*', encountered in the 6th dynasty mastaba of Khentika in Dakhla Oasis, 'da wir unter diesem Personenkreis ganz sicher nicht mit Schriftkundigen rechnen können'.¹⁵⁹ However, she argues that the situation in general is more nuanced. We cannot distinguish sharply between those who left the notes and those who left the marks. Many marks are indeed crudely executed, but there are also examples that show care and detail, and which suggest at least some familiarity with script by their makers.¹⁶⁰ Since the notes themselves show crude as well as neat examples, a distinction based on quality between the notes on the one hand (related to literacy) and the marks on the other (related to illiteracy) cannot hold ground. It should also be kept in mind that the quality of a mark was influenced by its execution in paint, charcoal or by means of a sharp tool. Differences in execution may not be taken as a measure for the degree of knowledge and control of script.¹⁶¹ In sum, Andrassy argues that the marks were not developed only by and for illiterate workers; rather, they were an integral part of the administrative system. There are even several notes which show that the marks were incorporated by scribes.¹⁶² This supports the idea that the marks were not a system merely for illiterate workers, but were actually part of the account keeping method by scribes.

Thus, a clear connection exists between the notes and the marks. Both concern the workers who were involved in the construction process. Yet, they were not necessarily executed at the same moment. In Table I2-2 we present an overview of builders' marks from Old, Middle and New Kingdom sites, after which we discuss their forms in relation to their meaning and function in order to come to a closer understanding of how and why the builders' marks were used. Subsequently, we must ask ourselves to what extent the marks from Deir el-Medina may have found inspiration in the tradition of builders' marks. They were, after all, similarly used in the administration of the long-term construction works in the Theban necropolis.

¹⁵⁶ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 5-7; Arnold (Felix), *The Control Notes*, 22.

¹⁵⁷ *Ibid.*, 19-22.

¹⁵⁸ *Ibid.*, 14, 19-22. We will see, however, that the marks do not all have simple geometric or hieroglyphic forms. See Table I2-2.

¹⁵⁹ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 15.

¹⁶⁰ *Ibid.*

¹⁶¹ *Ibid.*, 17.

¹⁶² Arnold (Felix), *The Control Notes*, 22. The best example is note M5 on p. 156: it contains a mark drawn in the same neat lines and at the same scale as the text. See also Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 15, who for the same reasons refers to Castel et al., *Le mastaba de Khentika*, fig. 99 blocs 299, 415.

Table I2-2: Builders' marks¹⁶³

Old Kingdom	
Djoser ¹⁶⁴	
Khentika ¹⁶⁵	
Khentkaus ¹⁶⁶	
Mycerinus ¹⁶⁷	
Pepi I ¹⁶⁸	
Ptahshepses ¹⁶⁹	
Raneferet ¹⁷⁰	

¹⁶³ The Table contains selections only. For an overview of builders' marks from Old Kingdom Saqqara and Abusir, see Dobrev, Verner & Vymazalová, *Old Hieratic Palaeography I*.

¹⁶⁴ Pyramid at Saqqara: Lauer, *La Pyramide à degrés I*, 245-247.

¹⁶⁵ Mastaba at Balat, Dakhla Oasis. Castel et al., *Le mastaba de Khentika*, 137-149 (figs. 90-99).

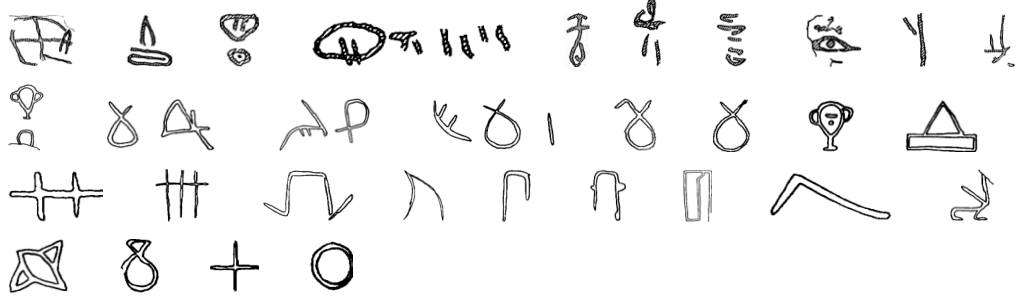
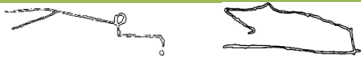
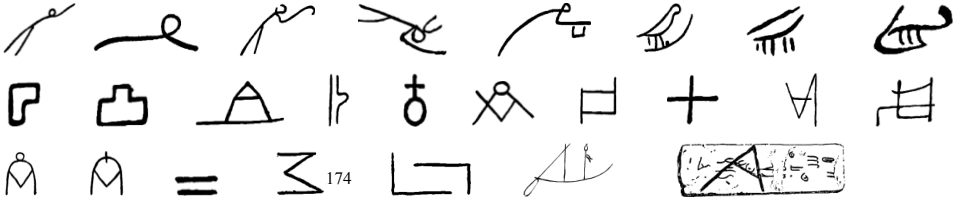
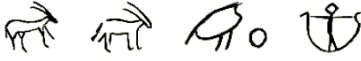
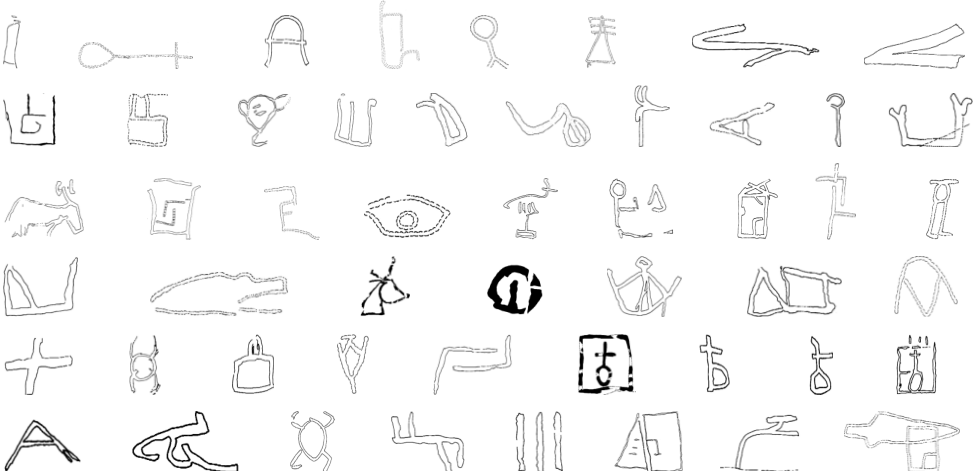
¹⁶⁶ Pyramid at Abusir. Verner, *The Pyramid Complex of Khentkaus*, 43-54.

¹⁶⁷ Pyramid at Giza. Reisner, *Mycerinus*, pl. XI-XII.

¹⁶⁸ Pyramid at Saqqara. Dobrev, Verner & Vymazalová, *Old Hieratic Palaeography I*.

¹⁶⁹ Mastaba at Abusir. *Ibid.*

¹⁷⁰ Pyramid at Abusir. Verner, *The Pyramid Complex of Raneferet*, 187-204.

Userkaf II ¹⁷¹	
Middle Kingdom	
Amenemhet I ¹⁷²	
Amenemhet II ¹⁷³	
Amenemhet III ¹⁷⁵	
Khendjer ¹⁷⁶	
Kom el-Sultan ¹⁷⁷	
Mastaba of Mazghuneh ¹⁷⁸	
Senwosret I ¹⁷⁹	

¹⁷¹ Temple at Abusir. Haeny, 'Die Steinbruch- und Baumarken' in Ricke (ed.), *Das Sonnenheiligtum des Königs Userkaf II Die Funde*, 23-47.

¹⁷² Pyramid at el-Lisht. Arnold (Felix), *The Control Notes*.

¹⁷³ Pyramid at Dahshur. *Ibid.*

¹⁷⁴ Arnold (Felix) described this as an 'Unidentifiable team mark'. Compare, however, fig. I2-1, in which Hamza showed this could represent a hieratic writing of .

¹⁷⁵ Pyramid at Dahshur. Arnold (Felix), *The Control Notes*.

¹⁷⁶ Pyramid at Saqqara. *Ibid.*

¹⁷⁷ Twelfth dynasty temple. *Ibid.*

¹⁷⁸ *Ibid.*

¹⁷⁹ Pyramid at el-Lisht. *Ibid.*

New Kingdom	
El-Assasif ¹⁸⁰	
Deir el-Bahri ¹⁸¹	
Medinet Habu ¹⁸²	

The forms of the builders' marks can be distinguished roughly into 1) hieroglyphic, cursive hieroglyphic or hieratic characters from script, and 2) geometric forms that cannot be identified as belonging to the inventory of hieroglyphic or hieratic signs, for instance or . The latter were, according to Arnold, geometric designs 'invented' by the workmen themselves, and probably did not carry phonetic value.¹⁸³ From an inventory of the builders' marks dated to the Old and Middle Kingdoms set up by Andrassy it appeared that the first group contained approximately 100 different marks that can all be related to categories from Gardiner's sign list, while another 40 marks do not belong to the standard inventory and rather show combinations of signs from script. Approximately 50 different marks belong to the geometric group. They make up 1/4 of all the documented Old and Middle Kingdom builders' marks, which means that hieroglyphic- and hieratic-like marks are predominant.¹⁸⁴

Looking at Table I2-2, it is seen that several marks are recurrent at different sites and at different periods. The simple cross, for instance, is seen in the pyramid of Khentkaus from dynasty 5 in Abusir, in the pyramid of Raneferef from the same time and place, in the pyramid of Pepi I from dynasty 6 in Saqqara, the mastaba of Khentika from dynasty 6 in Balat, and in the pyramids of Senwosret I and Amenemhet II in el-Lisht respectively Dahshur. In fact, a number of 47 out of the total of 190 different Old and Middle Kingdom marks is encountered on blocks in more than one construction.¹⁸⁵

¹⁸⁰ Budka, 'Benchmarks, team marks and pot marks from the Asasif' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 85-91.

¹⁸¹ Wiczorek, 'Observations on building dipinti in the temple of Hatshepsut at Deir el-Bahri' in Dolińska & Beinlich (eds.), 8. *Ägyptologische Tempeltagung: Interconnections between Temples*, 213-218, pl. II; Carnarvon & Carter, *Five Years' Explorations at Thebes 1907-1911*, 40 fig. 11.

¹⁸² Anthes in Hölscher, *The Excavation of Medinet Habu* II, 99.

¹⁸³ Arnold (Felix), *The Control Notes*, 14.

¹⁸⁴ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 17. It should, however, be kept in mind that we probably miss a lot of data due to the fact that early excavators often did not record the builders' marks, at least not in a systematic way, as well as due to the fact that several marks and notes may have faded in the sun. Also, many marks may still be on invisible faces of stone blocks, hidden in the masonry.

¹⁸⁵ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 17-18, and Abb. 9.

Approximately 86% of these marks (40 out of 47) occurs in buildings between which there is no direct spatial or chronological relation (fig. I2-4).¹⁸⁶ The majority of the marks, however, was used only in a narrow temporal and geographical frame; that is, within one construction project or within neighboring or successive projects where the same teams were put to work. The fact that the total number of different marks did remain limited is explained by Andrassy with the existence of ‘konstante Formationen’;¹⁸⁷ that is, when teams of workmen were relieved by new teams of workmen, these new teams were embedded within the existing system and were allocated already existing marks. It is, however, difficult to say to what extent this was indeed general practice. Against the existence of a strict system with formations and marks that had been determined at some point and retained thereafter is the fact that several constructions from the Old and Middle Kingdoms yielded marks that are only encountered a few times, and only on one or two sites. Andrassy suggests that these could indicate new teams of workers that had been recruited from new places or institutions or had been sent by new officials.¹⁸⁸ In general, however, a centrally fixed or long-term allocation of specific marks to specific teams, or a national inventory systematically applied in construction works throughout Egypt cannot at present be evidenced. There was probably some systematicity in the allocation of marks to teams of workers, for instance on construction sites that were in close geographic and temporal proximity and especially with regard to the hieroglyphic- and hieratic-like marks, as we shall soon come to see. However, a rather loose *ad hoc* practice of selecting, creating and allocating marks to teams whenever there was need must also be reckoned with, particularly in view of marks that occur infrequently as well as those with geometric appearance.¹⁸⁹ The fact that the simple cross was encountered from Balat to Dahshur, from dynasty 5 to dynasty 12, supports this, as it is unlikely that it concerned the same team each time at all sites.¹⁹⁰



Fig. I2-4 Builders' Marks from the Old and Middle Kingdoms which occur on construction sites that are geographically and temporally distant. Andrassy in *Pictograms or Pseudo Script?*, 18 (Abb. 10).

As for the hieroglyphic- and hieratic-like marks, Arnold remarks that it is not certain whether they still carried their phonetic values.¹⁹¹ Yet, this seems increasingly to be the case, especially at the end of the Old Kingdom when the organization of the workers on the construction sites changed. There are roughly four groups into which the builders' marks can be divided on the basis of the manner in which they refer to the workers. We present them in chronological order reflecting first the organization of workers on the construction site in the Old Kingdom, and subsequently their organization from the end of the Old Kingdom onwards.

¹⁸⁶ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, Abb. 10.

¹⁸⁷ *Ibid.*, 18.

¹⁸⁸ *Ibid.*, 18-19.

¹⁸⁹ *Ibid.*, 17.

¹⁹⁰ *Ibid.*, 22.

¹⁹¹ Arnold (Felix), *The Control Notes*, 14.

b.1 *pr.w*-crews, *z3*-phyles, *ts.t*-teams

From the beginning of stone-construction in the Old Kingdom the workers were organized into crews, teams and sub-teams.¹⁹² The largest formations on site were the *pr.w*-crews, who were designated in the notes with names that referred to the reigning pharaoh, for example *pr smr.w Mn-k3.w-Rc* or *pr smr.w Rc-nfr=f*.¹⁹³ These names seem to have been quite consistent, occurring also in other variations such as *pr mr.w [pharaoh NN]* and *pr rh.w [pharaoh NN]*, changing only the name of pharaoh throughout time.¹⁹⁴ The designation *pr* originally stems from the expression *pr-wj3*, ‘boat’s crew’.¹⁹⁵ On blocks from the causeway of the pyramid complex of Sahure such crews are represented. On one block (Sc-1) they are shown dragging the pyramidion to the pyramid (fig. I2-5), accompanied by the message *dcm bnbn.t Hc(j)-bz-S3h.w-Rc jn pr.wj-wj3*, ‘...(bringing?) the pyramidion [covered with] fine gold [to] the pyramid “The soul of Sahure rises in glory” by both boat crews’. On another block (Sc-3) a row of men is said to consist of members of the crews *S3hw-Rc* ... (?) and *Nbty-Nb-hcw-rhw*. They are bending towards the pyramid and are engaged in the celebrations and offering ceremonies of the finished complex.¹⁹⁶

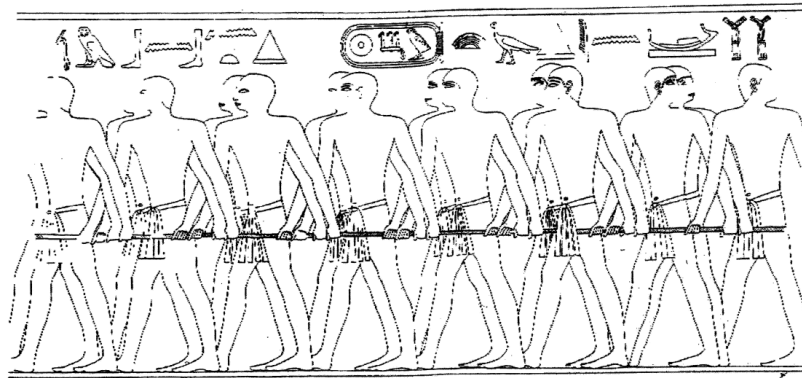


Fig. I2-5 Block Sc-1 from the causeway of Sahure, mentioning ‘both *pr.w*-crews’ dragging the pyramidion. Hawass & Verner, ‘Newly Discovered Blocks from the Causeway of Sahure’, *MDAIK* 52 (1996), fig. 1a.

The *pr.w*-crews on the construction site were further divided into *z3*-divisions. This organization was also derived from the marine world, where boat crews were organized into four divisions that were named after that part of the boat to which they were assigned: the starboard of the bow (*jmj-wr.t*, abbreviated $\dagger$), the port of the bow (*t3-wr*, abbreviated 𓆎),¹⁹⁷ the starboard of the stern (*w3d.t*, abbreviated 𓆏), and the port of the stern (*jmj-nds.t*, indicated by means of 𓆐) (fig. I2-6).¹⁹⁸

¹⁹² Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 7-17.

¹⁹³ Reisner, *Mycerinus*, 275; Verner, *The Pyramid Complex of Raneferef*, 187-189.

¹⁹⁴ Several more variations are listed in Reisner, *Mycerinus*, 275-276.

¹⁹⁵ Sethe in Borchardt, *Das Grabdenkmal des Königs Sâ ‘hu-re* II, 85-86; Reisner, *Mycerinus*, 275-276; Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 7 and her note 6.

¹⁹⁶ A similar scene is represented on yet another block (Sc-4). Hawass & Verner, ‘Newly Discovered Blocks from the Causeway of Sahure’, *MDAIK* 52 (1996), 181-185. See also Borchardt, *Das Grabdenkmal des Königs S’A3hu-Re* II, 84-86, 121 and Blätter 9, 52.

¹⁹⁷ 𓆎 ‘backbordseite’: WB V, 230.16-17. But see Verner, *Baugraffiti der Ptahschepses-mastaba*, 31.

¹⁹⁸ *Ibid.*, 30-33.

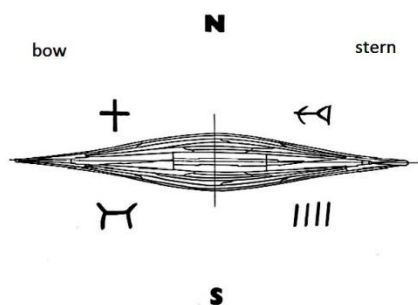


Fig. 12-6 The divisions of a boat's crew according to the four parts of a ship. Abubakr & Mustafa, *The Funerary Boat of Khufu*, 12.

This nomenclature of the divisions of the boat crews was adopted for the organization of temple personnel, which assigned priests to certain phyles that rotated in shifts.¹⁹⁹ These phyles were designated with the names of the four boat-divisions, as well as with a fifth one: *jmj-wr.t*, *t3-wr*, *w3d.t*, *jmj-nds.t*, and *jmj-nfr.t*. For the workers on construction sites we find these same five designations, often in abbreviated form of a single hieroglyphic sign:  (*wr*), — (*t3*),  (*w3d*),  (*nds*),  (*nfr*). In addition, Andrassy records two more divisions:  (*st*)²⁰⁰ and the four vertical strokes *IIII*.²⁰¹ The divisions were sometimes explicitly designated as *z3*-divisions by means of the sign , such as in  *z3 nds*,²⁰² but this sign was often left out. Not every construction site has revealed all of the *z3*-divisions. For instance, in the pyramid of Mycerinus only two *z3*-divisions were found: those of *w3d.t* and *nds*.²⁰³ The number of divisions that were introduced will have depended on the amount of work and the length of time in which it had to be done; in other words, on the amount of workers needed for the job.

The crew-names and *z3*-divisions have not only been encountered on blocks of stone. Several sherds of pottery show the sign  followed by , and once apparently by .²⁰⁴ Even a copper chisel is said to contain the name of a crew, which is interesting especially with respect to builders' marks from the Middle Kingdom found in the copper tool accounts of Papyrus Reisner, for which Andrassy suggested they were copies of real identity marks on the tools themselves.²⁰⁵

Arnold notes that the *z3*-divisions each seem to have consisted of approximately 20 workers.²⁰⁶ They were further subdivided into teams of approximately ten workers. This may be gleaned from an ostrakon from 4th dynasty Giza, which records the *z3*-division *st* with two subdivisions:  *st.t* and  *w3d.t*.²⁰⁷ The supervisors of these subdivisions, *Pr-nb* and *Jwfy*, were named as 'overseers of ten'.²⁰⁸ The subdivisions are sometimes explicitly indicated as *ts.t*-teams by means of the sign .²⁰⁹ It has been

¹⁹⁹ Reisner, *Mycerinus*, 276; Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 7; Roth, *Egyptian Phyles of the Old Kingdom*.

²⁰⁰ Perhaps out of confusion with  *t3-wr*, for 'Backbordseite', which resembles the *st*-sign. See above, note 184.

²⁰¹ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 7.

²⁰² Reisner, *Mycerinus*, plan XI. The mark interpreted as *nds* closely resembles *wr*, but Reisner notes that 'after careful consideration', he believed the mark to be *nds* (276). See also Verner, *Baugraffiti der Ptahschepses-mastaba*, 31.

²⁰³ Reisner, *Mycerinus*, 276, plan XI (ii, iii, v, x, xi, xxiv).

²⁰⁴  is not known as a *z3*-division. Perhaps it rather indicated a team? Kaplony, 'Bemerkungen zu einigen Steingefäßen mit archaischen Königsnamen', *MDAIK* 20 (1965), 1-47, especially 30 (Abb. 63), 31 (Abb. 33), 32 (Abb. 69).

²⁰⁵ See further below. *Ibid.*, 46.

²⁰⁶ Arnold (Felix), *The Control Notes*, 22.

²⁰⁷ The *w3d* sign is broken off at the upper right. See Smith, 'Inscriptional Evidence for the History of the Fourth Dynasty', *JNES* 11 (1952), 120 (fig. 8 no. G5110), 126.

²⁰⁸ *Ibid.*; Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 8.

²⁰⁹ Griffith, *Hieratic papyri from Kahun and Gurob*, pls. 14, 15-65; 15, 13-31. Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 10.

remarked that the term *ts.t* particularly belongs to the Middle Kingdom and that ‘Wegen des zwischen Altem und Mittleren Reich angenommenen Systembruchs bezüglich der Organisationsstrukturen der Arbeitskräfte auf dem staatlichen Baustellen ... die kleinsten Arbeitergruppierungen des Alten Reiches in der Literatur gewöhnlich neutral als ‚subdivisions of phyles‘, ‚Phylenunterabteilung‘ o.ä. bezeichnet [werden].’²¹⁰ However, the term *ts.t* is encountered already among the builders’ inscriptions in the pyramid of Khentkaus (dynasty 5),²¹¹ in the mastaba of Khentika (dynasty 6),²¹² as well as in the Letter of Protest dated to the reign of Pepi II.²¹³ It may therefore be assumed that combinations of builders’ marks such as   and  from the pyramid of Khentkaus, which show a form that has been termed ‘hourglass’ accompanied by a mark, are indeed indications of the smallest *ts.t*-subdivisions of workers.²¹⁴

The marks that were used as indicators of the *ts.t*-teams could be of various kinds. In the two last-mentioned examples they were  respectively . On the Giza ostrakon the *ts.t*-subdivisions were  *st.t* and  *w3d.t*. It thus appears that the designations of *ts.t*-teams could be identical to those of the *z3*-divisions. Since both the signs  for *z3* and  for *ts.t* may be lacking, we cannot in all cases be certain whether the marks , , , , ,  and  indicate a *z3*-division or a *ts.t*-subdivision.²¹⁵ The repertoire of *ts.t*-marks is, however, much broader than that of the *z3*-divisions, including a variety of hieroglyphic and non-hieroglyphic marks. Examples of hieroglyphic marks are , , , , , , , , , , and . It is uncertain whether they have phonetic value by means of which they refer to a conventional name given to the team (e.g. *nh* ‘life’, *dd* ‘stability’, *wsr* ‘strength’, *nfr* ‘goodness’²¹⁶), or to an origin of the workers from a certain geographic or institutional place. Some marks have been interpreted as nome-signs referring to topographical origin. Examples are , ,  and  from the pyramid of Mycerinus for respectively the 3rd and 15th Lower-Egyptian nomes and the 16th and 17th Upper-Egyptian nomes.²¹⁷ In addition, on blocks from the mastaba of Khentika in Dakhleh Oasis the place name *3j(r)* is mentioned in which the sign  *rw3* is used; this sign also occurs as a team mark ()²¹⁸, perhaps referring to an origin of the workers from that locality.²¹⁹ Generally, however, such topographical references seem to date to later times.²¹⁹ Examples of marks of a kind that is not recognized as hieroglyphic or script-like are , , , , , , and perhaps .²²⁰ The nature and origin of these marks is uncertain.

All in all, the builders’ inscriptions from the Old Kingdom reflect an organization of the workers into *pr.w*-crews, *z3*-divisions and *ts.t*-teams whereby the latter were indicated by means of marks of various kinds. Andrassy presented a visual reconstruction of this organization:

²¹⁰ Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 9.

²¹¹ Verner, *The Pyramid Complex of Khentkaus*, 43-54.

²¹² Castel et al., *Le mastaba de Khentika*, e.g. fig. 90 nos. 38, 84.

²¹³ Gardiner, ‘An administrative letter of protest’, *JEA* 13 (1927), 75 (*ts.t n.t pr.w*).

²¹⁴ For more examples, see the Old Kingdom section of Table I2-2.

²¹⁵ Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 8.

²¹⁶ *Ibid.*, 21.

²¹⁷ Reisner, *Mycerinus*, plans XI-XII.

²¹⁸ Castel et al., *Le mastaba de Khentika*, 141 and fig. 90 (nr. 176), fig. 95 (nrs. 180b, 69b).

²¹⁹ See the following two sections.

²²⁰ Perhaps ; otherwise a representation of the sun or some other circular object, or a geometric figure.

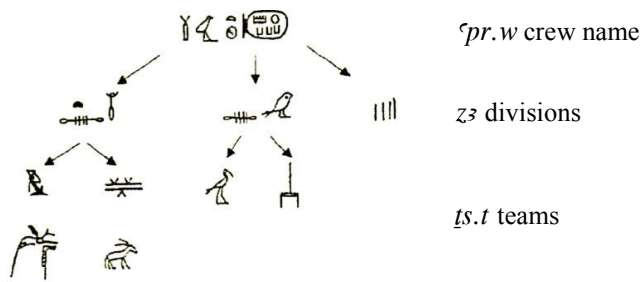


Fig. 12-7 The division of workers into *pr.w*-crews, *z3*-divisions and *ts.t*-teams. Based on Andrassy in *Pictograms or Pseudo Script?*, 8 and Reisner, *Mycerinus*, plans XI-XII.

b.2 Officials' names and titles

The designation of workmen by means of *pr.w*-crew names diminished dramatically in the course of dynasty 6. Although hundreds of builders' notes and marks were revealed in the pyramid complex of Pepi I, which do show the *z3*-divisions and *ts.t*-teams, no crew-names were found among them.²²¹ Instead, a practice started to emerge already in dynasty 5 that indicated crews and teams of workers through the names and titles of private persons who were directly connected to the organization of the work: as overseers or as officials who dispatched a number of workers to the construction site.²²² This gradually came to be the predominant manner to refer to workmen from the end of the Old Kingdom onwards. Thus, among the blocks from the pyramid of Pepi I there are examples of the title *t3jtj z3b t3tj* accompanied by one or more *t3* marks (𓂏).²²³ Rather than interpreting these marks as another writing of 'vizier', Andrassy argues they were team marks that referred to the workers who were sent by the vizier.²²⁴ Other examples come from the mastaba of Ptahshepses, where blocks of stone frequently show *šps*- and *hnm*-signs. These signs could have been part of longer inscriptions mentioning Ptahshepses himself and Chnumhotep or Nianchchnum, two officials who are frequently mentioned in the control notes on blocks from the mastaba; but they could also have been used as identity marks that referred to Ptahshepses, Chnumhotep or Nianchchnum as persons who dispatched workers to the site.²²⁵

In some cases the marks themselves cannot be interpreted as an individual's name or title, but their occurrence in close proximity to personal names and titles does indicate a relation. For instance, in the 6th dynasty mastaba of Khentika in Dakhleh Oasis we find examples of the mark 𓂏 being connected to a number of different personal names, among which *Ddy*, *Jdj* and *Jd(j)-jb(j)(?)*.²²⁶ Andrassy argues that, 'Soweit man es von diesen Personen sagen kann, kamen sie aus der direkten Umgebung des Gouverneurs'²²⁷; each could have sent a number of workers to the construction site, where these workers

²²¹ Personal communication of Verner with Dobrev, see Verner, *The Pyramid Complex of Raneferef*, 202 with note 26. The names of known divisions and sub-divisions are, however, attested. Dobrev, 'Observations sur quelques marques de la pyramide de Pépi I^{er}', in Leclant, *Hommages à Jean Leclant I*, 149-154; Dobrev, 'Les marques sur pierres de construction de la nécropole de Pépi I^{er}', *BIFAO* 96 (1996), 103-142; Dobrev, 'Les marques de la pyramide de Pépy I^{er}', *BIFAO* 98 (1998), 151-170.

²²² Verner, *The Pyramid Complex of Raneferef*, 201-202; Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 9; Arnold (Felix), *The Control Notes*, 22.

²²³ Dobrev, 'Les marques de la pyramide de Pépy I^{er}', *BIFAO* 98 (1998), 152.

²²⁴ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 19; Dobrev, 'Les marques sur pierres de construction de la nécropole de Pépi I^{er}', *BIFAO* 96 (1996), 121, 124.

²²⁵ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 19. In Verner, *Baugraffiti der Ptahshepses-mastaba* more examples can be found of notes that describe workers by means of an individual's name or title. These descriptions are not always accompanied by marks. See, for instance, pl. XIV, nr. 422, which mentions *shd hnm.w-k3 Wr-b3.w-skr*, 'overseer of the *hnm*-priests Werbausokar', without team mark. The practice is more frequent in the Middle Kingdom, see below.

²²⁶ Castel et al., *Le mastaba de Khentika*, 142 and fig. 92 blocs 215, 60, 204.

²²⁷ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 12.

were organized together in team ⊗ .²²⁸ A similar case may be suggested for blocks from the mastaba of Ptahshepses, on which we find one mark connected to three different names and titles. On block no. 300 in fig. 12-8²²⁹ we read a date (*šbd 3 šmw sw 16*) followed by the name of *R^c-wsr*. To the right and left we see a mark that resembles the hieroglyphic form of *njw.t*: ⊗ . Another block, no. 410,²³⁰ gives the next day (*šbd 3 šmw sw 17*) with the note *jmj-r3 iz.w.t Htpj*, ‘leader of the troops, *Htpj*’. In front of the note we see again the ⊗ -mark. Block no. 299²³¹ shows two notes, both without a mark. The rightmost note mentions the same day 17, but this time with the title *šḥd pr-3[jw] Ny-^cnh-r^c*, translated by Andrassy as ‘Untervorsteher der Palastleute’.²³² The leftmost note mentions day 18 of 3 *šmw*, but again with the name *R^c-wsr*. Finally, on block no. 408,²³³ we find the same day 18 of 3 *šmw*, now connected to *Ny-^cnh-r^c* and the ⊗ -mark. How can we explain these combinations? We see the ⊗ -mark once connected to *R^c-wsr*, once to *Ny-^cnh-r^c*, and once to *Htpj*; and we see different names connected to three consecutive days (day 16 *R^c-wsr*; day 17 *Ny-^cnh-r^c* and *Htpj*; day 18 *R^c-wsr* and *Ny-^cnh-r^c*). How are the mark and personal names related to each other?

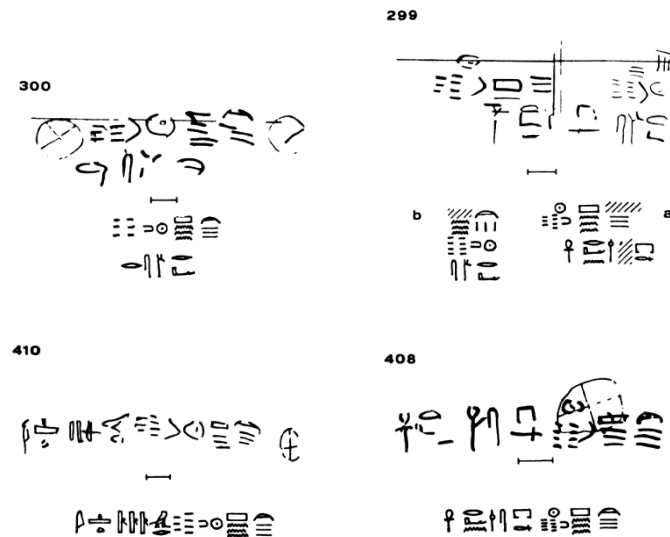


Fig. 12-8 Four blocks from the mastaba of Ptahshepses on which the mark ⊗ is connected to three different names on three consecutive days. Andrassy in *Pictograms or Pseudo Script?*, 13.

Andrassy argues that the ⊗ -mark connected to three different persons on three different days is unlikely to indicate changes in the supervision of the team. Such daily changes in supervision would neither be effective nor efficient. Thus, rather than indicating a system of control, she suggests that the members of the team denoted by the ⊗ -mark formed a collective of individuals having been sent by at least three different officials. The names *R^c-wsr*, *Ny-^cnh-r^c* and *Htpj* then refer to the origins of the workers rather than to men who supervised the work *in situ*. The changes in names on the three different days may

²²⁸ Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 12.

²²⁹ *Ibid.*, 12-13 and Abb. 7; Verner, *Baugraffiti der Ptahshepses-mastaba*, pl. XLI (300).

²³⁰ *Ibid.*, pl. LVII (410).

²³¹ *Ibid.*, pl. LI (299).

²³² *Ibid.*, 13.

²³³ *Ibid.*, pl. LVI (408).

indicate a further subdivision of the workers in the ☉-collective who were responsible for separate phases of the work: for instance, they may indicate the passing on of the work conducted by the ☉-members sent by *R^c-wsr* on day 16 to the ☉-members sent by *Ny-^cnh-r^c* and *Htpj* on day 17, and subsequently to the ☉-members sent by *R^c-wsr* and *Ny-^cnh-r^c* on day 18.²³⁴ We could even speculate about shifts, for instance morning and afternoon shifts fulfilled by the teams of the ☉-collective sent by *R^c-wsr*, *Ny-^cnh-r^c* and *Htpj*. In such a manner, we could attempt to interpret and understand the grammar of the marks and the notes on the building blocks.

In both the examples from the mastabas of Khentika and Ptahshepses the question remains why the marks ☉ and ☉ were used to refer to the workers sent by the officials. Neither of the marks has a phonetic relation to any of the officials' names or titles. In particular the mark ☉ has been interpreted in many different ways, but not one is satisfactory or bears relation to the workers.²³⁵ The two marks are both universal,²³⁶ and it is to be assumed that they had different meanings on different sites, in different reigns, and in relation to different construction projects. Yet, a tentative suggestion might be that both are geographical indicators of the origin from where the officials dispatched the workers. In the case of ☉ in Dakhleh we have, however, no suggestions. In the case of ☉ in the mastaba of Ptahshepses this could be *njw.t* as in the 'Residenz' or 'die Pyramidenstadt'.²³⁷ As such, the mark would have a function similar to the topographical marks mentioned above. Again, however, topographical references are generally believed to date to later times.

In the Middle Kingdom officials' names and titles that refer to teams of workers are found more often. Such builders' inscriptions do not in all cases include single marks, but simply give written descriptions of the workers involved. Thus, fig. I2-9 shows four builders' inscriptions that record actions such as 'delivered at the ramp by the overseer of the work *Mk*' or 'removed by the foreman *Htj*'.²³⁸ It is, of course, unlikely that the officials did the work themselves.

²³⁴ Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 14.

²³⁵ It has been called a 'control mark' by Verner (e.g. *Baugraffiti der Ptahshepses-mastaba*, 71, pl. IV (nr. 29)), or even a 'quarry mark'. The latter hypothesis was suggested by Borchardt, who believed that during the reign of every king a special sign was in use to mark the quarry from where the stone was obtained. Since he frequently encountered the sign ☉ in the sun temple of Niuserre, he argued this was the mark for the quarry exploited by this king. However, ☉ is already encountered on foundation blocks from the pyramid of Djoser at Saqqara, as well as on blocks from the pyramids of Meidum and Dahshur. It is moreover found in the sun temple of Sahure, in the tomb of Kaninisut in Giza, and in the temple of Pepi II. Even if it would be assumed that all these monuments derived their stone from the same '☉-quarry', Andrassy remarks that an indication of quarry had no function and value in the records of the Old Kingdom construction projects. Written notes may mention actions such as 'bringing the stone from the quarry', as we have seen above, but the quarry itself is never mentioned. Moreover, if ☉ was a quarry mark, one would expect it to occur on every block that derived from the quarry, and it must be the first mark applied. This, according to Andrassy, is not the case. See Borchardt, referred to by Haeny, 'Die Steinbruch- und Baumarken' in Ricke (ed.), *Userkaf II*, 33-34, and by Verner, *Baugraffiti der Ptahshepses-mastaba*, 65, 164; Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 23.

²³⁶ Not only as builders' marks; we have encountered both of them as potmarks in the previous section, occurring from the Early Dynastic period through to the New Kingdom.

²³⁷ WB II, 200.C, 6.

²³⁸ Arnold (Felix), *The Control Notes*, 76-77 (W27-28), 71 (W13-14), 170 (AIII 1), 110 (N19).

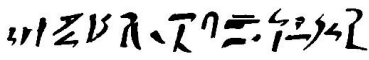
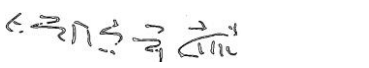
	<i>wꜥrtw n tt ḥkꜣ Snb jn(j.w) ḥr mry.t</i> 'commander of the governor's troops <i>Snb</i> , brought from the embankment'
	<i>rdj(.w) ḥr smꜣ jmj-jr.tj Mk</i> 'delivered at the ramp, the overseer of the work <i>Mk</i> '
	<i>ḥtm.tj bj.ty jmj-rꜥ pr <wr> Nḥt</i> 'seal-bearer of the king, the <high> steward <i>Nḥt</i> '
	<i>[šdj(.w)] jmj-rꜥ mšꜥ.w Hty</i> 'removed, the foreman <i>Hty</i> '

Fig. I2-9 Middle Kingdom builders' inscriptions that refer to workmen by means of the names and titles of officials who supervised or dispatched them. Arnold (Felix), *The Control Notes*, W14, W27, N19, AIII.1.

When the builders' inscriptions that record titles and names do include team marks, the relation between the workers and the mark is not always straightforward. This we saw with  and  above, but it is, of course, also the case with marks that are geometric in appearance. An inscription from the pyramid of Senwosret I mentions the foreman *Hty* and includes the following team mark (fig. I2-10):²³⁹

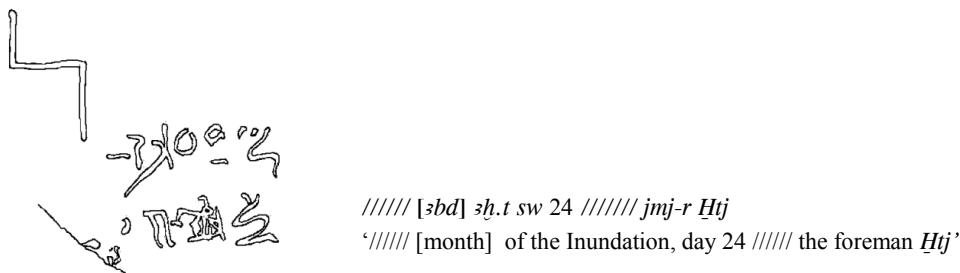


Fig. I2-10 Builders' inscription from the pyramid of Senwosret I recording the team of foreman *Hty* as well as a team mark. Arnold (Felix), *The Control Notes*, W10.

The same combination of *Hty* and the mark  occurs in a similar inscription from the fourth month of the Inundation, day 10.²⁴⁰ May we assume that the crew or a team of foreman *Hty* was alternatively identified by this mark ? It does, however, not occur in several other inscriptions that mention work done by workers of *Hty*.²⁴¹ The inclusion of the team mark, which is contemporaneous to the note, would make sense only if it somehow specifies the information in writing, for instance by informing that the work was done by a subdivision of *Hty*'s crew, indicated with .

In the New Kingdom the practice of naming teams of workers after individuals of high status may have continued, although the evidence is scarce. This is to a large extent due to the fact that the study of New Kingdom builders' marks has lagged behind, and relatively few marks and inscriptions have been published. Yet, among the Thutmoside builders' inscriptions from el-Assasif titles such as  *jmj-r*, 'overseer', *ḥm-nṯr snw*, 'second priest (of Amun)' and  *ḥm-nṯr tpj*, 'high priest' are found.²⁴² The title

²³⁹ Arnold (Felix), *The Control Notes*, 70 (W10).

²⁴⁰ *Ibid.*, 93 (NW10).

²⁴¹ Compare inscriptions W11-15 and NW43 in Arnold (Felix), *The Control Notes*, 70-71, 103.

²⁴² Budka, 'Non-Textual Marks from the Asasif' in Andrassy et al., *Non-Textual Marking Systems*, 190-191.

hm.w ntr tpj, as well as another title *mr.w pr wr*, ‘overseers of the treasury’, is also known from ostraca from el-Assasif and Deir el-Bahri. These ostraca relate to the construction works and mention the people who contributed.²⁴³ Other examples come from the builders’ inscriptions found at the temple of Ramesses IV in West Thebes. There, a reference to ‘the stonemasons of Usermaatrenakhte’ is encountered. Budka suggests that Usermaatrenakht is ‘probably identical with a priest of the temple of Min, Horus and Isis in Coptos of this name who led an expedition to Wadi Hammamat in year 1 [of Ramesses IV] and is attested as the son of the well-known high-priest Ramessesnakht. The latter fulfilled, according to an inscription from Wadi Hammamat, the function of overseer of all works ... Usermaatrenakht might have inherited this office from his father as the oldest son’.²⁴⁴ Budka notes that ‘The exact kind of contribution by these officials to the royal building remains unclear’, but ‘they might have been responsible for workmen and material’.²⁴⁵ A final example of the reference to workmen by means of the name and title of a high status person is found in the temple of Ramesses III at Medinet Habu. On the doorsills in the Second Palace of Ramesses III are found two hieratic inscriptions that read *hm-ntr tpj n Jmn-R^c R^c-ms-sw-nht.w*, ‘high priest of Amun, Ramsesnakht’.²⁴⁶ Ramsesnakht is also attested with the titles ‘chief steward in the temple of Medinet Habu’ and ‘overseer of works on all monuments of the estate of Amon of Karnak’. He may, then, be mentioned here in the guise of overseer. Two further inscriptions were found nearby. They both mention the date (‘first month of winter, 3rd day’ respectively ‘26th(?) day’), preceded by a mark: . Anthes interprets this mark to refer to the destination of the blocks, that is, ‘temple’. This is possible, but it would not be a very specific destination referring to where the blocks would have to be positioned in the construction.²⁴⁷ Alternatively, it would refer to a team of workmen responsible for the block. Similar team marks, sometimes combined with builders’ notes that mention a personal name, were found on foundation blocks in the temple of Eye and Horemheb.²⁴⁸

b.3 Toponyms

In addition to names and titles that are included in the builders’ inscriptions as identifiers for teams of workmen we also find topographical references. Arnold remarked that this practice of indicating workers after their hometown is unknown before the Middle Kingdom.²⁴⁹ Yet, we have already seen possible cases for the Old Kingdom above, especially in the form of nome-signs. Moreover, since many of the Old Kingdom *ts.t*-marks are not explained, for instance  and , the practice of identifying teams via topographical origin in this period cannot be ruled out.

It does, however, seem to be the case that the practice is more frequent in the Middle Kingdom, when place names also come to be included in the written notes to refer to the workers responsible for the actions recorded. In el-Lisht, for example, we encounter a short note *sw 19 Hw.t-<k3>-Pth*, ‘day 19,

²⁴³ Budka, ‘Non-Textual Marks from the Asasif’ in Andrassy et al., *Non-Textual Marking Systems*, 189, 191. We will see below that they also mention the names of localities that contributed by sending workers and/or materials.

²⁴⁴ Budka, ‘Benchmarks, team marks and potmarks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 73-75.

²⁴⁵ Budka, ‘Non-Textual Marks from the Asasif’ in Andrassy et al., *Non-Textual Marking Systems*, 191. Budka also mentions the find of several 18th dynasty name stones from the valley temple of Hatshepsut as well as from the temple of Medinet Habu. These name stones mention royal names and titles, or the names and titles of high officials. They may denote the officials that contributed to the construction work. It is not clear, however, whether teams of workmen were identified on the basis of those names and titles. See *ibid.*, 191-193.

²⁴⁶ Anthes in Hölscher, *The Excavation of Medinet Habu* IV, 48.

²⁴⁷ *Ibid.*

²⁴⁸ Anthes in Hölscher, *The Excavation of Medinet Habu* II, 99.

²⁴⁹ Arnold (Felix), *The Control Notes*, 20.

Memphis²⁵⁰; or an inscription that records *ꜣbd 3 šmw sw 10 jn(j.w) m ḥtt mr wꜣr.t snw.t n <.t> Jwnw*, ‘Month 3 of summer, day 10. Brought from the quarry <to?> the pyramid <by> the second district of Heliopolis’.²⁵¹ In some cases such inscriptions are accompanied by a team mark that can be connected to the toponym in the inscription. Thus, on blocks from the pyramids of Senwosret I at el-Lisht and Amenemhet II at Dahshur we find notes that refer to workers from the locality *Nmtj*. The name is written with a sign that depicts a falcon on a moon sickle, ; this sign also occurs alone as a team mark when it singly refers to workers from that place.²⁵² In the pyramid of Senwosret we also find a mark that resembles the sign for *sh.t*, , connected to an inscription that mentions (workers from) *Sh.t-ḏꜣw*, a locality in the 14th Lower Egyptian nome.²⁵³ The mark elsewhere occurs alone, presumably to refer to the team from *Sh.t-ḏꜣw*.²⁵⁴ Two further examples are the locations *Hw.t-kꜣ-Pth* and *Mn-nfr*, which are both connected to a mark that is a combination of a *Hw.t-* and a pyramid-sign: . *Hw.t-kꜣ-Pth* and *Mn-nfr* were both designations of quarters in Memphis and the mark  presumably refers to workers from both quarters put together in one team, or to two teams from either quarter working together.²⁵⁵ On blocks from the pyramid of Amenemhet III at Dahshur we see the mark , which as a hieroglyph bears the value *kjs* and occurs in the writing of the toponym *Kjs*. It identifies workers from *Kjs*, Qusiya, a place that is mentioned in one inscription from the same pyramid.²⁵⁶ In the pyramid of Senwosret I we also find a mark that is not once related to a written toponym; it only occurs alone. Yet, on the basis of its appearance, an origin of the workers identified through this mark from the 16th Upper Egyptian nome could be suggested: .²⁵⁷ Finally, a less direct, but still geographical connection between workers and locality is suggested for the mark  in relation to a group of people denoted as *jmn.w* in several builders’ inscriptions from the pyramids of Senwosret I.²⁵⁸ Andrassy suggests that the mark could refer to the name of the pyramid city of Snofru, *Dd-Snfr.w*. *Jmn.w*-people are known from the Dahshur decree of Pepi I as a group among whom are also mentioned the *hnt.j.w-š*, who derived from the pyramid city of *Hꜣ-Snfr.w*. If the mark  indeed refers to *Dd-Snfr.w*, this would suggest a settling area for the *jmn.w* people in the surroundings of Dahshur and Meidum.²⁵⁹

Thus, several marks from the Middle Kingdom pyramid and tomb sites at el-Lisht and Dahshur can be said to identify teams of workers by means of a mark that refers to their topographical origin:

²⁵⁰ Arnold (Felix), *The Control Notes*, 62 (A4).

²⁵¹ *Ibid.*, 151 (S4).

²⁵² *Ibid.*, 23, 27. For Senwosret pp. 111 (N23, mark), 122 (N59, note); for Amenemhet II p. 161 (AII 2 mark; AII 7.2 note). Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 19.

²⁵³ Arnold (Felix), *The Control Notes*, 25, 95 (NW16, note and mark). See also 98 (NW28c), 111 (N24.2), 115 (N33-34), 117 (N41), 120 (N50.2), 124 (N66). The locality is probably also mentioned in the pyramid of Amenemhet I at el-Lisht (61, A2-2).

²⁵⁴ *Ibid.*, e.g. 96 (NW17c.2).

²⁵⁵ *Ibid.*, 23-24, 139 (E27.2, mark; E28b-2, note; E28b-3, mark), 140 (E29b1-2, note with mark; E30.1, mark), 141 (E33.2, mark). Also in the mastaba of Senwosret I: 156 (M4.2, mark; M6, mark); and in the pyramid of Amenemhet I: 64 (A11).

²⁵⁶ *Ibid.*, 25, 172 (AIII 8, note). As a mark also in the pyramid of Senwosret I (153, S11.2), in the mastaba of Senwosret I (155, M1), and in the 12th dynasty temple at Kom el-Sultan (184, Ab2).

²⁵⁷ Arnold (Felix), *The Control Notes*, 27, 113 (N29), perhaps also 101 (NW41b). Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 19.

²⁵⁸ Arnold (Felix), *The Control Notes*, 23, 28, e.g. 113 (N27), 114 (N30).

²⁵⁹ Andrassy, ‘Teammarken der Bauleute’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 20.

	<i>Nmtj</i>		<i>Kjs</i>
	<i>Sh.t-ḏꜣw</i>		16 th Upper Egyptian nome
	<i>Mn-nfr</i> with <i>Hw.t-k3-Pth</i>		<i>Dd-Snfr.w</i>

This practice is not unknown from papyri accounts. At least two papyrus documents from the Middle Kingdom support the existence of identity marks the nature of which is a topographical reference. For instance, in the copper tool accounts of the dockyard workshop at This recorded in papyrus Reisner II, we see among usual hieratic script several marks, some of which can be interpreted as geographical abbreviations very similar to the team marks found on the Middle Kingdom constructions.²⁶⁰ After study, Andrásy concluded that the place name marks in papyrus Reisner were copies of real identity marks on the copper tools themselves, which allowed ‘proper allocation of a tool ... after recasting in the dockyard-workshop.’²⁶¹ It is probable that, instead of the individual workmen themselves, the towns from which they came were rather the ‘primary owning institutions’²⁶² of the tools, which would be a reason for linking user to tool by means of a geographical marker. The marks from papyrus Reisner for which an identification has been suggested are the following:

-  *Hpš.y.t*, a place that occurs in the Heqanakht papers, located on the west bank south of Thebes;
-  *W3ḏ.y.t*, a place in the 10th Upper Egyptian nome;
-  *W3s.t*, Thebes;
-  *Hw.t-n-mrw*, a village in the 3rd Upper Egyptian nome;
-  *Nb.y.t*, ‘Ombos’ in the first Upper Egyptian nome.

The last two identifications can be checked against another Middle Kingdom document that contains a list of marks which function as abbreviations for geographic locations: the Ramesseum Onomasticon. This Late Middle Kingdom document contains a geographic section with a list of 29 place names, each followed by a sign that represents the place in abbreviated form (fig. I2-11). Both  and  occur as abbreviations for *Hw.t-n-mrw* respectively *Nb.y.t*.²⁶³ Certainly, Andrásy is right in remarking that the correspondence does not mean that  and  on the copper tools were abbreviations for *Hw.t-n-mrw* respectively *Nb.y.t*: ‘the actual meaning of one symbol was ... well-defined and understandable only in the frame of a certain building project. The same symbol used in projects far away or at another time could have had a different meaning.’²⁶⁴ Yet, the Onomasticon is evidence, not only for the fact that indeed a practice of using marks to refer to a locality was known, but also for the fact that such marks were frequently established on the basis of extraction of phonetic characteristics (e.g. , , , ) or on the basis of nome-signs or marks otherwise related to a characteristic of the town (e.g. , , ). This gives us sufficient reason to consider a similar nature for some of the team marks that occur in the builders’ inscriptions. According to Andrásy, the fact that place name marks in the Middle Kingdom

²⁶⁰ Simpson, *Papyrus Reisner II*, 44-47; Andrásy, ‘Symbols in the Reisner Papyri’ in Andrásy et al., *Non-Textual Marking Systems*, 113-122.

²⁶¹ *Ibid.*, 120.

²⁶² *Ibid.*, 121.

²⁶³ Gardiner, *Ancient Egyptian Onomastica*.

²⁶⁴ Andrásy, ‘Symbols in the Reisner Papyri’ in Andrásy et al., *Non-Textual Marking Systems*, 118.

The practice of identifying teams of workmen after a place name is also discerned in the New Kingdom among the builders' marks found in el-Assasif. A combination of hieroglyphic and non-hieroglyphic marks was found on the causeway built by Thutmosis III leading to his terrace temple in Deir el-Bahri. Among the former are several that have been interpreted to be abbreviations of toponyms.²⁷¹

 *Hw.t-n-mrw*, present Komir;²⁷²

 *Mn-jtj*, a place between present Gebelein and Armant;²⁷³

 *Jwny.t*, present Esna;

 *Nby.t*, present Ombos;

 *Nh*, Hierakonpolis(?);

 *Pr-hw.t-hr*, present Gebelein(?). Otherwise perhaps an abbreviation for *Pr-mrw*, another name for *Hw.t-n-mrw*, which would, however, be represented already by means of . A third possibility is that *pr* is an abbreviation for *pr-Nfr.w-R*, a domain or royal estate (for which, see below).

The search for matches between the builders' marks and toponyms in the Asasif may find support in ostraca that were found *in situ*, which list towns that participated in the construction processes. For example, ostracon MMA Field no. 23001.39 lists among others Esna, Ageni (Asfun el-Matana) and Hefat (Moalla).²⁷⁴ It also lists El-Kab, the Egyptian name for which was *Nhb*. El-Kab may therefore be considered another possible reading for the mark  above.

b.4 Institutions and estates

A last manner of reference to workers that we can discern in the builders' inscriptions is reference by means of institution, estate or domain from where the workers were sent. We may see such information included in the notes already in dynasty 5, for instance on blocks from the pyramid of Raneferef where we read *s.t pr-hd n.t^{sic} hw.t-wr.t*, 'the place of the great hall's treasury'.²⁷⁵ In Middle Kingdom el-Lisht, the inscriptions inform about workers from *pr hm.t-nsw.t*, 'the house of the king's wife', or from *rmny.t jry t n<.t> jnb Snb*, 'the domain of the hall keeper of the enclosure, Seneb', or from *rmny.t jmj-r hnwtj <n> k3p Snb.ty.fy*, 'the domain of the chamberlain of the palace, Senebtifi'.²⁷⁶ At Saqqara we read about workers from the *rmny.t Hrj*, 'the domain of *Hrj*'.²⁷⁷ The inscriptions that include such notes, however, are usually not related to marks. Only in two cases do we see an inscription that records *pr-*

²⁷¹ Budka, 'Non-Textual Marks from the Asasif' in Andrassy et al. (eds.), *Non-Textual Marking Systems*, 186-189; Budka, 'Benchmarks, team marks and pot marks from the Asasif' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 80-81.

²⁷² Although Budka remarks that the distribution of this mark in el-Assasif might correspond to a more complex meaning: it appears to be particularly frequent also in combination with other marks. Budka, 'Non-Textual Marks from the Asasif' in Andrassy et al. (eds.), *Non-Textual Marking Systems*, 184-186, 188.

²⁷³ Although Budka remarks that the sign  also occurs together with other marks on one block and 'might as well be an abbreviation for something else in the context of stone delivery: an adjective ('durable') or a short note 'the remainders are ...', 'valuable kind of stone', 'really delivered/landed' or the like'. *Ibid.*, 188.

²⁷⁴ *Ibid.*, 188-189.

²⁷⁵ With an indication of a subdivision; i.e. *jmj-wr.t*. Verner, *The Pyramid Complex of Raneferef*, 188-189 (no. 2).

²⁷⁶ Arnold (Felix), *The Control Notes*, 26, 146-147 (C1, C2.2, C4, C7, C11), 178 (Kh8) 183 (Kh28).

²⁷⁷ *Ibid.*, 182 (Kh26).

nsw.t with a team mark of the kind  respectively  related to it.²⁷⁸ However, since in both cases the inscriptions also mention a damaged, but probable place name that may be read *Hw.t-////////-jb*,²⁷⁹ it is not certain to what the team mark pertains exactly.

That the practice of abbreviating the names of estates, institutions or domains did exist in the Middle Kingdom may again be gleaned from papyri in the Kahun archive that relate to the pyramid town of Senwosret II.²⁸⁰ Among the account papyri we find a hieratic list that contains the names of the ten men of a team, each one accompanied by a mark that can be understood as an abbreviation for the institution from where he was sent. We find the following marks and institutions:  for *H^c-Z-n-wsr.t*;  for *nh-Z-n-wsr.t*;  for *nh-Jmnj*, which is *nh-Jmn-m-h3.t*, the pyramid temple of Amenemhet III.²⁸¹

In the New Kingdom the practice of referring to workmen via institution, estate or domain is, according to Budka, present in the builders' marks from el-Assasif. Among the marks from the causeway of Thutmosis III she found examples that can be interpreted as *hm.t-nsw.t*. As such, they can refer to *pr hm.t-nsw.t*, which is attested on ostraca from Deir el-Bahri and denotes an estate of the Queen (perhaps Hatshepsut or her daughter Neferura).²⁸² The group  *pr Nfr.w-R^c*, is also attested on ostraca and at least five times among the builders' marks.²⁸³ It is probably the name of a domain, or royal estate of, or called after Hatshepsut's daughter. The group  *pr* also occurs alone. It was mentioned above in relation to the toponyms *Pr-hw.t-hr* (Gebelein) and perhaps *Pr-mrw/ Hw.t-n-mrw*, but in fact the word *pr* in Egyptian language may simply denote an estate in general.²⁸⁴ The group may, then, also be an abbreviation for *pr-Nfr.w-R^c*.

Undetermined

In addition to the Old Kingdom *pr.w-*, *z3-* and *ts.t-*designations, the officials' names and titles, toponyms and institutions, estates and domains, we find among the builders' marks many examples that cannot at present be explained. Several marks of hieroglyphic nature, such as *nfr*, *mr* and *wsr*, are found quite often in different contexts and periods. They may refer to a toponym, a personal name or title or to conventional names such as 'good' or 'powerful' given to the teams. Also, *nfr* has been understood as an architectural note conveying the meaning '0 level', or 'end'.²⁸⁵ Because of the multiple interpretations that are possible, the meaning and nature of a mark cannot always be pinpointed, even when it occurs in a particular context.

For the meaning and nature of other marks, none of the above suggestions seems to be a satisfying explanation. For instance, a mark that resembles the hieroglyph  *sn_t* is found quite often. Its first occurrence as a team mark is found on a copper axe from dynasty 4 from Lebanon, which mentions

²⁷⁸ Arnold (Felix), *The Control Notes*, 146 (C2) and 149 (C11).

²⁷⁹ *Ibid.*, 25.

²⁸⁰ Griffith, *Hieratic papyri from Kahun and Gurob*, 39-42, pl. XIV; Andrassy, 'Teammarken der Bauleute' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 14.

²⁸¹ *Ibid.*, 14.

²⁸² Budka, 'Non-Textual Marks from the Asasif' in Andrassy et al. (eds.), *Non-Textual Marking Systems*, 188, note 62.

²⁸³ Budka, 'Benchmarks, team marks and pot marks from the Asasif' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 80, note 88.

²⁸⁴ WB I, 511-518.

²⁸⁵ Haeny in Ricke, *Userkaf II*, 27-28; Verner, *The Pyramid Complex of Raneferef*, 187-188. The word *nfr.y.t* 'Ende' is, however, only attested from the late Middle Kingdom onwards: WB II, 262.

the *pr*-crew *Hr.w.y-nb shtp.w.y*, ‘the two Golden Horuses are satisfied’.²⁸⁶ It further mentions the *z3*-division *st*, and the *ts.t*-subdivision *snt*. As a team mark, *snt* also appears on the blocks from the pyramid of Senwosret I in el-Lisht.²⁸⁷ In the New Kingdom we still see it on blocks from the Valley temple of Hatshepsut,²⁸⁸ and in Amarna it has been found on blocks from the small Aton temple as well as scratched in stones used in the foundations.²⁸⁹ On the basis of the meaning of the words  *sntj*, ‘gründen’, ‘schaffen’, and  *snt*, ‘Fundament’, ‘Grundriss’,²⁹⁰ Howard Carter suggested the mark to refer to ‘ground plan’ with regard to its occurrence in the temple of Hatshepsut.²⁹¹ Yet, its exact meaning and nature remain undetermined.

The group of non-hieroglyphic and geometric marks also remain undetermined. Some of these marks may represent objects or beings. We find, for instance, the pentagram star as a team mark in Saqqara, Giza, Abusir and Amarna;²⁹² and a mark , which occurs in many variations and has been interpreted by Dobrev et al. to be a sledge (the hieroglyphic sign  *tm*), is especially common in dynasties 5 and 6, in the mastaba of Ptahshepses and the pyramid of Pepi I.²⁹³ It is uncertain whether such marks were simply choices of illiterate workmen as has been argued in the past. It seems at least clear that they were used in the same manner and context as the hieroglyphic marks that have been interpreted as crew-designations, or titular, topographical, or institutional references to teams, but their nature and exact meaning remain as yet unexplained.

To summarize, the builders’ marks range from the Old into the New Kingdom and show a variety of manners in which they functioned to identify teams of workmen that were put to work on the construction sites. In the Old Kingdom, we see many designations of *ts.t*-teams of about ten workmen each and of their groupings in *z3*-divisions and *pr.w*-crews according to the nomenclature used in the organization of boat crews as well as temple personnel, while from the end of the Old Kingdom onwards into the New Kingdom we particularly see teams indicated by means of marks that are abbreviations of names or titles, toponyms or institutions, estates or domains. As such, the builders’ marks are adapted to the information in the written notes they sometimes accompany, and rather than being merely references to teams of workmen, they *specify* the identity of the workers involved in the construction in terms of their origin. How does this compare to the marks we find in the Theban necropolis?

An answer to this question may concern the forms of the marks from the Theban region, as well as their meaning and function. If we first compare forms, we see that in general many of the forms found among the builders’ marks in Table I2-2 are also encountered in the Theban region. In particular, the following marks are recurrent, most of them of hieroglyphic nature: , , , , , , , , , , , , , , , , , , , ,

builders' marks may in fact have been a source of inspiration for the forms of many Deir el-Medina identity marks. Although it cannot be argued that a fixed catalogue or repertoire of marks existed that was systematically used throughout the country from the late Old Kingdom onwards, the frequent recurrence of the set of mainly hieroglyphic marks may have been the reason for their selection in the Theban necropolis. Such an adoption of forms was not necessarily a conscious process; simply the fact that the forms may have been seen on monuments that were already in decay by the time of dynasty 18 may have unconsciously triggered their selection. It is, however, difficult to imagine how the process would have taken place in detail, mainly because we know so little about Deir el-Medina in dynasty 18. How did the marking system begin in the early workmen's community? Did the workmen select their own marks? Were they inspired by what they knew from the construction work in el-Assasif, and/ or had they visited or worked on other sites where they may have encountered builders' marks? Or were the marks imposed on the workmen by an administration of which we find nothing in the early community? If so, was this administration familiar with the recurrent repertoire of builders' marks and did it draw from it, applying the marks in the new construction processes that were set up in the Valley of the Kings? If we compare the corpus of 18th dynasty marks from the Theban necropolis in particular (Tables I1-2 and I1-5 in chapter 1) with the recurrent builders' marks, we see that especially the hieroglyphic marks are indeed almost all attested earlier as builders' marks: , , , , , , , , , , , , , , , , , , , , , , ,

from Deir el-Medina were significant in precisely the opposite way: with regard to the individual rather than the collective. This means that from the onset the *nature and usage* of the marking system from Deir el-Medina did not originate in the tradition of builders' marks.

Nevertheless, it is interesting to note that especially among the identity marks from dynasties 19 and 20 there are several that might be interpreted as references to toponyms, titles or estates. We have seen the mark  which referred to *Hw.t-k3-Pth* and *Mn-nfr*. The pyramid alone is seen among the Deir el-Medina identity marks in dynasty 20 when it referred to workman *P3-Mn-nfr*: . The name of this man, possibly a nickname, suggests that he originally came from Memphis. This information seems to have been expressed through his mark, not so much, perhaps, because it was relevant information to be processed in the administration, but simply because it was characteristic information on the basis of which the link between mark and workman was quickly made. Several other marks that we encounter in Deir el-Medina, such as , , , and , have been interpreted to refer to place names in earlier times. Although it cannot be excluded from the possibilities since we know from the accounting documents that in addition to workmen from Thebes some came from more or less distant places, such as Arman, Neferusy, Qau el-Kebir or Hermopolis,²⁹⁴ we have, however, no evidence on the basis of which it can be argued that they were also topographical references in Deir el-Medina; in contrast to  for *P3-Mn-nfr* there are no indications either as to who used the marks, or as to where they were from. In dynasty 20 we furthermore find various group-writings that can be read as a title or the name of an institution: , also in the form , for *t3tj*;  for *jnj-r pr(.w.y)-hd*;  for *hm-ntr*; even  for *nb t3.w.y* from dynasty 18 onwards. Of course, these marks should not be interpreted as references to the names of officials or institutions from where the respective individual workmen were sent. It is highly unlikely that the vizier, the *jnj-r pr(.w.y)-hd*, or even the lord of both lands himself, sent one man each to contribute to the work. Yet, the references might indicate a relation of some sort between mark and workman. Such a relation might even have found explicit expression on ostracon Cairo 25317, which is dated to the second half of the 20th dynasty. It contains a list with at least 16 workmen's marks. Toward the end of the list we find the mark , which is probably that of a doorkeeper, followed by the mark , which could well be interpreted as a reference to a chapel of the king.²⁹⁵ The doorkeeper may be referred to by means of two marks: one relating to his title (*jnj-3*), and one that specified the institution (i.e. the chapel) he was related to.

The majority of marks, however, we can at present not explain on the basis of either topographical, or institutional, or titular references.

All in all, the search for an origin of the marks from the Theban necropolis in the tradition of builders' marks breaks down on the collective nature and usage of the latter in contrast to the individual nature and usage of the former.²⁹⁶ Yet, the possibility that the builders' marks were at least a source of graphic inspiration for the marks from Deir el-Medina in dynasty 18 is an attractive option; as is the possibility that some of the marks from Deir el-Medina were created or selected on the basis of topographical, institutional or titular characteristics of the workmen.

²⁹⁴ Laboury, 'Tracking Ancient Egyptian Artists' in Kóthay (ed.), *Art and Society*, 202-203. Laboury mentions that this may not have been the geographic origin of the workmen, but their administrative origin.

²⁹⁵ For details: Soliman, *Of Marks and Men* (unpublished dissertation), 57-58.

²⁹⁶ See also Haring, 'Popular, but unique? The early history of the royal necropolis workmen's marks', in: Dorn & Polis (eds.), *Deir el-Medina and the Theban Necropolis in Contact* (in press).

3 QUARRY AND MASONS' MARKS

It has been mentioned above that the builders' marks from the Middle Kingdom were interpreted as team marks rather than quarry marks on the basis of their connection to the notes: they do not at all mention work done inside the quarry. Yet, it must be admitted that the line between builders' and quarry marks, which may include masons' marks, may be very thin.²⁹⁷ Especially with regard to large single marks on blocks from the pyramid of Raneferef Verner considers the possibility that 'they may have served for the control of either the stone quarried in different quarry sectors, or the output of different teams working in the quarry'.²⁹⁸ Andrassy remarks that several examples of large hammered marks from the pyramid of Senwosret I could certainly be considered quarry or masons' marks.²⁹⁹ Among them is a large horizontal *nfr*-sign. It was overwritten by a later hieratic graffito that says 'brought from the quarry <by> [workers of] the 3rd district of Heliopolis'.³⁰⁰ The mark was therefore applied before it had left the quarry. Still, such marks are generally interpreted as referring to teams of unskilled laborers who transported the stones from the quarry rather than to skilled workers who carried out the more specialized work inside the quarries. According to Felix Arnold, the system that was used to administrate the work of the latter must have been different as there are no control notes recording their kind of work.³⁰¹ In fact, he argued that no actual quarry marks existed in the Middle Kingdom.

The first clear examples of quarry marks then date to the New Kingdom. We find them, for instance, in the quarry at Qurna at the northeast end of the West Bank of Thebes, the quarry that was used in the construction of the temples of Hatshepsut and Amenhotep III.³⁰² From later times they are known especially from the quarries at Deir el-Bersha and Gebel Silsila. Table I2-3 gives a select overview of forms.

²⁹⁷ See also Haring, 'Popular, but unique? The early history of the royal necropolis workmen's marks', in: Dorn & Polis (eds.), *Deir el-Medina and the Theban Necropolis in Contact* (in press), who discusses builders' and quarry marks together.

²⁹⁸ Verner, *The Pyramid Complex of Raneferef*, 200.

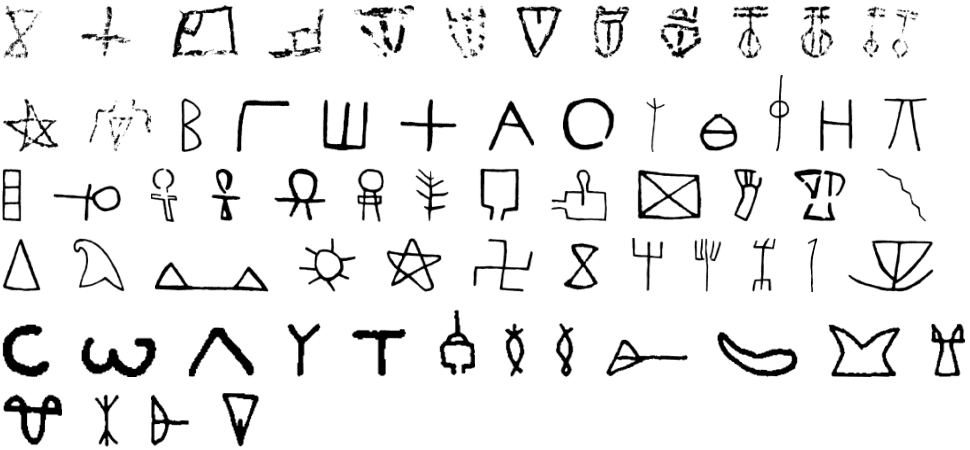
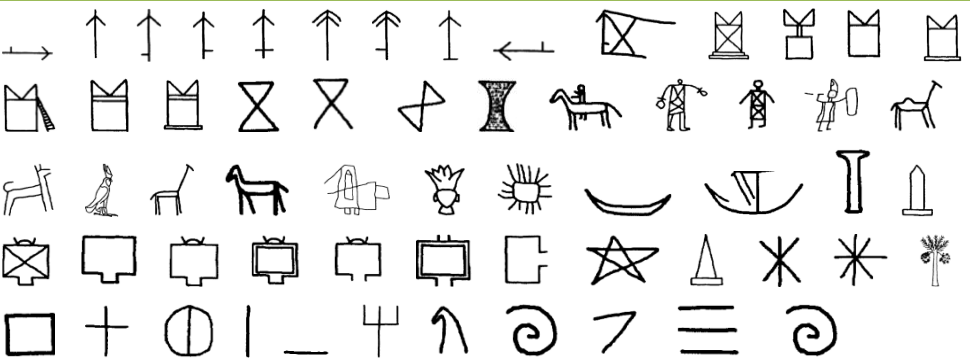
²⁹⁹ E.g. those in Arnold (Felix), *The Control Notes*, 66 (W1), 78 (W30), 112 (N25), 128 (N80), 136 (E22), 150 (S2).

³⁰⁰ *Ibid.*, 66 (W1).

³⁰¹ *Ibid.*, 22. One control note (p. 140, E38) mentions the *wḥz*, 'hewing' of the stone by the *jdw*. The note, however, reads *šdj m ḥtt wḥz jn jdww*, 'removed from the quarry and cut by *jdww*', which suggests the cutting took place after the work in the quarry was done. No control note accompanies the note.

³⁰² Nishimoto, Yoshimura & Kondo, 'Hieratic Inscriptions from the Quarry at Qurna', *BMSAES* 1 (2002), 20.

Table I2-3: Quarry marks

New Kingdom	
Qurna ³⁰³	
Late Period and Early Roman Period	
Daygah ³⁰⁴	
Deir el-Barsha ³⁰⁵	
El-Gaaphra ³⁰⁶	
Gebel el-Silsila ³⁰⁷	

³⁰³ Nishimoto, Yoshimura & Kondo, 'Hieratic Inscriptions from the Quarry at Qurna', *BMSAES* 1 (2002), 26 (fig. 6).

³⁰⁴ Harrell, 'Ancient Stone Quarries at the Third and Fourth Nile Cataracts', *Sudan & Nubia* 3 (1999), 26 (pl. 6). The quarry at Daygah was in use between the 8th and 2nd centuries BC. Harrell notes that the mark resembles the double crown, yet differs in important details. He states that 'It cannot be a graffito intended for others to see because it is not visible to anyone standing on the ground'.

³⁰⁵ Depauw, 'Quarry Marks in Deir el-Barsha' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 99-106. The first marks are dated to Nectanebo I; all other marks are early Roman.

³⁰⁶ Klemm & Klemm, *Steine und Steinbrüche*, 269-270.

³⁰⁷ Nilsson, 'Quarry Marks in Partition B, Main Quarry at Gebel el-Silsila', *JSSEA* 39 (2012-2013), 168-176.

particular, many variations of the harpoon, many variations of horned altars and a large variety of anthropomorphic beings and animals not encountered in earlier times.

It is not in all cases clear whether the quarry marks referred to individual persons. With respect to Deir el-Bersha, Mark Depauw does not exclude the possibility, but a function as team marks also seems likely.³¹⁰ With respect to the quarry marks at Gebel el-Silsila, Maria Nilsson does seem to favor the option of individual marks.³¹¹

a. *Masons' marks from Amarna?*

Individual reference seems at least plausible for marks found in Amarna. They occur on talatat-blocks, which are of a size perfectly fit for one mason. In view of the suggestion that (some of) the workmen from Deir el-Medina moved to Amarna during the reign of Akhnaton,³¹² it is conspicuous that these marks, as recorded by Roeder and Pendlebury, show relatively few similarities to the 18th dynasty corpus of identity marks from the Theban necropolis. The corpus is given in Table I2-4:

Table I2-4: Masons' marks from Amarna

New Kingdom	
Amarna ³¹³	

The differences between Amarna and Deir el-Medina that follow from a study of the marks are the following. First of all, the number of different marks recorded for Amarna is approximately 70. That is almost twice the amount of different marks we find in Deir el-Medina in dynasty 18. It is possible that some of the marks recorded by Roeder are in fact graphic variants, such as and ; or and ; and certainly and . Yet, even then the amount of approximately 40-45 marks in the Theban necropolis is transcended. The number of marks from Deir el-Medina that are also seen in Amarna reaches only 13 to 15: , , , , , , , , , , , , ,³¹⁴ and perhaps if it is

³¹⁰ Depauw, 'Quarry Marks in Deir el-Barsha' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 98; Depauw, 'The Semiotics of Quarry Marks' in Andr  ssy et al. (eds.), *Non-Textual Marking Systems*, 206.

³¹¹ Nilsson, 'Pseudo Script in Gebel el Silsila' in Accetta et al. (eds.), *Current Research in Egyptology XIV* (2013), 123, 137-139.

³¹² The similarities between the workmen's villages in Deir el-Medina and Amarna have been emphasized. See, for instance, Kemp, 'Patterns of Activity at the Workmen's Village' in Kemp (ed.) *Amarna Reports I* (1984), 1-4; Kemp, 'The Amarna Workmen's Village in Retrospect', *Journal of Egyptian Archaeology* 73 (1987), 21-50; Stevens, 'The Amarna Stone Village Survey and life on the urban periphery in New Kingdom Egypt', *Journal of Field Archaeology* 36 (2011), 100-118.

³¹³ Roeder, *Amarna-Reliefs aus Hermopolis*, pl. 219.

³¹⁴ Encountered in the Theban necropolis only once, on ostrakon Parker H5, and uncertain because two drawings of the ostrakon exist, one of which gives while the other shows . The ostrakon itself is lost.

interpreted as $\Delta\Delta$. Did these marks belong to workmen from Deir el-Medina? To whom, then, did the other marks belong?

Although the smaller amount of different marks in the Theban necropolis is perhaps to be explained as the result of incomplete preservation,³¹⁵ it might also be suggested that the discrepancy with Amarna is related to another dissimilarity that concerns the workmen's villages in general. Kemp stressed that even though there are striking similarities between the villages at Deir el-Medina and Amarna, and it would in fact make sense to transfer an entirely organized community of skilled laborers and artists to the new construction site at Akhetaten, there are certainly differences in the organization and functioning of the villages;³¹⁶ the village at Amarna was not a copy of the village at Deir el-Medina. Perhaps this reflects more general differences in the organization of the work at Amarna, including a different organization of workmen and a different repertoire of marks. A different organization of workmen is at least to be expected in view of the different nature of the construction works at Amarna with the use of the newly introduced talatat blocks.

A third difference between Deir el-Medina and Amarna that appears on the basis of a study of the marks is that the marks in general seem to have been less intensively used in Amarna. If the Amarna marks were the marks of individual men, and if they were influenced by the usage of marks in the Theban necropolis, perhaps even used by some of the same men, one would expect to encounter them more often, not only on blocks and in construction works, but on private objects, in tombs, on ostraca and in particular on pottery (dishes, bowls, and jars in the village as well as taken to the construction sites).³¹⁷ Very few potmarks, however, have been recorded at Amarna.³¹⁸

It is possible that workmen from Deir el-Medina had worked in Amarna during the reign of Akhnaton, but that they simply did not bring the marking system they had used in the Theban Necropolis. We have seen before that marks could have had use only in the frame of one certain building project.³¹⁹ If so, it is not clear whether upon return they resumed this marking system from pre-Amarna times. Some pre-Amarna marks continued in dynasties 19 and 20, such as 𓂏 , 𓂐 , 𓂑 , 𓂒 , 𓂓 , 𓂔 and 𓂕 (cf. chapter 1 Tables II-3 and II-4), but most post-Amarna marks that were used in the Theban necropolis seem to have been new introductions. It might be of interest that some of these new introductions can be compared to the marks from Amarna. Thus, in Amarna we find 𓂖 , while in the Theban Necropolis we see 𓂗 entering into the system in dynasty 19; and 𓂘 known from Amarna is seen at least twice in dynasty 19 in the Theban Necropolis. The mark 𓂙 known from Amarna is quite frequently seen in the 19th dynasty Theban Necropolis (attested at least 22 times), but not in dynasty 18. The fact that we also encountered it in the Qurna inscription may be interesting. Why is the mark encountered at both Qurna and Amarna, two sites for which a relation to the workmen from Deir el-Medina could be suggested, but not in 18th dynasty Deir

³¹⁵ We may not have all the data. However, note that at least ostraca IFAO OL 6788 and ONL 6298 seem to contain a corpus of marks that was more or less complete, showing the marks that may have belonged to a crew of approximately 40-45 men; a size not unfit for a crew in dynasty 18. Haring, 'On the Nature of the Workmen's Marks' in Andrassy et al. (eds.), *Non-Textual Marking Systems*, 124-125.

³¹⁶ For instance in the location respective to the worksite, in the utilization of the surrounding grounds, as well as in the apparent absence of a system of *smd.t*-personnel in Amarna. See Kemp, 'The Amarna Workmen's Village in Retrospect', *Journal of Egyptian Archaeology* 73 (1987), 43-49; Stevens, 'The Amarna Stone Village Survey', *Journal of Field Archaeology* 36 (2011), 111-117.

³¹⁷ Cf. Aston (David), 'Theban Potmarks' in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 58.

³¹⁸ Stevens, *Akhenaten's Workers* II, chapter 8.

³¹⁹ See p. 80 and note 264 above.

el-Medina itself? In addition to the pentagram star, only three other marks from the Qurna inscription are found at Amarna (𐎃, ⊕, 𐎃). Although close in time, it is unknown whether they represented the same men; as it is also uncertain whether the pentagram star in 19th and 20th dynasty Deir el-Medina is in some way related to its earlier occurrences at Qurna and Amarna. Yet, given the fact that this form of the star is encountered already both as a potmark and a builders' mark since at least the Old Kingdom we should perhaps not attach too much importance to the question whether or not the users of this mark were identical or related. It may simply have been one of the more universal marks, its frequency perhaps having inspired its selection.

b. *An individualizing trend?*

We could ask whether we find in the quarry and masons' marks a category of identity marks specifically used by skilled workers who by means of the personal marks conveyed their own, individual identity, and whether this can be related to the expression of individuality in other fields in the New Kingdom as well, for instance in art and personal religion. To start with the latter, 'Persönliche Frömmigkeit' was, according to Assmann, a thing specific to the New Kingdom.³²⁰ On the one hand, he says, it developed out of religious festivals in which the population could take part. He mentions the 'Talfests' already in the reigns of Thutmosis III and Amenhotep II as examples.³²¹ On the other hand, he mentions a 'Verschiebung des Loyalitätsverhaltens' in literature at the end of the Middle Kingdom and the Second Intermediate Period, when people started looking for protection with a 'Gott als Patron' instead of the king.³²² This led to a 'neue Form und Dimension der Konnektivität. Die Gott-Mensch-Beziehung wird hier zu einem sozialen Band'.³²³ This religious phenomenon would have its roots already at the end of the Middle Kingdom, but found expression especially in the New Kingdom.³²⁴

Places where this personal bond between man and god can be seen are, according to Assmann, especially the Theban area, including Deir el-Medina and Medinet Habu, but Amarna, Malqata and Asyut may be added to this. In Asyut hundreds of votive stelae were found which express individualism of different kinds and at different levels, including religious, artistic, iconographic, and social individualism.³²⁵ They date from the 18th to 21st dynasties, include a choice of gods and in several cases depict very specific personal events for which a god is thanked and honored.³²⁶ Most clearly, however, the bond between man and god is argued for Deir el-Medina and Amarna.³²⁷ Especially the 'fixed features

³²⁰ Assmann, 'Gottesbeherzigung. 'Persönliche Frömmigkeit'' in Brancoli (ed.), *L'Impero Ramesside*, 17-43; Ibid., *Theologie und Weisheit im alten Ägypten*, 96-106.

³²¹ Ibid., 'Gottesbeherzigung. 'Persönliche Frömmigkeit'' in Brancoli (ed.), *L'Impero Ramesside*, 21

³²² Ibid., 25; Ibid., *Theologie und Weisheit im alten Ägypten*, 75-79; Luiselli, 'Die >persönliche Frömmigkeit< in der Ägyptologie' in Eckert (ed.), *Hephaistos Themenband Persönliche Frömmigkeit*, 41. The role of the king was taken over by a god, who was chosen as 'persönlicher Beschützer', 'dem gegenüber man sich verpflichtet fühlte'. >(Persönliche) Frömmigkeit< war gleichbedeutend mit Loyalität gegenüber einem Gott.' (ibid.)

³²³ Assmann, 'Gottesbeherzigung. 'Persönliche Frömmigkeit'' in Brancoli (ed.), *L'Impero Ramesside*, 29; Ibid., *Theologie und Weisheit im alten Ägypten*, 99-106.

³²⁴ Luiselli, 'Die >persönliche Frömmigkeit< in der Ägyptologie' in Eckert (ed.), *Themenband Persönliche Frömmigkeit*, 41.

³²⁵ DuQuesne, 'Individualism in Private Religion during the Egyptian New Kingdom' in Eckert (ed.), *Hephaistos Themenband Persönliche Frömmigkeit*, 51-58. The stelae are of varying quality, ranging from very finely executed to the crudely rendered, and belonged to donors from a broad social spectrum, including members of the privileged classes to the very poor.

³²⁶ For instance *ibid.*, 52 (fig. 2).

³²⁷ Assmann, 'Gottesbeherzigung. 'Persönliche Frömmigkeit'' in Brancoli (ed.), *L'Impero Ramesside*, 21; Weiss, 'Personal Religious Practice', *JEA* 95 (2009), 193-208; Weiss, *Religious Practice at Deir el-Medina*; Stevens, 'The material evidence for domestic religion at Amarna', *JEA* 89 (2003), 144-168; Stevens, *Private Religion at Amarna*; Stevens, 'Domestic religious practice' in Wendrich et al. (eds.), *UCLA Encyclopedia of Egyptology* (<http://escholarship.org/uc/item/7s07628w>).

and artefacts³²⁸ such as domestic altars in the houses of these villages may suggest personal religious preferences and activities. Domestic altars were an invention of the New Kingdom.³²⁹ Weiss notes that the ‘custom of building stepped house altars in the domestic sphere may have been introduced at the end of the reign of Amenhotep III in Malqata.’³³⁰ That is, they may have been inspired and modeled after the official temple altars and the earliest palace altars found in the residence of Amenhotep III at Malqata.³³¹ Dated to the late 18th dynasty they are found in Amarna, however, mainly in the Main and Central Cities and the Northern Suburb apparently being the ‘prerogative of those of relatively high socio-economic status’.³³² Only some altars were found in the Workmen’s Village. Yet, at that village were many chapels and reliefs inside the houses that attest personal activities related to the veneration of gods and the commemoration of ancestors.³³³ In Medinet Habu Hölscher identified domestic altars in houses dated to the 18th and 20th dynasties as well. Those 18th dynasty alters would date shortly before the altars found in the houses of Deir el-Medina, which probably date to the 19th and 20th dynasties.³³⁴ On the basis of the decoration on some of the altars from Deir el-Medina, Weiss concludes that they were an ‘ideal space for rituals playing an important role for the well-being of all members of the household’, having had a prophylactic and protective main function, but that they were not necessarily used by all households for exactly the same kind of cult practice. The decoration combined with contextual information derived from artefacts and pictorial ostraca suggests that the cult of a certain god may have been ‘tailor-made to meet the demands of the individual family.’³³⁵

This suggests that personal piety in the Ramesside period was not mainly a reaction following the Amarna period³³⁶ but that, possibly already rooted in the Middle Kingdom, it gradually developed in relation to the festivals from the reign of Thutmose III onwards and the official temple and palace alters in use at least from the reign of Amenhotep III onwards. The latter may have been transferred to the domestic sphere during the Amarna period, initially mainly for the rich and wealthy, but soon spread also to the middle class. Are the altars and personal stelae expressions of the ‘neue Form und Dimension der Gott-Mensch-Beziehung’ of which Assmann speaks, and does this indicate a more individual attitude, a concept of individuality and self-consciousness that gained more expression from approximately the middle of the 18th dynasty onwards? And are, then, the personal identity marks expressions of a similar concept of individuality and self-consciousness? In view of personal piety it is interesting to see that one of the applications of the identity marks in Deir el-Medina had a clear religious and votive purpose: they are found on the pavement of the temple of Hathor, dating to dynasty 19.³³⁷

³²⁸ A description taken from Weiss, ‘Personal Religious Practice’, *JEA* 95 (2009), 195, who explains that fixed features and artefacts are more reliable as a source of information on personal religious practices than mobile artefacts, which have often been taken away or placed out of context.

³²⁹ *Ibid.*, 206.

³³⁰ *Ibid.*, 207-208.

³³¹ *Ibid.*, 206-208.

³³² Stevens, ‘The Material Evidence for Domestic Religion’, *JEA* 89 (2003), 168.

³³³ Stevens, ‘Visibility, private religion and the urban landscape of Amarna’ in Dalton et al. (eds.) *Seen & Unseen Spaces*, 77-84. Not only Aten and the royal family were worshiped. Stevens has shown that the elimination of the traditional religion by Akhenaton during the Amarna period was much less thorough than once thought. Stevens, *Private Religion at Amarna*, 290-295.

³³⁴ Weiss, ‘Personal Religious Practice’, *JEA* 95 (2009), 208; Hölscher, *The Excavation of Medinet Habu II*, 69 and V 68 (fig. 54).

³³⁵ Weiss, ‘Personal Religious Practice’, *JEA* 95 (2009), 206. Stevens suggests a general ‘protective backdrop to household activities’ as main function. Stevens, ‘Domestic Religious Practices’ in Wendrich et al. (eds.), *UCLA Encyclopedia of Egyptology* (2009), 7.

³³⁶ Weiss, ‘Personal Religious Practice’, *JEA* 95 (2009), 207.

³³⁷ A religious or votive purpose for identity marks is also seen in marking systems from other times and places. This is discussed in Part III, chapter 1, section 3, where we also comment upon the marks on the pavement of the Hathor temple in Deir el-Medina.

The expression of individuality has also been proposed to have taken place in the field of art, especially among the artists who worked in the Theban Necropolis during dynasties 18 to 20.³³⁸ Laboury argued that there are indications in the style, composition and sign-inventory used in paintings in private as well as royal tombs that ‘traduit assurément une volonté de reconnaissance individuelle de la part de l’artiste’.³³⁹ On the basis of signed drawings and texts on ostraca he was able to define the personal styles of Nebnefer and Hormin (sons of the *chef des peintres* Hori) as well as of the well-known Amenhotep son of Amennakht. Their stylistic characteristics were recognized in several tombs throughout the Necropolis.³⁴⁰ Especially for Amenhotep it became clear that ‘il révèle parfaitement la présence d’un style formel à côté d’un façon de faire plus libre, mais aussi une évolution manifeste du style personnel du chef des peintres de Deir el-Médina au cours de sa carrière’.³⁴¹ According to Laboury, the conventional, formal styles that were generally followed in Egyptian art certainly left ‘une certaine marge de créativité et – de ce fait – d’expression de leur individualité’, which makes it possible to follow artists throughout the Theban Necropolis. This would not only be possible for dynasty 20, but already for dynasty 18, as a detailed study of the scenes in the tomb of the vizier Amenemopet from the reign of Amenhotep II led to the identification of certain stylistic characteristics that were also found in the neighbouring tomb which was decorated only a few years earlier.³⁴²

We can and must not, however, deny that individuality was expressed in earlier times. In addition to the examples from the New Kingdom Theban necropolis, Laboury gives examples of the recognition of individual hands of artists already in earlier periods, from the Old Kingdom onwards.³⁴³ In statuary and relief work from individual features of the ones depicted seep through.³⁴⁴ Autobiographical texts in private tombs from the same period onwards are filled with formulas such as ‘I was the one who built this monument’ or, in the case of artists, ‘I am the one who decorated the tomb of the count Kheni and moreover, I am the one who decorated this tomb, being alone’.³⁴⁵ Outlines of human hands and feet have marked individual presence at religiously relevant sites since the Old Kingdom,³⁴⁶ and a handful of marks encountered on the walls of watchtowers in Dakhleh Oasis carved next to or inside the outline of a foot or a human figure have been interpreted as identity marks for the soldiers who spent time in the towers being on watch.³⁴⁷ As such, it is not our intention to speak of a ‘rise of individualism’ originating in the New

³³⁸ Laboury, ‘De l’Individualité de l’Artiste dans l’Art Égyptien’ in Andreu-Lanoë (ed.), *L’Art du Contour*, 36-41; referring to the work by Mékhitarian.

³³⁹ Laboury, ‘De l’Individualité de l’Artiste dans l’Art Égyptien’ in Andreu-Lanoë (ed.), *L’Art du Contour*, 36.

³⁴⁰ *Ibid.*, 38, referring also to the work by Cathleen Keller in note 9.

³⁴¹ *Ibid.*, 38.

³⁴² *Ibid.*, 41; Laboury & Tavie, ‘À la recherche des peintres de la nécropole thébaine sous la 18^e dynastie’ in Warmenbol & Angenot, *Thèbes aux 101 portes*, 91-104.

³⁴³ Laboury, ‘De l’Individualité de l’Artiste dans l’Art Égyptien’ in Andreu-Lanoë (ed.), *L’Art du Contour*, 36-39.

³⁴⁴ Russmann (ed.), *Eternal Egypt*, 32-39.

³⁴⁵ Quoted from Laboury, ‘Tracking Ancient Egyptian Artists’ in Kóthay (ed.), *Art and Society*, 201. For individuality expressed in the arts in dynasty 4 and later, see also Laboury, ‘De l’Individualité de l’Artiste dans l’Art Égyptien’ in Andreu-Lanoë (Ed.), *L’Art du Contour*, 36.

³⁴⁶ Kaper, ‘Soldiers’ Identity Marks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 171 with note 17; Kaper & Willems, ‘Policing the Desert’ in Friedman (ed.), *Egypt and Nuba*, 85.

³⁴⁷ Kaper, ‘Soldiers’ Identity Marks’ in Haring & Kaper (eds.), *Pictograms or Pseudo Script?*, 172-174. Especially the example of the sign *ḥ* is mentioned, once incised near a large rectangle filled with diagonal intersecting lines, the meaning of which is unknown, and once incised in the same hut next to a large human figure depicting a soldier. It is argued by Kaper and Willems that this is a personal identity mark. The mark perhaps relates to the name of the figure depicted, although it has been argued that ‘There is no evidence that this group was literate, in accordance with what is to be expected’ (*ibid.*, 174 with note 28). It may also have had a more general meaning, expressing for instance a wish for life, or in relation to the builders’ marks from Dakhleh Oasis possibly refer to an organization unit of soldiers.

Kingdom; only of perhaps a more elaborate trend or encouragement³⁴⁸ to express it personally, or at least a more widespread use of it in administrative context.

Are the display and mention of personal styles and choices, that is of personal identity in addition to collective identity in tomb art between dynasties 18 and 20, in the phraseology in literature at the end of the Middle Kingdom, in the phraseology and iconography on stelae from dynasties 18 to 21, and in the practice of personal religion in private context on domestic altars from at least the Amarna period onwards cases that are related to a growing self-conscious, a trend concerned with the individual to which we can also relate the use of personal identity marks at Qurna, Deir el-Medina and Amarna? At present, this question cannot be answered and we must remain skeptical. Unfortunately, although the idea has been suggested especially with regard to personal piety, it has not yet been researched well. As a result it is not clear what such a personal trend would entail precisely and how and when it would have begun to develop. Thus, there are indirect and speculative hints at individuality in domestic and private religion as well as in art throughout Egyptian dynastic history; yet, literary and archaeological sources only really become prominent and expressive in the New Kingdom. Does this indicate a more prominent domestic and personal religious landscape in the New Kingdom, or are sources from earlier times simply denuded?³⁴⁹

It is at least clear that the intensive and elaborate systematic and administrative use of personal identity marks that were developed for, and relate specifically to certain individuals has no match before dynasty 18; it was unprecedented. The hypothesis remains whether this was a self-contained development or rather part of a more encompassing trend in society.

³⁴⁸ Weiss, 'Personal Religious Practice', *JEA* 95 (2009), 208.

³⁴⁹ Stevens, 'Domestic Religious Practices' in Wendrich et al. (eds.), *UCLA Encyclopedia of Egyptology* (2009), 3.

4 CONCLUSIVE REMARKS

In concluding this chapter on the origin of the marks from Deir el-Medina, we can argue that the *idea* of using marks as abbreviations or symbols, as well as a core group of especially hieroglyphic forms, were not new at the time of dynasty 18. Especially the builders' marks may have formed a source of inspiration. We do not know the details about the initiation of the marking system at Deir el-Medina: did the workmen themselves introduce the use of marks, or was it imposed by the administration that sent them to the village? However, in the former case, it could be argued that the earliest workmen in Deir el-Medina may themselves have been familiar with the tradition of using marks in construction projects, having seen them on monuments in decay or even having worked with them in other projects in the Asasif. In the latter case, it could be argued that the administration may have followed the tradition that made use of marks as a part of the account keeping system on construction sites; that is, if there was such an administration. In the light of the traditional relation between builders' marks and account keeping records it is unfortunate that we have no administration from Deir el-Medina to which we can relate the earliest identity marks.

It at least appears to be the case that the majority of the 18th dynasty identity marks is comparable in form to the marks traditionally encountered on building sites. In later times the Deir el-Medina marking system seems to have begun to lead a life of its own, possibly caused by the intermezzo of the Amarna-period, but plausibly caused by a growing community and the influence of script as we have seen in chapter 1: more workmen's marks were needed, the majority of which were increasingly created on the basis of hieroglyphic or hieratic signs. They even formed combinations that can be read as abbreviated words or phrases. We can interpret some of them as references to toponyms, institutions or titles to which the workmen in question may have had a relation of some sort, but in many cases such references remain purely speculative. Many of the new forms of workmen's marks that were introduced in dynasties 19 and 20 are seen neither in the potmark tradition, nor in the builders' mark tradition, nor in contemporary mark corpora from the New Kingdom or later. Rather, they seem to have had their origin in the Theban necropolis, having been developed purely within the frame of the marking system in Deir el-Medina.

The *nature and the usage* of the Deir el-Medina identity marks did not find their origin in the Old and Middle Kingdom traditions. The more personal nature and the intensive individual usage of the marks, not only on the marks ostraca, but also to a large extent in private and funerary contexts on pottery and objects to indicate ownership or other forms of personal attachment (affiliation, or a votive as seen in the marks on the pavement of the Hathor temple) is entirely new, first seen in the marks from Qurna, Deir el-Medina, and a little later Amarna. Do they reflect a growing trend of expressing personal identity, seen in the practice of religion and in art, and now perhaps in the world of construction and masonry as well?