Writing, ‘Art’ and Society:
A Contextual Archaeology of the Inscribed Labels of Late Predynastic-Early Dynastic Egypt

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I, Kathryn E. Piquette, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.
Abstract

The largest corpus of the earliest scriptorial material from Egypt comprises over 433 small, perforated labels of the period c. 3300/3100-c. 2800/2770 BCE, from Abydos (373 labels) and six other cemetery sites in the Nile Valley. As traditional sources for Egyptian philology, these objects are not typically studied for their artefactual or material qualities. Yet, script and image are products of a range of technological intentions, actions and transformations in both their production and use. Fundamental ambiguities in philological readings warrant a more cautious and holistic approach than previously taken to this material. My research aims are to understand how the inscribed labels were materially and graphically constructed through embodied technological practices and how these features informed and re-informed making and use in the negotiation of certain social relationships.

My methodological framework directs analysis to three areas: material properties of the labels, image composition, and archaeological context. A particular innovation is the application of the software program ATLAS.ti for detailed analysis of imagery. ATLAS.ti facilitates the grounding of analysis in the objects, with tools to manage graphic files, and to explore data systematically. Questions concerning how the materiality of the labels availed or constrained embodied engagement of makers and consumers have also been explored through experimental archaeology. For my theoretical basis, I draw particularly upon the work of sociologists Anthony Giddens and Etienne Wenger in order to understand the relationship between the inscribed labels and social practice.

Analysis of the archaeological context focuses on inter- and intra-site distribution and on isolating the more secure contexts and associations. Study of material properties and techniques illustrates the material embeddedness of imagery. The visual repertoire is presented and discussed, followed by a detailed analysis of image distribution, organisation and associations. Patterning reveals types of compositional principles employed and how these were transformed and negotiated by label-composers across time and space. These results are also considered within the context of contemporary visual culture, and the broader social historical context of early Egyptian state formation.
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...Between my finger and my thumb
    The squat pen rests.
    I'll dig with it.

Seamus Heaney – from Death of Naturalist (1966)
1 Introduction

1.1 Introduction

This thesis project centres on the study of 433 small, rectangular inscribed and perforated plaques referred to as ‘labels’ and their significance as ‘material culture’ constituted through networks of social practices which culminated in their deposition in middle and upper class funerary contexts in Egypt (c. 3300/3100-c. 2770 BCE).

The labels are small plaques, from 1.05 to 9.45 cm in either direction, manufactured from bone, ivory, wood and stone (Figures 1-4). One, and occasionally both, sides are inscribed with a wide range of imagery, with a perforation usually in one upper corner.

Previous research has overwhelmingly focused on the significance of the labels as documents for the emergence of the early Egyptian ‘state’ in its political, administrative, and religious dimensions. The emphasis on their graphical features has resulted in largely dematerialised accounts of the labels, which, from the perspective of contextual archaeology and social practice, leave many significant areas unexplored.

A main aim of the thesis is therefore to develop a contextual approach that grounds analysis and interpretation in the labels and their immediate contemporary and physical situation, thereby re-materialising the image. Baines’s “The Earliest Egyptian Writing: Development, context, purpose”, calling for a less teleological
perspective, has guided the approach taken here (Baines 2004: 184).

Building on the post-processual recognition that objects, as products of past social action, shaped and reshaped those social activities and experiences, I draw on and adapt the theoretical concept of ‘structuration’ developed by sociologist Anthony Giddens (1984) which focuses on the duality - the interconnectedness - of human agency and social structure through material practice, with particular emphasis on Etienne Wenger’s (2002) (nested) duality of ‘participation’ and ‘reification’ in the negotiation of meaning (Chapter 2). This framework informs the research method which grounds analysis directly in the labels and their imagery through the use of the computer software program, ATLAS.ti (Chapter 3).

1.2 The Inscribed Labels in the Past and the Present

The broad social-historical context in which labels were made and used is characterised by a gradual process of political centralisation culminating in unification under one ruler, marking the beginning of the Dynastic Period (c. 3100 BCE). Archaeological evidence for this period is derived mainly from funerary contexts. Little is known of settlement contexts due to poor preservation and selective excavation, although recent excavations are increasingly addressing this bias. Early Egyptian society is therefore largely reconstructed from the size and types of cemeteries, tombs and tomb equipment. Increased social differentiation is extrapolated from the increase in size of burials and number and types of grave goods over time. Concentration of power in urban centres prior to unification is evidenced by the location and increased size of cemeteries sites at Upper Egyptian sites of Hierakonpolis and Naqada in the Naqada II-III period (c. 3500-c. 3000 BCE). The shift in power to the Abydos area is evidenced by increased differentiation in tomb size and wealth in Cemetery U (Dreyer 1998), and the subsequent construction of large burial complexes in the adjacent cemeteries (and enclosures nearby, O’Connor 1989) for the 1st-dynasty rulers of a unified Egypt (Wilkinson 2001: 52-59). The location of the administrative centre to the north at the apex of the Delta is inferred from the more than 50 massive Early Dynastic mastaba (مصطبة, Arabic for ‘bench’, describing its shape) tombs at the west bank site of North Saqqara, the earliest dating from the reign of Aha (Emery 1949; 1954; 1958; Emery and Sa’ad 1938; 1939), and the expansive cemetery across the valley to the east at Helwan comprising some 10,000 burials
Accompanying these social changes was the development of 'writing', which appears in various forms on the surfaces of the labels, cylinder seals and mud sealings, pottery, 'monumental' objects such as stone vessels, maceheads, mudstone palettes and tomb stelae (Trigger et al. 2001: 58), and a range of small objects such as implements and items of adornment. There is considerable disagreement over what constitutes 'true writing', its relationship to spoken language (e.g. Marcus 1976: 38-39), and the question of its differentiation from other symbolic modes (Bard 1992a). Whether one takes the view that "writing is writing" (Ray 1986: 311), or defines it as "a system of human intercommunication by means of conventional visible marks" (Gelb 1952: 12; see also Kahl 2001: 104; Vernus 1993: 76), the degree of fit varies depending on the evidence types, methods of expression, and contexts of reception. The term is employed in the thesis title as a general handle, but given the problem of distinguishing it from other graphical forms, I prefer the more descriptive phrases of 'graphical media' or 'graphical imagery'.

Much of this graphical evidence has been found deposited in and around the burials of 'royal' and other high status individuals at most middle and upper class cemeteries of this period, raising key questions concerning funerary behaviour and social status, and of particular interest here, the need to label and otherwise mark, classify and categorise people and things in the cemetery context.

The inscribed labels have generated a great deal of interest since first encountered in late 19th-century excavations for the window they provide onto script formation. The labels are usually interpreted in line with the administrative impetus posited for 'writing' in the process of 'state' formation (Dreyer 1998: 137; Postgate et al. 1995: 466), although recent studies question the extent of their administrative function (Wengrow 2006: 206). Indeed, the predominance of inscribed material in burial contexts, the sole attested context for labels, raises intriguing questions concerning broader social functioning of graphical media given its restriction — in the surviving evidence — to the funerary sphere. It was this issue that initially attracted my attention to the labels as a topic of study.

My label research began under the supervision of the late Barbara Adams with my MA dissertation, The Bone, Ivory and Wooden Labels of the Late Predynastic-Early Dynastic Periods in Egypt: Iconography associated with the body and name of the ruler. 'Human figures' and related imagery on 50 labels were analysed in order to
characterise the construction of ‘royal’ identity in this particular medium. Yet, an underlying problem remained of how to relate these iconographic meanings to wider society. Moreover, the overwhelmingly script-oriented approaches to this material and the retrospective method of deriving ‘interpretive keys’ to their reading precluded accounting for this body of evidence in its own terms – in terms of the lives of members of early Egyptian society who made, used and deposited it.

The contingency of meaning cannot be underestimated. Morphological similarities of signs or motifs among a group of objects say nothing about the way they were used in a specific graphical-material context (see Davis 1992: 122-131). For example, the images of a ‘catfish’ (and ‘chisel’) occur in four instances among the labels (IDs 197, 204, 205) and are generally understood to represent Narmer, the name of the first ruler of the 1st Dynasty (although as with most, the reading is a matter of debate, Ray 2004: 111). Despite formal similarities, the compositional context shows that similar imagery may be deployed in very different ways (Figure 5). In addition to posited phonetic signification, other semantic functions are suggested via compositional relationships and overlap that the categories pictorial:scriptorial or pictorial:scriptorial:emblematic (Baines 1989: 474) may not fully capture.

With these issues in mind, the present research develops an analytical method and interpretive framework for a more holistic understanding. The dataset encompasses all currently accessible inscribed labels. With reference to theories of practice (Dobres 2000; Giddens 1984; Wenger 2002), three core areas are identified for analysis: archaeological context, materials, and graphical composition. Interpretation is situated within the context of past social action with consideration given to manufacture, use and audiencing (see Rose 2001). I aim to demonstrate the ways in which materiality, technological practice and graphical composition were integrated in the construction and organisation of imagery, and their potential impact on the past perception of semantic and other symbolic meanings.

Despite a century of research on the labels (Section 1.5) no systematic or comprehensive study of labels as a formally distinct corpus has previously been carried out. Such a study is necessary, not only to understand the development of early Egyptian graphical media within the context of a particular object type, but also to our understanding of how and why such objects were deployed in the funerary sphere.
Past studies position the inscribed labels first as 'texts', 'documents', 'records', etc. (see Section 1.5.7). Within archaeology generally, the tendency to overlook the material dimension of objects classified as texts is a longstanding problem (Moreland 2001), as is the curious phenomenon where archaeologists hand over evidence classified as 'writing' to philologists (e.g. Griffith in Petrie 1900 and 1901b). Recent work is addressing this issue in archaeology (Baines 2004; Gosden and Bennet 2005; Uehlinger 2000), and elsewhere (von Mücke 1999). The bridging of this disciplinary divide sits at the forefront in the development of the thesis' theoretical framework and methods (see Chapters 2 and 3). 'Affirmative action' for the materiality or 'thingness' of the image forms a primary issue underlying the choice of research questions (Section 1.8). A core contribution of the thesis is, therefore, to offer a coherent method by which we can redress this epistemological imbalance through the re-materialisation of imagery.

1.3 Structure of the Thesis

The thesis is presented in two volumes: the first contains the text organised into nine chapters; the second contains the figures, appendices, and catalogue invaliding artefact illustrations and textual information. This first chapter of the thesis introduces the dataset including a critical evaluation of previous research in order to highlight the gaps to which the present research is directed and the original contribution it hopes to make, both to Egyptology and to archaeology generally. In Chapter 2, I set the theoretical scene and develop a practice-centred approach for explaining the labels and their meanings as products of embodied human action within social time-space. Chapter 3 develops the particular research methods from data collection and collation to multi-level analysis and interpretation with the aid of ATLAS.ti and the Microsoft programs Access and Excel. The analyses of the three main dimensions of the label data – archaeological, material and graphical (the latter across two chapters) – are presented in Chapters 4-7. Chapter 8 situates the labels within their wider contemporary graphical context through two comparative case studies on wavy-handled jar inscriptions and funerary stelae. This forms the basis for an interpretive discussion to illustrate the appropriateness of the methods and theoretical framework and to formulate further interpretation within the context of practice. The conclusions are presented within the wider social context in Chapter 9 and areas for future
research proposed.

In keeping with a reflexive approach, it is necessary to comment on the reproduction and presentation of images in the thesis. Any account of the past is inevitably filtered in various ways, not least by the method of re-presentation – here through typewritten description within the constraints of the English language, and two-dimensional colour, and black and white figures. A common convention in reproducing (early) epigraphic material has been to employ standardised fonts (e.g. Amélineau 1905: 399; Anselen 2004; Legge 1906). Since the first edition of his grammar in 1927, Gardiner's (1973: 442-548) sign-list remains the basic reference. Although periodically revised, this sign-list is based on hieroglyphic forms derived from 18th-dynasty (c. 1552-c. 1305 BCE) sources used 1250 years after label production ceased. I aim to maintain a close time-space contextualisation, but the ideal provision of full-size colour images for every artefact reference is a burden in a hardcopy format, and lengthy descriptive codes can be ambiguous and cumbersome. Therefore, I employ computer hieroglyphic fonts where these closely resemble a given image. These are to be understood as referents to form only, not anachronistic readings. The reader is asked to excuse this exception to the contextual effort, introduced only to clarify lines of argument and sequences of interpretation. Detailed figures of the labels are provided when appropriate or the reader is referred to the label catalogue.

1.4 Defining the Dataset

The 433 labels studied here are small rectangular, inscribed plaques ranging in size from 1.05-9.45 cm in length and height and 0.45-0.71 cm in thickness. They are manufactured from bone, elephant and hippopotamus ivory, and several types of wood. Two of the NIIA1 examples are made of stone. Graphical imagery is rendered on one, and sometimes both, main surfaces by incision, or less often, in applied pigment. These occur separately or in combination, with a range of coloured pigments and pastes used (see Sections 5.7, 5.8). A defining feature of the labels as a material cultural category seems to be avoidance of relief: raised relief is entirely unattested and sunk relief is extremely rare. This is a cultural choice since NIII relief carving in bone and ivory is widely attested (e.g. combs, cylinders, knife handles, other material items from the Hierakonpolis Main Deposit and elsewhere; Adams 1974b; Davis
Chapter 1: Introduction

A perforation is drilled at one corner or edge, usually the upper right, by which labels may have been strung together, or attached to material such as textiles (Dreyer et al. 1993: 35), leather bags, jars, sandals or other objects used in the funerary ritual (see also Section 1.5.2). Some bear grooves or other perforations which may have been for dowels, indicating that label materials were recycled from items such as furniture elements (Dreyer et al. 1996: 75). Some un-perforated or fragmentary rectangular objects seem more likely to be furniture inlays (Petrie 1900: 21), or other fittings (e.g. Spencer 1980: 65, no. 463 pls. 50 and 54, see Chapter 5). Identifying a ‘label’ can be problematic for fragments which do not preserve the perforation, e.g. IDs 356, 357. Fragments with a consistent evenness in their thickness (whole labels are often slightly pillow-shaped), or with bevelled edges are unlikely to be parts of labels. All whole and fragmentary objects which fit the general ‘label’ criteria outlined were included in the dataset.

The time span during which the inscribed labels are attested ranges from c. 3300/3100–c. 2800/2770 BCE, a span of 430 to 530 years (Figure 6). Two main chronological groupings can be differentiated. The earliest group of labels comes from Cemetery U area of the Umm el-Qa’ab (آم الكعب) necropolis at Abydos (Dreyer 1998). These are dated to the Naqada IIIA1 cultural phase (c. 3300/c. 3200 BCE; Dreyer 1993: 12). After a gap of approximately 100-200 years, more elaborately inscribed labels are attested from Naqada IIIC to early Naqada IID, the end of the 1st Dynasty (c. 3100-c. 2800/2770 BCE, Figure 6). Label use may have continued into the beginning of the reign of the first ruler of the 2nd Dynasty (c. 2800/2770-c. 2686 BCE), Hetepsekhemwi, on the basis of this name on sealings and labels (Dreyer 1993: 11; labels are not specified, perhaps IDs 405 and 406 bear abbreviated forms of this ‘name’?).

The chronology followed here is Stan Hendrickx’s (1996) revision of Kaiser’s (1957) Naqada culture phasing. This is discussed further below, along with the methods for establishing the dating of the labels (Sections 1.4.2-1.4.4).

---

1 Baines’ (1995: 126; cf. Wengrow 2006: 204) reference to, “Wooden and ivory labels of the First-Third dynasties from royal and elite tombs...” is likely to have been an oversight but with a possible 3rd-dynasty candidate in mind, namely a small rectangular ivory plaque engraved with a linen list (belonging to princess or queen) dsr.t-nb.ty) discovered by Zakaria Goneim at the step pyramid of šhm-h.t (John Baines, pers. comm. 2 February 2007; see Helck 1957).
Labels are attested from much later periods, but no continuity can be
demonstrated across the time-space gaps between 'corpora'. Small, perforated
wooden labels inscribed in hieratic with black ink are attested in the New Kingdom
from the tomb of Tutankhamun (c. 1333-c. 1323 BCE) in the Valley of the Kings in
Western Thebes (Černý 1965). During the Ptolemaic (323 BCE -30 CE) and Roman
Periods (30-640 CE) numerous 'mummy labels' of wood and limestone in various
angular shapes were incised and/or ink-inscribed in Greek, demotic and, less
commonly, in hieroglyphic (Boyaval 1976). These temporally distant corpora are
distinct materially, graphically and in terms of content, thus justifying the restriction
of the present study to the Late Predynastic and Early Dynastic examples. The latter
are also to be distinguished from a second Egyptological usage for 'label' to refer to
an inscription applied directly to a vessel, i.e. a "jar label" (Lines 2000), in contrast to
its main usage here of a separable perforated plaque for inscription.

The label graphical repertoire includes a wide range of figural and non-figural
imagery. The NIIIA1 labels, along with inscribed jars of the same period (Section
8.2), are considered by their excavator to represent the earliest writing in Egypt, if not
the Near East (Dreyer et al. 1993: 33-35), but this remains controversial on
methodological and substantive grounds as the evidence to date is numerically limited
and restricted in time-space as outlined in Chapter 4 (see also discussion in Baines
2004: 161-171; also Kemp 2000). As for the NIIIIC-early D labels, repertoire elements
and motifs are shared among a greater number of contemporary objects and sites,
including sealings, vessel inscriptions and ceremonial cosmetic palettes. Parallels for
selected iconography are attested as far south as the A-Group Royal Cemetery L at
Qustul (Williams 1986) and to the northeast in the Levant (Levy et al. 1995) while a
small number of motifs also have parallels, if not their inspiration, in contemporary
Mesopotamian iconography (M. Smith 1992).

The NIIIA1 labels are generally limited to 1-4 images (e.g. IDs 67, 102, 172),
in contrast to the NIIIIC-early D examples which can bear 1-50 or more images.
Depictions include more than 20 different 'faunal' types, 'human figures' (e.g. IDs
48, 307), 'floral elements' (e.g. ID 65), 'architectural features' (e.g. IDs 144, 288),
'boats' and other figural imagery. Non-figural imagery (see Sections 6.1-6.2 for
problems associated with image identification and classification) including linear and
d geometric shapes is also common (e.g. ID 168). Many NIIIIC-early D compositions
are organised into rows and/or columns, some of which bear elaborate scenes (e.g.
IDs 242, 304, 432). Among these, 3-4 scenes have received a great deal of attention over the question of human sacrifice (IDs 210, 241; Albert et al. 2000; Baud and Etienne 2000; Cruzéby and Midant-Reynes 2000; Dreyer 2000; cf. Piquette 2004). Among the NIII A1 labels, multiple copies bearing identical, or very similar, sets of imagery are attested. These occur less commonly among the NIIIC-early D corpus until the reign of Qa’a when copies/near copies of several types were produced (see Section 7.11). Selected groups of images are identified as signifying deities, the names and titles of rulers, officials and other individuals, toponyms, and the quantity/quality of a variety of goods (Kaplon y 1980).

In describing the label imagery the terms ‘writing’, ‘art’ or ‘representation’ are often used. What cannot be explained as writing (based on later rules of linguistic syntax and other principles) is often described as ‘representation’. This term derives from traditional Western philosophical and religious notions of the ‘sign’ can be bound up with a very particular concept of explanation, concerned with accounting for what might be characterised as congruities and incongruities between the object (e.g. copy, surrogate, representation or signifier) and what it is thought to represent (Preziosi 1998: 581). The image thus becomes a trace or index of some absent and/or prior event or feature. Because we must remain open to the possibilities that imagery may have ‘presenced’ or effected some other purpose beside representation, I prefer to employ the verb and noun ‘depict’ and ‘depiction’.

Overall, labels as a material cultural category can be defined at a minimum as follows:

- Small, thin rectangular (often squarish) plaques
- Perforated in one corner
- Made of bone, ivory, wood or stone
- Incised or ‘painted’ on one, and sometimes both, main faces

1.4.1 Discovery of the Labels

Inscribed labels were first encountered in excavations in 1895 (Amélineau 1899) and new finds continue to emerge up to the present day. Excavators have documented at least 433 labels and label fragments at seven cemetery sites including Naqada and Abydos in Upper Egypt, and to the north (clustered around the apex of the Nile delta),
Saqqara, Giza and Abu Rowash on the west bank, and Helwan and Tura on the east bank (Figure 7). Approximately 30 further unpublished fragments have been found at Abydos, mainly dated to the reign of Den; some of these join with those found previously by Petrie (Dreyer et al. 1998: 162, n. 218). Publication of this material is planned for the near future (Günter Dreyer, pers. comm. 2004).

At all sites, the labels are consistently found in association with tombs. On the basis of tomb size and wealth, most contexts are understood to be high status, although post-processual theories of social practice and agency emphasise that identities symbolised in death are the results of many different forces acting upon mourners and deceased (Parker Pearson 2001: 32-34; on label-associated skeletal evidence for status in life see Section 4.14). Figure 8 presents the distribution of label finds by site: over 85% come from Abydos, burial ground of Egypt’s early rulers and their attendants (Kemp 1966; 1967; Petrie 1900; 1901b; cf. Emery and Sa’ad 1939). Most label finds are associated with richly equipped, large mudbrick tombs, and associated subsidiary graves – contexts which are also characterised by high densities of other graphically elaborated find types.

To date labels have not been documented outside the cemetery context. The degree to which this uneven distribution reflects chances in preservation or the lack of emphasis on settlement archaeology remains unclear. Non-label inscribed material has been found in settlement (Pätznick 2005; Chłodnicki and Ciałowicz 2003; Ciałowicz and Chłodnicki 2003), and ceremonial contexts (Dreyer 1986; Kemp 1968; Petrie 1903), and significantly, outside Egypt proper in the southern Levant (e.g. Levy et al. 1995).

Like most archaeological material, this body of data has its shortcomings. Relatively secure find spots include burial chambers, magazines and other auxiliary chambers, while secondary contexts include tomb fill, rubbish heaps and other deposits resulting from looting, ancient clearing/reconstruction (Emery 1954: 6; Petrie 1900: 11), as well as previous excavations (Dreyer et al. 1998: 162).

Excavation techniques and recording methods have also influenced data completeness and accuracy, and these have varied greatly over the past century (cf. Amélineau 1899; and Dreyer 1998). The details of archaeological deposition, complicated by post-depositional processes, are often sparsely recorded (e.g. Petrie 1900: 21) or omitted from final publications (see also Dreyer 2000: 6). This state of affairs persisted up to the late 1980s when the Deutsches Archäologisches Institut
(DAI) began discovering labels in its re-excavation of the early cemeteries at Abydos. Although dealing with heavily disturbed contexts, these reports are meticulously assembled and provide detailed insight into the contexts of objects where possible, and in some cases help clarify gaps in earlier reports (e.g. Dreyer et al. 1996). Even these, however, by virtue of the conventional methods of presentation, typically in type/categorised form, are pre-analysed and this can limit subsequent interpretation (Kroeper 2004: 859).

The implications of the archaeological context for interpreting the role of labels in past social and symbolic interactions are an area which has not received comprehensive or systematic study. The reason for this certainly lies in part with problems of preservation, but it may be argued that the lack of emphasis on archaeological associations has to do with a certain autonomy historically accorded to 'written evidence' as an explanatory tool or source.

Small find associations are examined in depth in Chapter 4, but a selection is summarised here. The majority of NIII A1 labels derive from a single chamber (11) in the large multi-chambered Tomb U-j. These are closely associated with fragmentary cedar planks identified by the excavator as remains of chests which may have contained cloth, although none has survived (Dreyer et al. 1993: 34 and 36). Some are also indirectly associated, at tomb or chamber level of resolution, with ivory sticks, gaming pieces, a bracelet and stone vessel fragments (Dreyer 1992: 298). No direct associations in primary contexts are attested among this early series of labels.

The situation is similarly patchy for the 1st-dynasty labels. These are found with fragments of wooden and ivory furniture elements, gaming boards and pieces, cosmetic articles, copper implements and wooden handles, ivory sticks, sandals, bone and ivory arrowheads, and vessels of copper, stone and pottery (Emery 1954: 16 and 18; Spencer 1986: 46), as well as jar sealings and a cylinder seal (Dreyer et al. 1996: 73). Petrie (1900: 6) reports finding labels in an 'offering place' of Qa’a on the east side of his tomb but, regrettably, details of the implications of this find context are not provided in the published report, for example, any relationship with the pair of tomb stelae also set up on the east side, found with many stone "offering" bowls. The only direct evidence for attachment or other meaningful association is the find of label ID 241 at Saqqara in tomb S3035. With the remains of a short segment of twine still threaded though its perforation, this elaborately incised label lay on a chamber floor close to a leather bag still closed with a mud sealing and to which the excavator
suggests the label was originally attached (Emery and Sa’ad 1938: 13, 35). A fragment of a wooden plaque (ID 343) with no preserved inscription has the remains of textile (string?) adhering to its surface. Unfortunately, the edge of the label closest to the textile where a perforation may have been is lost, making it difficult to determine identification as a ‘label’ or the significance of the textile.

The overarching problem of poor archaeological preservation may have discouraged previous investigators from attempting more archaeologically-grounded interpretations of the labels. Paradoxically, where direct evidence is absent – namely for the precise use of the label perforation – the function of direct attachment to funerary items is asserted with extraordinary regularity. Where meaningful archaeological associations have been encountered (e.g. de Morgan 1897: 150; Emery 1954: 20; Dreyer et al. 1998: 138), this has not always been fully exploited in formulating interpretations of label function and meaning. As this thesis demonstrates, closer examination of the archaeological context through published reports can still prove fruitful.

Nevertheless, the relative dearth of comment upon associated archaeological remains in the literature on labels and other graphical objects is, I would argue, symptomatic of methodological issues related to the status attributed to artefacts classified as ‘textual’ – a status which has a persistent de-materialising effect (e.g. Meskell 1999 following Baines 1988: 209), resulting in a fundamental epistemological contradiction not only in Egyptology but within archaeology as a materials-centred discipline. This point is pivotal in the way the thesis research has developed a re-materialising approach to treat ‘textual’ evidence, not only as source material for explaining other historical and cultural phenomena, but first and foremost as material culture produced in the context of meaningful social action.

1.4.2 Charting Time

The chronology for the early phases of Egyptian archaeology and the dating of the inscribed labels is by no means straightforward. Equally fraught is the terminology used to describe the various temporal divisions. The period of label manufacture, use and deposition spans two broad periods conventionally referred to as the Predynastic and Early Dynastic (‘Archaic Period’ in earlier studies). The first group of labels belong within the latter part of the Predynastic, variously referred to as the Terminal
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Predynastic, Late Predynastic or Protodynastic. The subsequent period begins with the first of a series of 31 dynastic divisions, originally compiled in the 3rd century CE (Kitchen 1991: 204-205). Egyptologists include the 1st and 2nd or 1st-3rd Dynasties in the Early Dynastic period; the second group of labels fall almost entirely within the 1st Dynasty.

To clarify the way in which the research methods deal with certain chronological problems surrounding the labels, I briefly summarise the development of the temporal framework for this general period. More than a century ago, Petrie (1899; 1901b: 4-8; 1920: 3-4) devised a system of relative dates or Sequence Dates (SD) in an early version of seriation (Kemp 1982: 6). The assumption that pottery and other object types underwent continual stylistic change provided a way to place contexts in relative chronological order. Prior to the introduction of 14C dating, Petrie’s sequence was confirmed by the stratigraphic excavation of settlement debris at Hemamieh undertaken by Gertrude Caton-Thompson in 1924 (Brunton and Caton-Thompson 1928: 78-80). Kaiser’s (1957; 1960) subsequent re-evaluation of Petrie’s framework addressed inconsistencies in terminology and problems such as the heterogeneity of pottery classes, and introduced three main cultural phases and several sub-phases. This and subsequent corrections of, and supplements to, the framework (Baumgartel 1970; Kemp 1982; Payne 1990; 1992) have been reassessed and integrated with new data in Stan Hendrickx’s (1996) critical study of the relative chronology of Predynastic and Early Dynastic pottery. In particular, the DAI work at Umm el-Qa’ab has proven key in linking the Naqada culture to the ‘historical’ period. Hendrickx proposes an adjusted chronology, the conventions for which include distinguishing the updated sub-phases with capitalised alphabetic designations, e.g. ‘Naqada IIIA1’, etc. (Hendrickx 1996: 60-61). It is this adjusted chronological phasing that is used for the thesis as it takes best account of temporal and spatial data.

The two main label groupings are referred to here as the ‘NIIIA1 labels’ and ‘NIIC-early D labels’. As indicated in the chronological chart in Figure 6, this latter period is sub-divided based on conventional political changes between nine consecutive reigns, those of Merneith and Den possibly overlapping (Kaplony 1979). I discuss below and attempt to assess throughout the thesis what these temporal divisions and sub-divisions meant in practice. The reliance on discrete temporal units can be problematic, if not counterproductive, depending on whether we treat these heuristic devices as explanatory tools themselves, or as the thesis attempts, we
develop a method and theoretical framework which allows the evaluation of the
temporal dimension both in terms of the results of past actions and depositional
processes, and in terms of the behaviours and meaningful material practices that
preceded those results.

On the one hand, investigators need to establish discrete data units, temporal
or otherwise, for analysis from amongst bodies of evidence that intersect in complex
ways; on the other, in the course of interpreting patterning, those units may mitigate
against characterising and explaining the webs of relationships in which the data are
situated. This tension can be observed where Hendrickx (1996: 52) laments the
impossibility of "...establish[ing] clearly defined, 'objective' rules for the definition
of archaeological complexes representing relative chronological periods within the
Naqada culture". He attempts to explain this in terms of the different interpretive
approaches researchers take to the typing and classification of ceramic evidence. At
the same time he comments, although does not fully flesh out (see Hendrickx 1996:
51, and below), that because material culture is constituted through human behaviour
across time-space, it may be practised in different ways in different contexts. A fixed
set of defined rules is desirable from the point of view of analysis, yet undesirable
since, just as Hendrickx himself emphasises (1996: 52 and 63), it is necessary to
integrate the spatial and temporal axes, with the result of a particularistic rather than
universal chronological framework. Only within such a framework can the human
agency involved in the deposition of material culture be accounted for. As outlined in
Chapter 2, practice theory is well-suited to the task of throwing into relief this
otherwise passive, two-dimensional world – a world meaningless/nonexistent without
its variably knowledgeable embodied inhabitants. Together with the principles of a
contextual archaeology (Section 2.2), we are equipped with the analytical tools not
only to chart patterns of continuity and change, but also to investigate these patterns
in terms of the behaviour of social actors in particular times and places.

In addition to typology-based chronological frameworks, it is worth
considering the utility of political-based divisions and sub-divisions of the period of
label use, both in terms of dynasties and individual reigns. Some posit the presence of
'kings' prior to the 1st Dynasty (NIIIC1/2), and these are assigned to the so-called
Dynasty '0'. In what sense the term 'king' is appropriate is a moot point, both with
regard to the lack of direct skeletal evidence for sex or evidence for gender, as well as
for the nature of political power at or beyond a local or regional level (Wilkinson
2001: 61). For both reasons I use the gender neutral and less ideologically loaded term 'ruler'. A similarly cautious view of political influence could also be applied to the 1st-dynasty rulers. Köhler (2004a: 310) points out that archaeological evidence for political continuity that might support the concept of a 'dynasty' is difficult to grasp outside the Abydos cemeteries, including its unlocated settlement area. Given the uncertainty over applying these terms beyond this geographical region, Köhler sees the term 'Protodynastic' (see also Petrie 1953), as a feasible alternative. However, its teleological overtones discourage an appreciation of this temporal phase of Egyptian society in its own terms (see Wilkinson (2001: 60) for a similar argument against use of Emery’s (1939) “Archaic” for “Early Dynastic”).

1.4.3 Relative Dating for Tombs and Labels

The relative sequence of construction for the 1st-dynasty ‘royal’ tomb complexes at Abydos was confirmed by Petrie (1900: 5, pl. 59). By his second season at Abydos, Petrie (1901Z: 3) was able to reconstruct from cemetery development and tomb architecture the sequence of the ruler’s tombs, as he emphasises, independent of later historical lists. Stylistic comparison of seal impressions and re-used inscribed vases were also used. More recently, further contemporary evidence has come to light in the form of seal impressions discovered during the re-clearance of the tomb complex of Den by the DAI (Dreyer 1987). Based on reconstructions, these list the names or ‘personal indicators’ (PI) for the first six rulers of the 1st Dynasty in sequence (‘reading’ into the faces of the images and using, for convenience, the current consensus on phonetic content): Narmer, Aha, Djer, Djet, Merneith and Den (the latter two may have been co-rulers for a time; Figure 9). The first three rulers are interspersed with a VO cluster interpreted not as a ruler’s name, but as the deity Khentiamentiu, associated with the Abydos necropolis to the end of the Old Kingdom (O’Connor 1992; Wilkinson 2001: 288). This ordering is corroborated and extended by another seal impression found in the tomb of Qa’a which lists all the rulers of the 1st Dynasty, this time omitting Merneith (Dreyer et al. 1996: 72, fig. 26; Wilkinson 2001: 62-63). Together, this evidence for the relative sequence of rulers agrees with the sequence of ‘royal’ tomb construction at Umm el-Qa’ab, with only the complex of Anedjib interrupting the general north to south growth of the funerary landscape at the mouth of the Great Wadi.
As Petrie mentions (above), regnal sequence is also corroborated at one point by vessel inscriptions. Erasures on vessels found in the tomb ascribed to Semerkhet indicate that this ruler followed Anedjib based on the still-discernible PI of the latter under the erasures (Figure 10). Regnal order is similarly evidenced from the reverse perspective via the find in the tomb attributed to Qa’ā of sealings bearing the PI of Hetepsekhemwi, Qa’ā’s successor and first ruler of the 2nd Dynasty (Dreyer 1993: 11; for two labels (IDs 405, 406) possibly bearing the PIs of both rulers, see Section 3.6). Such evidence helps to confirm regnal order, as well as providing insight into the nature of the transition from dynasty to dynasty (Baines 1995: 127), but it also raises important questions about the reliability of PIs as indicators of who built, was buried or was otherwise involved in activities at the site of a given tomb, and the time-space distribution of such activities.

Apart from ID 348 (with the PI of Semerkhet plus ‘ā’ in a small rectangle possibly referencing Qa’ā), and the examples mentioned above, no label bears two ruler PIs. Taking this as the absence of evidence for posthumous production, labels bearing a ruler’s PI are dated to the reign of the ruler in question (e.g. Engel 1997: 434). The time span between the production of an object and the moment when it was deposited in/at a tomb can be difficult if not impossible to estimate (cf. Hendrickx 1996: 51, n. 77). As Hendrickx (1996: 51) touches on, the intermediate use-life of an object may vary widely, hence the importance of recording object condition upon excavation. Although this is rarely commented upon in the reports, use wear has been considered during first-hand study (Section 5.6).

A related temporal issue is whether we can ascertain when tomb equipping began, whether during the tomb owner’s life or after death, and in the latter case for the length of time afterwards. Was the tomb interior, or parts thereof, accessible to the living for a period? Label evidence discussed in due course shows that it is not only necessary to consider the dating of objects within their spatial contexts, but also the kinds of behaviours that led to their deposition from a diachronic perspective. For this reason rigid subdivisions according to reign may not always be appropriate for dating individual labels or constructing label typologies (e.g. Kaplony 1963; Raffaele 2006).

Leading on from this point, it is also necessary to consider the temporal significance of personal indicators and their implications for identity. The presence of a PI in the tomb has been used as the basis for tomb attribution, either to a particular reign or individual (e.g. de Morgan 1898: 165; Dreyer 1993: 12; Emery 1938). As
mentioned, the presence of PIs from the two consecutive reigns in a single tomb, as in
the case of Qa’a and Hetepsekhemwi (Dreyer 1993: 11), highlight the danger of
assuming the reliability of PIs as temporal indicators or equating these with the
identity of the tomb owner. I return to this issue in Chapters 4 and 8.

1.4.4 Absolute Label Dates
The absolute dating for the NIII A1 labels is based on two sets of radiocarbon dates for
Abydos Tomb U-j, an early date of 3300 BCE and a later date range of 3200-3100
BCE. The former, preferred by the excavators (Dreyer 1998; Dreyer et al. 1993: 61),
places this Abydos material slightly earlier than the Uruk IV tablets (Baines 2004:
154; Boehmer et al. 1993). The latter is to be preferred according to Joffe (2000: 113,
n. 4) and others have accepted a later date (e.g. Wilkinson 2001: 257, c. 3150 BCE).

The later group of labels are first attested in the reign of Narmer, based on
archaeological context and the presence of the PI of this ruler on labels (e.g. IDs 197,
204, 205). Although it cannot be clearly dated, ID 188 from Tomb B50 may precede
those of Narmer. Petrie found nine labels of NIII A1 style (based on material, size and
VO types) in Cemetery B (IDs 4, 33, 43, 56, 74, 106, 119, 135, 142). That Petrie
recognised their similarity is evident in his grouping (Petrie 1901b: pl. 3) with finds
he attributes to “Aha-Menes”. In studying these nine first-hand I noted, as was
Petrie’s habit, pencil marking on each with the cemetery designator “B”. ID 4 is
marked “Aha B” in pencil which strongly suggests that the object was actually found
in the tomb ascribed to Aha. This possibility is considered further in Section 4.5.2,
along with the question of how Petrie’s Cemetery B relates to the modern border
between it and Cemetery U (Figure 11), and the DAI finds of secondary deposits of
NIII A1 material dispersed to the south of U-j and neighbouring tombs (Dreyer 1998).
Depending upon archaeological relationships and other dating techniques, the time
span separating both label groups may range from 300 years to no gap at all. I return
to the question of change and continuity between the label phases and sub-phases in
Sections 8.7.1 and 9.2.

As for the dating of labels beyond the reign of Narmer through to the end of
the 1st Dynasty, labels are typically understood to be attested for each reign including

\[^1\] Hd-12953 (4,470 ± 30 BP) and Hd-12954 (4955 ± 30 BP), both on samples of Acacia nilotica
(Boehmer et al. 1993; Görsdorf et al. 1998).
that of Merneith based on the combined evidence of PIs on the labels or associated finds. With the reign of Qa’a labels seem to fall out of use. However, Dreyer (1993: 11) writes that labels and impressed sealings found in the tomb of Qa’a bear the name of the 2nd-dynasty ruler, Hetepsekhemwi (c. 2800/2770 BCE), which he interprets as evidence for continuity between the two reigns. This seems quite clear for the sealings. However, Francesco Raffaele (2006) believes Dreyer’s mention of labels with this PI to be in error. Although Dreyer does not elaborate, I (Piquette 2001: 924) had understood Dreyer’s mention of labels to indicate that elements on IDs 405 and 406 (to the right of the niched frame) referred to Hetepsekhemwi, perhaps in an ‘abbreviated’ form. Nevertheless, the issue of how a chronological framework comprised of strict divisions can hide significant areas of overlap if not integrated with the spatial and social axes is again raised, in this case providing insights into the processes of political change and the importance of negotiating the transfer of social power, at least in part, within the funerary sphere. Beyond what may have been label use early in Hetepsekhemwi’s rule, this find type is no longer attested, suggesting that labels fall out of use – or, as considered in Chapter 9, the role they fulfilled may have been accomplished via other means.

1.4.5 Locating the Labels

Inscribed labels are currently dispersed in museum collections in Egypt, Europe and the United States (Figure 12). The present location of a number remains elusive. Five in the Berlin Ägyptisches Museum are thought to have perished in World War II, or were possibly taken to Russia around that period (Klaus Finneiser, Ägyptisches Museum und Papyrussammlung in Berlin, pers. comm. 2006). The majority of the NIIIA1 labels are stored at Abydos, as are the aforementioned unpublished labels and fragments. At North Saqqara finds from Tomb S3504 including 18 inscribed labels (Emery 1954) were stored in site magazines according to Prof. Harry Smith (pers. comm. 2005) who worked with Emery. Emery (1949: 109) mentions the construction in 1937 of magazines and workshops behind the dig house. During the course of the Egyptian revolution in 1952, however, Prof. Smith believes the contents of the magazines may have been removed or destroyed. T. J. H. James (pers. comm. 2006), who illustrated the inscriptions from S3504, is likewise unaware of the present location of these labels. Both labels from the Tomb X (Emery 1949; IDs 354, 358)
have also proved untraceable. I was unable to learn more during my 2005 research visit to Egypt (see also Hendrickx 1996: 47). Overall, it is nevertheless remarkable that such a large amount of the actual material has proved locatable in spite of the hazards of excavation, dispersion to diverse collections and wars, not to mention that photographs and/or drawings of virtually all have been published. Very possibly, no single object type of this number and early date has been so well looked after.

1.5 Review of Previous Research

As a topic of continual study and interest for more than a century, the body of literature on the inscribed labels is extensive. Both general and specialist studies on art history, chronology, history, palaeography and philology draw on the rich imagery on the labels. Primary sources consisting of site reports and a small number of short reports in the form of journal articles are examined in Chapter 4 dedicated to the detailed analysis of archaeological context. In this section, I focus on the secondary literature to assess previous approaches and interpretations, with particular emphasis on methodology as this forms a key area of departure for this thesis from preceding studies.

The following discussion is organised into several thematic areas. Numerous general studies draw on the labels for insight into broad social issues, such as early ‘state’ administration. Others consider the function of the labels in the narrowly instrumental sense of how they were physically associated with other objects, as well as in a more symbolic functional sense of how they communicated semantic meanings about their instrumental function(s). This latter topic of semantic meaning is also considered as part of specialist studies on script formation but these are only surveyed generally since, as mentioned, the thesis focuses on the more material and compositional aspects of the labels. Beyond specialist studies, others consider the broader significance of written and pictographic evidence on the labels. Underpinning these is a common view of the labels as written records (Ciałowicz 2001: 134, 138-139). Apart from a limited number of iconographic studies, philological perspectives reign almost absolute in their prevalence over other explanatory frameworks. In addition to discerning the pragmatic labelling functions and meanings above, interpretations are often directed to chronological concerns – a tendency in studies of this early period fittingly characterised by Wengrow (2006: 127) as an
"...occasionally obsessive interest in the chronology and succession of named rulers..." (see also Trigger et al. 2001: 44-45). Following close behind are related debates concerning the historicity of the labels (see Section 1.5.8).

Throughout this literature review, various problems and questions are highlighted which provide the impetus for the particular set of research questions posed (Section 1.8) and the kinds of theories and methods brought to bear on these.

1.5.1 The Inscribed Labels and Early Egyptian Society

Interpretation of the labels and their significance has overwhelmingly centred on their imagery as writing and 'royal' iconography, particularly individual and groups of images which can be related to later evidence when linguistic function and iconographic meaning is more explicit (e.g. Kahl 1994: 162-163; 2001: 125). The incompleteness of the evidence means that Egyptologists have traditionally drawn on evidence from disparate periods; as Loprieno notes in relation to one aspect of philology: "...Egyptian phonology must be addressed primarily as an issue of diachronic, rather than synchronic linguistics" (Loprieno 2000: 28, emphasis in original). For early material in particular, a hindsighted approach is often adopted since contemporary evidence is particularly sparse relative to later periods. However, extrapolation backwards, or forwards, is not so much diachronic study as one which collapses the temporal dimension and leads to assumptions and generalisations that may overlook meanings residing at the synchronic and immediate level of the object. While avoiding this problem is a fundamental concern of the thesis, completely rejecting meanings derived from later evidence may be equally unhelpful when a high degree of continuity can be established, as seems demonstrable for some image and sign groups, including many dynastic names, titles, iconography and even goods information, such as types of oil (Altenmüller 1976).

General perspectives on the labels can be found in numerous studies dealing with the Late Predynastic and Early Dynastic periods. These are commonly characterised by top-down approaches to themes revolving around political unification, where the labels have become inextricably linked to the administrative needs of the early Egyptian state and the emergence of a divine rule at its head.

Alongside ceremonial maceheads and palettes, and seal impressions, label images of 'human figures' identified as the Egyptian ruler, and 'royal' names and titles (e.g. IDs 306, 307, 308), are one of the main resources for studies on the
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'origins' and nature of Egyptian kingship (Baines 1990; 1995; Ciałowicz 2000). The labels provide evidence for developing 'royal' titulary (Wilkinson 2001: 203-206), iconography and ideology of the divinity of the ruler. Label scenes are also sourced for information on royal festivals (Gaballa and Kitchen 1969; Jimenez-Serrano 2002; Vikentiev 1942: 288), and other acts of the ruler, such as the hippopotamus hunt (Wilkinson 2001: 216), and visits to religious shrines (Emery 1961: 52, fig. 12 and 59, fig. 20; Wilkinson 2001: 220-221). A key motif among these is the 'smiting scene', attested on IDs 205, 211 and 304, and perhaps alluded to on IDs 295 and 297 (see Swan Hall 1986).

It has been proposed that the NIIIA1 labels, along with other inscriptional evidence from Tomb U-j and neighbouring tombs, evidence the development of centralised administration (Dreyer 1998), although this is not accepted by all (Wengrow 2006: 203-204). Similar emphasis has been placed on administration with NIIIC-early D labels, but these again are probably too generalising given the ritual context of the tomb (Endesfelder 1991: 21).

Also, in the context of the early Egyptian economy, the labels are treated as evidence for particular modes of commodity redistribution and exchange. Kaplony (1963: 292, 297) sees the mention of inw (from a retrospective perspective) on some labels, as indicative of "Steuer-vermerke", a type of taxation (cf. Kahl 1995). Bleiberg (1996: 29-34; see also Legge 1907: 250) views these 1st-dynasty labels as indicating a type of exchange involving redistribution of products among members of the 'royal' family, bureaucrats who served the ruler and lower officials. From this perspective, rather than indicative of some 'state' administrative mechanism (contra Postgate et al. 1995), some labels were vehicles for, and material symbols of, the negotiation of select elite social relationships centering on the ruler.

Labels also figure in reconstruction of social hierarchy inferred from retrospective interpretation of image 'Clusters' (Section 7.5), the names and/or titles of individuals often including the ruler and/or high officials (e.g. Emery 1949: 107; 1954: 103). In some accounts, similarly inferred personal names are understood as the names of individuals officiating over the exchange of goods or their delivery to the tomb. Others see names on labels as identifying the tomb owner.
1.5.2 Proposals for the Primary Use of Labels

Overall, most scholars agree that the primary use of the labels was for attachment to items deposited in the tomb. The association of numerous small NIIIa1 labels, a handful of which bear depictions of garments (e.g. ID 173), with the possible remains of wooden boxes led the excavator to suggest that these labels were attached to lengths of cloth (Dreyer et al. 1993: 35). One of the first discoverers of labels, Emile Amélineau (1905: 398; 1904: 6), suggested that the perforation, usually in the upper right, was for suspending the label from the neck of the deceased. Following in Amélineau’s footsteps at Abydos, Petrie (19016: 22) understood these perforated plaques as tablets attached to ‘offerings’ brought to the tomb, such as an ‘arrow’ (ID 226), and what appears to be a granary (ID 227) and resembles ‘gaming(?) pieces’ also found in the tombs (e.g. Vandier 1952: 844, fig. 564; Berlin 18031).

Legge (1906: 252) asserted that the labels were “…in the strictest sense of the word, records”, filed for reference and intended to be strung on a string or pin, detailing royal gifts to temples or other religious foundations and festivals. The function proposed for the perforation offers interesting possibilities but the compatibility of a record keeping explanation with the depositional context of the tomb requires further evaluation.

Newberry (1912) suggests that some labels name an oil contained in a jar to which the label was originally attached (see also Ray 1986: 315). Emery (1938: 35) also sees the perforation as used for attachment to a funerary item (see also Emery 1954: 103), but for others he proposes the labels were receipts for registering stored objects (Emery and Sa’ad 1939: 75). As mentioned, label ID 241 was found near a closed and sealed leather bag in S3035. The label perforation still had a fragment of string running through it and Emery suggests it may have been attached to the bag, although the published record is problematic (see Chapter 4). Similarly, Sa’ad (1969: 69) suggests that labels found at Helwan were attached to vessels like those pictured on them (e.g. ID 378), specifically that, “In the upper right corner of each tablet one can discern a hole through which a cord was strung to tie the tablet to the neck of the vase”. Assmann (2002: 37) states unequivocally that the annals labels “served as “labels” for wine and oil bottles, thus putting a date to the production of these goods”.

The one area where there seems to be consensus among commentators is that the labels were attached to items of funerary equipment. Yet, other than Emery’s
relatively undisturbed find of ID 241, no archaeological evidence directly confirms the precise function of the label perforations, a point which has received little attention in the literature.

1.5.3 Interpretations of Label Content

The diversity in label size and image repertoire is mirrored by the diversity of proposed interpretations for meaning content. Proposals for the immediate role of the imagery are usually situated against the backdrop of an assumed physical one-to-one relationship between label and item. Imagery is understood to convey ‘product’ information of various types via both pictographic and epigraphic means.

Dreyer divides the NIIIA1 labels into two main groups, those bearing a series of ‘notches’ (e.g. ID 24) and those bearing combinations of figural imagery (e.g. IDs 67, 141, 153). The former are understood to indicate numerical values (Dreyer et al. 1993: 34; 1998: 113-118; see e.g. ID 12), which Dreyer suggests indicate the size of lengths of cloth. The latter type he “reads” retrospectively from later seal impressions as names of administrative institutions, residence of the ruler (ID 141), names of royal estates (also proposed for applied colour inscriptions on wavy-handled ceramic jars from the same tombs, see Section 8.2), or localities such as Buto and Bubastis in the Delta (e.g. IDs 116, 143; Dreyer 1992: 298; Dreyer et al. 1993: 35). While there is an eagerness to see these earliest labels as an advanced stage in hieroglyphic writing in the Naqada IIIA1 period (e.g. Dreyer 1993: 12), as mentioned, some prefer caution (Baines 2004: 161; Breyer 2002).

Some labels are also understood to identify, pictorially and epigraphically, types, quality or quantity of goods or the contents of a vessel or package (e.g. Spencer 1980: 63). Based on the similarity between the depiction of a jar on labels from Saqqara and oil jars depicted in Old Kingdom (c. 2613-c. 2160 BCE) mastaba tombs (e.g. von Bissing 1905: pls. 36-38), Macramallah (1940: 17) suggests that label ID 286, for example, was for an oil offering. As mentioned, others are understood as records of specific types of exchange, such as taxes from Upper or Lower Egypt, revenues, deliveries of supplies (Kaplony 1963: 292-297; Postgate et al. 1995: 466; Trigger et al. 2001: 56, 58). Kahl’s (1995: 171-173) recent review of these particular “Steuer-vermerke” concludes that they are not detailed enough to indicate provenance.
or notate tax, and may refer to the actual products.

Names ‘read’ on the labels are variously identified as the owner of the tomb in which a label was found (Emery 1949: 149; later as names of officials 1958: 3), a bringer of the offering, or overseer of the delivery or the equipping of the tomb. Toponyms have been identified and are thought to indicate the originator or destination of items (Baines 1995: 110). Newberry (1912) hypothesised that time was marked on the labels by pictorial representation of the events of a single year of the king’s reign and that this could have also been the year in which the oil or other product was produced. Dreyer et al. (1996: 73) see the imagery on some labels from the tomb of Qa’a as pertaining to five areas: year name, the ruler’s titulary, institution, title of official, and type of oil, and that together these refer to the delivery. Despite the confidence with which many of these ‘readings’ are pronounced, this early form of the Egyptian script presents serious difficulties for the translator (Trigger et al. 2001: 56; see also Engel 1997: 434-435).

The presence and implications of this subject matter on the labels are explained and interpreted in various ways. Some consider such imagery indicative of the role of the labels as ‘documents’ relating to administrative and clerical practices necessary for the running of the early Egyptian state (Trigger et al. 2001: 56, 58). Postgate et al. (1995: 466) assert, “Although such labels often bear depictions commemorating royal events, their purpose was nonetheless an accounting one”. Bard (1992a: 299, 304), however, asserts that there is no evidence that writing was used to record economic activities of the state, and points out that the settlement contexts in which this material would be expected has not yet come to light. Indeed, further evidence is needed from the actual production sites of graphical objects in order to determine whether the preponderance of inscriptional material in the cemetery is a product of deposition.

In one of the few attempts to explain the apparent abandonment or transition of labelling practices at the end of the 2nd Dynasty, Emery (1949: 109; 1954: 107) compares two examples, IDs 358 and 359, organised into grids which contain commodities and numerical information with later offering stelae and suggests that such labels may be an early form of offering list. Such lists appear in the 2nd Dynasty and seem to relate to performance of mortuary (post-burial) rituals (Goneim 1957). This marks a significant departure from traditional understandings of labels as instrumental in funerary (pre-burial and burial) practices. Although not explicit in
Emery’s observations on these unique label types, the question of how the labels relate to pre- and possible post-burial practices highlights the importance of attempting to explain continuity and change as material and social practice across time and space (Giddens 1984; Wenger 2002), a key theoretical point which I develop in Chapter 2.

What have not been systematically assessed among these proposals are the different combinations of relationship between people, places, things and time that can be inferred. Depending on how they are aligned, very different life histories for the labels can be constructed. For example, if indicating content, to depict the actual object to which a label may have been attached could seem redundant, unless its identity was obscured by some method of packaging, or unless labels were not attached at all to the items referenced. Numerous questions about even the most fundamental aspects of these objects remain unanswered:

- Does a PI refer to item owner, tomb owner, giver, receiver, overseer or bearer?
- Does a place-name indicate a location in the landscape, such as place of production, processing, packaging and/or storage, or an individual, a group or larger social institution?
- What is the implication for the immediate instrumental labelling function where multiple objects or numerical quantities are indicated?

The question of the ‘year-name/date’ is equally fraught, both in terms of identification method in the present and the process of determination in the past (Section 1.5.6). Do these posited temporal markers relate to manufacture, packaging, delivery, moment of labelling, or another episode altogether? Whether or not the nature of these relationships is knowable according to available evidence, that the gaps in our understanding have not been clearly set out presents a rather precarious situation epistemologically, a point also relevant to our present understanding of other early graphical material (seals and seal impressions, inscribed vessels, etc.). As the next thematic area of review shows, labels are used as key ‘sources’ for broader questions such as the ‘origins’ of writing, nature of burial customs, ‘state’ administration, relationships of exchange and literacy. The construction of these subsequent layers of
meaning must be concerned with gaps in underlying knowledge, rather than simply dismissing them: “Ce sont autant de question que nous devons laisser sans réponse” (Godron 1990: 154).

1.5.4 ‘Origins’ and Anachronism

According to classical sources, the Egyptian writing system was invented by Menes, the legendary founder of a politically unified Egypt (Plinius the Elder VII, 56 [192] cited in Kahl 2001: 103). Kahl suggests that accounts such as this influenced Egyptologists in suggesting that hieroglyphic script was invented by an individual. The idea that the Egyptian writing appeared suddenly ‘fully evolved’ has been re-evaluated in view of recent evidence for processes of gradual and localised change over a period of more than 400 years (c. 3320-c. 2900 BCE; Kahl 2001: 125; also Regulski 2005). Some of the language still employed, however, perpetuates notions of a definable beginning, or of a linear progression along a predetermined path to some known point or ideal (Michalowski 1993: 51): e.g. ‘origins’ (e.g. Baines 1995; Davis 1976; Fairservis 1992: 57-58; Fischer 1989; Wilkinson 2001: 111); “evolution of complex society” (e.g. Bard 1992b); ‘birth’ (e.g. Vernus 1993); “historical awakening” (Assmann 2002: 33); the “rise of civilisation” (e.g. Spencer 1993), ‘irregularity’ or ‘experimentation’ (Kahl 2001: 114), etc. Assmann observes that “…all beginnings tend to reveal themselves as mere “fronts” behind which an infinite series of precursors and incipient beginnings await discovery”, but then goes on to assert that for the question of the beginning of Pharaonic culture and the ancient Egyptian state “…in Egypt the inquiry into beginnings comes up with a clear answer…” (Assmann 2002: 27, but cf. 29).

Such hindsighted expressions are part of the traditional poetics of ‘writing about the past’ (see also Smith 1981 [1958]: 31 on ‘style’). However, to imply that a society has not yet matured, or lacks in ‘complexity’ – a problematic term in itself (LaMotta and Schiffer 2007: 50) – fails to appreciate cultural diversity within its own time-space context. The frequent lack of clear, critically-formulated technical and conceptual languages, theoretical frameworks and methodologies for the contextualised study of early Egyptian society – and script formation in particular – has led to a confused state of affairs when trying to determine the epistemological basis of our knowledge. For conceptual clarity I consider it essential to avoid
retrospectively-derived explanations, and distinguish clearly between inductively and deductively derived knowledge. The problem of disentangling anachronistic- from contextually-derived interpretation in past research has proved challenging. Nevertheless, I hope that the thesis methods, grounding analysis and interpretation in the objects and their archaeological context as informed by a practice-centred theoretical framework (Chapters 2-3), achieve increased epistemological clarity that facilitates critical reflection, testing, and further development of these ideas.

1.5.5 Labels as Evidence for Script Formation

A major area of anachronistic methodology is in relation to writing. Significant inroads towards deciphering and charting Egyptian script formation have been made over the decades, and the inscribed labels have been key evidence in this work. Early exploration of the evidence appears in the Abydos site reports (Griffith in Petrie 1900; and 1901b), generally comparing early material with later better understood and more fully preserved scriptorial evidence. Legge (1906; 1907), in his compilation of labels found to date at Abydos and Naqada, claims to avoid preconceived notions of grammar, disconnected signs or pictures. In this, he stands in contrast to his contemporaries who are generally content to draw interpretations from ‘the future’, but ultimately, his interpretations tend to look to later evidence. Newberry (1912) comparatively examined a selection of 35 1st-dynasty labels from Abydos and Naqada and proposed six groupings or types. He based these on pictorial content as well as retrospective epigraphic interpretations of different objects and goods, such as oils which he sees as indications of trade with the Levant. Subsequent synthetic work includes Hilda Petrie’s (1927) palaeographic study of Early Dynastic inscriptions which included label inscriptions available at that time. Emery (1939: 83-112) presented a collection of graphical imagery dating to the reign of Aha which also draws on several labels known to date (Emery’s no. 29, an unperforated plaque depicting ‘a scorpion holding an implement’ is probably not a label). More recent palaeographical work was undertaken by Michèle Riley (1985), and while her University of Sorbonne thesis unfortunately remains unpublished, this work is currently being updated and expanded, crucially from primary sources, by Ilona Regulski (University of Leiden).

Labels also appear in Scharff’s (1942) monograph on early writing which
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attempts to demonstrate that the ‘origins’ of the hieroglyphic system of writing preceded the 1st Dynasty and the rule of ‘Menes’. A chronological study is presented by Vandier (1952: 827-863) in his *Manuel d’archéologie égyptienne* including syntheses of previous ‘readings’ and explanations of label pictorial scenes. Kaplony’s (1963) *Die Inschriften der Ägyptischen Frühzeit, I-III* constitutes the most comprehensive compilation and detailed philological study of early ‘writing’ to date (see also Kaplony 1966). Entries for the majority of labels are provided here with listings of the primary publications and current location (where known). Explanation and significance is restricted largely to philological translations; again, Kaplony relies heavily on later sources for interpretation. Expanding on Newberry’s (1912) divisions of label types, Kaplony (1963: 143-144) also sets out further types according to the presence of ‘royal’ names and regnal sequence, as well as trends in the location of certain motifs such as the rectangular frame containing a name of the ruler, with vertical patterning thought to represent panelling in reed and/or mudbrick architecture, the whole of which is surmounted by a bird of prey. I should note that this particular motif is conventionally referred to as a ‘serekh’, a term derived from a later dynastic Egyptian vocabulary (Erman and Grapow 1982: vol. 4, 199). In avoiding anachronistic terms and concepts I hereafter refer to this motif as a ‘niched frame’. The trend for horizontal divisions of the composition prior to the reign of Den, and a vertical division thereafter has also been observed (Redford 2001). The creation of a typology is important for the ‘operational context’ of research, but unless these take account of archaeological context, variability in materials, techniques, and composition, they may bear little relation to past concepts of a given material culture type. An aim of the thesis is to relate label types to the past contexts of making, use and deposition to construct a typology that is more sensitive to these areas (see Chapter 7).

With many new finds coming to light, renewed research has yielded further philological understandings as seen in the expansion and updating of Kaplony’s work by Helck (1987) and after him Kahl (1994), in particular his ongoing dictionary project (Kahl 2002; 2003b; 2004). Kahl’s 1994 study follows a rigid taxonomy, locating individual, and some composite signs and sign groups, within an overarching linguistic framework comprised of predetermined sign functions. The broader compositional context in which an image sits, as well as the implications of material expression and archaeological context, has continued to be marginal to this kind of
study.

The rigidity of taxonomic approaches as well as the projection of modern concepts of ‘writing’ (Section 1.4) onto early graphical images may obscure rather than clarify. As Ciałowicz (2000: 62) comments, variant ‘writing’ tends to be seen as indicative of experimentation and development, when perhaps the variability is, rather, significant of something else, such as local traditions and non-phonetic functions. The influence of modern perceptions of writing and uncritical use of such terms has led some investigators go so far as to ‘correct’ or alter original image sequences in accordance with the majority of, or later standardised, ‘spellings’ (see Helck 1987 for transposition of signs from their original configuration on ID 384).

These issues are being grappled with increasingly in recent work, for example the relationship between writing materials in the ‘spellings’ of words and sign repertoire and the restriction of types of seal impressions to types of clay (Kahl 2001: 102; Kahl and Engel 2001). However, Kahl’s (2001: 114) use of binary oppositions of “regular and irregular” to explain variable spellings, or the description of variable orthographies as “jumbled” (Bard 1992a: 299), implicitly discriminates against an appreciation of variability in its own terms (see Ciałowicz 2000: 62, above).

The debates concerning the ways in which signs may encode specific linguistic forms fall largely outside the focus of the thesis. However, I will briefly summarise the main debates on the translation of some Cemetery U material to highlight how the thesis research differs in approach. In addition to positing the geographical names, Dreyer (1998: 173-180) argues that many of the NIIIA1 labels represent kings’ names, an interpretation which he also attributes to similar signs on oversized statues of the god Min of possible Predynastic date from Coptos (Petrie 1896). Previously, Bruce Williams (1988) had examined the images inscribed on the colossi and identified a group as the name of Narmer. Dreyer seems to have followed Williams’ lead in his interpretation of the labels as representing the names of early kings. However, a more recent review of Williams’ findings by Kemp (2000) indicates that the identification of Narmer’s name is less than certain, as is Dreyer’s interpretation of other signs on the colossi as a Predynastic king-list. Taking into account the immediate artefactual context together with the archaeological contexts of these sign groups, Kemp (2000: 232-233) suggests that it is unlikely that the side-panel of a deity’s leg would be an appropriate context for a king-list. With regard to the labels, he also points out that one is hard-pressed to explain why such a large
number of different kings' names would be found in a single tomb (U-j). Indeed, one would expect them to be distributed among various tombs, as in the case of the 1st-dynasty labels and other objects inscribed with names – where the name mentioned may relate, among many possibilities, to the tomb owner or an individual presiding over the burial (e.g. labels in the tomb of Qa’a bearing the name of the royal successor, Hetepsekhemwi; Dreyer et al. 1996). A subsequent contribution to this debate argues that these images represent regions and districts (Kahl 2003: 113).

The details of philological studies and debates over the translation or grammatical functions of 'signs' extends beyond the 'graphical-media-as-artefact' focus of the thesis (but see Chapter 9 on future research). Previous research is therefore reviewed for the broad epistemological questions raised vis-à-vis the aims of a contextual archaeology of the labels.

1.5.6 Labels as Evidence for Chronology

Previous investigators identify two or three phases in the 'evolution' of Egyptian modes of dating on the labels: first, captioned pictorial scenes (e.g. ID 304); second, captioned scenes accompanied by the sign ‘|’ (e.g. ID 306), and by the reign of Semerkhet, the scenes disappear and this sign bounds only hieroglyphic inscription. Based on the presence of ‘|’ (e.g. IDs 348, 405) which denoted 'year' in later hieroglyphs, and/or narrative scenes in their upper registers (e.g. IDs 211, 212, 306), these NUIC-early D labels are understood to name the year of a reign by the events depicted. They are used in conjunction with later 'annalistic' inscriptions bearing this same sign, such as the Palermo Stone, for chronological and historical reconstructions (see also Jimenez-Serrano 2002; Newberry 1912: 282; Petrie 1900: 23; Redford 1986; Wengrow 2006: 132; Wilkinson 2000; 2001: 212, 214). Wilkinson (2001: 62, 218-223) divides the events into broad categories in order of frequency: religious ceremonies, royal visits and scenes of military activity, and unique to the reign of Qa’a, the foundation of a religious building and the collection of timbers. The annalistic significance of the labels is accepted by the majority of scholars (e.g. Ciałowicz 2000: 61; Emery 1954: 102; Emery and Sa’ad 1939: 5), although the exact meaning of these ‘year names’ is often difficult to discern (cf. Dreyer et al. 1998: 164 with Pätznick 2006 on IDs 330, 331, 332, 333, 334). None of the ‘year’-fields on labels of Semerkhet (e.g. ID 350) can be linked to the completely preserved year
names for this ruler on the Cairo Annals stone dated to the Old Kingdom (Dreyer et al. 1996: 73; Engel 1997: 434).

In addition to the methodological problem raised by interpreting early forms according to later apparent parallels, the process of year naming remains poorly understood. Was a year named before, during or after the year had passed? Wilkinson (2001) argues for the first scenario which has implication for how the historicity of the labels is understood (Section 1.5.8). Further, the status of such temporal markers within the label:labelled relationship is equally unresolved, for example, whether they designated the time of manufacture of the product if not the label itself, its packaging, or delivery. Previous research has tended to focus on year-label types, including those with narrative scenes, and as a result other types have received less attention.

From the outset, another central theme in label research has been regnal order and the identification of the first ruler of Egypt. One label in particular, the ‘Naqada Label’ (ID 212) so named after the site of its discovery by de Morgan (1897), has received a great deal of attention along with a similar label (ID 213) subsequently recovered from the same site (Garstang 1905: 61-64). Borchardt examined ID 212 and, noticing the similarity between a ‘sign’ on the upper right which he ‘read’ — based in part on comparison with Old Kingdom inscriptions — as ‘mn’, or ‘Menes’, proposed to equate Aha, also indicated in the label, with this legendary founder of the 1st Dynasty (Améliau 1905: 399). The publication (Borchardt 1898) of this hypothesis has provoked a long and protracted debate which persists up to the present day, the crux of which is the identity of ‘Menes’ with either Aha or Narmer (e.g. Améliau 1899; Arkell 1963; Baines 1995: 125; Ciałowicz 2000: 67-68; for a summary see Emery 1961: 32-37; Emery and Sa’ad 1939: 4-7; Garstang 1905; Grösser 1944; Kinnaer 2002; 2001; Petrie 1901b: 5; Schott 1950; Spencer 1993; Vikentiev 1933; 1934; 1942; 1948). The overriding concern among many of these studies has been to establish the historical framework, yet ironically, the emphasis on the scriptorial neglects associated types of graphical and material evidence and their patterning in time-space — the very evidence which can shed light on the socio-historical information so desperately sought.

A temporal framework partitioned according to reigns structures other label-related studies, both those focusing on single reigns (Emery and Sa’ad 1939; Godron 1990) and those covering a longer period (Kahl 1994; Kaplony 1963; see also Raffaele 2006). Reigns also form the primary criteria for Kaplony’s label typology,
with sub-types determined by presence and location of selected compositional elements such as Pl in 'niched frame' and '}' (see Section 7.11). Such approaches succeed in charting continuity and change within and between reigns. Nevertheless, these temporal divisions are often perceived as being self-evident, and therefore run the risk of circularity since they are partially constructed according to presence of 'royal' names in the archaeological record, which are then used to date that material evidence. This raises the important question of the date of the deposition of burial material (see discussion on chronology in Section 4.13.3).

1.5.7 'Text'-centred Approaches

Text-centred approaches often see meaning as something to be extracted, treating graphical symbols as “containers” that convey tidy “packages of information” (Lakoff and Johnson 1980; Robb 1998): “Only three salient facts can be gleaned...from these [labels]: a visit to a shrine, a naval expedition, and a military campaign” (Emery and Sa’ad 1939: 7). In treating graphical objects within such a narrow framework, other aspects invested with past meaning are overlooked.

Petrie’s discussion of ID 307 typifies early attitudes toward the disciplinary divisions of evidence types, namely the inscriptional from pictorial and material:

...the most important tablet, though the lower edge has not been found (see xi. 14). The scene of the king dancing before Osiris seated in his shrine is the earliest example of a ceremony which is shown on the monuments down to Roman times; ...the inscription below, referring to the festival, will be dealt with by Mr. Griffith; but we should note that the royal name Setui occurs in the lower register, so this tablet is good evidence for that king being Den...Beyond there is the name of Den, and that of the royal seal-bearer Hemaka, which occurs often on the jar sealings.

(Petrie 1900: 22)

Petrie proceeds to note the name of a palace, and numerals at the bottom edge which he ‘reads’ as ‘1200’. He recounts the difficulty of removing melted resin from the label in order to reveal the incisions on its surface, but does not comment on the significance of the presence of this substance. As with much subsequent research, emphasis lies in the iconic and textual aspects of the object, in particular,
identification and acts of the rulers. Little consideration is given to the significance of
the imagery with regard to the find context, or to the presence of the resin.

As just seen, in site reports the evidence categorised as ‘inscriptional’ is often
commented on separately by a philologist (e.g. Griffith in Petrie 1900: 34-45; Rowe
1941 in Emery 1939). These tend to deal with the more elaborate ‘year’ labels or
those which avail themselves more easily to comparison with later hieroglyphic signs.
Imagery may be ‘read’ phonetically or iconically, yet the criteria by which the
‘correct’ method is determined are rarely explicated. Griffith comments that the
material presents numerous challenges as do the conditions of analysis (Griffith in
Petrie 1901b: 48). Nevertheless, where meanings are proposed, these are typically
top-down with respect to Egyptian society (and to some degree probably set the tone
early on for subsequent a priori high-status interpretations). For example, in the upper
right of painted label ID 228, a ‘series of dots’ descend from a ‘pair of baskets’ below
which a ‘—’ is depicted. This is explained as the “washing of the king’s hand” (Petrie
1901b: 51), yet this interpretation is not proposed for ‘—+—’, for instance (assuming
the latter sign depicts ‘water’; see e.g. ID 304). By what method are different kinds of
interpretation proposed? Moreover, with much philological- or iconic-focused
explanation, the significance of graphical interpretations is inconsistently or
incompletely related back to archaeological concerns. What associated archaeological
evidence supports the washing of the king’s hands? How does this relate to burial
practices?

1.5.8 The Question of Historicity

The treatment of ‘texts’ as reflections of historical events has a particular appeal to the
rationality of the historicist, but applied uncritically to the ancient past can impose
meanings that may not have been intended or perceived in these contexts (for a
similar observation within Sumerian studies see Alster Forthcoming). The historicity
of certain motifs on the labels and other contemporary decorated objects constitutes
another dominant theme in the previous literature. Some have interpreted depictions
as literal representations of historical events (see Emery and Sa’ad 1939: 7; Godron
1990: 195-197; Hornung 1982: 103-105; Weill 1961), while others suggest that these
were idealised views (Assmann 2002: 37; Wengrow 2006: 128; Wilkinson 2001: 219-
220).
Early graphical narratives have been interpreted in a variety of ways, notably the smiting scene (first attested in the Tomb 100, Hierakonpolis, NIIC; Quibell and Green 1989 [1902]: pls. 75-79), in which an upright 'human figure' or other anthropomorph grasps the head of a sprawled, kneeling and often bound figure(s) in one hand and raises a weapon, often a mace, in the other; this motif occurs subsequently on labels and other contemporary objects. Gaballa (1976: 14, 19-20) suggests that depictions may recall definite historical events, but the artistic treatment may be idealised. Levy et al. (1995: 32) draw a similar conclusion from the presence of Narmer's name in the niched frame incised (pre-firing) on a potsherd found in the Southern Levant (Halif Terrace, Silo Site), and the smiting and other scenes depicted on the Narmer palette (Hierakonpolis, CG 14716, Quibell and Green 1989 [1902]: pl. 29), and an ivory cylinder relief3 (Hierakonpolis, Ashmolean E.3915, Whitehouse 2002: 434, fig. 4). This violent and aggressive subject matter may not have related to political unification but rather reflected other concerns, such as conventional modes of depicting aspirations, or the desire to use the past to legitimise the present (Baines 1989; 1995: 105, 110). However, interpretation along purely symbolic lines may lead to too narrow an interpretation (Hornung 2002: 34). As Baines (1995: 70) observes, any interpretative framework needs to be set within the context of ancient society (but cf. Baines 1995: 115). Further, analysis and interpretation of the graphical image must take into consideration the technological, compositional and social aspects, or modalities, through which imagery is meaningfully and materially constructed, 'activated' and viewed (see Rose 2001: 17-18).

The argument for the historical nature of such scenes is raised by Dreyer et al. (2000; 1998: 139) with the recent discovery of a label (ID 205) from Abydos showing the 'fish' element of Narmer's name in the act of smiting. All such motifs are proposed not only to refer to the same event, but may represent the first usage of 'year names': "Smiting the thnw", the Libyans and/or Papyrus People. As Baines (1994) has stressed, the debate concerning such 'documents' and their function in recording history, on one hand, or royal mythmaking, on the other, is a continuing problem in Egyptology (see also Wilkinson 2001: 221).

3 Previously mistaken for a cylinder seal (e.g. Baines 1995: 151; Dreyer et al. 1998: 139; Schäfer 2002 [1919]: 150, fig. 138).
1.6 From Dichotomies Towards Integration

The classification of archaeological evidence as pictorial or scriptorial and its division along traditional sub-disciplinary lines raise crucial epistemological concerns:

...documentation basically falls into three distinct, though frequently overlapping categories: a) archaeological, b) pictorial, and c) epigraphic. Invariably the archaeological matter which includes both the sites where...artefacts have been found and the objects themselves are studied and interpreted by the archaeologist. The pictorial sources which visually illustrate incidents, themes, [and] events, are usually dealt with by the art historian, but also by the archaeologist. The epigraphic evidence, which may range from the occasional terse statement in a so-called annalistic inscription, through the explicatory caption or docket to a pictorial scene, to names and/or titles...are normally in the province of the Egyptologists, specifically the philologist.

It is only rarely that the diverse, but frequently overlapping, types of documentation are explicitly investigated by the historian...It is only after they [the archaeologist, art historian, and philologist] have finished their respective tasks and have, so to speak, provided the historian with the raw material and preliminary interpretations that the historian can then begin to work.

(Schulman 1989: 434)

Schulman briefly notes the overlap above. Indeed, all three categories are archaeological, material and symbolic on some level. However, such traditional divisions are rigorously maintained in previous and present research.

The common disciplinary division, where evidence classified as ‘text’ is the charge of the philologist, and the ‘artefact’ the domain of the archaeologist, results in the marginalisation from either view of important areas of past meaning production (see below). The significance of the material embeddedness of the image, while not directly integrated into textual assessments, unavoidably impinges upon these accounts. What is considered to be a ‘textual’ component of an inscribed object is not always explicated and frequently results in the conflation of the ‘text’ or ‘composition’ with the physical object (see, e.g. Black 1998: §§2.1.4-5, for this problem in Sumerian studies). Terms such as ‘text’, ‘document’, ‘source’, ‘record’, or
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[written] "information" require careful use, and an understanding of how these domains fit into past practice and meaning must be sought.

The expectation that inscribed objects such as the labels are 'textual resources' intended to serve the aims of the historian is exemplified in the statement, "...the amount of information they [the labels] can provide, although valuable, is limited by the nature of the objects, which were only intended to be identification labels on items of funerary equipment" (Spencer 1980: 63). The dissatisfaction expressed here is, I believe, symptomatic not of some perceived shortcoming in "the nature of the objects", but of the nature of the questions posed by text-centred approaches.

Palaeography and various material aspects of expression may be commented upon by observers, e.g. Griffith (in Petrie 1900: 34) notes that scratched signs are "abbreviated" on vases while ink-inscriptions on vessels and other surfaces are lengthier and exhibit more morphological variability. Yet, these are not systematically analysed and integrated into archaeological accounts, on the one hand, or philological interpretation, on the other. Charting variance and invariance in form, technique, style and consideration of who made an object for whom (Davis 1989b: 186) are important for an integrated approach.

Over the last decade scholars within the wider discipline of archaeology have increasingly attempted to overcome this persistent text:artefact paradigm, albeit with some difficulty (Bell 1992: 36). Work in material culture studies (Pearce 2000: 1) is reasserting the need to demote language and its written modes from their privileged positions in the generation of culture. Such attitudes are present in the kind of language used to conceptualise the development of writing: "...it has to be determined when the stock of hieroglyphic signs first began to be freed from their specifically iconic or symbolic usage..." (Kahl 2001: 112). This need for integration has been brought emphatically to the fore by Moreland (2001) in his book 'Archaeology and Text'. This 'material turn', and the recognition that writing and representation are material in their expression situates them alongside material objects with regard to investigating the processes through which social meanings are constructed – through interactions between individuals and groups and their material environment (see also Gardner 2002; Matthews 2003). It is with this recognition that the present thesis seeks a contextual approach which confronts the text:artefact dichotomy.

Within Egyptology, this growing awareness of the importance of materiality and practice is demonstrated most recently in the work of Baines (2004), which
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attempts to model the social and functional context for the initial development of writing. This work directs attention to the implications of materiality including scale, and accessibility and audiencing, both in terms of physical location (that it might be in too remote a position to be perceived), and decipherability if the audience were not literate. He also raises the question of the intended audience, a particular point which can have wide-reaching implications for how we interpret the labels. That the living were the intended recipients of graphical material cannot be assumed.

Another binary pair often emerges in previous literature on the labels and related graphical culture in the context of interpreting function and meaning. As Wengrow observes, “[t]he opposition between ‘bureaucracy’ and ‘ceremonial display’ – and between ‘utilitarian’ and ‘ritual’ functions – has become central to the way that epigraphers and archaeologists describe and classify the world’s earliest writing systems” (as exemplified by Postgate et al. 1995). It is important to see the surviving evidence from the late fourth millennium BC, such as the labels, as encompassing aspects of both domains” (Wengrow Forthcoming). Kahl’s (2001: 114) re-visitation of such binaries attempts to capture overlap by proposing that written evidence ranges from fuller spellings in more representational contexts, to shorter spellings in what he describes as more functional contexts. He locates the ‘monumental’ Narmer palette and decorated maceheads, as well as stone vessels towards the former end of the spectrum, and ‘product’ labels and pottery vessels, towards the latter. ‘Year’ labels are categorised as ‘more representative’ and while narrative imagery is common up to the reign of Den, by the reigns of Semerkhet and Qa’a ‘year’ labels are virtually devoid of narrative imagery. How changes in degrees of representative-ness or functionality relate to underlying continuities or other types of change in label materials, morphology and final use contexts cannot be fully explained by plotting a point along a continuum of opposed categories, particularly when it is not clear that these categories were opposed in the minds of label-makers and users. This model also considers function synchronically, yet as this thesis attempts to demonstrate, function and meaning lie at the centre of a network of material and social concerns contingent upon the context of practice across time-space. For example, if shortened spellings and reduced narrativity imply an increase in the abstraction of symbolic meanings, we might infer that this necessitated increased knowledgeability on the part of the maker and recipient (if intended). How then does ‘more functional’ help us evaluate and explain the wider social changes of which such graphical patterning was
part? As the present study aims to demonstrate, when graphical evidence is explained in terms of social practice, it becomes impossible to maintain strict dualisms (e.g. writing:art, administrative:ritual/ceremonial (cf. Postgate et al. 1995; with Wengrow 2006: 203-204), communication:display), not to mention the artefact:text dichotomy within which these are often situated. These nested binaries collapse and a dynamic network of action emerges in its place, constructed through processes involving cognition, materiality, technology, and embodied engagement.

1.7 Bridging Gaps in Previous Research

A remarkable amount of study has been dedicated to these small perforated plaques and the numerous images on their surfaces. Rarely do they escape mention in the many books and articles, both academic and popular, on this early period. Alongside the Narmer palette, a small number have become standard 'image bites' for early writing and early ancient Egypt (e.g. ID 304). As might be expected, the better-preserved or more elaborately inscribed labels, mainly encompassing the 'year labels' have been most extensively studied with discussions centring on royal and elite subject matter within the contexts of social hierarchy, 'state' formation and administration. Interpretations derive from both comparison with contemporary material and more often later evidence, but clear methodological explication is often lacking.

In an attempt to break out of such dialogues and redress the partiality of past work, the approach taken for this research project is explicitly contextual by grounding observations in the objects and their material-graphical, spatial, temporal and social contexts. I am also interested in the question of to what extent these objects constitute a 'type' of material culture and the nature of the relationship between what appear to be relatively separate but related phases of label practices (e.g. NIII A1 and NIIIIC-early D).

The selective nature of studies has resulted in exceedingly filtered accounts: firstly, top-down methods have resulted in only a small number of the more complete and elaborate labels receiving detailed study and even then, emphasis is placed on the 'year names' and 'royal' iconography; secondly, the emphasis on written and pictorial evidence has overshadowed their material significance; thirdly, the archaeological context of individual objects is rarely considered; and finally and critically, previous
research has overlooked the importance of social practice in the construction and negotiation of past label meanings. Prior to addressing these broader epistemological, theoretical and methodological concerns, certain empirical issues which required attention in building on the published work of Kaplony (1963), Kahl (1994) and Dreyer (1998) have had to be addressed:

- Combining and updating these datasets from subsequent publications and museum research
- Providing photographs and illustration of both faces
- Updating current location information
- Providing object measurements
- Providing fuller materials identification
- Documenting technique and colour (of material and pigments), inconsistently indicated in some publications
- Documenting whether a label is single- or double-sided
- Recording preservation (rarely clearly noted apart from selected drawings of more elaborate labels) which is important for identifying refits

In addition to addressing these gaps, part of the originality of this project is that, for the first time in studies of script formation, the labels are treated as a corpus, creating a clearer material object of study. The goal is to focus on the contingency of meanings and discover how, during this dynamic period of Egyptian history, the labels were part of broader social practices whereby early Egyptians negotiated relationships of power by selecting, transforming, and constructing meanings in particular material-graphical forms. Graphical imagery on labels, as well as jar inscriptions and tombs stelae, are compared in order to offer understandings that will help put into perspective the largely functional and linguistic explanations put forward to date.

1.8 Aims and Research Questions

After a century of accumulated discovery, the labels comprise a numerous and diverse dataset that deserves exploration in the context of its ‘past present’ through a purposeful focus on the objects themselves and their contemporary context (cf. Gardner 2004: 12). The thesis aims to situate data gathering, synthesis, analysis and interpretation as closely as
possible to the objects themselves. The objective is not to negate or replace anachronistically-derived knowledge of the labels, but to extend our knowledge by exploring layers of meanings from a new point of departure.

In light of previous research just discussed, a main argument of the thesis is that, as an overall research strategy, evidence classified as ‘text’ or ‘writing’, and any other form of graphical culture, cannot be fully understood in isolation from the surfaces on which they occur or without consideration of the behaviours through which they were produced. Therefore, a particular area of critique is the way that traditional disciplinary practice separates scriptorial from material culture, the former studied through a philological approach, and the latter through an archaeological approach. Philological approaches tend to perpetuate a false sense of the fixity, systematic nature, and ‘truth’ of the written record, whereby writing remains ‘readable’ in spite of the loss of past contextual information concerning the act of writing and reading (see Gardner 2001; Moreland 2001). I therefore seek to situate graphical-material culture within the context of social practice – here conceptualised according to Giddens’ ‘theory of structuration’ (see Chapter 2) where individual agents act in relation to social structures. Practice is seen, for the purpose of the thesis, as revolving around three interrelated spheres to which data collection, analysis and discussion is directed: archaeological context, material form, and graphical media.

The aims of the thesis are three-fold.

• To explore and assess comparatively the relationship between the material properties of the labels and their graphical features – through a non-retrospective and therefore contextual approach – in order to assess function and meaning within Late Predynastic and Early Dynastic Egyptian funerary contexts
• To develop and present a method and theoretical framework which provide scope for the holistic study of graphical-material culture within the context of past social practice
• To integrate and synthesise existing work on the labels with the outcomes of first-hand observations in order to produce a comprehensive catalogue and database as a reference and research tool for further study of the inscribed labels and related objects
The first aim is achieved by addressing five main research questions (below), in seeking ways to answer these questions, suitable methods and theories are identified and adapted thus achieving the second aim, and the final aim is achieved in the course of data collection and its synthesis in two databases (Microsoft Access and ATLAS.ti, below) and presentation in the form of an image catalogue and appendices.

The research questions are:

1. What is the significance of **archaeological context** for understanding the labels as meaningful social practice?

2. From a **non-retrospective** standpoint, what is the significance of the **material properties** of the labels for understanding them as meaningful social practice?

3. From a **non-retrospective** standpoint, what is the significance of the **graphical features** of the labels for understanding them as meaningful social practice?

4. What can the comparative study of inscribed funerary jars and stelae inscription tell us about the significance of labelling/marking practices in the funerary context?

5. How do continuity and change in label practices relate to broader transformations in early Egyptian society?

The first three questions focus on three inter-related areas concerning the immediate nature of the labels, each of which is explored in a dedicated analytical chapter. Archaeological context is examined in Chapter 4, material form in Chapter 5, and treatment of the rich and multi-faceted area of graphical content spans Chapters 6 and 7. Two comparative case studies and discussion are presented in Chapters 8. In the conclusion, in Chapter 9, the results are situated within the wider social context and the future directions of research are considered. The three research aims and this set of five questions are, therefore, designed to provide the overall focus for the research while enabling study to proceed in manageable sections, working from the specific to the general.
1.8.1 Research Question 1: Archaeological context

This question of the archaeological context of the labels addresses one of the main gaps in previous research. Spatial, depositional, and temporal dimensions of the data-context are confronted in order to identify meaningful patterns of similarity and difference (Hodder and Hutson 2003: 183). On a fundamental level it is necessary to determine whether the labels were found in stratified or general contexts, and to identify architectural or other features and objects with which they were associated.

As discussed, stratified contexts for the labels are limited, but not altogether absent. The archaeological context for each label is examined to discover the extent to which relationships between the labels and their find spots can be envisaged as meaningful, a necessary step for taking into account data-quality and the appropriate level of rigour to apply in analysis. The question of archaeological context is not only critical for the preliminary business of dating (Section 1.4.2-1.4.4), but contributes toward distinguishing whether there is a single time-space label tradition, or whether these objects represent different traditions. Similarly, through this research question artefact change is explored in order to discover why labels come into use during the NIIIA1 and go out of use around the end of the 1st Dynasty. Furthermore, this question of archaeological context is concerned with the role of the labels in burial practices and why they are associated exclusively with the burials of high status individuals, or individuals closely associated with them (see Section 4.1.4 on status of burials). In addition to how these objects functioned to identify goods, places and people, the close examination of context is important for shedding light on, how they communicated social difference in status, rank and power in the funerary ritual (Parker Pearson 2001: 72-94). In keeping with the aims of a contextual archaeology, these understandings are sought in conjunction with the other research questions which address related areas of social practice.

1.8.2 Research Question 2: Materiality

The second theme of materiality is explored by considering the immediate nature of the labels as material objects. Morphological features, such as size, shape, colour, and material of manufacture are examined. The techniques employed by
the maker(s) are also observed, including the cutting and shaping of the label, surface treatment, how the decoration was rendered through subtractive or additive practices, as well as the presence and placement of the perforation. The ways in which particular techniques and materials are combined in practice is considered across time-space and in relation to the implications of materials acquisition and selection.

1.8.3 Research Question 3: Graphical content

Research question 3 deals with the graphical aspects of the labels. As discussed, the extensive work on script formation carried out by Kahl (1994; 2001; 2003a), Schott (1951), Kaplony (1963), and others, has been aimed at identifying imagery which fits later known linguistic paradigms. Here, instead, working from the individual image to the broader level of the composition, the repertoire is surveyed and the character of each image is assessed based on several criteria including mode, orientation, view and associations with other images. The position of each image or group of images is located on either main label surface, within the layout of the composition and in relation to other images. Consideration is give to the mechanisms by which image relationships are created and how graphical interactions provide a structure for various levels of meanings. Basic statistical analysis of frequency rates of image types within the label corpus is carried out as part of a broader research strategy (Morphy 1989: 9), where both statistical and qualitative analyses establish underlying patterns which tell us about the physical condition of label composition and how this influenced subsequent layers of meaning. Labels were not produced, used, attributed meanings and deposited in isolation and consideration of their broader context is required, as addressed by the next research question.

1.8.4 Research Question 4: Comparanda

This question is designed to characterise the labels comparatively by examining contemporary methods of marking/labelling objects in the funerary context. These range from cylinder seals and seal impressions, pot marks (both those incised into the damp clay before firing and those scratched or engraved into the surface after
firing), vessel inscriptions (pigments applied to the surface), and funerary stelae. I have selected the latter two ‘labelling’ technologies for comparative study: Jar inscriptions contemporary with the NIIA1 labels and tomb stelae contemporary with the NIIC-early D labels. The goal is to open up a dialogue between the relatively empirical areas of inquiry emphasised in previous questions and the wider contexts in which similar early graphical media operated. This involves taking a synchronic approach while simultaneously considering continuity and change. Patterns of similarity and difference allow interpretation to go beyond the labels themselves and situate the study within the scope of similar contemporary graphical practices directed at negotiating meaning between people and funerary objects.

1.8.5 Research Question 5: Broader social context

Continuing the reintegration of the three thematic sets of analyses and their results, and in the light of the comparative material, Question 5 situates the interpretative discussion within the broader social context. In the course of engaging with the labels, human actors were continually negotiating meanings by participating in the construction and transmission of artistic knowledge, developing technical and artistic norms for the ordering of the world and reifying these meanings via graphical-material expressions and practices. On the one hand, we need to concern ourselves with the immediate social discourse of which the labels were a part – a discourse which took place, in as far as it is preserved archaeologically, at the graveside. On the other hand, we also need to be concerned with the other areas of society whence structures and ‘rules’ were derived and came into play in the very existence of such a discourse (Foucault 2002 [1966]: xiv).

1.9 Summing Up

In bringing the inscribed labels together in a single study for the first time, the aim of achieving a holistic understanding of their role involves taking account of social practices which define the uses and the values of these objects. In an attempt to break out of past dialogues which cast the inscribed labels as passive objects or
mere 'sources', the following analyses and interpretations, as informed by practice-centred theoretical approaches discussed in the next chapter, attempt to re-animate and re-materialise this group of objects by seeing them as the result of, and contributing to, meaningful social action involving living persons (cf. Dant 1999: 39). Their importance is not reducible to their political effects or to administrative function and economic calculations but emerges through grasping the way that objects are fitted into ways of living and dying.
2 Theorising People and Things in Practice

2.1 Introduction

In this chapter I outline the theoretical framework developed for the thesis research. In doing so it is important to define ‘theory’ and explain how it is deployed in this context. Art historian Keith Moxey (1994: 24-25), following Max Horkheimer, distinguishes between “traditional” and “critical” theory. The former seeks to establish an epistemological basis for knowledge, while the latter seeks to make knowledge relevant to the cultural and political circumstances in which it is formulated. The theoretical ideas presented here are of the latter sort and, to borrow Moxey’s (1994: 24) phrasing, are “not so much surveyed here but plundered” to achieve an integrated perspective which, rather than outlining steps for the ‘correct’ interpretation of early Egyptian ‘visual’ culture (see Panofsky 1955), raises awareness of the socio-historical contingency of all cultural ‘representations’. This thesis itself is also a cultural representation – a presentation of knowledge in a particular style, yet one that endeavours to re-present past knowledge that was constructed and expressed in a particular material-graphical form. An important part of a critical theoretical approach is maintaining awareness of this tension and how circumstances in the present shape our accounts of the past.
Since the 1960s and 1970s, theory has been recognised in most areas of archaeology as an integral part to the endeavour of inferring social meaning from past material culture (Hodder 2001: 1). However, as with some of the more conservative sub-disciplines of 'cultural history' (following Morris 2000: 1-33; see also Trigger 2001: 4), Egyptology is still coming to terms with the need to be explicit about the theoretical assumptions that inform methods, analysis and interpretation. The non-discursive position of theory leads to a situation where the pathways of knowledge-making become ossified, thereby reducing the reflexivity and transparency necessary for testing, critiquing and reshaping our ideas. Trigger et al. (2001: 349) remark that few general studies attempt to view early Egyptian society in terms of a comprehensive theoretical framework. A limited number of works on this early period set out their methodological and theoretical approaches (e.g. Trigger 2001; Wengrow 2006), but the majority lack overt discussion of the theoretical approaches employed (Emery 1961; Engel 1997: 434-436; Hoffman 1991; Wilkinson 2001; see also Bard's (2002: 263) review of Wilkinson). Whether the investigator is cognisant of her or his theoretical premises or not, on every level, theorising is embedded in human action whether directed to understanding the present or the distant past (see also Johnson 1999: 6-11; contra Moreland 2001: 99). In the interests of reflexivity and the replicability of research methods and patterning, analysts must clearly articulate the suppositions upon which work is based.

A significant challenge lies in attempting to clarify the epistemological underpinnings of previous research in order to assess it critically. Any attempt to understand early Egyptian society, or a facet of it, must be conscious and explicit of that which is brought to the attempt (cf. Johnson 1999: 5), and indeed, make best use of these pre-conceptions whilst being open to having them critiqued (Gardner 2001: 40). It is in this spirit that I attempt to construct a reflexive theoretical approach. By adapting and integrating existing theories from archaeology, anthropology, art history, semiotics, material culture studies and sociology, a coherent framework is assembled whereby the meanings and functions of inscribed labels can be analysed and the results interpreted in a contextual manner. While the theoretical approach and methods developed for the thesis are presented in separate chapters to make clear the research design, theory and practice cannot be isolated from one another (Johnson 1999: 2); both underpin all aspects of data collection and collation, analysis, interpretation and presentation.
Perhaps in response to the dearth of inscriptive evidence in the Late Predynastic-Early Dynastic Periods compared with later periods, a frequent avenue of interpretation, as mentioned in Chapter 1, has been to extrapolate from later sources to explain earlier material, particularly where morphological similarity is observed. However, the use of hindsight in analysis is hazardous (see Baines 1995: 115), since the later social-historical contexts and meanings attributed to depictions are never identical to what has gone before. Retrospectively derived ‘interpretive keys’ deny the importance of time and place in the construction of meanings and fail to understand past people on their own terms. It may be possible to determine that certain elements in pictorial depiction remain stable, and concepts and ideas are carried forward with only slight differences visible in expression (Baines 1994). Nevertheless, a difficulty is how to assess the extent to which morphological similarity indicates semantic similarity. A frequent problem is that researchers on early Egypt tend not to distinguish between contextually- versus retrospectively-derived interpretation (e.g. (Dreyer 1998: 146; Millet 1990: 56; Smith 1981 [1958]: 38-51; Williams 1988: 48), or in the latter case, demonstrate continuity from a given context to one later in time where meanings seem clearer.

This situation raises various epistemological concerns for study of the inscribed labels. In order to assess systematically what an inscribed label is on its own terms, and as a particular kind of graphical composition, a synchronic source-critical approach is required. The examination of the three main thematic areas outlined in Chapter 1 – archaeological context, materiality, and graphical composition – requires a complex theoretical framework that can inform analysis and interpretation within each area as well as providing scope for interrelating all.

The first theoretical area deals with how inferences are drawn from archaeological contexts, including depositional processes, the temporal and spatial situation, in addition to typological groupings (e.g. Hodder and Hutson 2003). The second theoretical area deals with the materiality of the labels in making, use and deposition (e.g. Dobres 2000). For the third area of the graphical media on the labels, I draw on perspectives from visual studies (Rose 2001: 16-28) and social semiotics (Hodge and Kress 1988). These areas are brought together within the context of the relationship between human actors and material objects. Together these theoretical approaches, according to the methods outlined in Chapter 3, inform the kinds of analysis and interpretation presented in Chapters 4-8. This tri-partite framework,
situated in relation to social material practice, provides the focus necessary to facilitate analytical precision, but is conceptualised in such a way that attention is also given to the inter-relatedness of these areas.

2.2 Archaeological Context

During the early 20th century, approaches to burial archaeology across the archaeological discipline often focussed on the normative practices and rites of elites from a primarily culture-historical perspective. These had limited success in deriving meaning from funerary remains because symbolic meaning was not discussed with adequate reference to social process, function and power. Not until the 1960s was this limitation overcome with the formulation of a methodological basis for the social analysis of burial practices (see Chapman and Randsborg 1981: 5). These processual approaches explained rather than merely described and created new ways of thinking by drawing on anthropology. Yet they often neglected ideology and ideological functions as well as social interaction, thus presenting a passive view of society. Geertz (1973: 94-98 cited in Huntington and Metcalf 1979: 5) noted this passivity well before the processual critique, pointing out that archaeologists and anthropologists alike often characterised burial practice as ‘reflecting’ social values. Geertz argued for seeing a dialectical relationship between burial practices and the social values attributed to them, demonstrating that each is an important force in shaping the other. Similarly, post-processual work sought to promote an active view of society by emphasising the individual as actor. The roles of some individuals, however, including women and children, have been marginalised and undervalued in burial studies and in archaeology more generally (Rega 1997: 229). In addition to focusing more attention on the individual, post-processualists see meaning as culturally and historically constructed and find this framework essential to understanding the significance of individual and group behaviours in the burial context (Hodder 1984: 52-53).

Interpretive archaeologies emphasise the importance of interpreting archaeological remains in relation to social practice. Practice is ‘a way of doing’, how an individual social actor practices living in, reproducing and transforming the culture around her- or himself (Johnson 1999: 105). Scriptorial evidence is typically assigned a ‘utilitarian’ communicative function, but as Baines observes “writing that is
incorporated into display often cannot be read in normal conditions – for example, because it was too small or inscribed in too remote a position, or not decipherable because the audience would not be literate, or because it was interred and serves the hereafter rather than this world” (Baines 2004: 152). The distinction between communication and display must certainly be defined within the particular context(s) of practice (manufacture, use(s) and deposition). This applies equally to what constitutes “normal” conditions of perception. The questions of accessibility, visibility, and knowledgeable perception highlight the point that meaning is not inherent in any situation or object, but is relational, a joint product of the situation and the person or people for whom the situation is meaningful. The deposition of inscribed objects in cemetery contexts and the constraints this may place on reception (if intended), and therefore the range of possible meanings, are issues to which I return (Section 8.6).

The importance of contextual archaeology has been a main tenet in the work of Ian Hodder (see Hodder and Hutson 2003: 156-205) and forms a central feature of the approach adopted here. Accordingly, archaeological data are understood through four main dimensions of archaeological variation: temporal, spatial, depositional, and typological. In defining these, comparative work is required with attention not only to difference and similarity (Trigger 2001: 4), but also to absence (Hodder and Hutson 2003: 173, 176). In order to address research question 1 (Section 1.8.1), the labels are examined with reference to each of these dimensions. Hodder and Hutson (2003: 193) set out general principles that govern the way in which data are ‘read’, while remaining open to critique.

2.2.1 The Temporal Dimension

The first type of similarity and difference archaeologists encounter is in the temporal dimension. Objects can be seen as close in time based on a similar stratigraphic location and we are then more likely to place them in the same context with related meanings (Hodder and Hutson 2003: 177). However, where temporal similarity is mediated by spatial distance, the similar temporal dimension may be less relevant to meaning. Therefore, for similarly dated labels found at the widely distant sites of Abydos and Saqqara, similar functions and meanings should not be assumed, a point also considered in relation to label typologies (Sections 2.2.4, 7.11). In addition to
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seeking understandings of labels as completed objects, the diachronic dimension is important in accounting for changes, both in practices and meanings, as manifested, for example, in the differences in size and compositional complexity between the Late Predynastic labels from Cemetery U at Abydos (e.g. IDs 67, 141), and the 1st-dynasty examples found at multiple cemetery sites (e.g. IDs 348, 405).

2.2.2 The Spatial Dimension

The measure of similarity and difference in archaeological phenomena can also be evaluated according to the spatial dimension (Hodder and Hutson 2003: 177). On the macro- or inter-site level, the labels are similar in that all cluster in cemetery sites. Similarity and difference in spatial distribution on the micro- or intra-site level are also important, such as vertical and horizontal (depositional, below) associations with individual archaeological features and other finds. As seen in the literature survey (Section 1.5), formal similarities among the labels are frequently seen as sufficient evidence to warrant interpretation according to the same set of explanatory principles. For example, the similarly inscribed labels, IDs 242 and 243, occur in a similar temporal context but are widely distant in space, the former from Naqada in Upper Egypt and the latter from Saqqara in the north. Yet both have received virtually identical interpretations (Kinnaer 2002: 657). From the strength of formal similarities one may assume the presence of shared knowledge which transcends the spatial dimension to some extent (e.g. 'the image in itself' Rose 2001: 23-24), but assumptions concerning cultural continuity risk circularity. In an attempt to avoid such pitfalls, the theoretical framework employed here sees meaning and its material reification as constituted only through practice situated in time and space.

2.2.3 The Depositional Dimension

A third type of context (which may be considered a sub-set of the spatial dimension and can also be assessed at micro- and macro-levels) is the depositional unit where similarity and difference can be claimed at many scales (floor, strata, chamber, tomb, surface and site). Since the degree of depositional integrity ranges widely for the labels, gauging similarity and difference requires a sliding scale of context; the relevant scale has to be chosen for the particular situation (see Hodder and Hutson
2.2.4 The Typological Dimension

The final dimension of archaeological context which Hodder and Hutson emphasise is the typological dimension, and this is linked to the temporal and spatial contexts. If two ‘objects’ – used here to refer equally to graphical depictions – are said to be similar typologically, this really means that they have similar arrangements of form in space. Thus, a contextual approach to typology involves identifying the full range of individual attributes before larger typologies are built (Hodder and Hutson 2003: 180, 182). A central criticism of label typologies cited in Chapter 1 (e.g. Kaplony 1963; Newberry 1912), is that they take only partial account of the full range of variables. Also of importance is the clear explication of the criteria for distinguishing one type from another (Hendrickx 1996: 44; cf. Petrie 1921: 5). Material of manufacture, size, method of decoration, and so on can be tested for correlations with other variables with the aim of letting the data ‘contribute’ to the choice of appropriate typology (Hodder and Hutson 2003: 182). Once general patterns are established, their meaningfulness can be tested through comparative work, as undertaken in Chapter 8 on inscribed wavy-handled jars and tomb stelae. It is important to bear in mind that typologies tend to concentrate on the end product. As I discuss below, the labels are the result of a diachronic process, from materials acquisition to shaping, and decorating, to use and deposition. Just as social knowledge is not incidental to the persistent patterning of social life but is integral to it (Giddens 1984: 26), so too is material culture. Therefore, for typologies where materials and morphology are the primary criteria, these should only be seen as heuristic tools for ordering data and
establishing patterning, not explanatory models for past functions and meanings.

Related to typology is the notion of style. Along with 'representation' (see Section 1.4), the term is one of the central concepts of art history that has made its way into archaeology. According to Preziosi (1998: 582), stylistic analysis is essentially a form of semiotic analysis and a means for constructing relations of filiation, kinship and descent between objects, and (as employed here) also for demarcating differences between them. Such analyses tend to be treated as surrogates or 'representations' of similitude or differences between their makers. They both presuppose and promote the hypothesis of a shared stylistic or family of resemblances amongst artefacts of a group.

It is true that any classification or order imposed upon material culture is influenced by the social context of the classifier. Shanks and Tilley (1987) question the meaningfulness of categories as determined by the modern investigator vis-à-vis the past individuals and groups who produced and used the material objects, going so far as to propose that archaeologists need not attempt to discover past categories – that such an objective is unattainable. The excessiveness of this proposal is highlighted by Sterner (1997: 98) who demonstrates that particular meanings are articulated, in addition to other factors, through the manner in which certain objects are regularly grouped together as assemblages. Social practice cannot precede cognitive processes of categorisation, and the organisation of experience and objects as products of human behaviour are inextricably linked and therefore expressions of social categories which can be interpreted by the analyst.

2.2.5 Burial in its Own Rite

In addition to taking account of these four dimensions of archaeological context in interpreting past meaning generally, theories particular to cemetery contexts also require consideration. The study of burial remains has long been central to archaeological investigation. As the focal point for direct and purposeful social behaviour, mortuary contexts provide a remarkable source for archaeologists, particularly in Egypt with preservation often unparalleled elsewhere. Particularly in this early period where settlement data are largely lacking, direct inferences are made from burial methods and wealth, for example, concerning the economic and/or political status of the deceased (Kroeper 2004: esp. 864), in order to reconstruct early
Egyptian society.

While the goals of reconstructing past society through burial remains have not changed significantly, the methods have (Chapman and Randsborg 1981), in the context of variable perception of the meaning of burial. The context of death is often one of ritual action and communication as opposed to everyday practical communication. Social behaviour associated with death occurs within a transitional milieu (Goody 1962: 34) and this can be envisioned as a tripartite process of separation, liminality, and reincorporation (Huntington and Metcalf 1979: 98). Other perceptions of mortuary ritual range from death as a single rite of passage (Morris 1991: 150) to a series of transitions within transitions. In many societies the deceased, the living, the cosmos, all go through a period of transition beginning with the separation from ‘normalcy’ upon death. Due to their transitional nature, the processes surrounding death may invert or disguise the social structure and ideology of the living.

Tainter (1978: 113) maintained that mortuary ritual is basically a communication system in which certain symbols are employed to convey information about the status of the deceased. He argued for a direct correlation between “energy expenditure” (in terms of labour) in the cemetery context, and value and status in life. Critiques of this method argue that the values attributed to objects may not always be expressed according to such criteria. Values and status must be seen as socially-situated; no one explanatory framework will fit all situations.

Similarly, some forms of funerary behaviour may be incidental rather than the result of deliberate behaviour, while other aspects of funerary ritual such as personal expression and emotion rarely, if ever, survive in the archaeological record. Goody (1962) concluded that the most elaborate and important ceremony in the social life of the LoDagaa of north-west Ghana was the funeral ceremony – based on the number of attendees, time taken, and emotion generated as compared with other ceremonies (with material evidence left behind). While the anthropologist has the benefit of direct observation and experience, some aspects, such as levels of emotion, are unlikely to be preserved archaeologically. Further, social behaviours at the grave side may relate to specific coping and manipulative strategies and are therefore different from behaviours where death is not the focus. Two main points therefore emerge; the importance of the post-processual view that mortuary practices do not simply reflect social organisation, but actively construct it (Parker Pearson 2001), and the need for
caution in extrapolating from one social context to another.

2.3 Society and the Individual

Every competent social actor...is *ipso facto*, a social theorist on the level of discursive consciousness and a 'methodological specialist' on both the levels of both discursive and practical consciousness.

(Giddens 1984: 18)

2.3.1 From Structuralism to Structuration

Structuralism in archaeology, drawn from the work of Ferdinand de Saussure and Claude Lévi-Strauss, has been used to explain material meanings, like the cognitive linguistic rules that generate sentences – the hidden cognitive ‘rules’ that generate cultural forms (Johnson 1999: 90-92). Since the 1990s, structuralist models have become the subject of a number of critiques. Often cited are its lack of a theory of practice and the diminished role allotted to the individual (Dann In Prep). Archaeologists' recent aversion to structuralism as a model has been based, in part, in the mistaken belief that it can have no diachronic dimension, and thus provides an inadequate account of change (Yentsch and Beaudry 2001: 227).

Within Egyptology structuralist thought has influenced the study of social structure (see Assmann 2002: 14-17, on the cultural construction of time). Its impact has also been profound in Egyptian literature studies and linguistics (e.g. Groll 1991), and it has been applied to explaining the meaning of architectural forms, for example the idea of a 'grammaire du temple' for interpreting symbol and form of the ancient Egyptian temple (Shafer 2005). The influence of structuralist thought of the Straussian type has recently appeared in the context of an interpretive approach to the construction of personhood and identity (Wengrow 2006: 6-7).

The insights offered by structuralism must be retained in any adequate analysis of social processes since they are based on perceptions held in the mind (Hodder 1982; Yentsch and Beaudry 2001). However, a central problematic is the view that deterministic structural forces eclipse the ability of individuals to act and discount the reason of the agent. Objections to such deterministic perspectives are not
new; in the early 18th century the Italian philosopher Giambattista Vico (1725) asserted the need to consider humanity’s capacity to formulate structures, as well as to be formulated by them. The idea that the individual and society are mutually constitutive and the nature of this relationship form the core around which much post-structuralist debate revolves, though how this relationship is to be understood is highly variable. Indeed, the determinism in strictly structuralist analyses of material culture, such as the “symbols as tokens” view (see Robb 1998: 333-334), is ameliorated by setting structure in relation to the individual agent.

An approach which is concerned precisely with this relationship between the individual agent and social structure is Anthony Giddens’ (1984) theory of ‘structuration’. “The basic domain of study of the social sciences, according to the theory of structuration, is neither the experience of the individual actor, nor the existence of any form of societal totality, but the practices ordered across time and space” (Giddens 1984: 2). As Barrett (2001: 149) observes, the emphasis upon “practices ordered across time and space” is Giddens’ attempt to transcend the analytical dualism separating subjective experience and the social totality. At its core lie three concepts which together summarise the overarching notion of ‘duality’ (Giddens 1984: 5):

<table>
<thead>
<tr>
<th>Structure(s)</th>
<th>Systems(s)</th>
<th>Structuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules and resources, or</td>
<td>Reproduced relations</td>
<td>Conditions governing the continuity or</td>
</tr>
<tr>
<td>sets of transformation</td>
<td>between actors or</td>
<td>transmutation of structures, and therefore</td>
</tr>
<tr>
<td>relations, organised as</td>
<td>collectivities, organised</td>
<td>the reproduction of social systems</td>
</tr>
<tr>
<td>properties of social systems</td>
<td>as regular social practices</td>
<td></td>
</tr>
</tbody>
</table>

Rather than functionalist notions of structure conceptualised as, for example, the girders of a building, implying a position outside human action, Giddens (1984: 17-18 and 23) uses structure in social analysis to refer to the ‘rules and resources’ or the “structuring properties allowing the ‘binding’ of time-space in social systems”. ‘Rules’ relate to the constitution of meaning (e.g. definitions, formulae), habitual action, and the sanctioning of modes of social conduct (the presupposition of some underlying concept, e.g. a law or taboo) and are therefore inseparable from resources.
Chapter 2: Theorising People and Things in Practice

which are means of system reproduction. Their mutually constitutive relationship is made clear in one of the main propositions of structuration theory: “...that the rules and resources drawn upon in the production and reproduction of social action are at the same time the means of system reproduction (the duality of structure)” (Giddens 1984: 19). Structures are therefore recursively organised sets of rules and resources which simultaneously constrain and enable\(^4\) action (Giddens 1984: 25). This dynamic can also be conceptualised as components feeding back into each other in a hermeneutic relationship. For example, “… the meaning of a part is derived from its relationship to a whole, while the whole is understood from the relationship between the parts” (Hodder 1999: 32-33).

The second concept of structuration theory is the ‘system’. Social systems, as reproduced social practices, do not have structures, but rather exhibit structural properties; according to Giddens (1984: 17), “…structure exists, as time-space presence, only in its instantiations in such practices and as memory traces orientating the conduct of knowledgeable human agents”. Where I find this concept of system particularly useful is in the different levels of embeddedness that can characterise the reproduction of the system. While Giddens does not explicitly extend this concept to the explanation of material culture as (reified) practice (see discussion on Wenger, below), the idea that the properties of practices can be characterised according to their extension over time-space, as ‘structural principles’ for deeply embedded structural properties, and beyond that as ‘institutions’, presents a useful way of thinking about patterning among the labels (see Chapters 8 and 9).

Several of the main tenets of structuration have been the topic of sustained theoretical debate, and these have been summarised by Gardner (2004: 2-4; cf. Barrett 2001: 149). Some argue that while the balance between agency and structure must be maintained, conflation of the two within a single framework is to be avoided (e.g. Archer 1995). Others see Giddens’ actors as too self-oriented, reflexive and disembodied and that by seeking to uncover agency, archaeologists are projecting modern individualistic ideals on the past (Hodder 2000: 25). However, as Gardner (Forthcoming) emphasises, Giddens’ framework establishes the mutually constitutive nature of individuals and social structure, and so is sensitive to the different ways in which agency may be structured in a given socio-cultural context. The crucial point

\(^4\) The single term ‘affordances’, coined by Alfred Gell (1998), encompasses both constraint and opportunity.
often not appreciated, or overlooked, in these criticisms is the distinction between duality and dualism. The notion of dualism sees the agent and structure as two mutually exclusive sets of phenomena. In contrast, in a duality agents and structure are mutually constituting and the structural properties of social systems are both medium and outcome of the agentic practices they recursively organise. The duality paradigm of mutual constitution underpins much of interpretative archaeological thought, although it is described and conceptualised in various ways (e.g. “a hermeneutic spiral”, Hodder 1999; cf. Wenger 2002, “duality of participation and reification”, below).

Within archaeology generally engagement with structuration theory has been underway for over a decade (e.g. Dobres 2000: 132), but reception within Egyptology has been minimal, in contrast to the engagement with structuralism and semiotics. Meskell (1999: 25-26, 50) places structuration theory among “…over-arching meta-narratives which seek to explain society in broad and general terms” – theories described as having significant elements of stasis embedded within them. This criticism seems, however, to be at odds with the main tenet of Giddens’ (1984: 25) framework which posits that social practices are contingent and variably constituted across time and space; social practice is, therefore, multiple and mutable. Further, Giddens (1984: 25-26) places emphasises on the knowledgetability of social actors which he sees, not as external to the individual as conceptualised by some structuralist approaches, but integral to social life. By the same token, he states that too much emphasis on the individual overshadows the importance of “social rules and resources” – the properties of the social system – upon which actors draw in the reproduction of social relations.

Giddens has also been criticised by some for conceptualising the individual, on the one hand, as lacking agency (e.g. Meskell 1999: 50), and on the other, as too autonomous (e.g. Elliot 2001: 41). As Gardner (Forthcoming) argues, such critiques are probably more symptomatic of the dualistic thinking of Giddens’ critics than a genuine flaw in his modelling of the relationship between individuals and society. Nevertheless, as alluded to above, an area where the theory of structuration can be more fairly said to be underdeveloped is in the context of the interaction between social actors and material culture. Further, a critique that can be levelled at structuration as well as theories of practice and material culture generally is the exclusion of graphical imagery from models of the material world, especially imagery
classified as ‘writing’. In developing a suitable theory of practice for understanding the inscribed labels, the framework outlined above therefore requires bolstering with regard to material cultural practice. For this I draw on the work of Etienne Wenger.

2.3.2 Practice as Participation and Reification

Related to the constitution and reconstitution of social systems is the process of the reification of social relations, “...the discursive ‘naturalisation’ of the historically contingent circumstances and products of human action...” – one of the main dimensions of ideology in social life (Giddens 1979; 1984: 25-26). Reification refers to a wide range of social processes as well as their products. It is the survival of the reification of social relations in the past through material objects that essentially constitutes the domain of the archaeologist, making this concept relevant to any archaeological work concerned with social practice, and therefore structure and agency.

My particular interest lies in considering the ways certain practices – the negotiation of meaning – come to be projected or reified in a material-graphical form. Giddens goes some of the distance in theorising the processes by which engagement and experience are given material form. In an accessible and clear way, Wenger (2002) in his book on Communities of Practice works through this concept of reification more fully, which he sees as forming a duality with participation. He starts with Webster’s definition of reification: “To treat (an abstraction) as substantially existing, or as a concrete material object”, but extends the term to a wide range of phenomena which can be grouped into two main types (Wenger 2002: 58). Some reified practice may remain abstract in its manifestation, for example, a scheduled break during a lecture reifies what is, and what is not, lecture time through the participation of students and lecturer in taking the break simultaneously. Reification also shapes experience in a material way, for example, having a particular tool to perform an activity changes the nature of that activity – the computer and printer I used to write and produce this thesis reifies a particular view of writing which contrasts with a small, wooden inscribed label, a material reification of an early Egyptian view and experience of the activity of writing or other form of symbolic representation or depiction.

Wenger (2002: 59, 62) sees reification as part of every day practice, and as a
constituent of meaning is always "...incomplete, ongoing, potentially enriching, and potentially misleading". From this point of view, early Egyptian graphical images are simultaneously processes and the products of those processes. I find this ontological perspective useful for characterising the network of relationships through which labels were constituted – relationships that were continually transformed through embodied, knowledgeable technological engagement with material objects across social time-space.

To illustrate the utility of the duality of participation and reification and the ontological concept of graphical culture as 'becoming', we may consider how composers rendered imagery on the labels. Four main techniques are attested:

1. Linear incision/linear incision with paste infilling
2. Linear incision with applied pigment
3. Wide incision with raised segments
4. Applied pigment

Each technique implies a particular technological-material practice requiring specific tools manipulated through sequences of embodied action in conjunction with the label surface. Each technique also represents a different material reification of what it meant to make images or to be a composer. Both technologically and performatively, picking up a thin sharp lithic or metal tool to remove part of the label surface was a different experience compared to dipping a marsh rush into moist pigment and applying it to the label surface. The reification of writing, in both abstract and material forms, and in terms of the process and product was multiple and varied – and as I have attempted to understand through experimental archaeology and demonstrate in the analysis, variability in technique was integral to particular kinds of graphical meanings (Section 5.11).

In other respects, the social ‘rules’ concerning inscribed labels were relatively fixed. Labels were not carved in low relief as seen on contemporary objects such as the carved ivory plaque dated to beginning of the 1st Dynasty from Helwan (Figure 13; Sa’ad 1951: pl. 64b) or an ivory 'gaming reed' from Abydos dated to Qa’a (Petrie 1900: 23, pl. 12, nos. 12-13). Likewise, the technique of impression by cylinder or stamp seal was not employed on labels, though used on contemporary mud sealings of Nile mud and desert marl. It might seem absurd to point out that seals were not
applied to wood, bone ivory or stone, but in fact this example illustrates, both metaphorically and literally, that writing and image are fundamentally embedded within temporal and material contexts and as such one cannot be fully understood without the other – just as the raised script on a glass seal (Figure 14) must be understood in relation to the properties of heated glass. The important point here is that imagery and motifs can be added in different ways which impacted on meaning and reception. I am particularly interested in exploring why some aspects of label-making procedures were rigidly structured while others were open to negotiation.

The process of reification is a recursive one accomplished through the embodied and knowledgeable choices – participation – of individual agents. Although we may not always be able to access the individual level of resolution, we can aim at the kinds of choices with which individuals were confronted and how, in making a particular decision, social ‘rules’ were reformed or transformed. Labels are recognisable as a class of object, yet this is expressed differently across time-space.

Practice as constituted through participation and reification provides a dynamic way of thinking about behaviours, such as processes of perceiving, interpreting, using and reusing. Where users and viewers of the labels may not have been the designers, they (users and viewers) must have had to absorb them into their practices (cf. Wenger 2002: 60), and we can infer something of these practices from the materiality of the labels, through a consideration of scale, shape, weight, the conditions of viewing, etc. In the same way that agents and social structures are recursively constructed, the labels are objects that embody or reify the process by which they were produced, and are also integrated into subsequent human practices which they constrain and enable through their meaning content and materiality. As I hope to demonstrate, the process of reification and its material outcomes are important constituents of meaning and deserve consideration alongside the traditional focus on linguistic meanings of signs. There may very well be great potential for applying (in future research) the theory of structuration to linguistic signs which, rather than solely being treated according to a structuralist approach as the given properties of writing, are seen as recursively grounded in the communication of meaning through material forms (cf. Giddens 1984: 31).

The overarching frame for the thesis research is, therefore, the proposition that meaning is located in the relationship between the graphical image and its material context through socially situated practice. To bolster Giddens’ theory of structuration
as a way of grounding the study of graphical culture in the material context of action, I draw on Wenger's (2002) work on participation and reification which distinguishes between abstract and material forms, the latter being particularly relevant to archaeology.

2.4 Material Culture, Materials, Materiality

Archaeologists and anthropologists have long recognised that the set of human practices that surrounds material culture provides evidence of the distinctive form of a past society (Dant 1999: 2, 11; Miller 1985: 1). Processual approaches to material culture have been concerned with accurate and 'objective' artefact description and classification. Object variation across time-space has been used to establish typologies for comparison with other material culture groups, as well as in the construction of chronological sequences for dating archaeological strata, or where stratigraphy is lacking, the creation of a seriation system (Payne 1992; Petrie 1901a: 4-8). Such material variability of the labels and its significance has been unevenly unexplored. As objects, and mainly from their role as 'texts', they are often used to correlate with some absolute measure of human 'behaviour', e.g. state administrative practices (Wilkinson 2001: 110); or as scriptorial objects they 'function' to communicate language in the most immediate sense (Fischer 1989: 64-70; Kahl 2001: 116-122; Wilkinson 2001: 41); or they are seen as reflective of social forms, e.g. royal and elite status (Vemus 1993: 93). These understandings are ultimately reductionist as they cannot answer why and how a particular form is used (see Tilley 1989: 188). A holistic theoretical model of material culture, capable of representing the complex nature of the interaction between social strategies and artefactual variability and change (cf. Miller 1985: 4), is therefore required.

Post-processual archaeologies take us some of the distance in modelling the relationship between material culture and social behaviour. These place emphasis upon the diversity and contingency of meaning and the social processes by which meanings become materially 'encoded'. Phenomenological approaches go as far as to argue that it is through embodied engagement with the material world that existence is in fact constituted – that things make us just as we make things (Brück 2005: 48). Such hermeneutic concepts are key to the way I seek to understand the labels. In Chapter 5 in particular I explore ideas concerning the meaningful constitution and
past experience of the labels through human engagement using experimental archaeology (Section 5.11).

Discussions of material objects often fall into two categories: descriptive accounts as mentioned above, and those which discuss the world of things in terms of ‘materiality’. However, neither has typically addressed the issue of the materiality of script or image (e.g. Ingold 2007). The need to shake off the “tyranny of text” and situate visual culture within its material (and social) contexts has been raised (cf. Champion 1990: 91; Moreland 2001: 21) and in some areas many have sought to bring artefact and ‘text’ together (Kepecs 1997). However, in the insistence on a distinction between archaeological material evidence and historical “nonmaterial” evidence (Kepecs 1997: 193), it is possible to detect the inheritance of Cartesian mind:body dualistic thinking and an implied ontological primacy of the material world (see Thomas 1996: 26-29; also Brück 2005: 48). The importance of studying scriptorial and non-scriptorial evidence together cannot be emphasised enough, but rather than treating ‘text and artefact’ as two separate lines of evidence to be studied together (Morrison et al. 1997; W. Smith 1992, cited in Kepecs 1997: 195), the approach developed here sees ‘text as artefact’. Without particular material (including corporeal) underpinnings, subsequent interpenetrating levels of symbolic meaning, whether in the type of rim on a pot or inscriptions on a temple wall, could not exist, or more appropriately, ‘come to be’.

Similar to the relationships between levels of archaeological context discussed above (Section 2.2), Tilley (1989: 188-189) identifies two recursively related levels at which the form, nature, and content of material cultural meaning is produced: micro-relations (e.g. a set of designs on a pot) and macro-relations (e.g. relationships between burial or settlement space). Although Tilley prefers a priori to emphasise the social over the individual in the production of material culture, rather than infer emphasis from a given social context, the idea of directing analysis to different scales is valuable for understanding how people construct and are constructed by material culture. As for micro-relations, aspects for consideration include technique, size, shape and colour for both the image and its foundation. Macro-relations here involve the way labels were made, used and attributed meanings as part of social action in time-space. For example, a label, among other possible functions, may have signified social group membership on some level through materials, style (of both the object and its manner of use) and subject matter; social belonging may have been implied in
the composing and ‘reading’ of label symbols, ‘correct’ orientation being a fundamental cultural operation signalling knowledgeable and belonging.

It is culture that specifies how objects and their shapes, colours and textures are to be understood (Dant 1999: 13). However, formal variability may not be solely the result of artistic or other cultural conventions, but may be constrained by materials and the technology that shapes them. A dialectic therefore exists between material objects and social agents – the agent acts upon the object and the object ‘acts back’ – serving to constrain and afford opportunities for subsequent action. When trying to make sense of an object’s properties and meanings, this dialectic should be borne in mind. Further, there are various routine ways in which humans interact with material objects which, according to Gardner (2002: 3-5), can be grouped into three dimensions of materiality:

- Objectification
- Mediation
- Hybridisation

Firstly, objects are part of a physical relationship that has to do with shape, colour, texture, strength, flexibility, etc. It is this that distinguishes material objects from other cultural phenomena, such as kinship relationships or myths. The physical properties of material objects lead to a set of limitations on their capacities, thereby articulating their uses by embodied social actors. Secondly, objects are used within cultural practices that also specify and constrain their use, e.g. labelling and marking, burial ritual and exchange or gift giving. I revisit this point of individuals and groups negotiating social relationships with others via material culture in Section 2.5. Thirdly, objects may provide a surface for writing and depictions. This area of interface is particularly germane to the analysis of the graphical content of the labels from a materials perspective. In discussing these three dimensions, Dant (1999: 55) sees properties as “resting on” a thing, which designates its role in culture. I prefer to see properties as embodied in, or constituted through, cultural practice in order to avoid the pitfalls of notions concerning the pre-cultural status of material things.

Tim Ingold (2007: 3) observes that discussions of materiality are often vague and have little to do with materials and their properties. He comments that along with ‘materiality’, terms like agency, intentionality, etc. are part of “a language of
grotesque impenetrability”, a critique often levelled at theoretically explicit archaeologies. It is interesting that there seems to be great tolerance for technical terminology in other fields, such as physical anthropology and linguistics. I would suggest that perhaps this perceived impenetrability is symptomatic of the lack of a clearly defined technical language among archaeological theoreticians, and within interpretive archaeologies in particular. A host of other terms can be added to the list, all too often employed without clear definition, or worse, with meanings assumed a priori (e.g. material culture (as discussed), visual culture, visuality, writing, literacy, state, etc.). I do not propose that a given term must have a single fixed meaning, but the criteria for a category of meaning must be clearly explicated so that terms are used more consistently, and comparison and debate can take place with a reasonable degree of rigour.

To return to the task of setting out what I mean by materials and materiality for the purposes of the thesis, Ingold points us to the work of Gibson (1979), *The Ecological Approach to Visual Perception*, which directs our attention to the properties of materials. Gibson distinguishes three components of the inhabited environment:

- Medium: affords movement and perception
- Substance: is relatively resistant to movement and perception
- Surface: the interface between the medium and substance

Thinking about how each component informs and is informed by perception and engagement is valuable for understanding how particular object types shape the general process of objectification, mediation, and hybridisation (above). Moreover, the concern for medium ensures that material action is situated in a particular spatial context (air, water, light, shadow, etc.). This multi-dimensional view equips us with the means to explore material engagement in a more concrete way.

However, rather than the traditional emphasis on visual perception, it is also important to consider tactile engagement and how one facilitates or constrains the other (Gosden 2001; see also McCarthy 1984 on George Herbert Mead’s emphasis on the importance of the acts of touching and grasping in reality-construction). For example, depending on your posture vis-à-vis this present volume, in order to visually perceive the text on this page, you may need to periodically adjust your hand so your
fingers do not obscure the words.

To describe the labels as ‘material culture’ is intended here to signify that they are material objects which are simultaneously produced through and mediators of social-situated cultural practice. Where I use ‘visual culture’, this is to emphasise their decoration, but also encompasses the meaning of material culture. As ‘material’ the labels are understood here to be composed of surfaces and substances which are sensually perceived by embodied social actors through a variety of environmental mediums. To imply the dynamic nature of things in the mediation of social relationships, I refer to the ‘materiality’ of objects, although I agree with Ingold that we need to be looking specifically at material properties to understand how these impinge upon embodied engagement. So rather than dispose of this term as he seems to propose, I find it particularly useful for emphasising the material embeddedness of things that are not usually appreciated for their ‘thing-ness’, namely image and script.

2.4.1 The ‘Becoming’ of the Image and Experimental Archaeology

The requirements of material cultural analysis, in this case the construction of databases with discrete units of information including photographs, which entail the study of an object as though it only existed as a completed artefact, stand somewhat at odds with the aim of explaining and understanding material culture as constructed through social practice across time-space. An important area of theoretical focus is how material properties and material action are historically and cultural constructed. Fortunately, many labels provide material clues concerning their individual ‘life histories’ and from these we can infer something of practice through which they were produced and used. Of particular interest is the interaction between the shared knowledge structures of what a label was and the agency of the label-maker in the way she or he transformed label substances and surfaces within particular material parameters. Barrett’s (2001: 158-161) concept of ‘material structural conditions’, which he applies to (wholesale) embodied movement within the context of later prehistoric round houses in Britain, is particularly useful to thinking about labels in practice – although once again the theorising of material context is restricted to one side of the unhelpful prehistory:history divide, not to mention the absence of graphical imagery from such dialogues. Scaling down Barrett’s concept to portable objects, the label, in the course of embodied technological and other engagement, can
be seen as offering a series of framing devices and focal points. As the material is transformed and the plaque perforated and decorated, new conditions are presented which recursively shape and frame subsequent engagement. Paths are created amongst the images which guide hand and eye, and certain lines of access are facilitated while others are constrained, or strategically controlled (e.g. artistic conventions for placement of the name or body of the ruler within a composition). As movement within the graphical-material context of single and multiple labels proceeded, "practice of movement linked places in certain value-laden sequences allowing the practitioners to rework those values into their own biographies through the movement of their own bodies" (Barrett 2001: 160) – including act of sensual perception.

Episodes of activity in the transformation of the material context of the labels can be inferred from manufacture marks and other surface modifications, making it possible to reconstruct to some extent the various behaviours involved in their making and use (Chapter 5). When grounded in theories of social practice, chaîne opératoire research provides a great deal of empirical observation regarding the sequential activities of ancient materials processing (Dobres 2000: 166-169). Some label images show evidence of being incised prior to the cutting of the label to its final dimensions, while others are run through by the perforation (Section 5.6.1). Some images are scratched out, and very rarely, the erasure is re-incised. These episodes of interaction between material and image lend weight to Dobres' (2000: 130-132) notion of the 'becoming' of material culture.

In order to think through the operational sequence of making, use and deposition of the labels and investigate this notion of 'becoming' or 'coming to be', I conducted experiments in label-making discussed in Section 5.11. As Dobres (2000: 169) advises, we must consider which data are relevant to questions of practice and agency before undertaking analysis. My aim was to try to detect what influence a particular material, tool or practical technique may have had on both the production of the label materials or 'substrate', and the label imagery or 'constrate', and how procedures may have influence the character of the composition. Despite numerous critiques of chaîne opératoire in recent decades, if situated within the context of social practice and processes of decision making, it presents a valuable tool for charting 'lives' of objects.
2.4.2 Language as Analogy

It has been conventionally held that objects can illuminate words but they cannot replace them (Maquet 1993: 41). Archaeologists and anthropologists alike have traditionally attributed greater significance to verbal meaning interpretations than to material object interpretations, to the point that linguistic theories have been widely applied in these fields. For example, Shanks and Tilley (1987: 117) see material culture as located along structured axes of signification constituting a form of ‘writing’, noting however, that even though symbols can be ‘read,’ they move beyond the primary qualities of ‘writing’. Hodder (1991: 126-128) also promoted the artefact as text metaphor, seeing “context” as also meaning “with-text”. As with language, inferring material culture meanings depends on sets of similarities and differences in the archaeological evidence (Section 2.2), but in contrast to the arbitrariness of signs acting as signifiers, material culture references are relatively fixed and non-arbitrary, acting both as sign and referent (Hodder 1982: 201-202). Linguistic theories are therefore generally inadequate for explaining the diversity and contingency of material meanings. The relationship between what people actually do, the spatial milieu they create, and the verbal declarations and expressions which are used to describe social life are of a difference of scale as well as process (Fletcher 1989: 36). Rathje (1981: 63) finds that inconsistencies with respect to the ‘language’ or structure of material culture categories are frequently the result of behaviour. Nevertheless, in view of its generally predictable grammatical structure, linguistic analogy is therefore misleading in the reconstruction of past material culture meaning.

Furthermore, since material messages operate over longer time spans than do oral and embodied signals (i.e. gestures), there can be no simple correspondence between verbal declaration and actual behaviour (Fletcher 1989: 34-35; Shanks and Tilley 1987: 114). For example, the organisation of space, such as architectural patterning is not a linear grammar or time-sequential practice like verbal communication. By seeing the things of the world as reflecting and constructing (Hodder 1982: 212) the nature and form of the social world, conventional deterministic linkages between material culture and social phenomena are transformed into overlapping spheres of action. Nothing is decidable in advance about the nature of the object: the nature of an object is a function of the social-relationship matrix in which it is embedded. It has no ‘intrinsic’ nature independent of the
relational context (Gell 1998: 7). While post-processual archaeologies emphasise the importance of material culture as actively constituted, the need to consider further the contingency of past object worlds in relation to social and symbolic practice remains. Through the combined perspectives offered by Giddens and Wenger (Section 2.3), the empirical object is evaluated within the context of social practice – in an active temporally and spatially constructed relationship between object and agent, the structural relationships underlying its physical presence and associated meanings emerge. Thus, to study an inscribed label in isolation loses meaning in relation to past lives since all human action and the products of that action are part of a social totality which actively reaffirms or alters subsequent material behaviour.

2.5 Theoretical Approaches to Graphical Content

The post-processual concern to understand continuity and change in material forms has led to more dynamic models which situate the study of material objects in dialogue with social context. The view that objects are the result of the active integration of diverse material variables and social concerns promotes a wider exploration of archaeological data (Sørensen 1997: 111), including contexts of production, distribution and 'consumption' (Miller 1985: 4). This emphasis on material culture and meaning as constructed both synchronically and diachronically through social engagement is echoed in Composition Theory developed in the field of visual studies which sees graphical content as embedded in a network for which three 'loci of meaning' are posited (Rose 2001: 32):

1. Locus of production
2. The image itself (semiology)
3. Audiencing and visibility

These dimensions form a useful framework for focussing analysis but they must also be seen as interrelated. In the same way that an 'anthropology of art' focuses on the social context of art production, circulation and reception (Gell 1998: 3), the concern here is also to consider the imagery and meaning both diachronically and synchronically. This can be achieved by integrating ideas from Composition Theory with the practice-centred approach discussed above. I now discuss each locus in detail.
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below and how these are intended to guide subsequent analysis of the dataset (Chapters 6 and 7).

2.5.1 Locus of Production

In production of label imagery, the replication of similar graphical forms implies a shared body of knowledge among makers, just as the function or effectiveness of an image depends on its audience 'knowing' the images from elsewhere, where they have already been encoded (Hodge and Kress 1988; Rose 2001: 88-89). The process of planning out the design of a label composition and the use of particular kinds of technique to render graphical media influenced appearance and organisation and subsequent reception and meaning. This locus directs attention to the kinds of technological and craft choices label-makers were making to achieve a particular material, visual and symbolic outcome. For example, scoring and break marks on some Cemetery U labels suggest that multiple labels were produced from single plates of bone (Dreyer 1998: 137). The requirements of label plaque manufacture, drilling of the perforation, and the composition of the imagery are considered together in the analyses to understand the relationship between pragmatic, 'aesthetic' and stylistic (used here to refer to the formal attributes of images rather than style of content) concerns which may shed light on possible distinctions between symbolic or communicative features (see Dant 1999: 134). Some labels show evidence for curation or maintenance; several examples bear erasures (e.g. ID 281), or even erasure and re-incision (see ID 279). Taking account of production (and re-production) offers insight into the factors influencing subsequent patterning and may help identify how changes in form related to changes in meaning.

2.5.2 The Site of the Image

This is the area of meaning that has received the most frequent treatment in previous research (Chapter 1). Interpretations of label inscriptions readily attribute to them linguistic functions based on resemblances to later hieroglyphic writing (Dreyer 1993a: 12; Emery 1939: 83; Kahl 2001: 105), leading some scholars to overstate the 'readability' of signs. The use of hindsighted interpretation is due in
part to the present state of knowledge of early Egyptian linguistics which, according to Loprieno (2000: 28), must be addressed diachronically primarily, rather than synchronically. As he points out, synchronic systems of phonological oppositions — not only at this early period of the labels — but at any given time in the four millennia of the productive history of the writing system often defy a clear analysis. Where the writing system is better understood, this knowledge may be used as a model for the less well-understood phases of writing. However, as Baines (1995: 98) points out, the use of hindsight in the act of ‘finding’ is hazardous since the social-historical context is different, as well as the meanings attributed to a given entity. In theorising the site of the image, my primary concern, therefore, is to avoid anachronistic perspectives and attempt to gain an understanding of the labels on their own terms, thereby contributing to a particularistic, rather than general or a-historical, account of early Egyptian graphical media.

As mentioned, a central concern with previous research on the ‘site of the image’ is the privileging of writing. Bowman and Woolf (1994: 10) suggest that the overwhelming interest in ancient texts and literacy is due to our own graphocentrism. Likewise, Moreland (2001) criticises the tendency to see writing as a system of signs that circulate, distinct from symbolic meanings and lived relations. To avoid this tendency, the labels are treated here as objects which, in a sense, lead double lives, both as material things with particular functional issues to be understood, and as vehicles for meaning-making in iconic and semiotic forms.

Given the pictorial nature of Egyptian writing, the relationship between writing and representation, particularly in the early forms dealt with here, is often ambiguous. For the purposes of exploring this relationship, assumptions concerning the readability of signs as phonetic indicators are temporarily suspended in order to discern other possible meanings. Semiotics offers a way to explore graphical meaning by locating it in the relationships between signs. This focus on the site of the image means that “…semiology always pays very careful attention to the compositional modality of that site…” (Rose 2001: 72). Giddens (1984: 31) warns against the association of semiotics with structuralism, however, and with the shortcomings of the latter in respect of the analysis of human agency. Structuralist conceptions of language tend to take signs as the given properties of speaking and writing rather than examining their recursive grounding in the communication of meaning. The sense in
which signs are understood here to ‘exist’ is only as the medium and outcome of communicative processes in interaction. In this research then, I focus not on signification, but compositional modality – the spatial organisation and association of imagery.

Rose’s use of “agency”, i.e. the “agency of the image”, is not the sense in which I use this term. As a baseline for the research, agency must be located within the knowledgeable human agent, and following Giddens, with the understanding that agency exists in a duality with social structure. Therefore, when Rose speaks of the ‘effects’ of images, this is only in relation to self-aware human maker(s) and recipients. This is the default location and definition of agency, until it can be inferred from (not projected onto) the evidence that people in the past attributed agency to other people (or not), images, objects, features of the landscape and so on.

2.5.3 Audiencing

The third locus of meaning deals with visibility or audiencing and how objects are experienced. This may occur through more than one mode (or perspective) and the orientation of the subject will affect the mode, thus the cultural context of viewing can change while the form of the object may stay the same (cf. Dant 1999: 55, 156). In considering the contextual contingency of meaning, viewing/‘reading’ involves particular ways of interacting with an object. With some objects, such as a large statue, the viewer can move closer and further away to improve visual information, or around it to gain a sense of its mass relative to themselves (Dant 1999: 166). In the case of the labels, their small size (1.05-8.5 cm in height and 0.95-9.45 cm in length) would seem to constrain interaction and the level of visibility considerably. Presumably the images on them could only be viewed from a short distance away, and ideally would need to be held in the hand. Imagery applied to jars from Tomb U-j at Abydos are approximately 6.0-16 cm in height (Dreyer 1998: 47) and could have been identified from some distance, while the U-j labels are miniature by comparison (Baines 2004: 158), requiring close and intimate examination in order to be ‘read’. Thus, the scale of an image can also facilitate or mitigate against its viewing. Putting the relative scale of label imagery into perspective relates to research question 4 (Section 1.8.4 and Chapter 8) and
the importance of considering the range of scale in visual culture (cf. Winter 2000). The issue of audiencing also takes into account how ‘rules’ of visibility may change depending on whether the intended audience was the living, the dead or the gods.

Audiencing is also influenced by the material form of the image since it is directly linked to the social relations and interaction with it. Dant (1999: 166) illustrates this interconnectedness pointing out that lists are viewed, acted upon and thrown away, letters are read and often kept as a series, and administrative documents are ‘kept safe’ or available for future action. Not only is meaning embedded in both form and content, but neither can it be divorced from context. Given that no pre-cemetery use contexts have survived (to date) and the implication of deposition in a tomb, understanding social interactions involving the labels, accessibility and audiencing is not a straightforward matter, and this has major implications for how the traditional meanings inferred by modern investigators (Section 1.5) must be re-evaluated in relation to past experience.

2.5.4 A Social Semiological Framework for Interpreting Graphical Meanings

Alfred Gell (1998: 6) observed that where anthropology has been preoccupied with the practical mediatory role of art objects in the social process, semiotics is concerned with the interpretation of objects as if they were texts. However, Hodge and Kress (1988) move beyond traditional semiotics and employ a broader and more dynamic notion of ‘text’. They argue that no single code can be successfully studied or understood in isolation; concentration on words alone is not enough (Hodge and Kress 1988: vii-viii, 1). They see communication as a process, not a disembodied set of meanings or texts, and focus attention on the social construction and effects of an image’s meaning and how this may change according to the context of the recipients. They offer analytical tools for tracing in precise ways the transaction of meaning in sets of ‘texts’ (evoking the Latin textus ‘something woven together’, Hodge and Kress 1988: 6), which may be manifested in a multiplicity of forms, verbal or visual, or embedded in specific actions, or other behaviours involving agents, social structures and their complex interrelationships. The view that there is no fixed or determined relationship
between signifier and signified, and the need to see meaning as being more fluid than can be captured by a single fixed code, have been voiced by others (e.g. Barthes 1975, cited in Dant 1999: 98).

According to Hodge and Kress (1988: 5), the semiotic atom is the *message*, comprised of two planes of meanings:

- The *semiosic* plane: A message has directionality – a social context and purpose in which and for which it is constructed and exchanged
- The *mimetic* plane: The message is about something outside itself, relating to something in the world which gives rise to it

Together these aspects – which must be understood as interrelated – provide useful ways of thinking through the purposes of label messages and the extent to which meanings extended beyond the objects themselves. Both aspects are explored in the graphical analysis in light of their final use context of the cemetery, and provoke speculation on the unresolved question of their use in living contexts (Sections 8.7-8.8).

Beyond the immediate message, there is the question of the particular form of social intercourse of which it is part and how this interrelates with particular forms of social organisation (Hodge and Kress 1988: 3). For example, the labels are understood as part of a discourse of inequality in the formulation and distribution of power (e.g. Wengrow 2006). But are they more bound up with symbolically communicating a world in forms that reflect the interests of those in power, or are they related more to sustaining the bonds of solidarity that are the conditions of dominance? Or can we discern messages which point to attempts to resist domination? Social semiotics offers ways to consider the ideological implications of a message and whether it presents an image of the world as it ought to be, from the view of the dominant group or from the perspective of the dominated group or a combined position (reception within the context of the hereafter remains an open question). To capture the contradiction characteristic of ideological forms, Hodge and Kress (1988: 3) submit the concept of *ideological complexes* which sustain relationships of both power and solidarity and represent the social order as simultaneously serving the interests of both dominant and
subordinate. Whether coercively imposed or subversively offered, an ideological complex is composed of two models:

- Relational model (classification of kinds of social agent, action, object, etc.)
- Actional model (specifications of action and behaviours required of, permitted or forbidden to kinds of social agent)

In relating these models to the inscribed labels, I aim to analyse how compositional features and recurring image associations are employed to establish image classes and how these in turn construct label types. Actional aspects are mainly considered in relation to figural images which depict kinds of action (narrative imagery). Just as images may specify permissible or forbidden behaviour, the materiality of the labels themselves also sanctions certain kinds of embodied behaviour.

These models offer a striking parallel to Giddens' structuration theory (Section 2.3.1), the relational model being similar to Giddens' 'system' and the actional model equivalent to 'rules and resources'. One would therefore expect that ideological complexes should be considered in relation to something akin to structuration, i.e. 'the conditions governing the continuity or transmutation of kinds of social relations (relational model), through which the specification of actions and behaviours are reproduced (actional model)'. Indeed, Hodge and Kress (1988: 3-4) do something similar. They observe that because ideological complexes constrain behaviour on the one hand, and create opportunities for action on the other, these aspects would, in resolving this contradiction, cancel each other out. What they describe as the second level of the message is directly concerned with regulating the conditions of the production and reception of meanings, a set of rules which they term logonomic system (echoing Giddens' 'structuration'). Hodge and Kress see the logonomic system as consisting of a production regime (rules constraining production) and a reception regime (rules constraining reception). Wenger's (2002: 68-71) ideas of participation and reification also find resonance here. Some forms of logonomic systems become visible in behaviour, such as politeness conventions or etiquette, but it is only when they become reified in a material-graphical form that the archaeologist can
begin to discover the ‘system’. In other words, “ideological complexes and
logonomic systems are related in function and content, with logonomic systems
expressing ideological content by controlling one category of behaviour
(semiotics), while the ideological complex as a whole projects a set of
contradictions which both legitimate and ameliorate the premises of domination”
(Hodge and Kress 1988: 5).

In analysing the label imagery, social semiotics provides a set of strategies
for the study of meanings in the context of social action and power relations.
These ideas can be deployed in a variety of settings, but in this case are directed to
research question 3 concerning significance of graphical imagery on the labels
(Section 1.8.3). ‘Text’ – as textus – can no longer be separated from the social
production of meaning, whether ranging from more prosaic to purely symbolic or
a combination; meanings at all levels of interpretation (iconic, [presencing],
epigraphic, linguistic, etc.) must be seen as created through social discourse and
negotiation between different individuals and groups.

2.6 Summing Up

Objects mediate; they carry messages that were intended as messages. Material
objects extend human action and mediate meanings between humans or other
culturally perceived entities (e.g. deities, ancestors, the dead), carrying messages
across time-space, between people who are not co-present (Dant 1999: 13).
Different types of message may be conveyed. The materiality of an object – its
substance and shape, types of surface and the condition in which it is perceived –
mediates certain kinds of meanings. As Dant (1999: 154: 173) writes, material
form is fundamental to the mediatory character of objects because it directly
affects the way that we interact with them. The form of the mediating object, the
functional possibilities and constraints it incorporates, the way it ‘commands’
attention (see Section 2.6), are what determines how it fits into material culture
and ‘competes’ with the messages from other objects and other humans, whether
as individuals or as part of groups or institutions. For example, labels are small
and portable, inscribed with images only legible with the naked eye at close
proximity; based on the presence of a perforation in one corner, they mediated
some kinds of meaning in a very direct way and other meanings in a more
abstracted symbolic way. Therefore, we need to consider not simply how objects mediate different kinds of meaning, but also the different kinds of mediative potential since the 'how' of mediation would have changed according to time-space contexts.

Identifying the interconnectedness between people and things has not always been considered germane to archaeological endeavours. In his excavation report on the niched-panel façade at Naqada, de Morgan (1897: 164) explicitly states that he will *not* detail the location of the finds within each chamber, but will focus instead on their "nature and use". From this perspective, objects and their functions are self-evident, being related to a particular area of culture, not cultural *life*. Further, locating or contextualising behaviour is not so much in 'culture' (which is an abstraction) as in the dynamics of social interaction, which may indeed be conditioned by 'culture' but is better seen as a real process or dialectic, unfolding in time (Gell 1998: 11). It was this assertion concerning the dynamic character of objects that formed a central tenet of the critique of processes. Post-processual archaeologies continue to draw attention to the mutually constitutive nature of the relationship of people and things, and it is in this frame that I aim to understand the inscribed labels. Any one of these small plaques of bone, ivory, wood or stone formed a material node through which composers, sponsors, makers, inscribers, attachers, givers, bringers, donors, mourners, tomb owners or others communicated and negotiated social meanings and values. These may have entailed prestige, status, power or wealth or gender, age, occupation, affiliation and other aspects of identity, if not also embodying emotions, a sense of loss, or perhaps hope. It is not possible to reconstruct every method by which labels were used in negotiating social relationships, but by thinking about material culture in this way we can better grasp the varied ways in which graphical objects were important in past lives and relationships.

In the foregoing I have outlined the theoretical framework for the research project. I draw on a range of approaches to burial archaeology, material culture, visual studies and theories of practice. It is my intention that these facilitate a contextual approach to the dataset with attention given to the material embeddedness of graphical imagery, but also seeing the inscribed labels as both products and processes of social practice and meaning-making. Each area discussed above is characterised by its own theoretical insights and analytical
assumptions, and thus its own empirical focus. However, these areas for investigation and the ways of thinking about them also overlap so that analysis is guided in a methodical and integrated manner. It is the methods by which analysis proceeds that are discussed in the following chapter.
3 Methods and Methodology

3.1 Introduction

This chapter presents the methods and methodology for the thesis research. In order to answer the research questions concerning the significance of the thematic areas of archaeological context, materials and graphical content to label practices (Section 1.8.1-1.8.3) – and these from a comparative perspective (Section 1.8.4-1.8.5) – the methodological toolkit consists of methods tailored to the analysis of each area. The separation of methodological components from theoretical framework is necessary for conceptual clarity and organisation of ideas presented, but nonetheless artificial – both areas are intimately related epistemologically and practically. Following Dobres and Robb’s (2005: 160-164) distinction, ‘method’ refers here to less subjective tasks such as the “techniques of materials analysis that serve as the infrastructure of archaeological practice...”. Methodology, by contrast, consists of a carefully selected analytical toolkit tailored to the data and particular research questions, but for tasks which are fundamentally a matter of interpretation. Given that all acts are interpretive on some level, this distinction is therefore one of scale, from methods to methodology and beyond to theory, all of which are practical and discursive intellectual activities that should be seen as recursively related.
3.2 Collecting the Data

In this section I detail the methods for data collection, collation and organisation. As outlined in Chapter 1, the labels are documented in a variety of published sources (Figure 8). Most are housed in museum collections and some in field stores (Figure 12). A wide range of approaches have been taken to organisation and presentation of labels and related data; it is important to consider factors that influence the range and kinds of information that can then be gathered.

3.2.1 Published Sources

Data gathered from publications includes drawings, black and white and colour photographs of labels, tomb plans and details of associated finds, and written descriptions. Collection has been guided by the three thematic areas of archaeological context, material form and graphical imagery in keeping with the aim of a contextual account.

Once assembled, published images required two phases of work. First, to facilitate viewing, organisation and analysis, it was necessary to create digital graphical files for each object (photographs scanned at 300 dpi, line drawings at 600 dpi). Some labels have been republished using new photographs or updated drawings and these were also collected. Overall some 900 published images have been digitised. Comparison of these with the primary publications highlighted some inaccuracies and ambiguities, reinforcing the need for first-hand study (Sections 3.2.2).

The second phase of image work required a means of organising them for study, annotation and analysis. This presented a major challenge that was initially overcome by utilising PowerPoint to pair photographs and drawings of each label together on slides and then made into index cards. These could be grouped and compared depending on the questions posed. A more effective method may have been to link the image files to the Microsoft Access record for each label (Section 3.3.1), but this proved cumbersome because observations concerning physical graphical-material space and associations had to be translated into textual descriptions or numerical codes for entry into Access. Data management problems and analytical needs were resolved when Steven Townend (then PhD student at the UCL Institute of Archaeology) introduced me to ATLAS.ti, a software program that has proved to be
pivotal in facilitating the grounded, yet reflexive approach, I was seeking (see Section 3.3.2).

In addition to collection and collation of published image data, written descriptions were surveyed for information relating to archaeological context, materials, and graphical content. In order to achieve a comparative perspective on the labels, information for two other inscribed object types, jar inscriptions and tomb stelae, was also assembled. In order to assess patterns of difference and similarity in parallel with the three thematic areas for the labels, data collection for the comparanda focused on archaeological context, materials, and the imagery (see research question 4 in Section 1.8.4 and Chapter 8).

3.2.2 First-hand Observation

First-hand observation and object handling were essential to this investigation. Engagement from multiple perspectives proved vital for thinking about how object properties, such as dimensions, colour, weight, technique and texture, might have been perceived in the past in relation to each other, and influenced making and use. These features, or ‘material structural conditions’ (see Barrett 2001: 158-161), constrained and facilitated practices in particular ways. For example, image visibility might be constrained by label shape and the position of imagery, e.g. only one face can be viewed at a time, yet through tactile engagement parts of all surfaces could be perceived simultaneously. These ideas provoked by object handling were also explored through experimental archaeology (Section 5.11). Museum/first-hand research has therefore been important on a number of levels, not least to the collection of empirical data in order to verify and augment that which has been provided in published form, but also for achieving grounded interpretations.

As far as I have been able to determine, labels are housed in 16 museum collections in Egypt, Europe, England and the US (Figure 12). The labels in each have been examined first-hand apart from those in the Louvre, Bolton Museum, and seven labels inaccessible during my visit to the Egyptian Museum. Two labels (IDs 278, 305) documented as being in the Kofler-Truniger collection in Luzern (Müller 1964: 50-51, figs. A79 and A80) no longer seem to be housed there (Christoph Lichtin, conservator of the Kunstmuseum in Luzern, pers. comm. 20 June 2005).

The thoroughness of label publication is remarkable in that during my research
visits, I encountered only three fragments (IDs 176, 356, 357) and one whole example (ID 370) that, to my knowledge, have not been published previously. Five poorly preserved fragments (IDs 181-185) were among NIIIA1 labels studied at Abydos that are mentioned briefly but not illustrated in the publication (Dreyer 1998: 134). Occasionally, archive material provided information not available in publications on archaeological context, conservation treatments and acquisition.

First-hand study entailed recording observations and thoughts on each object in a purpose-designed form (see Appendix 1). This helped ensure consistent and methodical study, without precluding unanticipated findings. Photographic documentation was accomplished initially using slide and film cameras, but most labels were subsequently photographed using a digital camera. In absence of published colour information, one aim was to assess significance of colour (research questions 2-3, Sections 1.8.2-1.8.3). All surfaces were documented, not just decorated face(s). A minimum of six colour photographs were taken of each label: primary and secondary sides, and top, right, bottom and left edges (clock-wise with primary face always oriented toward the camera). Depending on local constraints on time and access to objects, primary and secondary sides were sketched, and other potentially significant markings and features noted. I compared observations and documentation with published images, and where inconsistent, this is noted. In addition to published images, my own colour photographs have been used to assemble the label catalogue (Volume 2) which contains entries for all documented labels, apart from some 40 whole and fragmentary NIIIC-early D labels reserved for publication by Dreyer (Section 1.4) and a recent single discovery at Helwan (Alice Stevenson, pers. comm. 2006).

First-hand study also permitted assessment of present condition. This can be important for evaluating previous research and interpretation which, in some cases, varied depending on the condition of the object over time, as well as whether the investigator had access to drawings, photographs or the original object (e.g. Figure 15). In some cases, the condition of a label has been improved with cleaning and conservation, while others have suffered damage resulting in the loss of evidence (Figure 16). Issues such as changing conditions and the variable accuracy of data sources are worth further consideration.
3.2.3 Problematising the Data

A whole host of factors can intervene between the past actions which led to deposition and the point at which the investigator encounters material. In addition to post-depositional processes and variable excavation and recording techniques (see Sections 1.4 and 4.2), methods of publication, and equally, object curation and display (Figures 17), shape the way in which objects may be studied and interpreted. It is important to consider to what extent different kinds of presentation entail pre- or low-level analysis and interpretation – prior to data collection. Indeed, in publication, some object types may receive more preliminary analysis than others (cf. Petrie 1900: 22 and Sa’ad 1969: 68, 177).

Until recently, costs, technological and field constraints (e.g. Petrie 1900: 1) meant that photographs of finds were variable and mainly in black and white, although exceptions were made depending on the status accorded some find types (cf. the colour-tinted plate of jewellery found in the tomb of Djer, Petrie 1901b: pl. 1). In two cases label drawings are colour-tinted, ID 241 (Emery and Sa’ad 1938: 35, fig. 8, pl. 17A, although some details are omitted, cf. Figure 18), and ID 350 (Petrie 1900: pl. 17, no. 26). Presentation is otherwise predominantly in black and white. This and the frequently uncommented presence of preserved colour (prior to the 1980s) precluded systematic comparative study of colour for many object types including the labels.

Depending on how an object is lit for photography, details can be obscured as seen in Figure 15, or alternately revealed, as was the case for ID 306 where the use of infrared and UV lighting fleshed out faint traces of pigment (Godron 1990: 27-28, pls. 1-3). Similarly, drawings of the same object may differ in accuracy or level of detail depending on whether the artist had access to the original object, a colour or black and white photograph, and depending on its quality (a problem also noted by Emery 1939: 5).

In the publications most inscribed label surfaces are photographed, drawn, or both, although some double-sided examples may have only one face illustrated. A small number are not illustrated and documented by brief mention only (e.g. ID 353; Leclant 1961: 104). It is notable that uninscribed label surfaces are virtually never illustrated, perhaps indicative of the degree to which investigators have seen label ‘substrates’ as incidental to the imagery. However, first-hand study shows that
undecorated faces frequently bear markings that are informative for understanding materials sourcing, manufacture and identification (see Section 3.5 and Chapter 5).

Because presentation of archaeological data influences analysis and interpretation, it is important to be aware of the ‘filters’ through which the data pass. In the course of assembling label research material and as part of a reflexive approach, I have endeavoured to recognise and take account of preconceptions.

3.3 The Databases

The labels are among the most visually complex objects from the period of state formation, bearing an array of graphical imagery which provides a rich source for artistic practices and the ways in which certain early Egyptians conceptualised and depicted aspects of their world in two-dimensional form. With over 4500 individual images attested on some 433 labels from approximately 35 tomb complexes and graves at seven sites, dated to two main chronological phases (NIII A1 and NIII C-early D), the labels present a particularly interesting, yet challenging dataset from a data management perspective. In this section I discuss the databases selected for the project and how they help to realise the research objectives.

Within each of the three thematic areas of archaeological context, material features, and graphical imagery, I identified potentially meaningful units for analysis. The process of establishing data categories began prior to deciding which database software to use, but continued as part of database construction and data entry in an ongoing process of refining and focussing data variables and approach – a process which I take to exemplify the duality of agency (researcher) and structure (database design) and which is also captured in the concept of the hermeneutic circle and the notion of the mutually constitutive nature of subjects and objects. The goal has been a heuristic framework for labels analysis to characterise relationships between parts, and in turn, understand how they are constructed as wholes and the ways in which these different wholes were meaningfully related through past practice across time-space.

In order to collate, manage and compare these categories for analysis, three different software programs were brought to bear upon the task: Microsoft Access, ATLAS.ti and Microsoft Excel. These are discussed in the order in which they were brought on board for the research project, as data collection proceeded and ideas
3.3.1 Microsoft Access

Microsoft Access 2003 was employed as a central location for collecting and collating textual and numerical information on the labels. In a single table each label was assigned a record number (e.g. ID 1, ID 2, ID 3) also used for identifying Primary Documents in ATLAS.ti, below); the table comprised a series of fields pertaining to four main categories of information. The ID numbers were initially assigned as data collection proceeded and the ordering was therefore somewhat random. As a result of analysis it was possible to reorganise the corpus in line with the methodology and this is the ordering according to which the catalogue in Volume 2 is organised.

The first data category comprises general object descriptions and bibliographic information including primary and secondary sources on the labels. Following Kaplony (1963: e.g. 980), I indicate whether a given reference corresponds to a photograph or drawing, and if to a written description. Together, this constitutes the most complete and up-to-date bibliographic information on the labels.

The second category includes information gleaned from museum and other field research including location, date of acquisition, object number, conservation records, and catalogue and archive information.

The third data category comprises general archaeological evidence including site, cemetery, tomb, chamber, other context, associated finds and other published information. Incompleteness of this data (Sections 3.2.3 and 4.2) makes statistical analysis inappropriate, thus the main role of the database lay in facilitating collation and general comparisons of associated finds. Basic find information was also explored in ATLAS.ti in relation to material and graphical variables (Section 3.3.2).

The fourth data category included artefact dimensions from published sources, museum records and my first-hand observation. The most complete and reliable measurements were compiled in Excel (Section 3.3.3) for charting temporal and spatial patterning.

Data were entered via purpose-made ‘forms’ (Appendix 1), providing a user-friendly interface with the underlying table and helping to ensure the systematic and standardised collection and entry. Once entered, data could be consulted for reference,
or different variables queried according to specified criteria.

3.3.2 ATLAS.ti

ATLAS.ti (*Archiv für Technik, Lebenswelt und Alltagssprache*, build 5.2.9) forms the primary analytical tool for studying the relationships between graphical, material and archaeological label data, with emphasis on the imagery. The use of this program is fundamental to fulfilling the thesis aim of a unified study of image and artefact as it allows the analyst to work directly ‘on top’ of data images. The statistical packages and database tools that archaeologists typically use, Microsoft Access and Excel and SPSS, are unsuitable for this kind of work and the generation of the kinds of qualitative data required by a practice-centred theoretical approach. While some comparative statistical results are produced, the main aim is to achieve contextual qualitative interpretations (see also Townend 2005:107).

Developed by Thomas Muhr of Scientific Software, ATLAS.ti is capable of the qualitative analysis of digitised multi-media sources (text, audio, video and other graphical imagery). While ATLAS.ti is mainly used by researchers in the social sciences, this thesis project constitutes one of a small number of archaeological research projects to employ this versatile tool (see also Labadi 2006; Townend 2005). Drawing on hermeneutics, the ‘science of interpretation’, the software is designed to facilitate the recursive relationship between research questions, data, theories, analysis and results necessary for reflexive study. The way in which ideas and theories are formulated and adapted is traceable, allowing for transparency as well as replicability (cf. Hodder 1999: 32-33).

ATLAS.ti can handle hundreds of files, in this case the image files of 433 artefacts, which can be accessed instantly and worked on simultaneously. Data handling structures (below) allow the user to manage, index/code and annotate the label images, making it possible to extract, compare, explore, and reassemble meaningful pieces of data efficiently and systematically. The ability to break images down into ‘atomic’ elements allows one to compare and contrast multiple variables in order to discover patterning which might otherwise be too subtle to be visible on casual inspection. Once images are loaded into the ATLAS.ti interface, viewing, encoding, analysis and the writing up of results take place in one location with the label images at its centre – a feature vital to grounding analysis in the data. This central location is termed the Hermeneutic Unit (HU): This is the primary working area to which each label’s graphic file or ‘Primary Document’ (PD) is assigned.
addition to this, data-handling structures built into the HU include ‘Quotations’, ‘Codes’, ‘Families’, and ‘Comments’, ‘Memos’ and ‘Networks’ (Figure 19):

**Quotation:** Each PD can be broken down into units called ‘Quotations’. Any area of the label image can be selected and designated as a Quotation, including the label itself, an individual image or ‘visual object’ (VO) or group of VOs, perforation, erasures, tool marks, and surface accretions, etc. (Appendix 2).

**Code:** Each Quotation can be assigned any number of ‘Codes’. A ‘human figure’ and/or parts thereof may be quoted and assigned descriptive Codes (i.e. ‘human figure’, ‘beard’, ‘crown’ and ‘short kilt’, etc.), or conceptual Codes (i.e. ‘male’, ‘female’, ‘official’ or ‘ruler’, etc.) (Appendix 2). Once all VOs and other features are encoded, and as relationships and patterning emerge, Quotations and Codes can again be employed to begin weaving together observed relationships, for example where multiple VOs form composite visual objects (CVOs) or groups of VOs co-occur permitting ‘Clusters’ (below) to be identified. Quotations and Codes permit relationships between any number of variables to be studied together with direct reference to the artefact image, for example, the significance of the location of the perforation to image location across time-space.

**Family:** PDs, Codes and Memos can be sorted into ‘Families’ for easier handling. ATLAS.ti allows great flexibility in that, just as Quotations can be encoded multiple times, so Primary Documents, Quotations and Codes can be sorted into multiple Families. For example, Codes for the various depictions of animal have been sorted into the ‘fauna’ Family (Appendix 2). These VO types can then be viewed for further internal comparison and analysis or contrasted with other Families or Codes. For example, using the query tool, one could ask whether ‘animal’ and ‘human figure’ co-occur and if they do, query the nature of their spatial association within the composition (e.g. contiguity, overlapped/overlapping, holding/held or spatial separation).

**Comments and Memos:** Observations and ideas relating to PDs, Quotations, Codes and Families can be recorded in the ‘Comment’ area linked to each. ‘Memos’ are a similar type of notation area but not linked directly to handling structures, unless related manually.

**Networks:** Relational links can be established to form Networks between any of the handling structures. Networks allow a stronger structure than just treating sets of elements as similar (e.g. as belonging to the same Family), and enable expression of meaningful ‘semantic’ relationships between them. Relationships such as ‘resembles’, ‘contradicts’, ‘archaeologically associated with’, ‘dating based on’, ‘pre-dates’,

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‘contemporary with’, ‘post-dates’, ‘mends with’ can be established via directional or non-directional links. Relationships can be proposed, adjusted and visualised via the ‘Network’ handling structure. This aids observation of other potentially significant relationships or patterning; Figure 20 shows a Network view of IDs 209, 210 and 241 which are linked based on VO Clusters which resemble each other. One can then also pick upon the fact that the similar labels are made of similar materials using similar techniques over the period of two successive reigns, but from two different sites, thus presenting further avenues of inquiry.

Exploration of label imagery, materials and general archaeological context using these tools in ATLAS.ti allows one to ‘objectify’ the thing being studied; a ‘sign’ can be studied like any other object: its different components can be analysed and dissected, as can the various configurations of which the ‘sign’ is part (see Molino 1992: 17). Importantly, the software does not remove analytical or interpretative control from the user; quoting, encoding and commenting are accomplished by the user alone, as recognising a piece of data as worth selecting. In helping to ensure that analysis proceeds in a methodical and efficient yet reflexive manner, all steps in the analytical process are reversible. ATLAS.ti is specifically equipped with the ability to record, through a numbering and dating system, the sequence in which data manipulation occurs. As the term ‘hermeneutic’ implies, one can tack backwards and forwards, adjusting and fine-tuning data structures and relationships. The benefit is that the knowledge-building process is transparent and replicable – one can look back and review the steps taken to arrive at a particular analytical result or interpretation.

It remains to discuss how output is generated. Network views are one method of illustrating results (e.g. Figure 20). Lists and reports of variable frequencies can be produced for any of the handling structures (Appendix 2). However, in order to clearly chart the relationship between the variables in time-space for illustration, and further analysis and interpretation, Microsoft Excel was brought to the task.

3.3.3 Excel

Based on the research questions, selected combinations of frequency counts generated in ATLAS.ti were imported into Microsoft Excel for multivariate quantitative analysis. Archaeological, material and graphical Codes and Families of Codes were charted for absence, presence and co-occurrence. These were then plotted according
to spatial and temporal variables in order to gauge continuity and change in label practices across time-space. Data tables, and bar and pie charts have been produced to illustrate the resultant patterning for interpretation.

In sum, the three databases, Microsoft Access, ATLAS.ti and Excel, were deployed together to address the various data management and analytical requirements imposed by the research questions and in relation to the different data types. I now outline the data variables identified for each thematic area and discuss further the particular ways these were examined individually and in relation to each other.

3.4 Analysing Archaeological Context

In order to address research question 1 concerning the significance of archaeological context (Section 1.8.1), spatial and depositional contextual data were compared and contrasted (Chapter 4). Archaeological Codes in ATLAS.ti range from general to the specific spatial situation of label context: site, cemetery, tomb, chamber or 'unclear'. The details of associations and archaeological descriptions were stored and compared on a general level in Access. Ideally, analysis would be undertaken for all labels equally from the micro to the macro level – from the find spot and associations to chamber, tomb, cemetery and site. However, the lack of closed contexts, variable excavation and recording methods, and highly uneven spatial distribution (Figure 8) obscure whether patterning represents substantive evidence for local and regional practices or may be indicative of other phenomena. As demonstrated by Kahl et al. (2001) for the niched façade tomb at Naqada (see Chapter 4), in some cases it is possible to plot distribution of finds by chamber. In most instances, however, documentation is inadequate, and because the same level of analytical rigour cannot be applied across the dataset, it was necessary to sort the data according to degree of archaeological integrity. Each label was assigned a numerical Code of 1-4:

1. *In situ*
2. Chamber/grave
3. Multi-chambered tomb (chamber unspecified)
4. Surface/secondary deposits/unclear
Sorting permits analytical priority to be given to labels deriving from potentially more meaningful contexts and only labels assigned Codes 1 or 2 are subject to the detailed study of their associated finds. Given that no label has been found directly attached to another object, one aim was to determine whether labels were, at least, found near items they depicted, e.g. 'sandals', a 'staff', an 'arrow', a 'gaming piece(?)', 'vessel(s)'. Whether labels seem to be associated with the storage of equipment in tomb magazines (e.g. Emery 1954: 16), the burial chamber itself (e.g. de Morgan 1897: 161), or are found in other apparently primary contexts such as the tomb entrance (Petrie 1900: 23), explanations are sought in terms of the theoretical framework (Chapter 2). Label practices are therefore considered for both the short and longer term – as part of activities that may have preceded or coincided with burial, or were subsequent to burial, such as maintenance of the cult of the deceased (Tomb of Qa'a? Engel 1997: 721; Petrie 1900: 6). Can we discern the extent to which the circumstances of a label’s deposition in the cemetery account for its life history? Consideration of the material dimensions of a label can help flesh out the practices that preceded its use up to the point of deposition.

3.5 Analysing Material and Form

Research question 2 (Section 1.8.2) directs analysis to the materiality of the labels and this forms the topic of Chapter 5. This work begins with the identification of materials and of their properties (in Gibson's sense, 1979; Section 2.3). Label morphology is considered at both 'micro-' and 'macro-level' (cf. Tilley 1989: 188; Section 2.3.2). My concern is to discern the intentions that lay behind the material choices of past individuals and groups in making and using labels, from selecting particular materials, to the technological methods for transforming and elaborating label surfaces. Finally, I explore how these impacted upon subsequent use and perception. Materials can also shed light on the question of past knowledge of the environment (Krzyszowska and Morkot 2000: 323, 326), access to local and foreign resources (Gale et al. 2003: 334-371), as well as the technologies available for their transformation (Aston et al. 2003: 63-66). Given the theoretical concern to re-materialise label imagery, material factors are considered not only for the 'substrate'/plaque, but also the 'constrate'/decoration, the latter being a material expression added to (e.g. via applied pigments) or subtracted from (e.g. via
incision) the material surface. In order to think through and explain the labels in terms of choices afforded by material as well as social structural conditions, I develop a socially-situated *chaîne opératoire* as a primary methodological tool for explanation and springboard for interpretation (Section 5.10).

General identification of label materials – bone, ivory, wood and stone – was achieved through visual observation aided by a 10X hand-held magnifying glass, and UV and infrared lighting in a few instances. Drawing on training I received from the late Barbara Adams for bone, and elephant and hippopotamus ivory identification, and published guidelines (Baer et al. 1971; Krzyszkowska 1990), I have been able to check published determinations, and in most cases, distinguish between hippopotamus and elephant ivory. Sometimes difficulties were presented by ancient surface treatments (e.g. high polishing, tool marks), preservation and modern conservation techniques (for example, from the Manchester Museum label catalogue: “Warmed over stove and then impregnated with paraffin wax and benzine, August 1922. They were in quite good condition before -- this was merely precautionary”). Where diagnostic features were obscured and it was not possible to distinguish bone from ivory or the type of ivory, these are classified as “bone/ivory” or “ivory” (below). While it is evident whether or not a label is made of wood, species identification with the naked eye is difficult and published determinations which do not specify the use of analytical equipment are not to be relied upon (Phil Austen, pers. comm. 2005). Obstacles to obtaining samples combined with cost of laboratory analysis precluded any identification of plant species. Much remains to be learned from materials analysis with analytical equipment – several features observed among the bone and ivory examples may provide specific clues to the tooth or bone materials utilised (e.g. Figure 21). To accommodate different levels of precision in material identification, eight categories are required:

- bone
- bone/ivory (if type unclear)
- ivory (if type unclear)
- ivory, elephant
- ivory, hippopotamus
- stone
- wood
• unclear (unseen and/or not published)

The materials data is broken down into a number of variables. General data (material type, graphical technique) is included in Access as part of each label’s record but analysis of all variables is conducted in ATLAS.ti. Each variable constitutes a Code, grouped into Families of Codes for single and multi-variable analysis.

The ‘substrate’ and ‘constrate’ Codes are outlined in Appendix 2. The former are organised into the following Code Families and are encoded at the level of label Quotation: material type, condition, technique/surface finish, placement of the perforation, and ‘sidedness’ (i.e. whether a label is decorated on one or both sides). Size is also included among ‘substrate’ material variables but, given purely numerical data, it is best handled in Excel for ‘macro-level’ evaluation of relative scale across time-space and in relation to other variables. The ‘constrate’ Family of Codes, encoded at the level of the VO Quotation, include: material (i.e. applied pigment or paste), condition, technique and colour (bearing in mind the effects of time on colour).

Relationships between ‘substrate’ and ‘constrate’ variables are first explored across the dataset as a whole. To capture continuity and change across time-space, emergent patterning is plotted according to the phase (NIIIA1 and NIIC-early D) and reign, and according to the various levels of the spatial context (Appendix 2). As with archaeological context, the implications of continuity and change in label materials and morphology are considered with reference to practice. In particular, the role of the labels as vehicles for graphical media is considered in relation to the ways in which these material features may have influenced handling, portability, viewing and reception, including mediation or effectuation of functions and meanings in relation to beliefs about burial and the afterlife (Wengrow and Baines 2004: 1103-1104).

3.6 Analysing Graphical Content

Label graphical content, the focal area of research question 3 (Section 1.8.3), forms the most complex area of analysis and requires treatment in two phases. The first phase involves taking stock of the image repertoire, namely the identification of the primary unit of analysis – the individual ‘visual object’ or VO. The second phase deals with the characterisation of each VO in terms of its compositional features –
how it is associated with other VOs, which together construct both simple and highly complex compositions vis-à-vis the material structural conditions of the plaque. Determining how to atomise the data for analysis in ATLAS.ti and establishing the coding terminology were tasks that proceeded hand-in-hand. Some 900 images were prepared, the drawing and photograph for each artefact was combined onto a single digital canvas of suitable viewing size in Adobe Photoshop 5.5 before uploading to the ATLAS.ti HU (since the release of build 5.0.66 (3 May 2005) digital images no longer require pre-sizing).

In establishing the repertoire and to focus on what can be learned from the labels themselves, I deliberately set aside Gardiner (1973 [1927]: 442-548) and Kahl’s (1994) sign lists. My aim was to assess to what degree identifications are ‘self evident’ to the eye of the investigator situated in the present, as well as to assess how far a single object type in relation to its context could inform identification. Where this failed to offer further insight, comparison with contemporary evidence was consulted (the project has not yet been extended to exploring and establishing continuities with pre- or post-label material). This is discussed further in Chapter 6, also covering challenges presented by poor preservation and the schematic quality of images. The subjective nature of even basic research tasks (Section 2.1) was apparent during this exercise, but in most cases, VO identification was relatively straightforward. For example, on label ID 265 in Figure 22, the selected area is encoded descriptively according to what it appears to depict, in this case ‘lion forepart’ or ‘\(\text{\textcircled{L}}\)’ (see Section 6.2).

Once the range of VO types was established (see Section 6.2) – importantly without recourse to later evidence – it was then possible to begin querying the data in order to trace different themes and trends. This was accomplished by grouping VO Codes together to form Families of Codes. Those presented in Appendix 2 reflect the final state of a protracted process of identification, classification, categorisation and organisation. Over the course of VO quoting and encoding, categories divided, shifted, and were recombined in new ways. Indeed, categories must remain flexible since the interplay between data and questions brought to them continually suggest new features or patterns, opening up areas for further investigation (Hodder 1999: 32-33). The question of the distinctive nature of the label image repertoire in relation to the other thematic areas is explored comparatively via two case studies in Chapter 8.

Once the repertoire is established (Chapter 6), the second phase of graphical
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analysis (Chapter 7) consists of assessing:

1. VO features
2. VO associations
3. Composition format

The VO feature variables are organised into the following Families of Codes: mode, orientation, direction, view and location (see Appendix 2). Going back to Figure 22, VO 'œ' is therefore encoded for mode ('floating'), orientation ('upright'), direction ('right facing'), view ('lateral, asymmetrical') and location (Quadrant 1). The tallies for any Code are automatically updated, e.g. for ‘direction’ the Code list shows that more than 1600 Quotes (i.e. VOs) are ‘right-facing’. By clicking on any Code, each of the Quotes bearing this Code can be viewed immediately for comparison.

Once the features of individual VOs are established, it remains to study associations between VOs, and then consider how these are situated within the label composition as a whole. A number of associations have been identified (see Section 7.3), some of which create Composite Visual Objects (CVOs) or Clusters (Figure 22). The overall composition may be organised according to various formats via Structuring Elements (SEs, Section 6.4.5).

With the repertoire established and the three levels of graphical variables encoded, it was then possible to examine these in relation to each other, and to the material and archaeological context variables. Explanations for continuity and change in the use and organisation of imagery are sought in relation to technological embodied practice. The aim is to understand how labels, as processes and outcomes, are reproduced and transformed through action via different combinations of material and graphical ‘resources’ at different locations and at different times.

3.7 Summing Up

Label inscriptions are traditionally sourced in selective ways for the insights they provide into wider (primarily elite) cultural processes such as script formation, the development of Egyptian rulership and the emergence of centralised administration. I have argued that accessing these wider social issues must also involve the contextual and grounded study of the data upon which such abstracted levels of interpretation are
based. Guided by the research questions relating to the thematic areas of archaeological context, material properties and graphical media, I have outlined the methods for data collection and its collation in the databases, Microsoft Access, ATLAS.ti and Microsoft Excel. Together these form the methodological toolkit for ensuring rigour and consistency in data manipulation and permitting a reflexive approach to analysis and interpretation, while creating opportunities for integration, synthesis and contextualisation. Various chronological issues were problematised and confronted, primarily by focussing on material culture as social practice situated in time-space. The case study of the inscribed labels is therefore designed to work through the various thematic areas in a focused and methodical way in order to understand the relationships between these areas, and in turn, the inscribed labels as whole objects in relation to other early Egyptian graphical practices (Chapter 8). Following the sequence established by the research questions, I now move to the first analytical area of archaeological context.
4 Examining Label Deposition

4.1 Introduction

Meaning is not inherent in an object but derives partly from its relationship with other objects (Moreland 2001: 82) and partly also from its historical context. In studying material culture, any reconstruction of meanings and functions must begin with an understanding of the archaeological context (Section 2.2). The archaeological situation of the labels forms the focus of this chapter in order to address research question 1 (Section 1.8.1).

The assumption that labels were attached to other objects placed in the tomb, such as jars, bags, boxes, etc. is likely to be justified given both the presence of the perforation, and that items depicted on many labels are generally present among tomb finds. However, little attempt has yet been made to test the adequacy of the available contextual information. Systematic study of label find contexts (e.g. Bagh 2004) has not previously been undertaken for all labels; despite disturbed contexts, important information can still be gleaned.

4.2 Problematising Archaeological Integrity and Documentation

A significant portion of label find contexts lack archaeological integrity. Repeated episodes of plundering, burying, and in some cases multiple building phases or tomb
restorations, are widely attested (Amélineau 1904: 56; de Morgan 1897; Dreyer 2000; Emery 1954; Köhler 2000; Petrie 1901b: 2; Sa’ad 1951). In a few cases at Abydos and Naqada, fragments of single labels were recovered from different locations attesting to the dispersal of material (Dreyer 1998: 118, no. 50 and 124, no. 93 (IDs 54, 98, respectively); Petrie 1901b: 21, 51 (ID 215)). Given disturbances in antiquity and more recently, the fragmentary state of many labels is not surprising (see Section 5.5).

While such conditions present many difficulties for reconstructing the archaeological context of the labels, in several cases the outlook is positive. For example, in re-excavating a tomb at Abydos (cleared previously by both Amélineau and Petrie), Dreyer et al. (1998: 138) note that where previously the affiliation of burial material could only be tentatively assigned, material can be assigned confidently to a particular context. De Morgan and Emery also commented positively on the integrity of finds at Naqada and Saqqara (de Morgan 1897: 150; Emery 1954: 20).

Nevertheless, a theoretical concern is the degree to which interpretations based on one context can be generalised to another. Four levels of integrity are distinguished to aid the analysis of comparable data (Section 3.4). Archaeological resolutions of 1 (in situ) and 2 (chamber/grave context) are considered here for a total of 253 eligible labels (Figure 23). Again, the theoretical and methodological frameworks (Chapters 2 and 3) are designed to facilitate the drawing together of patterning that may corroborate, or, as necessary compensate for some of the weaknesses in the archaeological evidence.

### 4.3 Details of Label Archaeological Contexts

The 253 labels with reasonably good contextual information come from five of the seven label-yielding sites. The tombs from which they derive are commonly understood to belong to high status individuals, but as some of the evidence presented demonstrates, determining the social context of the labels is not always a straightforward matter (see also Ucko 1969; Section 2.2).

The archaeological contexts in which inscribed labels are found include:

- Inside a leather bag
- Burial chambers (floor contact for some)
Chapter 4: Examining Label Deposition

- Tomb magazines or other auxiliary chambers (floor contact for some)
- Subsidiary graves
- Rubbish heaps from looting and other ancient tomb clearance
- Rubbish heaps from previous excavations

The details of these labels are presented below by site in geographical order from south to north, with a brief description of the cemeteries and their excavations. Preservation conditions are noted where known since the answer to the question of a label’s mechanical function is largely dependent upon the preservation of thread in the perforation. Details of finds associated with the labels are given in Appendices 3-11, each dedicated to one cemetery. In the discussion, I consider the extent to which relationships between labels and their find spots can be envisaged as meaningful and how these enhance our current understandings of labelling practices.

4.4 Naqada

Ten labels have been found at a west bank cemetery site situated 3 km to the northwest of the village of ‘Naqada’ (نقدة; 25°54’N 32°43’E; Figures 7, 24), the type site of the ‘Naqada’ cultural phases (Figure 6). Excavations in 1894-1895 revealed the importance of the Naqada area in the later Predynastic period (Petrie and Quibell 1896), on a par with Hierakonpolis to the south and Abydos further north. During subsequent work in February 1897 directed by Jacques de Morgan, seven inscribed labels were found in the so-called “Tomb of Menes” (termed here the Naqada Mastaba), in Chambers γ and C (Figure 25).

4.4.1 Naqada Mastaba

Labels from context type 2: 7 of 10

This massive mudbrick tomb is the earliest attested mastaba with niched façade construction on all sides (Reisner 1936: 27). Measuring 53.4 x 26.7 m, it comprised five rooms including the burial chamber and storage magazines. Another 16 compartments were found filled with gravel and sand. The whole was surrounded by a mudbrick enclosure wall measuring about 1.1 m thick. Its immense size, niched architecture and wealth of equipment led de Morgan to conclude it belonged to a
person of "royal" status. The tomb had been burned unevenly, between the time of burial and intrusive New Kingdom burials (de Morgan 1897: 149; Kahl et al. 2001: 174). Many objects had been broken, but rather than the work of looters, de Morgan suggested that these were intentionally thrown over other offerings deposited in the chamber. Objects located in the midst of the ashes appeared undisturbed (de Morgan 1897: 150; see 151, fig. 515 of Chamber B; cf. Petrie 1900: 7).

Borchardt directed re-excavation in 1898 (Borchardt 1898), followed in 1904 by John Garstang. In March 1904 three further labels (IDs 192, 198, 213) as well as a fifth fragment belonging to the lower right corner of ID 212 were recovered from unspecified contexts in the vicinity of the tomb, probably excavation spoil heaps (Garstang 1904; 1905). Garstang mentions the intention to fully publish the excavations (Garstang 1905: 64), but this was never completed. Small graves surrounding the main tomb, a configuration also attested at Abydos and Saqqara, were virtually ignored by excavators (Bard 1994).

Based on image clusters inscribed on objects including labels (e.g. ID 193), the tomb owner has been identified as Neithotep, possibly the 'wife' of Narmer or Aha and who may have ruled for a time (Sa'ad 1969: 66; Wilkinson 2001: 74). Ownership has also been attributed to Aha (e.g. ID 212), or an individual identified by '3 birds w/bound wings' (Kaplony 1963: 68; e.g. ID 198, secondary side). Initially identifying the tomb owner as Menes, Borchardt (1898) settled on Neithhotep, an attribution accepted by many scholars (e.g. Bagh 2004: 593; Petrie 1901b: 4; Wilkinson 2001). Recent DNA analysis on burnt human bone from chamber γ indicates a male individual was buried here (Kahl and Engel 2001: 27), but this may not be the remains of the original occupant(s). Without a funerary stela, it is difficult to determine whether inscriptions understood as names and titles (PIs) found in a tomb are those of the owner(s), or others (see Sections 1.5, 8.7.2).

Renewed study of the tomb was recently undertaken (Kahl and Engel 2001; Kahl et al. 2001; see also Bagh 2004). This has led to the proposal that that it may have been laid out and equipped to represent domestic architecture and use of spaces in daily life.

4.5 Abydos, Umm el-Qa‘ab

At the west bank site of Abydos, about 500 km south of Cairo (26°11′N
Chapter 4: Examining Label Deposition

31°53'E), over 373 labels have been recovered – the highest concentration of labels (Figure 8). Of the total, 360 deriving from Umm el-Qa’ab (Figure 11), located some distance from the floodplain within a bay in the high desert cliffs. Covering a low spur slightly above the plain with a deep drainage ravine running to its west side (Petrie 1901b: 3), Umm el-Qa’ab served as a burial ground for all 1st-dynasty rulers and two of the 2nd Dynasty, and some of their predecessors (Wilkinson 2001: 52-59). The necropolis seems to have developed roughly from north to south (Petrie 1901b: 3) and consists of three main areas:

- Cemetery U
- Cemetery B
- ‘Royal’ Tombs Cemetery

Associated with these tomb complexes is a fourth area that has yielded 13 labels, some of which are unique, having a perforated tab extending from the top (e.g. ID 255):

- North Cemetery enclosure graves

As discussed in Sections 1.4.1 and 4.2, not only had the larger tombs been looted and many burned, the tomb ascribed to Djer was cleared out near the beginning of the Middle Kingdom (2040-1650 BCE) and renovated for worship of the afterlife deity Osiris (Dreyer 2000: 6; Kemp 1975: 36-37; Leahy 1989: 56-57), leaving the stratigraphy of the early periods in much disarray. Despite such adverse conditions archaeologists have continued to make important discoveries here. Material from this site was key in establishing regnal order (Petrie 1900: 5; 1901b: 3; see also Section 1.5.6 and Figure 9) and understanding burial practices and other aspects of early, mainly upper class Egyptian society.

Émile Clément Amélineau directed the first excavations at Umm el-Qa’ab, between 1895 and 1898. This work yielded at least eight labels (Figure 8; another, ID 304, was taken during the work5, and ID 311 was a later surface find). Over the course of three seasons Amélineau’s team uncovered 150 burials on the “premier

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5 Petrie (1900: 18) mentions that the son of Amélineau’s Reis (رئيسي, Arabic for the person overseeing the Egyptian diggers) was in possession of many inscribed artefacts.
plateau", understood to be in the area of Cemetery U (Dreyer 1998: 3). His workers also excavated most of the burials in Cemetery B and the ‘Royal’ Tombs Cemetery (Amélineau 1899; 1902; 1904; 1905; see also Bielen 2004: 621-622). Making sense of the published results of this work is somewhat impaired by the lack of clear plans before Petrie’s publications and Amélineau’s minimal archaeological experience (Dreyer 1993: 10).

After Amélineau’s departure, Petrie and a team including Hilda Petrie, his wife, conducted two field seasons (1899-1900 and 1900-1901; for a concise summary see Bielen 2004: 622). Over 90 labels and fragments were found during re-excavation of the previously excavated features in the ‘Royal’ Tombs and B cemeteries, as well as spoil heaps. The first season’s excavations, published promptly in 1900, included 65 labels. The 1901 publication of the second season’s work includes 25 labels. The speed with which the reports were published is exemplary, as is the large amount of material documented in descriptions, plans, drawings and photographs – thanks in large part to the work of Hilda Petrie and others. Despite Amélineau’s oft-recited failings, his detailed lists of subsidiary grave measurements and finds are valuable. Such information is often wanting in Petrie’s reports and some locations appear unreliable (Kaplony 1963: 900; cf. Bielen 2004: 623).

Petrie returned to Abydos for a 1921/1922 winter season to investigate the “Tomb of the Courtiers”, the area of the funerary enclosures. This work resulted in the recovery of 13 labels among the small subsidiary graves dated to Djer and Djet (Petrie 1925; see also O’Connor 1989).

Since 1977, the DAI in Cairo have been carrying out a re-examination of the area (first directed by Werner Kaiser, and from 1980 by Günter Dreyer). Over 250 labels and fragments have been recovered during 15 seasons of work (Kaiser and Dreyer 1982; Dreyer 1992; 1998; Dreyer et al. 1990; 1993; 1996; 1998; 2000; 2003). Finds include about approximately 175 small Naqada NIIIA1 labels from Cemetery U, most of which are associated with the extraordinary find of the large multi-chambered and partially intact Tomb U-j. Many labels were also recovered amongst the later NIIC-early D tomb complexes to the south. Of all published sources, the reports and articles produced by the DAI are the most comprehensive and methodologically sound. The labels from Abydos are presented below beginning with material from Cemetery U, follow by the later material in general chronological order.
4.5.1 Cemetery U

Cemetery U was in use from the early Naqada I and II (Figure 6), a period during which burials were fairly undifferentiated, apart from a small number of rich tombs (Figure 26). By Naqada IID the cemetery, on the basis of tombs size and find types, had become an 'elite' domain. Beginning with Naqada IIIA1 all tombs were lined with mudbrick. The excavators propose that the larger single- and multi-chambered mudbrick tombs belonged to a sequence of possible rulers who preceded those of the so-called Dynasty '0' buried in double-chamber tombs in Cemetery B (Görsdorf et al. 1998).

Of the approximately 175 bone and ivory labels found in Cemetery U, those occurring in context types 1-2 involve a total of five tombs as outlined below in alphabetical order (see also Appendix 4).

4.5.1.1 Tomb U-e

Labels from context type 2: 1 of 1
Bone label ID 51 was found in the fill of the single chamber mudbrick-lined Tomb U-e dated to NIIIA? (Figure 26; Dreyer et al. 1993: 27; 1998: 118, no. 48). Despite being found in the tomb, however, the nature of its disturbance leads the excavator to believe that the label originated from Tomb U-j (Dreyer et al. 1993: 27).

4.5.1.2 Tomb U-j

Labels from context type 2: 131 of approximately 158
Tomb U-j is the largest (9.10 (N) / ~ 9.9 m (S) x 7.25 (W) / 7.15 m (E)) and most complex tomb in Cemetery U, comprising 12 brick-lined subterranean chambers (Figure 27). Chambers 11 (where most labels were found) and 12 were subsequent additions to the southern end of the tomb (Dreyer 1998: 4). Apart from the mostly intact Chamber 7, all were heavily disturbed. Narrow portals communicating between certain chambers suggest that the tomb was laid out and equipped to imitate a domestic structure, perhaps a palace (Dreyer 1998: 4-7), although as Wengrow (2006: 198) observes, no such structures from this period are yet documented.

Dreyer assigns the tomb to a 'king Scorpion' based in part on the depiction of a 'scorpion' on a large number of wavy-handled jars (Section 8.2) and a large ivory object (L 33.5 cm) found on the floor of Chamber 1, which he describes as a 'hk3t
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A sceptre of similar shape becomes an important symbol of rulership at a later date, but this object resembles more closely an adze (Jeffrey Spencer, pers. comm.), probably 'ceremonial' given its material. No human remains have survived to confirm age or sex. Thus, the social identity of the tomb owner remains uncertain. Dating of the tomb ranges from c. 3300-c. 3100 BCE (Boehmer et al. 1993; Görsdorf et al. 1998). Material cultural forms place the tomb firmly in the Naqada IIIA1 cultural phase (Hendrickx 1996: 60-61).

Chamber 1

Six labels were found in the lower fill at the southern end of Chamber 1 (Figure 29). The chamber seems to have been partially excavated previously, perhaps by Amélineau, as it contained windblown sand and organic materials (Dreyer 1998: 7).

On the floor an outline of a rectangular feature (W 2.1 m x L 3.1-3.15 m) may be the remains of a shrine for the coffin of the deceased (Dreyer 1998: 7), but evidence is minimal and human remains are lacking. Impressions (8.0-10 cm in diameter) on the floor, probably from wavy-handled jars, based on two found in situ, indicate five rows of 20 were once deposited in front of the northern wall. According to discolouration, indentations and ceramic particles adhering to the wall, vessels were probably stacked at least two high (Dreyer 1998: 7-9). No vessel traces could be found on the east and west sides of the chamber between the wall and the 'shrine' feature, although disturbances on the floor in the south-western corner of the floor may be from stacked vessels. The separation of the vessel evidence in the north and the label find spots in the south suggests that these objects were not closely linked; as Dreyer proposes, the labels may have originated from Chamber 11.

Chamber 11

104 and a half labels are assigned to this chamber generally, and another 17 are specified as being found "unten" (it is ambiguous whether this means lower fill or floor level). Half of ID 98 was found here, and the other half encountered about 10 m south of the tomb, perhaps as a result of looting (Dreyer 1998: 13). The bulk of finds was located in the middle and western parts of the chamber. The report describes a concentration (presumably the group of 17) in contact with the floor and in association with the remains of cedar planks. Dreyer proposes that the planks
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represent the remains of five or more chests (Dreyer 1998: 13-14; about 50 x 125 cm, Dreyer et al. 1993: 34). However, the evidence does not seem substantial enough to preclude the possibility that these once formed wooden flooring as attested in several 1st-dynasty Abydos tombs (see also Section 4.5.3.1 on wooden remains in Tomb B50). In the western part of the chamber W-ware sherds were more common while foreign wares were more common in the east, probably originating from the neighbouring Chamber 12. Distribution of these finds types suggests deposition in discrete areas.

4.5.1.3 Tomb U-k

Labels from context type 2: 2 of 4

Two label fragments, IDs 41 and 171, were found in the disturbed Chamber 1 of Tomb U-k, a three-chamber mudbrick-lined tomb situated less than 10 m southeast of Tomb U-j (Figure 26; Dreyer et al. 1993: 35-36). The tomb, also dating to NIIIA1, measures 5.32 (N) / 5.35 m (S) x 3.13 m (W) / 3.10 m (E), and like U-j is aligned east-west with two parallel storage chambers in this orientation with the main chamber on the west end oriented north-south. In front of the northern wall were the impressions of vessels that had once been deposited here. Again, similar to U-j, its chambers also communicate via small portals (1993: 35). The tomb was described by Amélineau (1899: 78-79) but the finds apparently not listed.

4.5.1.4 Tomb U-o

Labels from context type 2: 1 of 1

ID 170 was found in Tomb U-o. The available publication does not mention further contextual information and it seems no further finds were recovered (Dreyer 1998: 131, 133, no. 158).

4.5.1.5 Tomb U-qq

Labels from context type 2: 2 of 2

IDs 42 and 159 were found in Tomb U-qq, Chamber 1 (Figure 26). The available publication does not mention further contextual information and it seems no further
finds were recovered (Dreyer 1998; Dreyer et al. 1993).

4.5.2 The Relationship of Cemeteries U and B Label Finds

Overall, this survey shows that the most meaningful archaeological evidence for understanding the way NIIIA1 labels were deployed in the funerary context derives from Tomb U-j, namely their presence in Chamber 11 and their general absence from the other chambers. The interpretative possibilities presented by this spatial distribution and associated finds are considered further later in this chapter. However, it is worth drawing attention to label finds which, although not found in context types 1-2, raise important questions for dating and continuity (Section 9.2).

Nine labels very similar to those excavated by the DAI in Cemetery U are published by Petrie as found in Cemetery B (contexts unspecified). First-hand study revealed that ID 4 bears his characteristic pencil marking on the secondary face specifying “Aha B” (as does ID 208). His other NIIIA1-type labels revealed “B”, again marked in pencil on the secondary side (ID 106 subsequently damaged in this area). ID 176 also bears “B” but seems not to have been published. “Aha B” suggests a find spot very near, if not within, the Aha complex, but also raises the question of what is meant by “B”.

Dreyer records finding deposits of NIIIA1 style labels approximately 10 m south of U-j and U-k, giving some indication of the extent of secondary deposition. The area Petrie designated “Cemetery B” was probably less clearly defined than it is today (cf. Figure 11 with Figure 30). Still, “Aha B” specifically is some 70-80 m from Dreyer’s southern-most secondary label deposit. Perhaps Petrie’s team encountered material redeposited from NIIIA1 tombs (by looters?). However, if NIIIA1 labels were intentionally deposited close to, or within Aha’s burial complex further south in Cemetery B, could this spatial continuity also reflect temporal continuity? If this were the case, one would have expected the DAI Expedition to encounter further NIIIA1 labels during its reinvestigations of Cemetery B.

ID 47 found by Amélineau (1899: 88, 219) raises similar questions. This label, depicting two opposing ‘figures’ engaged in an activity involving a ‘ring’, is similar to the surviving half of NIIIA1 label ID 48, if Dreyer’s reconstruction is correct. Amélineau gives the find spot of ID 47 as the “premier plateau” which Kaplony (1963: 901) interprets as the rows of graves designated B16 conventionally dated to
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Aha (followed by Spencer 1980: 64, no. 435). Dreyer, however, seems to equate Amélineau's "premiere plateau" more generally with Cemetery U and also with B (Dreyer 1998: 134, no. X 183). Depending on how one interprets Amélineau descriptions then, the dating of the label may range from NIIIA1 to NIIIC1/reign of Aha. The dating for Tomb U-j, as already noted (Section 1.4.4), puts a gap of approximately 200 years to none at all between these early label types and the NIIIC labels found in Cemetery B. I return to the question of the relationship between the NIIIA1 and NIIIC-early D corpora once results of the material and graphical analyses are presented.

4.5.3 Cemetery B

Several tombs in Cemetery B (Figure 30) have yielded a small number of labels: Tomb B50, B0/1/2, Tomb B17/B18 ascribed to Narmer, and the just mentioned complex B10/15/19 and associated graves attributed to Aha. Finds from all but B0/1/2 derive from context types 1-2. These are presented below in chronological sequence and associated finds are listed in Appendix 5. Based on published reports, labels are not attested from Cemetery B tombs B7, B9, B13, B14 and B40.

4.5.3.1 Tomb B50 (Owner unclear)

Labels from context types 1-2: 1? of 1

Label ID 188 was found in tomb B50, a rectangular mudbrick tomb measuring approximately 2.85 m x 2 m and 1.05 m deep. It is divided into four chambers (a-d). The southwest chamber, B50c, was enlarged at some stage (Figure 31). The tomb is included on Petrie's (19016: pis. 58 and 60) plan of the cemetery but was not commented upon or numbered (until the DAI work Dreyer et al. 1990: 67-68). Its precise dating and attribution remain unclear, although its similar orientation to B7/9 and B17/18 (below) may be significant (Wilkinson 2001: 235).

There are indications that the tomb was looted early on when the roof/superstructure was still intact. This was probably a sand tumulus extending beyond the substructure, since looters seem to have deliberately avoided a superstructure, breaking through the north wall of B50b. Uniquely for such disturbed contexts, the excavators are able to trace the movements of these ancient intruders:
once inside the tomb they broke through internal walls dividing chambers b from a and b from d, and also broke through from d into c (Dreyer et al. 1990: 70, fig. 6). Sondages indicate the looters also tested the outer walls, no doubt searching for further chambers – another indication that the extent of the substructure was not apparent from the surface (Dreyer et al. 1990: 68).

Still visible on the floor of both southern chambers (c and d) were the remains of wood which Dreyer suggests belonged to coffins. However no skeletal remains were recovered, and as in U-j (Section 4.5.1.2), distinguishing flooring from boxes or coffins is problematic. The report is ambiguous concerning the find location of the label, although Chamber B50a may be implied. Technically, the archaeological integrity level for this label is “3” (Section 3.4), but because it may be significant in providing a link between NIIIA1 and NIIIC labels, its details have been included here for reference (see Sections 8.7.1 and 9.2).

4.5.3.2 Tomb B17/B18 (Narmer)

Labels from context types 1-2: 4.5 of 6

Four and a half labels were found in the latter chamber of Tomb B17/18 (Figure 30; B17: 3.0 x 4.1 m; B18: measurements unclear due to collapse). On the basis of its double-chambered mudbrick construction, typical of the early phase of tomb building in this cemetery, this tomb is generally ascribed to Narmer (Spencer 1993: 64). Attribution is also based on objects bearing this ruler’s PI, although material inscribed with a PI of Aha was found in chamber B18 (Petrie 1901b: 21; cf. Kaplony 1963: 900). All were recovered during Petrie’s (1901b) excavations. No further label finds came to light during the recent DAI work here. It may be significant that ID 197, which bears a PI of Narmer, was recovered not recovered from this tomb, but from Tomb B0/1/2 (Dreyer 1998: 139, fig. 83B 1a-b), attributed to a ‘king Iri-Hor’ of the so-called Dynasty ‘0’ (Kaiser and Dreyer 1982: 232-235), an attribution and dating disputed by some (Kemp 1966: 22; Wilkinson 1993).

4.5.3.3 Tomb Complex B10/15/19 and B16 (Aha)

Labels from context types 1-2: 4 of 9

The tomb complex ascribed to Aha comprises three separate rectangular mudbrick
chambers B10/15/19, B15 being the burial chamber. Extending east beyond these are slightly smaller chambers B6/13 and 14. Continuing further east is the area of B16, a series of 34 small graves laid out in three rows (Figures 30). The skeletal remains from these graves were uniformly of young individuals aged no more than 25, supporting the theory that these 'servants(?)' of the ruler did not die naturally, thus marking the beginning of a practice that continued throughout the 1st Dynasty (Spencer 1993: 79). Although conventionally dated to Aha, Petrie mentions objects found here bearing the PI of Narmer but the report does not seem to contain further details of the objects (1901b: 7).

4.5.4 ‘Royal’ Tombs Cemetery

The burials of the 1st-dynasty successors of Narmer and Aha (Figure 6; see also Section 1.4.4) consist of sizeable complexes including a large burial chamber and storerooms (Figure 11). Subsidiary burials were laid out around each main tomb for ‘servants’, possibly sacrificed or committing suicide to accompany the ruler into the afterlife (Wilkinson 2001: 237). Architectural preservation is almost exclusively substructural; this may be due to an emphasis at Abydos on this part of the tomb as compared with mastabas of a similar date attested at Naqada, Saqqara and elsewhere (Petrie et al. 1913; Wilkinson 2001: 233). It is likely that the tombs had some form of superstructure (Dreyer et al. 1990: 67-68; Section 4.5.3.1 on B50). Dreyer (1991; see also Spencer 1993: 80) proposes that from the reign of Djet onwards the superstructure may have comprised two elements: a hidden, perhaps symbolic, tumulus over the burial chamber and a larger mound over the whole tomb, but this has been doubted (O’Connor 1991: 7). I return to the question of tomb superstructure visibility in Chapter 8 in the case study on tomb stelae.

The potential for preservation of label attachment materials is indicated by the survival of carbonised cloth (Petrie 1901b: 9). However, material threaded through the perforation of labels is not documented.

Overall, in the reports, whether an object is attributed to a specific tomb based on direct or indirect archaeological association or solely on inscriptive evidence is usually clear, but some ambiguities occasionally arise. Some published drawings and photographs are marked with a chamber/tomb number, or ascribed to
posited tomb owners, with individual and tomb sometimes being conflated (e.g. to Qa’a, Petrie 1901b: pl. 8, nos. 1-3), while the plate descriptions may state otherwise, e.g. “...from the loose rubbish that had been thrown out of the tombs” (Petrie 1901b: 26). Some caution must therefore be used in drawing significance from archaeological associations. The burial complexes for which label context types 1-2 can be discerned are presented below in the chronological order: O, Z, M, T, Z, X and Q (Figures 33-41). The individuals to whom tombs are conventionally attributed are indicated in brackets.

4.5.4.1 Tomb Complex O (Djer)

Labels from context types 1-2: 1 (2?) of 22-23

The tomb complex attributed to Djer consists of a burial chamber built of wood against which brick side chambers were subsequently built. The whole measures 17 x 18.3 m (cf. Figures 33-34; Reisner 1936: 23). The main chamber had been burned out in antiquity. Petrie’s workers encountered a single bandaged arm which, upon unwrapping, was found to be adorned with four bracelets (Petrie 1901b: 16-19, pl. 1), but it could not be established whether this arm belonged to an original occupant of the tomb.

Surrounding the complex were 317 subsidiary graves, the largest number for any one tomb complex (Reisner 1936: 117). These were arranged in rows mainly to the north and west of the main tomb (Figure 11). Amelineau’s excavations yielded label IDs 189 and 220 from grave 22, and ID 219 was found in grave 26 (Figure 33). Of particular note is ID 306 bearing the PI of Den, reportedly found in grave 83, a corner grave but nevertheless among those surrounding Complex O. Tomb stelae from 97 have survived (Section 8.3). Petrie (1901b) indicates that at least 76 females, 11 males and 2 dwarves (sex unspecified) accompanied the ruler into the afterlife, but whether this was based on surviving skeletal evidence or the figures depicted on stelae is unclear.

Of the 22 labels Petrie attributes to tomb complex O, only the context of ID 223 is specified to the level of a subsidiary burial but the report is unclear as to which. It is possible that a gold pin was found with ID 223 (Petrie 1901b: 9, pl. 5A, nos. 6-7).
4.5.4.2 **Tomb Complex Z (Djet)**

Labels from context types 1-2: 1 of 5

Of four labels associated with burial complex Z, ascribed to Djet (Figure 36), ID 274 is explicitly said to come from the main tomb, but the chamber/area is not specified (Petrie 1900: 21).

Like Tomb O, the main burial chamber was wood-lined with mudbrick chambers built against it, the whole of which measures 11.3 x 13.6 m (Reisner 1936: 23). It is surrounded by 174 non-contiguous subsidiary burials.

ID 281 was found in subsidiary grave Z3, located in the southeast part of a row of graves extending to the northeast into Cemetery W (Figure 11). ID 281 shows signs of heat exposure, but unfortunately the report is not clear on whether this grave was burned. The main burial chamber was fired (Kaiser and Dreyer 1982), and it is possible that ID 281 originated from this burnt area.

4.5.4.3 **Tomb Complex Y (Merneith)**

Labels from context type 2: 1 of 1

A single wooden label, ID 284, was found in subsidiary grave 24 located on the south side of the main tomb Y attributed to Queen Merneith (Figure 36). The main tomb measures 16.5 x 13.9 m (Reisner 1936: 25), and burning is also apparent on the walls and wooden flooring. The roof was refitted at some stage (Petrie 1900: 10-11).

A total of 41 subsidiary graves surrounded the tomb, all of female individuals according to Petrie. The finds from Y24 are predominantly vessels (14; Appendix 6), and, if in situ, indicate the wealth of at least some graves (Amélineau 1904: Chapter 4). The faded condition of the applied colour inscription and the shattered state of the label unfortunately make it impossible to draw further conclusions.

4.5.4.4 **Tomb Complex T (Den)**

Labels from context types 1-2: 11 of 36

Tomb complex T, ascribed to Den, comprises a large mudbrick burial chamber paved with granite and smaller chambers for offerings (Figure 37). The main chamber measures 23.4 x 14-15.2 m and is accessed by a stairway on the east, an innovation in funerary architecture (Reisner 1936: 58, 353). An annex, also with stairway access,
was built onto the south side of the SW corner (Figure 38). The architecture shows evidence for several building stages or restorations (Dreyer et al. 1998: 167; Petrie 1901b: 11). Surrounding this central structure are 174 subsidiary burials.

Petrie describes the disturbed context in which he found labels:

The king’s tomb appears to have contained a great number of tablets of ivory and ebony, fragments of eighteen having been found by us in the rubbish thrown out by the Mission Amélineau, beside one perfect tablet [ID 304] stolen from that work (now in the MacGregor collection), and a piece [ID 311] picked up (now in the Cairo Museum); thus twenty tablets are known from this tomb.

(Petrie 1900: 11)

In the report it is not always clear whether labels were found inside a tomb or in contexts such as those described. Petrie’s pencil markings with tomb designations on the secondary sides of objects seems to be a relatively reliable indicator of ‘in-tomb’ finds. Further verification of this was impossible for many dated to the reign of Den as they are now backed with pieces of cork (Figure 42).

During the 1983/1985 DAI (3./4.) season of work at Umm el-Qa’ab, three labels (IDs 298, 319, 331; Dreyer et al. 1990: 80-81) were found in Chamber S1 (north-west side), one of two chambers flanking the stairway entry leading down to the aforementioned annex (Figure 38). Although coffin fragments were not found in either chamber, Dreyer et al. believe both to be graves since the impressions of vessel bases on the floor, typical of storage magazines, were not found here. The chambers are larger than any other subsidiary grave, and are also unique for their doubly-thick mudbrick walls. Dreyer et al. (1990: 78) therefore propose that the status of the occupants was above that of the occupants of the other subsidiary graves, perhaps individuals that were very close to the ruler. Unfortunately, no mention is made in the report of associated finds.

During the subsequent 1988/1989 (5./6.) season, 100 subsidiary chambers were re-excavated. According to Dreyer et al. (1993: 61, pl. 13b), the upper fragment of ID 297 was found in a grave T-E16 (the lower fragment was subsequently found in the northeast according to Dreyer et al. 2003: 94, but note that the find spots listed here are T-NE + T-NEE while T-E16 is not mentioned). The 1993 report also
mentions that "einige" (some) additional label fragments were found but archaeological details of the find spots and illustrations are not provided, and to my knowledge, not yet published.

4.5.4.5 Tomb Complex X (Anedjib)

Labels from context types 1-2: 0 of 1
The upper third of wooden label, ID 347, was found in this tomb, but further contextual information is not given to establish archaeological integrity (Petrie 1901b: 39). It is nevertheless worth providing a brief description to contextualise other relevant evidence.

Accessed by stairway like the tomb of Den, Tomb X attributed to Anedjib consisted of two large mudbrick chambers which together measure 15.1 x 7.2 m (Figure 39; Reisner 1936: 60). Based on presence of windblown sand in the burial chamber, thus limiting fire damage to the roof and two exposed corners of the chamber, the tomb was burnt some time after burial (Petrie 1900: 12) located around the main burial are 64 subsidiary burials.

The concern about relative dating on the basis of inscriptions (Section 1.4.3), is raised by the presence of fragments of narrow, ribbed violet glazed ware. Similar fragments were also found in the tombs of Djet, Den and Semerkhet. If these were scattered from one location, it is possible that ID 347, if not other material encountered here is intrusive. In addition to post-depositional processes, other factors impinge on the question of sequential object ‘life histories’. Vessels inscribed with the PI of Anedjib, and subsequently erased (Figure 10), were not found in Tomb X, but in Tomb U ascribed to Semerkhet. Material could have been moved from one tomb to another, but Petrie proposed that these objects may have been the property of Anedjib in life but were reused by Semerkhet (Petrie 1900: 12). The re-use or curation of objects (see Jeffreys 2003) may also explain a label found at Saqqara Tomb 3035 (see Section 4.7.1.2).

4.5.4.6 Tomb U (Semarkhet)

Labels from context type 2: 2 of 5
Tomb complex U attributed to Semerkhet is comprised of a mudbrick-lined burial chamber measuring 19.5 x 10.7 m (Reisner 1936: 62). It is also surrounded by 64
subsidiary burials, all of which had been plundered (Petrie 1900: 13-14; Figure 40). Dreyer et al. (2000) found evidence for the hasty construction of some, perhaps indicating that Semerkhet died before his tomb had been completed.

ID 350 was found in the tomb and the circumstances of its discovery are recorded in detail:

On clearing the entrance, the native hard sand was found to slope down to about four feet above the floor, and then to drop to floor level at about two and a half feet outside of the outer wall of the tomb. Here the space was filled to three feet deep with sand saturated with ointment. The fatty matter was that so common in the prehistoric times, in this 1st Dynasty, and onward in the XVIIIth Dynasty; hundredweights of it must have been poured out here, and the scent was so strong when cutting away this sand that it could be smelt over the whole tomb. In clearing this entrance was found the perfect ivory tablet [ID 350] of king Semempses [Semerkhet]...

(Petrie 1900: 14)

Depending on the value of such ointments or oils, pouring out such large amounts (perhaps poured out in the course of the funeral ceremony) would have constituted an extremely conspicuous display of wealth by the individual or group providing the oils. The potential significance of the context of this label is considered below (Section 4.13). Re-excavation of this tomb by the DAI brought to light (at least) one more label (ID 335) in a chamber context.

4.5.4.7 Tomb Q (Qa’ā)

Labels from context type 2: 36 of 53

Tomb Q is ascribed to Qa’ā, the last ruler of the 1st Dynasty (Figure 41). The 53 labels found here form the largest group, after Tomb U-j (Section 4.5.1.2), encountered in a single tomb. Comprising a main chamber measuring 12.5 x 9.5 m (Reisner 1936) and surrounded by 26 subsidiary burials and other chambers, this tomb is unique for the contiguous arrangement of the subsidiary graves. Apart from the main chamber, Petrie (1900: 14) cites evidence for the hasty construction and equipping of the tomb, evidence which led in part to the suggestion that occupants were sacrificed for the funeral. Based on re-excavations by the DAI, however,
evidence for multiple stages of construction with numerous additions and alterations has been confirmed (Spencer 1993: 83; Dreyer et al. 1993). The collapse is attributed to technical problems in the construction and the removal of wooden supports in ancient times, rather than hasty construction or insufficiently dried bricks (Engel 1997: 123).

Some 40 inscribed labels were found during the DAI re-excavations. These are listed in the report as follows (Dreyer et al. 1996: 73-75):

- 2 Täfelchen mit Jahresnamen und Ölvermerk des Semerkhet
- 15 Täfelchen mit Jahresnamen und Ölvermerk des Qa’a
- 23 Täfelchen mit Ölvermerk des Qa’a

As for their distribution, two labels were found in Q-N5, 33 in Q-N6, and five and “einige Fragmente” were found in the surrounding graves. However, with meaning content foregrounded in the report over archaeological context, it is not possible to assess the significance of a given label with its find spot.

Comparison with this 7./8. season report shows that most, if not all, these finds are included in Eva Engel’s unpublished 1997 Göttingen University thesis. The majority of labels were found around Chambers Q-N5 and Q-N6 situated on the east and west sides, respectively, of the tomb entrance. Each chamber has an entrance on the north side making it accessible from the exterior rather than the interior of the tomb (contra Reisner 1936: 121; cited in Engel 1997: 721, no. 790).

Evidence from Chamber Q-N6 suggests that a large number of vessels and possibly organic materials were deposited here. Impressions on the west wall toward the entrance indicate that vessels were stacked three high in rows of nine or perhaps 10 (Engel 1997: 7). Fragments of clay were also adhering to the wall, perhaps from mud-stoppers that sealed the vessels. From the base of the east wall and extending half way up, traces of a brown colour were observed, presumably the result of termites consuming organic materials deposited in this area, perhaps wooden boxes or cloth bags. Along the west wall, impressions again indicate that vessels were stacked three high in row(s?) of at least seven (Engel 1997: 7). Overall, Engel calculates that approximately 210 vessels may have been deposited in this chamber (Engel 1997: 26-27). As proposed for strung beads at Naqada (see Section 4.4.1), one wonders if the relationship between the labels and items indicated on them was one-to-one.
210 labels were originally deposited in this chamber?

Based on the retrospective interpretation of certain VO Clusters as oil names, Engel (1997: 433) suggests that the labels found in and around N5 and N6 were associated with vessels containing fats/oils (whether residue analysis was conducted is not mentioned). A commonly occurring closed form is the cylindrical jar of 'Egyptian alabaster'. Some of these still contained a brown substance, possibly fats/oils. A tall cylindrical vessel type is discernible in the pigment traces on at least six labels (e.g. ID 399). Vast quantities of cylindrical jars were found in the tomb, but only the remains of five were found in the vicinity of the labels (Engel 1997: fig. 245). Engel (1997: 433) observes that stone vessels with “Schnurösen” (lug handles(?)) are depicted on some labels, but only a single fragment of this type was recovered from said chambers. Engel (1997: 434) also suggests that perhaps some labels were attached to small clay jars (with a handle), since some bear internal surface damage indicative of an aggressive substance such as oils or fats (but see Serpico in Payne 1993: 302-303; see also Section 8.2). ID 382 may be a possible candidate, but it is the only example from this tomb. The report and thesis are unclear whether such jars were found in the same area as labels. Engel also raises the possibility of attachment to cloth bags which may be depicted below the VO cluster interpreted as oil (on the basis of Old Kingdom oil lists) – oil presumably produce in a solid form (Engel 1997: 434). These scenarios are plausible, but it is difficult to draw less speculative conclusions from the available evidence for the precise role of the labels.

Overall, the preponderance of labels encountered around the entrance of the tomb is striking. This brings to mind the spatial separation for object types apparent in Tomb U-j (Section 4.5.1.2). It nevertheless remains unclear whether this distribution reflects original deposition, or whether the concentration is perhaps the result of deliveries processing during the equipping or funerary activities, or is due to later removal by looters – or some other scenario. Nonetheless, other patterning among the labels found here emerges in the analysis of their material and graphical dimensions (Section 7.11).

4.6 North Cemetery, Abydos

Labels from context types 1-2: 13 of 13

Approximately 1.6 km east from Umm el-Qa’ab near the edge of the floodplain is the
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North Cemetery, the site of the large funerary enclosures of the 1st and 2nd Dynasties. These monuments are understood to be counterparts to the tomb complexes on the Umm el-Qa’ab and like the main burial, the enclosures are also surrounded by subsidiary graves (O’Connor 1989). It was here that Petrie and his team excavated from December 1921 until February 1922 and found the remains of three great squares of graves dating to Djer, Djet and Merneith (Petrie 1925: 1). The most fully-preserved example at Abydos is the ShUNET el-Zabib (شونة الزبيب) dated to the reign of the 2nd-dynasty ruler Khasekhemwi, but in Petrie’s time it was not understood that the graves were arranged around similar great funerary enclosures that were subsequently destroyed (Spencer 1993: 71-72). The area was also much disturbed due to ancient plundering and Middle Kingdom and later mortuary structures and burials (O’Connor 1989: 63-64; Petrie 1925: 1).

Petrie (1925: 2) writes that of 269 graves dating to Djer, only 68 contained anything “notable”, and of 154 graves dated to Djet, only 40 had objects. Among the former, two graves contained a label each (IDs 221, 256). One, one and nine were found in three of the graves dated to Djet (see Appendix 7).

The question of whether VO Clusters on labels and other objects understood as PIs denote ownership or some other meaning is again raised by ID 256 from grave 612. It is incised with ‘niched frame’ of Djer and ‘l+Φ+bird’. This Cluster also occurs on two copper adzes and another copper tool, albeit in reverse order, all from grave 416 (Petrie 1925: pi. 3, nos. 1 and 2, and pi. 4, no. 1). “If this is the name of an official, these objects were not all buried with him [sic] as they were found in graves 461 and 612, at opposite ends of the square of Zer [Djer], nearly four hundred feet apart” (Petrie 1925: 4; see Figure 43).

Nine labels were found in grave 159, in the square dated to Djet. Petrie ascribed this comparatively large grave to a woman named ‘Mer-nswt’, presumably on the basis of an inscribed ‘gaming piece’ (Petrie 1925: 3, it is unclear whether the PI Cluster survives on the stela (pi. 1) associated with this grave). No skeletal evidence survived although fragments of a coffin are noted (Petrie 1925: pi. 20). Seven of the labels were “…probably inscribed with vegetable ink which has decayed” (Petrie 1925: 4). Traces could not be confirmed during first-hand study which included the use of UV light. The two other labels (IDs 257, 258) found here bear the ‘niched frame’ of Djer. This is significant for assessing the different ways in
which labels were used and deposited over time-space. For example, Petrie suggests that the occupant lived during the reign of Djer (Petrie 1925: 1) – and that of Djet, presumably?

4.7 Saqqara

A total of 39 labels have been found at the west bank northern Egyptian site of Saqqara (سقارة, 29°51′N 31°14′E; Figure 7) from two main locations, North Saqqara (Figure 44) and West Saqqara. The evidence from North Saqqara is presented first (Sections 4.7.1), followed by that of West Saqqara (4.7.2) with associated finds and details provided in Appendices 8-9.

4.7.1 North Saqqara

The majority of the labels, 35, derive from North Saqqara where about a dozen large 1st-dynasty mastaba-shaped tombs are situated along the edge of the desert escarpment overlooking the modern village of Abu Sir (Figure 45). These were found in the course of excavation in 1910-1913 overseen by Quibell (1923). This work was continued in 1935 by Emery and Sa’ad (1938; Emery 1949; 1954).

Like the Naqada Mastaba, the North Saqqara tombs are massive mastaba-shaped constructions with multiple chambers, and most have the panelled mudbrick façade. Quibell (1923: v) found that the Early Dynastic mastabas were “utterly robbed” in remote antiquity and searched again in Roman times, but that tomb structures remained relatively intact permitting some understanding of their construction methods and original appearance. The size and wealth of these tombs led to the theory that these were in fact the tombs of the 1st-dynasty rulers, and that the smaller burial complexes at Abydos must be cenotaphs (Emery and Sa’ad 1938: 2; 1939: 1; Emery 1954: 5). Kemp (1967: 25) countered that any equation of size with status of the Abydos tombs must take into account their respective funerary enclosures (Section 4.6). It is now generally accepted that the Abydos complexes are the burials of the early rulers and their entourages and those at Saqqara belong to administrative officials and other individuals. Each tomb is presented below (and in Appendix 8) in relative chronological order by reign, bearing in mind the problems of ruler PIs as temporal indicators and that tomb construction, equipping, closure, etc.
may span an undeterminable period.

4.7.1.1 Tomb S2171 H (Djer)

Labels from context type 2: 3 of 3

Three labels, IDs 229, 243 and 254, were found while Quibell was excavating the 2nd-dynasty mastaba tomb S2171 (1923: 3, pl. 1; Figure 46). Underneath the mastaba, the small (1.4 x 1.05 x 0.90 m) mudbrick-lined tomb 2171 H was encountered (Figure 47). It is dated to the reign of Djer on the basis of the inscriptional evidence on the labels (IDs 229, 243). However, it had been robbed prior to, or as a result of, the construction of the large mastaba tomb over it. Even thought the archaeological context of the labels can be narrowed to type 2, unfortunately the contents (Figure 48) had been tossed about such that their relative position was meaningless (Quibell 1923: 16).

4.7.1.2 Tomb No. S3035 (Djer > Den > Semerkhet?)

Labels from context types 1-2: 11 of 11

11 labels were found in S3035, a large (57.3 x 26 m) multi-chambered mudbrick tomb situated toward the northern end of the mastaba field (Figure 45). The subterranean chambers were partly cleared by Firth in 1931 (1941: 47). In 1933, as part of his project on Archaic Tomb Development, Reisner (1936) planned the tomb in its, by then, partially filled-in state. In 1936 Emery and Sa’ad (1938) oversaw the re-clearance of the substructure and excavation of the superstructure for the first time (Figure 49-50). Emery (1938: 1) identified the tomb owner as ‘Hemaka’ based on the retrospective reading of jar seal impressions and inscriptions on a wooden sickle and two ivory labels (IDs 290, 291). He dates the tomb to Den whose PI co-occurs alongside ‘Hemaka’ on seal impressions here and at Abydos (the same group occurs on a particular label type at Abydos, e.g. ID 306). The PI of Semerkhet found on a pot was thought to be intrusive (Emery and Sa’ad 1938: 1). Emery does not comment on the implications of the find of label ID 241 bearing the PI of Djer – a ruler who preceded Den by two reigns (Figure 6). The shortcomings of basing tomb owner identity and dating on certain inscribed object types is later commented on by Emery (1958; see also Wengrow 2006). Overall, the excavation of S3035 brought to light potentially some of the best contextual evidence for labels of the 1st Dynasty, but
unfortunately errors were introduced into the publication report (for both object numbers (Cat. No.) and find spots). In examining the report closely, however, I have been able to clarify some of the errors (see Appendix 8).

**Magazine Z?/AA?**

11 labels from this tomb were (probably, see below) found in either Magazine Z or AA (see Figure 51 for the latter). ID 241 bearing the PI of Djer was found near a leather bag to which it had perhaps been attached (Emery and Sa’ad 1938: 13, 35). This label is the only surviving example where cord was found threaded though the perforation (Figure 52).

Five apparently uninscribed perforated wooden plaques were found inside a leather bag together with writing implements. This find constitutes the most detailed depositional evidence for any label to date, yet ironically, it presents more questions about label practices than it answers. Had the original pigment faded or were these plaques ‘blanks’ awaiting inscription, perhaps as part of the toolkit the tomb owner used in life, or perhaps for use in the afterlife? Or were these related to the equipping of the tomb? Such questions are considered in further detail below (Section 4.13). It should be noted that the Egyptian Museum Journal d’Entre records eight wooden labels/fragments from this find (IDs 339-346). It may be that the excavators counted multiple fragments as part of the same object.

A further difficulty is raised by the listing on p. 13 of the 1938 report. All labels for this tomb are listed as coming from Magazine Z, as are two cylindrical leather bags (Cat. Nos. 425, 426). On p. 14 a third leather bag (Cat. No. 424) is listed for Magazine AA. Further on, on p. 41, three leather bags are listed, Cat Nos. 434, 435 and 436. Here leather bag Cat No. 434 is listed as the bag for the ‘blank’ labels, but the find spot is given as Magazine AA (Figure 51). Bags Cat. Nos. 435 and 436 are listed for Magazine Z and contained wooden staves. We may infer the following: Cat. Nos. 424 = 434, 425 = 435 and 436 = 436. At present it is not possible to determine with certainty the chambers in which these object were found.

4.7.1.3 Tomb No. S3504 (Djet > Den > Qa’a)

Labels from context types 1-2: 18 of 19

S3504, yielding 18 labels, is the southern-most niched façade mastaba tomb along the
escarpment edge (Figure 45). Emery and his workers (1954: 14) commenced the excavation on 30 January 1953 and completed work about two months later on 5 April. The superstructure comprised 43 magazines and the substructure was divided into 23 (original) chambers. At its maximum, the total structure measures approximately 56.45 m from north-south and 25.45 m from east-west (Figure 53). It was surrounded by a low bench upon which bulls' skulls with horns and added clay modelling were installed (Figure 54). Surrounding this were a total of 62 subsidiary graves of female and male adults on the south, east and west (Emery 1954: 7, 13, 24-37). The main tomb was looted and fired at an early date and subsequently, probably during the reign of Qa'a based on inscriptional evidence, the burial chamber (OO) was remodelled (subdivided into 3 sections) and restored (Emery 1954: 5-6).

The preservative conditions in the tomb were sufficiently good that organic material survived, including leather, flax rope, and cloth (Emery 1954: 43, 47-48). However, no label is recorded as having twine through the perforation or as being attached to another item.

Inscribed labels and jar seal impressions bear the PIs of Djet?, Den and Qa’a. The architectural design appears transitional between S3357, S2185 and S3503 dated to Aha, Djer and Merneith (respectively, see Figure 45), and the more elaborate designs of tombs dated to Den, e.g. S3035 and S3036 (Emery 1954: 5, 7).

The 18 labels were found in approximately 10 different chambers, and another was found in the filling above the tomb. For Magazine S where label ID 265 was found, it was unclear whether some objects were in their original context or had been moved about by plunderers (Figure 55, see also Figures 56-60; Emery 1954: 16). Various errors or inconsistencies in the publication make it difficult or impossible to determine the find spots for two labels. For clarification, preceding the details of find contexts in Appendix 8, a table lists each label with its find spot followed by a brief summary of each chamber. Two chambers, Sub-rooms D and E, cannot be located on the plans but their finds are listed, as given in the report, in the table of associated finds.

4.7.1.4 Tomb No. X (Den(?)>Qa’a(?))

Labels from context type 2: 2 of 2

Two double-sided wooden labels (IDs 354, 358) were found in Tomb X, the
penultimate of the mastaba tombs running north-south along the desert escarpment (Figures 45, 61). The solid brickwork superstructure was encountered in 1937 when new magazines and workshops were being built behind the expedition house (Emery 1949: 107, 109). The burial chamber, shifted slightly toward the north end, was accessed by a descending entrance, flanked by two auxiliary chambers (somewhat like the tomb of Qa’a at Abydos; cf. Figures 41, 61). Unlike the niched panel façade of other tombs along the escarpment, the exterior was uniform and faced with white painted mud plaster.

Through a retrospective reading of impressed imagery on conical jar sealings, Emery (1949: 107) suggests the tomb owner was a certain ‘Nes-ka’. The dating of the tomb presents some difficulty. Jar seal impressions bearing the ‘niched frame’ of Den suggesting the tomb dates to this reign. However, its architectural style, as compared with S3120 and S3121 dated to Qa’a, suggests that it may be later in date (Emery 1949: 109). Perhaps refurbishment was carried out on this tomb as for S3504. Graphical analysis of both labels found here may provide some answers (Section 7.5.1 and 7.7.3). These were found in the burial chamber amongst debris left behind by plunderers (Emery 1949: 109). Among the remains, one item, an offering table may be depicted on ID 358 (see Section 4.13).

4.7.2 West Saqqara

Four labels come from the West Saqqara Cemetery located approximately 300 m north-northwest of the New Kingdom Serapeum (Figure 62). Excavation was directed by Macramallah from 11 October to 13 December in 1936, during which 231 graves arranged in six groups were discovered (Macramallah 1940: Introduction). Associated finds are listed in Appendix 9.

4.7.2.1 Tomb 59 (Den(?))

Labels from context type 1 or 2: 4 of 4

Four labels (IDs 285, 286, 287, 377) were found in the Tomb 59 (Figure 63). Located toward the middle of the tomb group “B-C” and measuring 2.3 x 1.23 x 1.10 m, it is the largest among these (Macramallah 1940: 16, 36, A-C, pl. 48, no. 1). The tombs are dated to the reign of Den on ceramic evidence, vessel inscriptions and seal impressions (Macramallah 1940: 3-4, 22; Kaiser 1985; Wilkinson 2001: 239).
Relative to the massive mastaba tombs at North Saqqara, the smaller size and more humble contents of these graves indicate that these individuals were probably members of middle-class Memphite society (Macramallah 1940: 2).

Although partially robbed, the tomb contained the remains of an adult male placed on his back with the head to the north. With 34 objects placed around the body (Macramallah 1940: 36; Figures 63-64), Tomb 59 constitutes one of the richer graves in the cemetery. Preservation is generally good, but Macramallah (1940: 3, 15) mentions the presence of salts on the floors of the deeper burials which were also damper. Textiles are attested from the cemetery but preservation is minimal; if the labels had been strung on cord made of organic material, it is not likely this would have survived. Macramallah does not seem to note the precise position of the labels upon excavation which might have clarified how they were used or associated with the other objects in the grave, neither can their presence be discerned from the otherwise excellent photographic documentation of the grave (Figure 63). The evidence nevertheless presents an a valuable opportunity to compare objects, mainly surviving vessels (Figure 64), with depictions of vessels on the labels (Figure 65, see Section 4.13 for further discussion).

4.8 Helwan

At least seven labels have been found at the cemetery site of Helwan (Helwan) located on the east bank of the Nile opposite the ancient site of Memphis, about 25 km south of modern Cairo (29°51'N, 31°20'E; Figure 7). Cemetery use spans about 400 years from the NIIIA, if not earlier, to the 4th Dynasty although most tombs date to NIIIA-D (Köhler 2004a: 299). Like Saqqara, Helwan served the early Egyptian administrative ‘capital’ at Memphis as the final resting place for lower ranking officials, craftspeople, and other members of this large urban community (Köhler 2004a: 311).

The immense necropolis of more than 10,000 tombs was excavated during the 1930s-1960s by Swedish and Egyptian archaeologists (Larsen 1940b; 1940a; Sa’ad 1942; 1947; 1951; 1969; on the reliability of the latter see Needler 1970). Sa’ad’s excavations from 1942 to 1954 yielded at least three labels (IDs 378, 379, 380) from Tomb 635 H.9 (Sa’ad 1969: 68, 177, pl. 97). Two more labels and a label-like yet unperforated plaque (IDs 360, 381, 433) emerged during the Macquarie University Helwan Project’s study of Sa’ad’s finds housed in the Egyptian Museum, Cairo
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(Köhler 2004a: 296; 2004b). These derive from Tombs 68 H.12 and 591 H.11. A seventh label found in mid-December during the 2005/2006 season (Alice Stevenson, pers. comm. 25 January 2006) was unavailable for study. The Macquarie University expedition presently continues excavation at Helwan under the direction of Christiana Köhler (2000; 2004b; 2005), and more label discoveries may be forthcoming.

Extensive disturbance – some tombs were robbed in antiquity two or three times – presents particular difficulties in determining whether objects belong to a given burial assemblage or are intrusive (Köhler 2004b: 297). Preservation is exemplified by the survival of fine and coarse linen cloth, basketry, hair and plant material (Köhler 2004b: 298; Sa’ad 1969: 147, 151, pl. 67, 148, pl. 68, pl. 71). If similar materials were used for label attachment, these may have survived: “In the upper right corner of each tablet one can discern a hole through which a cord was strung to tie the tablet to the neck of the vase” (Sa’ad 1969: 68). However, no direct evidence for this association seems to be documented (Sa’ad 1969: 77, pl. 97; see Appendix 10).

4.8.1 Tomb 68 H.12

Labels from context type 2 (1?): 2 of 2
Re-discovered by Köhler (2004b), IDs 360 and 381 were originally found in Tomb 68 H.12. The location of the tomb and its contents, if known, are not yet available in published form. Köhler (2004b: 38) assigns IDs 360 and 381 to NIIIC-D.

4.8.2 Tomb 591 H.11

Labels from context type 2 (1?): 1 of 1
One label, ID 433, was found in Tomb 68 H.11. The question of the location, details of the tomb contents, and dating are the same as those noted above.

4.8.3 Tomb 635 H.9

Labels from context type 2 (1?): 3 of 3
IDs 378, 379 and 380 were found in Tomb 635 H.9 (Sa’ad 1969: 68, 77). Associated finds are not available in published form. It will be important to compare any
associated vessel types, particularly those of stone, with those carefully detailed on these labels.

4.9 Tura

A single label, ID 353, was recovered from Tura (Leclant 1961: 104), a cemetery site located on the east bank about half way between Cairo and Helwan (30°00’N, 31°16’E; Figure 7). The label is similar to ID 350 from Abydos, but no other information context is given, and its present location is unknown (see Appendix 11).

4.10 Giza

At the northern west bank cemetery site of Giza (29°59’N 31°08’E; Figure 7), about 2.5 km SSE of the Great Pyramid, a 1st-Dynasty mastaba with niched façade (presumably Tomb V, below) was found by Barsanti. Tomb V (Figure 66) was excavated in April 1904 (Daressy 1905; Petrie 1907: 2, 5). The tomb had been partly burnt and was filled in with sand, but on the basis of inscriptional evidence and preserved architecture it is datable to the reign of Djet (Petrie 1907: 3).

4.10.1 Giza Tomb V, Grave 2

Labels from context types 2 (1?): 1 of 1

The find of an ivory(?) label (ID 271) here is indicated in Petrie’s distribution lists for the Manchester Museum where it is presently housed (Petrie Museum of Egyptian Archaeology 1999: Giza and Rifeh, 14, upper right). It is also unusual that Petrie (1907) does not mention it given his interest in labels (Petrie 1900; 1901b; 1902; 1925). The lack of a clear inscription leaves some doubt as to the object’s identity, perhaps explaining why it was omitted from the publication.

The Manchester Museum record also lists the label as being found in Grave 2 of Giza Tomb V. Whether any other finds were recovered from Grave 2 is unclear (Appendix 11).
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4.11 Abu Rowash

According to the Egyptian Museum Journal d'Entre, ID 370, the only label of trapezoidal shape, was found at the west bank site of Abu Rowash (ابو رواش), 30°03'N 30°05'E; Figures 7, 67). No further information seems to be available on this apparently unpublished label (see Appendix 11).

4.12 Unprovenanced Labels

ID 278 bearing the PI of Djet is unprovenanced (Vikentiev 1959), but is very similar to label ID 277 from North Saqqara. ID 322 is also listed here as unprovenanced, but it may be the "plaquette de bois" found during Amelineau's work at Abydos (1899: 97, 232), possibly in the vicinity of B15 (Kaplony 1963: 902, see also 984, no.1).

4.13 Discussion: Assessing archaeological associations

The foregoing sections present the archaeological evidence for the inscribed labels in order to understand better the purpose of their deposition in the cemetery. Due to variable integrity, this examination has focused in label context types 1-2 (Section 3.4). As we have seen, it is difficult to identify meaningful relationships with associated finds. A limited number of contexts nonetheless offer some insight into this fundamental yet illusive issue. These are summarised below for each main phase.

4.13.1 The NIIIA1 Labels in Context

Of the approximately 175 NIIIA1 labels from Abydos Cemetery U, 136 were found in relatively secure contexts. Finds in Tomb U-k included fragments of ivory sticks, (gaming?) pieces, and bracelets (see Dreyer 1992: 298). The relationship between these and labels found here remains unclear. Tomb U-e may have contained a vessel(s?) based on a surviving base impression.

Although no label was found in situ, the large concentration from Tomb U-j Chamber 11, particularly the 17 in contact with the floor near to the remains of cedar planks, probably represent original deposition most closely. It is here that we get closer to accessing the purpose of these objects.

Some of the labels found here and elsewhere bear short carved 'notches' and
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'spiral-shapes' (e.g. 'e') which Dreyer (1998: 139-140) proposes signified numerical meanings such as quantities or measurements. He suggests that these were attached to textiles, possibly bolts of cloth or garments. Textile evidence was not recovered from this chamber or elsewhere in the tomb, however. Looting may be a factor, as well as the poor preservation of organic materials through termite destruction affecting wood as well as bone and ivory objects (e.g. ID 127; Dreyer 1998: 14). The textile idea is supported, however, by IDs 172, 173 and 174 and possibly IDs 64, 175, 176 and 177, all depicting items resembling clothing (IDs 176 and 177 may be part of the same object. Garment labels IDs 173 and 174 were found among the 17 from the floor, but all others derive from contexts outside Tomb U-j, possibly indicating the movements of looters.

Two grains of barley (*Hordeum vulgare* L.) were also found at the bottom of Chamber 11 in association with the remains of the cedar planks. Dreyer proposes that grain may have been placed in cloth sacks to which the labels with depictions he interprets as 'threshing floors' may have been attached (Dreyer 1998: 14; see IDs 163, 164, 165, 166, all found with the large group of labels recovered in Chamber 11 somewhere above the floor). If this was the case, all must have been looted and/or fallen victim to conspicuous consumption by termites as no further grain or sacks have been preserved. If the cedar remains were from boxes, and if these once held textiles, one would perhaps expect grain to be found further away from this area. With so little evidence these explanations must remain highly speculative.

Of all label finds over the decades, in terms of archaeological context and explanation of the relationship of labels to other objects in the same context, these have received the most extensive discussion, both by the excavator (Dreyer 1998), and others (Baines 2004; Wengrow 2006: 200-206). Explanations proposed for the presence of labels in the Cemetery U tombs falls into three main categories. Firstly, that they might have been associated with item depicted on them, such as garments or grain; secondly, that those bearing 'notches' or 'e' provided numerical information about an associated object; and thirdly, that they conveyed information that was external to an associated item(s), such as its source. On the basis of the evidence outlined above, none of these proposals can be clearly substantiated. However, in comparison with archaeological contexts where labels occur regardless of the level of disturbance, it is striking that one or more numerical labels are present in each, apart from find spot "U-j, S". U-k and U-qq, the only type 2 contexts where two labels co-occur both contain a 'e' label (possibly numerical, see Section 8.7.1) and another label.
type. This raises the possibility (considered further in Section 9.3) that labels were deployed in pairs or other multiples.

In addition to assessing the significance of label presence, it is equally important to consider absence. In Tomb U-j, labels are conspicuously absent from all chambers apart from Chamber 11 and the seven examples found in Chamber 1, which may originally derive from 11. Direct and indirect evidence (e.g. base impressions) for ceramic vessel in many of the other chambers contrasts with the lack of ceramic vessels evidence in Chamber 11, although fragments of eight vessels, all stone types and possibly containing oils, were found here. Dreyer (1998: 14) speculates that Chamber 11, the largest, would have been needed to accommodate the large quantities of cloth placed here – a quantity presumably based on the quantity of labels, if these (apart from the posited ‘grain’ labels) were all associated with cloth. Despite the lack of direct evidence for the specific function and association of the NIIIA1 labels, their physical separation from inscribed ceramic vessels as well as impressed sealings is significant. This indicates that they probably performed a graphical function that was not linked to containers of stone or ceramic (in contrast to evidence for the NIIIC-early D labels). This partitioning may also indicate temporal separation depending on whether the addition of Chambers 11 and 12 to the main structure preceded or followed the equipping of the other chambers. The latter are studied comparatively in Chapter 8 and it is here, with the analysis of materials and graphical context also having been presented, that an integrated and therefore more meaningful discussion in terms of practice is presented.

4.13.2 The NIIIC-early D Labels in Context

Of the 12 NIIIA1/IICO-early D labels, and the 242 NIICC-early D labels, approximately 128 come from archaeological context types 1-2. Compared with Abydos, the integrity of contemporary contexts at Saqqara and Naqada is particularly good owing to the combination of fewer post-depositional disturbances and the use of more precise excavation and recording techniques, in most cases.

Analysis of the archaeological distribution of labels meeting the criteria for context types 1-2 (summarised in Figure 23), shows that at Abydos 27 labels occur in subsidiary burials, 14 at Umm el-Qa’ab, and 13 from the North Cemetery. Within the large burials, approximately 49 can be attributed to a specific chamber. For the four
mastaba tombs yielding labels at Saqqara and Naqada, analysis of distribution suggests that labels tend to concentrate in or around the burial and adjacent chambers (Figures 25, 53, 61; Kahl et al. (2001) seem to omit the labels in their analysis of small finds distribution in the Naqada tomb). Labels from context types 1-2 are not documented from the other northern sites.

Labels, Beads and Cloth

Similar to ID 188 are seven small numerical label types from the Naqada Mastaba (Dreyer 1998: 139). One side of each bears different combinations of ‘1’, ‘n’ and ‘9’. Based on the depictions of ‘strung beads’ on two examples (IDs 195, 196), Bagh (2004: 595) suggests that all seven numerical labels may have been attached to, or otherwise indicated information about, at least seven necklaces/strings of beads deposited in the burial.

ID 195 may show globular or short-barrelled ‘beads’ slightly separated on a string, with numerical signs below equalling ‘123’ (if units are consistent across contexts and with later known values). Oblong barrel-shaped ‘beads’ may be depicted on ID 196 accompanied by the numerical value ‘164’. Bagh (2004: 596) relates this label to a gold barrel-shaped coil-wire bead found in Chamber C. Together 720 items are indicated possibly representing individual beads or strings of beads – although the labels which do not depict ‘necklaces’ may relate to a different items altogether. Bagh reconstructs four possible necklaces (Bagh 2004: 595). The eight laterally-perforated hippopotamus ivory plaques found in Chamber C do not resemble either depiction of ‘strung beads’ on the labels, nor does the long faience bead from Chamber δ (Appendix 3).

Other beads from Chambers β and δ appear to have been stitched onto cloth or other material to form a pattern, perhaps for a girdle. It is unfortunate that the precise find spot for ID 198 is not known (Garstang 1905), but Bagh (2004: 594) proposes that this label could have been attached to such a girdle, possibly depicted in the upper left corner of the label.

Labels without depictions of ‘strung beads’ (e.g. ID 194) may have related to the “copious amounts” of cloth of different qualities found in Chamber C (Appendix 3). The numerical information could indicate quantities or dimensions, as proposed

6 ID 192, found by Garstang (1905) at the same tomb, is also of this type but is not noted by Dreyer.
for the similar NIIIA1 labels from Cemetery U (Section 4.5.1.2; Bagh 2004: 594; Dreyer 1998: 139-140), but here with the benefit of positive evidence.

Overall, few beads were found in the tomb, but this association does seem the most plausible for the 'strung bead' labels on present evidence. The intentions behind the deposition of the larger and more elaborate labels IDs 212 and 213 are more difficult to discern. Both bear erasures in the lower left, probably once containing numerical information by comparison with similar labels from Abydos and Saqqara (e.g. IDs 205, 216) which are both earlier and later in date, raising questions about the use life of labels (see Section 5.11).

**Vessels on Labels Labelling Vessels?**

Vessels are probably unsurpassed by any other (durable) material cultural type in terms of quantity, typological diversity, and use contexts in the cemetery – for equipping burials, in the funerary repast (Emery 1962) and in making mortuary offerings. Vessels are also common in the image repertoire of the inscribed labels (see Section 6.3.4). Unlike the mutual exclusivity of the NIIIA1 labels with pottery vessels, the NIIC-early D labels are graphically and archaeologically often associated with pottery and other vessel types.

Several find contexts suggest a close connection between labels depicting vessels and co-occurring vessels. This is illustrated by Saqqara West Tomb 59 (see Appendix 9). Each label (IDs 285, 286, 287, 377) found here depicts a vessel in the lower left corner, and at least 25 vessels were also found in the grave. If each label was associated with the container type it depicts, we should find at least one cylinder-shaped vessel and three flat-based, globular closed forms, although the vessel base type on label ID 285 is open to question as it was cropped, possibly in manufacture (for deliberate use of the label edge as part of depiction see Section 7.2.1).

Fortunately, Macramallah provides a photograph of the grave (Figure 63) and drawings of the vessels found (Figure 64), providing a unique opportunity amongst published reports of label finds to explore directly label and labelled item relationships. Beginning with the tall container depicted on ID 377, the linear internal markings suggest the patterning of a particular material, perhaps veined calcite as attested for vessels nos. 4-6 and 31, or another veined stone from which nos. 1, 7, 30 and 32-33 are made. All of these are low open forms, however. The remaining possibility is therefore the single cylinder calcite jar found in fragments (see
The vessels on the three other labels (IDs 285, 286, 287) most closely resemble pottery vessel no. 14. Perhaps this single vessel was associated with three labels, but given that the tomb was disturbed, vessels of this type may have been removed. Nevertheless, the neck and mouth of the label vessels resemble pottery vessels nos. 9-13 and while two of these had mud stoppers in situ, three do not, or no longer have them (Figure 63, upper right, a similar vessel, lying on its side on the left without a stopper does not seem to be included in the catalogue of finds). Nevertheless, if jar stoppers (with seal impressions?) and labels were mutually exclusive ways of labelling/identifying contents, the fact that there are three small labels depicting closed mouth vessels without stoppers may be significant. However, the “moderately pointed bases” of all makes association unlikely.

The internal diagonal wavy lines on ID 286, at least, similar to ID 377, may again indicate a type of patterned stone. Although the shape of the vessel shoulder is not exact, the closed mouths and flat bases of calcite vessels nos. 17-18 present possible candidates for ID 286.

Looking closely at the way the mouths of the vessels are rendered on the labels, those on IDs 285 and 287 are sharper and slightly more flared than ID 286. Two narrow neck pottery vessels, nos. 8 and 16, are the only other possible candidates among the survivals (the latter was found in fragments and the base type is not specified). No. 8 is taller than the depictions on the labels, but overall, these seem to best explain most features, including the lack of internal marking which suggests these are not of stone.

While the evidence is not without difficulty, the similarity between depictions and types present in the tomb is notable. It is interesting that two of the four possible vessel candidates are broken, perhaps suggesting that the contents of vessels with labels were particularly valuable.

If a vessel was obscured by packaging, the benefit of a label attached to the exterior can be surmised. In a subsidiary grave (no. 15) of the 1st-dynasty mastaba tomb V at Giza, Petrie (1907: pl. 2) found vases placed inside a large basket (see Figure 68). If the contents were completely enclosed, a way of identifying one or more item might have been required, and one can imagine labels filling this need. A related issue is the question of whether a single label may have identified multiples of a single object type, or even multiple types of object.
When we consider labels within the context of practice, focusing here on the practices surrounding the burial itself, valuable questions are raised regarding visibility and audience (visibility in production and other contexts are considered in Chapters 5 and 8). Various scenarios are possible since some labels present the possibility of being attached to a single object or bundle of objects of a similar type (e.g. ID 226), while others seem to relate to a large number or variety of object types (e.g. IDs 358, 359). For thinking about visibility and 'reading' in the cemetery context there is not only the question of where items were labelled but also when labels were tied on and/or removed. Perhaps once a set of objects was delivered/deposited in the tomb, the labels were kept aside, possibly by the overseer of the burial to serve as memory devices for what had been placed in the tomb. This information may have been communicated to others, perhaps recited to the attendees at a point in the funeral when their referents were not self-evident. This scenario remains highly speculative, but it is important to keep the question of visibility, attachment or other method(s) of association open.

Labels, Bags and Boxes

Another instance of archaeological association which may shed light on label function comes from Saqqara Tomb 3035 (Section 4.7.1.2, Appendix 8). Ivory plaque ID 290 was found in the southeast corner of Magazine Z, and a similar plaque, ID 291 also came from this chamber, although but the precise find spot is not specified. Each is perforated in three corners and incised with a Cluster interpreted retrospectively as 'Hemaka', and other imagery. On the upper right part of ID 291 'į' has been erased or eroded(?). Likewise 'ţi' is missing. Emery (1938: 39) suggests it was left out, but from first-hand study it seems to have been present but subsequently rubbed away.

The presence of three perforations would be unique for a 'label' and may have been necessary for a particular method of attachment. Given that the perforations mirror each other, these plaques may have been part of a different object type altogether, perhaps affixed at opposite ends or sides. It appears that the placement of the perforations and decoration were planned in relation to each other. Also of note on ID 291 are the scratch marks at the top of the 'bag-shaped' VO, as though the composer was trying to correct an error (cf. ID 290).

Emery was unsure what the 'bag-shaped' VO depicted. However, if we turn to the archaeological context of both these labels, a meaningful association may be
found (Appendix 8, Magazine Z). Two large (100 x 15 cm) cylinder-shaped leather bags with wooden fittings were found in the eastern half of Magazine Z (Section 4.7.1.2). Could the ‘bag-shaped’ VOs on each label represent one of these bags? Perhaps the wooden fittings were part of a specially-designed closure that relates to the unusual shape of the upper part of the ‘bags’ depicted on each label. Further, each leather bag contained staves (Cat. Nos. 384-400, quantity per bag unspecified, Emery and Sa’ad 1938: 13). Perhaps the long vertical line depicted within each ‘bag-shape’ depicts a staff. Based on similarities between shapes of bags, contents, label imagery and the general archaeological association of these objects, there is a strong possibility that these labels and bags were meaningfully associated. However, as with the labels in SW 59 where there is a good fit between labels and items depicted on them, it is not clear why one would need to depict the item, unless something about its presence was not self-evident.

Another relationship between a label find spot and associated items can be posited between ID 241 and the large inlaid box (Cat. No. 423) containing disks (Cat. Nos. 306-340), all found in the eastern half of Magazine Z (Appendix 8). Emery mentions specifically that ID 241 was near a leather bag (which may be one of the leather bags just mentioned, although he does not specify which). What is interesting is the depiction of a ‘human figure’ carrying a large ‘box(?)’ with internal elaboration (inlay?) and to the right, another ‘figure’ who appears to be interacting with four ‘disks’, one of which is ‘held’ by a ‘bird’. These ‘disks’ and ‘box(?)’ could depict those attested archaeologically in the same chamber.

4.13.3 Funerary and/or Mortuary Use of Labels?

Labels are associated with tomb equipping or funeral rites preceding burial closure, but some archaeological evidence at Abydos in particular suggests that labels may have been used in activities following the sealing of the burial.

Of labels encountered outside tomb chambers, excavators described contexts as looters’ rubbish or excavation heaps and generally it seems that external label deposits were not the result of mortuary activities. However, there is evidence for the intentional deposition of mortuary objects around the tomb. At Tomb X ascribed to Anedjib, Petrie (1900: 12) notes the presence of dozens of small pots loosely piled together at the bottom of the steps accessing the burial chamber, but in front of the
Chapter 4: Examining Label Deposition

blocked chamber door. He suggests that these vessels contained offerings made after completion of the burial. Other evidence for activities at the entrance of a tomb includes the large quantities of ointment or oil poured out at the entrance of Tomb U attributed to Semerkhet (see Section 4.5.4.6), and it was here that ID 350 was found, suggesting that in some cases labels may have been deposited outside the tomb, possibly after the tomb had been sealed, although it is difficult to define the temporal scale between episodes of activity. The integrity of the context cannot be guaranteed, but it is also worth considering the question of the one-to-one relationship often posited between label and containers (vessel or bags(?) of oils/ointment). Given the large quantities of ointment deposited, should we expect more than a single label? The possibility of a one-to-many relationship for labels receives further consideration in Sections 8.6 and 9.4.

Post-burial label use may also be posited for labels found in magazines Q-N5 and Q-N6 at the entrance to Tomb Q ascribed to Qa’a. As both chambers have entrances opening to the exterior, offerings could have been brought here after the burial was sealed. The excavators do not specify whether there is evidence for multiple episodes of deposition in this location, but it is notable that IDs 348 and 349 attributed to Semerkhet were found in Chamber N6 (or just outside? See Appendix 6, n. 14). Engel (1997: 436) suggests that both labels probably belonged to objects labelled in the time of Semerkhet that were then used in the equipping of Qa’a’s tomb with its grave goods.

Another overlap is attested where the PI of Neithotep occurring on various objects in the Naqada Mastaba (e.g. ID 193; de Morgan 1897: xx) dated to the reign of Aha, is also found on items in subsidiary graves around Tomb O attributed to Djer, Aha’s successor. Petrie (1901: 4) suggests that these were disused property passed down to domestic servants that died during the reign of Djer. Cross-reign, perhaps cross-generational, curation of object or ‘heirlooms’ (see Jeffreys 2003), could also apply to inscribed labels. Dreyer (1993: 11) has suggested that names inscribed on objects found in a tomb may represent the individual officiating the burial, or someone otherwise involved with the funeral itself, but perhaps we also need to consider whether labels might have become personal items in some instances, passed on from one person to another – possibly in association/attached to a particular item. The possibility is also supported by the presence of ID 241, with the PI of Djer in Saqqara Tomb S3035 (Section 4.7.1.2, Appendix 8) but which probably dates to the
reign of Den (Emery and Sa’ad 1938; cf. Hornung and Staehelin 1974).

4.14 Summing Up

Expressions of social status through funerary participation may have been an important facet of early Egyptian ‘royal’ power relationships (cf. Pearson 1999: 84-85), and some labels with their images of power and authority (e.g. IDs 205, 210, 211, 295, 304) seem to be part of such social dialogues.

However, not all label imagery relates to these social themes; not all are found in the burials of the 1st-dynasty rulers, nor are all found in high status graves. The subsidiary graves and the label-yielding tombs at Helwan and Saqqara, tombs 1271H and 59 in particular, belonged to lower status individuals (Keita and Boyce 2006; Köhler 2005). In order to make further sense of the variability in the label archaeological contexts – particularly along the spatial and typological dimensions and their social implications – we need to consider who would have been a part of such dialogues (label commissioners, makers, the deceased, family members, friends, mourners, administrative officials, divine or other entities), and how messaging was accomplished.

Whether expressed in a material or ‘non-material’ form, as discussed in Chapter 2, meaning is always contingent. It must be understood in the context of its construction and perception (i.e. re-construction) across time-space. This examination of the archaeological context takes us some of the way in understanding the conditions of visibility and audiencing (Rose 2001: 24-28; see also Baines 2004: 152), but this must be considered in conjunction with the mode of expression. The materiality of an object – and equally an image – present particular constraints and opportunities for meaning expression and reception (if intended) in practice and it is this theme that forms the topic of analysis presented in the following chapter.
5 Re-Materialising Images

5.1 Introduction

Some artefacts may be considered by investigators to be more material than others; depictions on the labels, as linguistic, administrative and ideological evidence, are not typically studied for their artefactual or material qualities. Yet by their very presence, image and script are products of a range of material intentions, actions and transformations. In this chapter the focus of analysis is two-fold. From one standpoint, it is concerned with the material practices involved in the construction of a label (cf. Olsen 2003: 88) and how this act constituted a particular ‘present’ in the past. The second area of analysis then involves considering how objects are constructed on a conceptual level – the nature of their materiality. By this I refer to the ways in which embodied actors conceptualised, perceived and engaged with materials.

What a particular material or its materiality means cannot be determined a priori – fermented grape juice may be classified as ‘wine’ in one situation and ‘the blood of Christ’ in another. This chapter is directed to the particular theme of materials for analytical clarity, but in practice is integral to the ontology of the labels and the graphical worlds and meanings they embodied as deployed within the funerary landscape, and probably elsewhere. I therefore tack back and forth between these areas, drawing out various relationships as these are clarified by analysis.
5.2 Materials and Materiality

'Materiality' has been central a theme in archaeological and anthropological discourses over the past decade. In his article "Materials against Materiality" Tim Ingold (2007: 1 and 3) argues that these discussions have neglected to engage with materials in an explicit way and calls for a more direct engagement with materials and their properties, transformations and affordances rather than "...the abstract rumination of philosophers and theorists". Another area to expand the debate would be in the materiality of image and script, to which Ingold (2007: 7-8) does refer but without detailed discussion.

As discussed in Section 2.4, Gibson's (1979: 16) conceptualisation of the properties of materials – medium, substance, surface – is valuable for thinking through transformations in label production and use, as well as the conditions of engagement and perception (Chapter 8). To illustrate its application, let us consider a bone label. At the moment of incision, the composer, through particular embodied movements (and accompanying perceptions and cognitive processes) extended her or his arm with a particular tool in hand, perhaps a small chisel, directing it to the surface as permitted by the media of air and presumably some light. This combination of embodied, material conditions afforded the agent a particular perceptual experience (visual, tactile, etc.). An incision was excavated into the substance with the effect of creating a new surface which contrasted, through differences in elevation, colour (possibly emphasised by the application of pigment) and varying degrees of light and shadow, with the original surface, thus creating marks with cultural and symbolic meanings.

In his discussion of 'graphetics', Mountford (1969: 631 cited in Kahl 2001: 35-36) introduces the terms 'substrate' and 'constrate', the former being the foundation that supports script, and the latter the script itself. While this division is useful for compartmentalising the data for analysis, Mountford's characterisation of the relationship between the two as strictly uni-directional ("The substrate determines the kind of constrate...") is not. This denies the agency of the composer and the cultural meanings that lie behind particular graphetic choices. Therefore, I have employed Mountford's terms in complementary fashion to Gibson's, and with the latter's conceptualisation of their interrelationship. Gibson's model dovetails neatly with my overall emphasis on practice and the importance of embodied perception in
the cultural characterisation and technological transformation of materials – conditions that recursively underpin all social meaning construction.

In attempting to answer research question 2, concerning the significance of the materiality of the labels in practice (Section 1.8.2), analysis is directed to revealing the material choices made by label technician(s) and how these were informed by and re-informed related social structures (cf. Meskell 2004: 53). Dobres (2000: 216) sees the personal as necessarily social, the individual body forever part of the body politic, and the operational gestures of a single technician’s hands always tied to collective representations. Collective representations are nevertheless comprised of the results of individual decisions to participate in the reproduction of certain past choices, with some becoming more reified than others, thus forming structures. I am particularly interested in how individual choice informs and is informed by these structures, and the extent to which these are challenged. Whether episodes of action relate to single and/or multiple individuals is not always archaeologically visible, but analysis of material patterning gives us some idea of the scale of structures and how these vary among and between tombs and cemeteries over time. This inquiry begins, then, by exploring the creation phase of the label and its decoration, through to subsequent transformations including unmaking (erasure) and remaking.

5.3 Label Materials

General materials identification was accomplished as set out in Section 3.5. First-hand study was achieved for 234 objects. For 199 unseen labels, published materials were used where provided. Five main materials are attested: bone, elephant ivory, hippopotamus ivory, stone and wood (see comments on wood in Section 3.5). First-hand observation revealed some inaccuracies in published materials identification, noted in the catalogue (Volume 2). The presence and distribution of ‘substrate’ materials across the entire dataset is presented in Figure 69. Percentages according to the two main general chronological phases are given in Figures 70 and 71 and full general chronological summary in Figure 72. NIIC-early D materials are also plotted according to reign in Figure 73.
5.3.1 Bone

Among the 126 bone labels, especially those dated to NIIA1, the presence of morphological features, such as muscle attachment areas, nutrient foramina (e.g. ID 155) and metapodial seams (Figure 74, see also IDs 11, 96, 121, 136?) give some idea of the skeletal component used. The metapodial seam is diagnostic of the lower leg bone of ungulates, such as cattle, gazelle, antelope and sheep/goat which have been found in archaeological contexts dating to the Predynastic and Early Dynastic periods (Ikram 1995: 292-295, based on NI-III evidence from Nag-ed-Deir). The flatness and thickness of the compact bone layer of the cranial surface of the metapodial makes it suitable for making labels (Figure 75; Section 5.11). The distal tibia may have also been used (Salima Ikram, pers. comm. 26 April 2007), among other bones, depending on animal type and age. Features such as the spongy bone material and other marks, indicate that the concern for smoothness and flatness was not always primary (e.g. IDs 7, 42), and that recycling or use of off-cuts is possible (IDs 75, 126). The use of human bone cannot be ruled out.

5.3.2 Elephant Ivory

At least 56 labels are made from elephant ivory. Two primary sources probably available to early Egyptians were the Asian elephant (*Elephas maximus*) and the African elephant (*Loxodonta africana*) (Krzyszkowska and Morkot 2000: 320). By dynastic times if not earlier, the elephant became extinct in Egypt, but deliberately interred remains of at least two African elephants in the Hierakonpolis locality HK6 'elite' cemetery (NIIA(B)) indicate that elephants could have been kept without being sourced for ivory: at least one tusk and fragments were found in the grave area (Friedman 2004). Elephant ivory for label-making probably had to be acquired through hunting expeditions or exchange, the earliest written references for which date to the Old Kingdom (Osborn and Osbornová 1998).

5.3.3 Hippopotamus Ivory

Hippopotamus ivory accounts for at least 26 labels. This quantity is a general indicator only since preservation and surface finish sometimes make distinction from elephant ivory difficult. Hippopotamus ivory derives from the tusks, primarily from
canine and incisor teeth, the lower canines averaging 60 cm in length (Kolska Horwitz and Tchernov 1990: 67). Faunal and iconographic evidence for the hippopotamus is known from Predynastic times onwards (Osborn and Osbornová 1998: 144; Petrie 1920: pl. 17, no. 72). Mainly an inhabitant of swampy and riverine environments, such as the Nile Delta and areas where the river did not run too quickly, the hippopotamus (*Hippopotamus amphibius*), as its name implies, also dwells on land and can be very destructive of crops and people (Osborn and Osbornová 1998: 144, 146-147). Hunting may have been a way of reducing this threat, as well as providing an important source of meat and other products such as tusks (Krzyszkowska and Morkot 2000: 326).

The immediate practicalities of material acquisition may have influenced values and meanings attributed to objects manufactured from hippopotamus ivory, such as the distances travelled, whether acquired directly through hunting or scavenging or through trade (in tusks or pieces of usable raw ivory). Hippopotamus populations are also known to have existed in Syria-Palestine (Krzyszkowska and Morkot 2000: 326).

### 5.3.4 Stone

Stone is the least common material for label-making with only two clear examples of thin perforated stone plaques attested, both dating to NIIA1 and from Cemetery U at Abydos. These include ID 178, a relatively large, well-preserved and peculiarly inscribed example of light pinkish-grey limestone, and ID 179 made of a grey quartzite fragment with traces of red colour (Dreyer 1998: 136; "rölichen Farbspuren"; it is ambiguous whether this is intrinsic or applied).

This material choice seems unrelated to availability. Outcrops of limestone are known throughout Egypt (the pinkish colour of ID 178 may be the result of exposure and weathering (Aston et al. 2003). Quartzite is widely available both in the Eastern and Western Deserts and occasionally in the Nile Valley (Aston et al. 2003: 53-54; Baines and Málek 1994: 19). The reason for the introduction and subsequent discontinuation of stone is difficult to assess without further archaeological evidence and published information. Moreover, I remain cautious in the classification of these objects as ‘labels’, especially ID 178 with its enigmatic imagery (Dreyer 1998: 136, no. 191), size and shape, for which no other parallel is yet known.
5.3.5 Wood

71 wooden labels were available for study. All examples date to the IIIIC-early D phase, comprising 30% of the IIIIC-early D group, and are attested for every reign (apart from Neithotep if she indeed ruled; see Section 4.4.1). The lack of wooden labels prior to the 1st Dynasty may relate to conventional choices, but poor preservation may also be a factor, although some wood was encountered in Tomb U-j (Dreyer 1993: 34, 36).

Variability in density and colour was noted. This may be due to the part of tree used rather than a different species type, as well as treatment, level of desiccation, and the conditions of preservation. Differences in density were apparent in handling, particularly among the set of perforated but apparently undecorated plaques found in the leather bag in S3035 (Emery and Sa’ad 1938: 39). ID 340 is much denser and heavier than its companions (IDs 339, 341-346; see also Figure 76). Microscopy, necessary for species identification (Hodges 1965: 224-226), could not be undertaken but stands to contribute important insights into sourcing.

Published reports often cite ebony as the wood type for dark coloured labels (e.g. ID 215). However, in no case is it clear whether determinations were achieved using analytical equipment. In addition to so-called Egyptian Ebony (Dalbergia melanoxylon Guill. and Perr. Leguminosae-Papilionoideae), African black and iron wood are also possibilities for dark wood (Phil Austen, pers. comm. June 2006). There is actually no evidence that ebony grew in Egypt proper, but later Egyptian written evidence indicates that sources lay somewhere to the south of Egypt (Gale et al. 2003: 338-339). Lighter coloured woods (IDs 209, 340, 370) might be Acacia (Acacia nilotica), sycamore (Ficus sycomorus) or tamarisk (Tamarisk nilotica) which grew abundantly in Egypt at this time (Gale et al. 2000: 367). Cedar (Cedrus libani), as its scientific name suggests, was imported from Lebanon. While primary sourcing, i.e. cutting down a tree in order to make a label, is possible, label-makers probable made use of available off-cuts or recycled pieces (see Gale et al. 2003: 368), and some wooden labels may show evidence for this (see IDs 227, 269?, 367?).
5.4 Materials of Manufacture: Discussion

The material or its source may have been significant for its subsequent uses and meanings. As for the relationship between the material of the object and the depiction of sources, an ‘elephant’ appears on at least 12 labels: one is made from elephant ivory, 10 of bone, and one is of bone/ivory. A single ivory label, ID 330, shows the spearing of a tusked or horned ungulate, possibly a hippopotamus (or a ‘bull(?)’). It would be interesting to know if this label were made from hippopotamus ivory, but it was unseen, and the ivory type is unspecified in the preliminary report (Dreyer et al. 2000: 115, pl. 10h). On the available evidence, even for wood and the depiction of wood sources, there is no clear correlation between a material and the depiction of its source.

It is possible to speculate with more confidence on the significance of materials when plotted in relation to other factors, such as archaeological context and techniques used to render imagery (see below). Apart from material types, only a small number of labels tell us about how or why they came to be selected, whether from a raw source or a partially prepared section of materials. There is some evidence for recycling and given the relatively small size of labels (Figures 1-3; Section 5.5.1 below) acquisition from secondary resources is possible. Grooves or multiple perforations, particularly those which are not in the corner, may have been for dowels and may indicate that label (substrate) materials were recycled furniture pieces (Dreyer et al. 1996: 75), as attested in Tomb Q, for example (see IDs 386, 393, 396, 398, 399, 400; Engel 1997).

5.4.1 Spatial and Temporal Distribution of Label Materials

In plotting distribution of materials against the two main temporal groupings, we see that bone and ivory were employed in label manufacture during both, but stone is unique to the NIIIA1. As illustrated in Figures 70-71, bone accounts for 65-73% of NIIIA1 labels, contrasting sharply with the 12-17% of NIIC-early D. Conversely, ivory increases from 22-30% among the NIIIA1 labels to 53-58% among the later group. In as far as preservation is reliable, the use of wood for label manufacture is first introduced during the reign of Narmer (ID 204), and continues up to the reign of Qa’a, but remains less common than bone and ivory.

If we accept that NIIC-early D labels are part of a continuous tradition from
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the NIIIA1 labels, then it is possible to chart at least two material changes in label practices. First, there is a change in materials, as seen with the elimination of stone and the introduction of wood. Second, label-makers increase their use of elephant and hippopotamus ivory from one phase to the next, while reducing the use of bone.

Plotting of materials data according to inter- and intra-site label spatial distribution, as examined in Chapter 4, shows different patterns for each site (Figure 7). For NIIIA1, finds are confined to Cemetery U, Abydos; the spatial situation for the NIIIC-early D labels is more varied as shown in Figure 77.

Abydos is the only site where labels are found made from the full range of attested materials. At Saqqara hippopotamus ivory is absent, but the concentration of wooden labels is notable (30 of 71), 18 of which come from Tomb S3504 dated to Djet and Qa’a. The significance of the absence of bone and wood from Helwan is not clear from so small a sample. The same problem also applies to Naqada where wood is absent, but of note is the use of hippopotamus ivory for at least five (e.g. ID 194) of the seven small numerical labels (two are either bone or ivory but could not be identified with certainty). The possibility of a relationship between numerical labels and hippopotamus ivory is also suggested by a numerical type (e.g. ID 188) found at Abydos. One wonders if this numerical label found in Tomb B50 might also be hippopotamus ivory, but this information is unavailable in the preliminary report (Dreyer 1998: 139). As Figure 77 shows, evidence for Rowash, Giza, and Tura is too little to be informative.

5.5 Preservation

Data quality was assessed for both substrate and constrate. Separate evaluation of each is necessary since, for example, well-preserved substrate may have poorly preserved decoration, e.g. ID 370, or a poorly preserved substrate may preserve most of its original constrate, e.g. ID 381. Differential preservation is attested among materials: bone and ivory tend to preserve better than wood, particularly if the tomb was fired (attested for the NIIIC-early D tombs only). When exposed to high heat, the former may become calcine but remain largely intact (Figure 78), while wood may be destroyed (but see ID 210). Other threats to preservation come in the form of termites, noted in particular at Abydos (Dreyer 1998: 14; Engel 1997: 7). Apart from Saqqara West (Section 4.7.2.1), the reports do not indicate that damp or salts posed a particular
problem.

Gauging preservation for unseen labels is difficult, as this is inconsistently recorded in the publications (e.g. Petrie 1900: 22-24). Many Saqqara labels are currently unlocatable and documented solely in the form of line drawings, and it is not always clear whether the edge of the object is original or damaged first. James (pers. comm. 2006) recalls that many wooden labels seemed to be whole but were warped (ID 369 and cf. missing edges of ID 269).

5.5.1 The Substrate

For each label substrate, three measurements were collected where possible: height, length and thickness. The minimum and maximum for the NIIIA1 labels overall is as follows:

Minimum: H 1.05 x L 0.95 x W 0.1 cm
Maximum: H 2.25 x L 3.8 x W 0.45 cm

The same for the inscribed NIIIC-early D labels overall is:

Minimum: H 1.2 x L 1.5 x W 0.1 cm
Maximum: H 8.5 x L 9.45 x W 0.71 cm

Thickness is noted in more recent publications, but absent in most early reports. Analysis therefore focuses on the first two dimensions.

To evaluate preservation of the substrate the following levels of completeness for each were recorded:

1. Complete
2. Slightly fragmentary
3. Moderately fragmentary
4. Very fragmentary
5. Unclear (label unseen and/or publication unclear)

Figures 79-80 show the levels of preservation for NIIIA1 and NIIIC-early D labels, respectively. The former are better preserved with 61% complete compared with 31%
Wooden labels are often broken horizontally, initially raising the question of deliberate breakage. Comparison showed, however, that label-makers consistently oriented the grain horizontally. Since wood is weakest along the grain, horizontal fracturing is more likely than vertical or oblique breaks. It is interesting that label-makers consistently observed/followed this convention in the manipulation and transformation of wood throughout the 1st Dynasty, spanning four sites. Examination of the orientation of other contemporary wooden objects would indicate to what degree label-makers followed specific conventions or engaged with other related trades. In contrast bone labels tend to fracture longitudinally also indicating that makers oriented the raw materials in a consistent way. Ivory labels tend toward oblique fracturing (e.g. IDs 248, 292, 294, 408), the breaks often sheering off at an angle (e.g. IDs 238, 317, 324), while horizontal and vertical breakage is attested only occasionally (e.g. IDs 107, 202, 377).

The similarities in preservation between two virtually identical labels, IDs 212 and 213, from the same tomb at Naqada are striking (Figure 78; Section 4.4.1): each bears virtually identical depictions; an erasure in the same spot in the lower register; is severely warped from heat (ID 213 is completely calcine, almost stone-like); has lost its lower right corners; and has similar corner breakage patterns. Study of ID 213 showed that the upper left fracture probably occurred before burning since the edges have shrunk/curled over the broken edge from the heat. The upper right corner appears to have broken after the burning episode, as does the bottom right corner. ID 212, housed in the Egyptian Museum in Cairo, was mounted inside a plastic box and its fragments refitted, making examination of some breaks impossible. But like ID 213, the lower left corner does appear to have broken off after burning. Whether the similarly broken lower right corners were the result of post-depositional processes or broken intentionally after the firing of the tomb remains unclear. With regard to preservation of the substrate overall, the relatively poorer preservation of NIIIIC-early D labels doubtless reflects their larger size (and increased fragility, see also Section 5.5.1 below), and greater destruction of the contexts (Section 4.2).

Analysis of the substrates was also conducted to determine whether there is a relationship between material and size. As Figure 81 shows, larger-sized labels tend to be made of wood. No clear pattern with these variables emerged for bone or ivory.
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5.5.2 The Constrate

To evaluate preservation of label imagery, the following levels of completeness of constrate for each were recorded and encoded:

1. Complete
2. Moderately well-preserved
3. Poorly preserved
4. None
5. Unclear (label unseen and/or publication unclear)

Preservation of decoration for each phase is shown in Figures 82-83. As with the substrate (Section 5.5.1), the constrate of NIIIA1 labels is also well preserved with 60% complete compared with only 20% of NIIIC-early D labels. A precondition to constrate preservation is, of course, substrate preservation, but the limited completeness for NIIIC-early D labels also reflects the occurrence of apparently blank labels (8%), and the use of applied colour (24%, see Section 5.8) which tends to preserve less well.

In addition to post-depositional disturbances already noted (Section 4.2), the excavation reports do not indicate that environmental conditions, such as damp or salts, in any one tomb impacted particularly on substrate or constrate preservation. For example, from the same tombs, S3504, both excellent and poor preservation is attested for the constrate (cf. ID 264 with ID 270) and the substrate (cf. ID 364 with ID 376). The concentration of finds from Abydos is indeed related to the importance of image and script in burial practice among early Egypt’s upper class and associated groups, but this site has also received more investigation compared with other sites. Doubtless further labels await discovery at sites in the area of Saqqara and Helwan, if not elsewhere. The question of preservation and the restriction of labels to the funerary sphere cannot be answered until more settlement excavation is undertaken.

5.6 Materials Becoming Plaques: Making and shaping

The appearance, use and meaning of a material object are directly and indirectly informed by the processes which brought it into being. Raw materials present certain affordances, for example, the maximum size of a bone or hippopotamus or elephant
tusk, its texture, weight, workability and colour, all influencing manipulation and transformation. In turn, there are the graphical intentions of the commissioner/label composer in relation to the intended function of the label. Technical and bodily considerations, such as the force required to work materials relative to tool performance (flint and cold-hammered copper tools technology is contemporary with the labels, Petrie 1917), were primary concerns during making but would have also contributed, at least indirectly, to subsequent appearance, reception and meanings.

It has been proposed that some NIIIA1 labels may have been produced from plates of animal bone (Dreyer 1998: 137; Kahl 2001: 111). Many show evidence for deep scoring with rough breaks from snapping off (e.g. IDs 69, 97), predominantly at the top and bottom edges, and rarely on the right and left sides (but see Section 7.2.2 on determining label and image orientation). These technical features and the presence of repeated image groups, a limited number of which appear to be executed by the same hand (e.g. IDs 93, 94; Kahl 2001: 111), are seen as evidence for “mass-production” (Baines 2004; Dreyer 1998: 137) – or at least that labels were produced in series. Evidence for the cutting method employed on the few ivory examples is often obscured by smoothing/polishing. Where there are visible indicators, cutting/sawing goes completely through rather than part way. Some bone examples, like the ivory, were also subjected to edge finishing and it is not clear if the scoring and snapping method was employed. The plate method seems to be specific to bone. Differences in the method may lie with the habit of individuals or small collectives, some of whom finished the edges more carefully while others left them rough. It is difficult to infer the significance of these differences without contemporary evidence from a wider range of other sites.

In addition, at least 24 bone labels are scored on their inscribed surfaces a small distance from the actual edge. All occur at the top or bottom, apart from IDs 36, 55, 69 and 160, perhaps to block out the upper and lower outline of each label prior to inscription and/or cutting. Perhaps these also established orientation (e.g. IDs 27, 30, 32).

Based on the NIIIA1 labels studied first-hand, the scoring/cutting which resulted in separation of the pieces of bone was accomplished mainly from the primary side. This probably indicates that graphical elaboration took place prior to scoring and breaking indicating an interest to avoid obliterating imagery. This was not always avoided, however. A small number show cropped segments of images
presumably from neighbouring labels (below, e.g. ID 127, or to the side e.g. IDs 88, 95, also obliterated by perforation). This evidence also points toward the series/plate method of manufacture for at least some labels. Scoring on ID 75 may be due to the label production process (Baines 2004: 156, fig. 6.2), but given that the majority of score marks occur on the inscribed side, this mark on the secondary face – which is also of unusual depth – may be the result of use prior to its acquisition as a label substrate.

As for wood, the technique of cleaving was practised as early as the Predynastic period (Gale et al. 2003). Wood conversion by sawing is indirectly evidenced on planks of Early Dynastic coffins. Saw marks running across the surface in many directions attested to the difficulty of this task (Gale et al. 2003: 354). Similar marks occur on the primary side of ID 231 and are particularly visible when viewed obliquely. Saw marks commonly occur on the NIIC-early D labels, usually the left and right edges relative to the imagery. Marks on the top and bottom edges are less frequent. These are usually more sanded and smoothed compared with the right and left edges. These patterns give some idea of the sequence of conversion, possibly that edge preparation on one axis of the label preceded the sawing off of the opposite edges (see Figure 84). A collection of copper tools discovered in S3471 (Emery 1949: 47-48, figs. 23-24) gives an idea of the kinds of tools used to make objects such as labels, included small engraving tools and thin-bladed awls which could be used to bore holes (Gale et al. 2003: 355-356).

5.6.1 The Perforation

The perforation is an essential feature of a label as a material culture type, distinguishing it from morphologically similarly objects, such as bone, ivory and wooden furniture inlays, box lids, gaming pieces and other small rectangular plaques of unclear use. Figure 85 lists the types of perforation encountered on the labels with single perforation being the most common. All whole objects in the database are perforated, apart from one object (ID 433) for which manufacture may be incomplete or which may not be a label (Köhler 2004b: 13). Fragments for which a perforation is not preserved (e.g. ID 238), but otherwise fit the working definition of a ‘label’ outlined in Section 1.4, were retained in the database. Multiple (2-4) piercings are attested among the NIIC-early D examples only and may evidence different kinds of
labelling or attachment practices, or may not be labels (IDs 206, 208, 255, 290, 291). Fragments of ivory in Kaplony’s (1963: 983; see Petrie 1901b: pl. 7, nos. 8-9) list of labels have been excluded here. First-hand inspection shows these to be parts of vessels or similar objects (Cairo Egyptian Museum, JE 34905 and 34909).

Perforation distribution is presented in Figure 86 showing that placement on the NIII A1 labels occurs predominantly in the upper part on the inscribed face, in the right or left corner (Q1 and Q2, see Chapter 6 for label quadrants). By the NIIC-early D period, perforation is restricted to the upper right corner (but see ID 228). The location of the perforation would have been a concern in the composition/decoration stage of manufacture, but would have also influenced subsequent labelling practices such as attachment and other embodied manipulation, as I consider in Chapter 8.

When examining the perforations I looked for signs of use wear, which might indicate trauma from suspension, pulling or turning, or evidence for the kind of material used for attachment, e.g. a soft material like twine or leather, or a harder substance such as copper wire (see Appendices 3 and 6 for Abydos ‘Royal Tombs’ Grave 83, and the Naqada Mastaba). However, I was unable to discern any sign of use wear (observation under greater magnification than 10X might reveal additional clues). Perforations that have been broken out (e.g. ID 74, 182, 207, 208, 232, 367) may have been weakened from tension or pulling, but given that this corner would be the weakest corner, breakage may also be due to post-depositional processes.

For the 64 double-sided labels (see also below, Section 5.9), analysis required the designation of one side as primary. The main criterion for this was the presence of imagery, but where both sides bear imagery, priority had to be assigned. For the nine double-sided numerical labels from Naqada (e.g. ID 192), de Morgan (1897: 167) treats the numerical face as primary, although the basis for this is not stated.

Labels were studied first-hand under 10X magnification to try to discern the direction from which the perforation was drilled. For some, the edges of the hole were quite smooth on one side and rougher, with signs of splintering on the other, presumably where the tool broke through the surface (Figure 87). On some, this evidence had been obscured by smoothing, however. Overall, I was unable to discern a preference in the direction of drilling that might indicate a ‘primary’ side.

In continuing my attempt to determine sidedness in order to analyse the significance of perforation placement, I then took into account the location of numerical information. On the more elaborate labels (e.g. ID 264), this was located in
the lower part of the label (Section 7.7.2). Assuming the presence of a hierarchy of information from upper to lower, I decided not to follow de Morgan (above) and the numerical side of the Naqada labels as secondary.

Interestingly, once all labels were analysed for perforation distribution, it turned out that the numerical types did not conform to the pattern of perforation in the upper right corner (Q2), exhibited by virtually all other NIIIIC-early D labels (the only exception with perforation in the upper left were ID 228 dated to Djer, ID 305 possibly dated to Den, and possibly IDs 202 and 250, although inscription that might determine primary/secondary sidedness is very faded). It is probably the case that the numerical face should be considered primary for the labels from the Naqada Tomb. This also raises the important question how we are to infer priority of one side over another and the sequence of ‘reading’. If numerical information is in some ways primary, perhaps we need to reconsider the traditionally assumed order of ‘reading’ – of right to left and top to bottom.

Overall, a shift can be charted from variable placement of the perforation in the NIIIAl period to its standardised location in the upper right throughout the NIIIIC-early D at all sites. From this we can infer that other aspects of manufacture and manipulation of the labels became more structured, including location of the imagery vis-à-vis the perforation and therefore sidedness, and if used for attachment, manipulation and ‘reading’ would have also been influenced.

5.7 Plaques Becoming Labels

Decoration of the label surfaces included subtractive and additive techniques, or a combination. Subtractive techniques usually involve incision of a single thin line to form the outline of an image with varying degrees of detail indicated. Additive techniques include the application of colour to the surface of the labels. Depending on whether the pigments are mixed with adhesives or other media and how the substance onto which they are applied receives them, they may be described as a ‘dye’, ‘stain’ or ‘paste’. In view of the present lack of chemical analysis, a preferable term is ‘colour’ since it is non-committal (Hodges 1965: 159). However, it is necessary to distinguish colour applied directly to the flat surface of the label, from the thicker, often grainier substances filling many incisions. The latter is referred to as ‘paste’. Combining these additive and subtractive techniques, four types can be distinguished.
on the labels

- Incision (subtractive)
- Incision with paste infill (subtractive and additive)
- Incision with applied colour (subtractive and additive)
- Applied colour (additive)

Whether the difference between incision and incision with paste infill is the result of preservation or intention could not be determined. Microscopic analysis might reveal traces of pigment where I could not detect it under 10X magnification. Distribution of these techniques is given in Figures 88-89 by phase. Each of these techniques is examined in the following sections.

5.7.1 Incision

Incision is the foundational technique for three of the four techniques attested on the labels. Alone it is attested on a total of 161 labels, making up approximately a third of the corpus in each period (Figures 88-89). Incision with paste infill has been analysed separately in the next section.

In thinking about incision as practice, it is worth noting that the NIII A1 images are characterised by a pronounced V-shape while the NIIIC-early D label incisions often appear finer (e.g. ID 294). The ‘notches’ forming ‘digits’ on the NIII A1 numerical labels (Section 8.7.1) appear to have been made by two roughly parallel cuts with a narrow blade, material being removed from one side and then the other. On labels from both phases, slippages show the direction of the force applied and for some, the sequence of marks can be determined (e.g. IDs 225, 255, 290, 291). ID 196 from Naqada shows slippage to the right along the bottom edge of a rectangular VO. The style of this less careful incision on this face of ID 196 differs in width and depth compared with the other face, suggestive of two episodes of decoration, possibly by different hands (see also Kahl 2001: 211).

In addition to a single line of incision, a small number of VOs are made using a double outline. This is exemplified by ‘atrice’ on the virtually identical IDs 290 and 291, each possibly associated with a bag of staves in S3035 (see Section 4.7.1.2). Also notable are IDs 378, 379 and 380 found together in tomb 635 H.9 at Helwan.
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(Sa’ad 1969: 177, pl. 97). All are of ivory (type unspecified) and similarly worked, possibly by the same individual or a related group of label-makers. Certain features of incision style are of interest. We can see that ‘l’ is rendered by a single incised line yet ‘~’ on ID 380, also usually consisting of a single incised line, is rendered here as an outline. The same applies for ‘j’ (see Figure 90). Also of note is the swapped position of ‘s+stalk w/multiple notches’ on ID 378 compared with IDs 379 and 380 (orthography discussed in Chapter 7). In addition to the uncommon use of outline on this label is the rarely-attested complete removal of the interior of VOs: the ‘hair’ of the ‘human figure’, and wholesale removal of the interior area of the ‘vessel’, or just the necks/shoulders and rims, particularly for the ‘vessels’ located in the lower left of each label where a crazed pattern (indicative of stone inclusions?) is left raised. Palaeographic studies of Early Dynastic inscriptions have much to contribute on the finer details of label imagery (see Regulski 2007; Riley 1985).

5.7.1.1 Incision with Paste Infill

Incision with paste infill is attested in both phases, and is the only method of colour application attested on NIIIA1 labels (Figure 88). Paste infill is visibly different from colour applied directly to the surface (below). Its texture is coarse, probably due to the type of binder employed, which may have also served as an adhesive.

The colour of paste among the NIIIA1 labels is typically black or dark grey but a greenish colour can be seen on ID 37. The identification of this substance as “paint” is probably an oversight (Wengrow 2006: 202).

Paste colours attested among the NIIC-early D labels include white, black, dark grey, brown, red and green (see Section 5.8 on colour). ID 96 shows dark paste filling in the score mark at the top of the primary face, providing some evidence for the sequence of manufacture (see Section 5.11). Paste is not present on all labels and again whether this is representative of preservation or past intentions is unclear.

5.7.1.2 Incision with Applied Colour

Colour applied to incisions occurs on a total of six, or 2%, of the NIIC-early D labels and include red or black/dark grey (Figure 89). Both are used together on incisions, as seen on IDs 227 and 350 on a ‘seated baboon’, ‘？’ and ‘boat’ and on ID 426, on an
5.7.2 Applied Colour

Applied colour is attested on 57 NIIC-early D labels, the earliest of which are IDs 201, 202 and 203 dating to Narmer, if not Aha. In all cases the colours are restricted to black and red with some variability in hue. IDs 215 and 216 are virtually identical on their primary sides, but bear different imagery in applied colour on their secondary surfaces. Griffith (in Petrie 1901b: 51) notes that the use of colour is not altogether arbitrary and that certain VOs (e.g. ‘<’, ‘U’) are red.

The implement of application was possibly made from a rush or similar material; the reed pen was probably not introduced until the Ptolemaic Period (Leach and Tait 2000: 232-233). The rounded edges of the tip and degree of flexibility as pressure is applied and released are apparent on ID 228, for example.

5.7.3 Unmade, Unpreserved or Unclear

In addition to the preservation of technique, it is important to consider the significance of its absence. All such ‘blank’ labels date to the NIIC-early D; none are documented among the NIIIA1 examples. As preserved at present, 19 perforated plaques appear blank. It is possible that these were once inscribed with colour that simply has not survived. All show some surface discolouration, as do many decorated labels, but whether these are pigment traces is unclear, at least from direct observation. As context suggests for those found in the leather bag at Saqqara, these may represent labels prepared for inscription but not completed – at least in this life.

5.7.4 Technique Summary

As analysis shows, a limited range of techniques were employed on the labels. The elaborate techniques of raised and sunk relief carving and inlay are employed on other contemporary material culture, such as palettes and maceheads, furniture, tomb stelae, knife handles, seals, all of which are often archaeologically co-present with labels. So why were incision/incision with infill and applied colour used only? With repeated adherence to this set of techniques, they probably became a key characteristic for
what constituted a label as a particular item of material culture, as also seen with the restricted range of manufacture materials. The evidence thus far does not point toward particular reasons for these technological and material choices generally, although patterns in the way they are combined can be observed (below). One could argue for a pragmatic explanation, perhaps a desire to reduce time and energy expenditure. Perhaps this is why the use of stone never gained acceptance? Yet such concerns certainly did not apply in all cases, as exemplified by the careful and detailed execution of many labels (e.g. ID 350, 425), as well as in their subject matter (e.g. IDs 205, 304).

5.8 Colour
Another material and technological dimension of the labels already touched on is colour. This applies to both the colour of the material substrate and colour use as part of the technique employed in its graphical elaboration of this and in relation to it. Each is examined below.

5.8.1 Substrate Colour
Bone and ivory range from yellowish-white and orangey-browns to tans and shades of grey. Woods include tans and light browns to orangey-browns, very dark browns and black. The single clearly inscribed limestone 'label', ID 178, is of a pinkish-tan colour; again, the other stone example is unseen.

Substrate colour can be altered by exposure to heat as seen on several examples from Abydos and Naqada where tombs were set alight (Sections 4.5, 4.7). ID 210 is a unique example where the wood appears to be completely charred. The elephant ivory labels IDs 212 and 213 from the Naqada Mastaba were exposed to high heat based on warping and calcination, which doubtless altered colour. ID 198 appears completely calcine, but is unusual since, although its surface shows the grey coloration typical of heat exposure (see Baer et al. 1971: table I), the matrix is not darker than the surface. Instead, it is a bright white with no sign of the colour gradation or internal structure of bone or ivory (this is particularly clear in recent breaks post-publication, Figure 91; Spencer 1980: pls. 46, no. 449, 51, no. 449).
5.8.2 Constrate Colour

Constrate colour data were collected for all labels studied first-hand. The publications infrequently specify the presence or absence of colour and its technique of application. Some written descriptions (e.g. Petrie 1900: 21, for ID 294 which shows the unique usage of red and white paste fill), or colour-tinted drawings are provided (e.g. Emery and Sa’ad 1938: 35, fig. 8, pl. 18A; Petrie 1900: 23, pl. 17, no. 26 – IDs 241, 350, respectively). In some cases descriptions or illustration deviate from first-hand observation (e.g. ID 241, see Figure 18).

Post-application, mineral or synthetic colorants and binding media may undergo changes due to the conditions of deposition, degradation over time, post-excavation conservation techniques or other factors (Green 2001: 43; Hodges 1965: 189). In as far as they are preserved then, examples of deliberately applied colours (shown in Figures 92-93), attested in the form of pastes included: black, dark grey, bluish-grey, white, yellow, brown, reddish-brown, red and green. Among the NIIIA1 labels, pastes are restricted to black, bluish-black or grey colour, with a greyish light green attested in one example (ID 37; Dreyer 1998: 114, 118, 121; Kahl 2001: 111). As for colour applied in a relatively liquid form directly to the surface, and in a small number of instances to incisions, only red and black are attested. Figure 92 gives examples of coloured pastes on NIIIA1 labels and Figure 93, for coloured pastes and ‘paints/stains’ attested on the NIIC-early D labels. Beyond such visual observations, few analyses of early Egyptian pigments and binding media have been conducted which might shed light on the various pigments and colours preserved on the labels (see Lee and Quirke 2003: 104, 107). Red ochre or other forms of iron oxide may have been used for the red colour (Green 2001: 46; Lee and Quirke 2003: 113-114). Black may have been made from burnt materials and is a particularly stable material (Green 2001: 47; Lee and Quirke 2003: 108).

A white substance appears on at least three NIIIA1 labels (IDs 85, 112, especially 114), and may be adhesive or mould, but is more likely salts (Liz Pye, pers. comm. June 2006), although residue analysis is required for certain identification. Some photographs in Petrie’s publications show a light-coloured substance in the incisions (inter alia ID 295). With reference to vessel inscriptions Petrie mentions “…by careful wiping with colour the hieroglyphs...are here brought out visible” (Petrie 1902: 5). I suspect this technique was used on dark-coloured incised labels to
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emphasise details otherwise difficult to see in black and white photographs. That this technique was used on labels is substantiated by ID 239 where a white substance had been applied over underlying red colour (see also Figure 88). I would also suggest that the white matter in the incisions on IDs 231, 234, 235, 236, 296 and 307 is modern. The reddish-pink colour filling the incisions of IDs 189 and 242 (now in the Berlin Museum) was perhaps added after excavation (possibly after arrival to the museum?) since each originated in a different expedition to Abydos (Petrie and Amélineau, respectively), the former dating to NIIIA1, and the latter to NIIIC-early D. Further, the smearing on ID 119 is uncharacteristic.

Experimental work in label-making (see also Section 5.11) suggests that colour choice was to some extent bound up in a relationship with the intrinsic colour of the material from which labels were made (Section 5.8.1). Incisions made in the surface of clean bone were almost invisible, although in the medium of low raking light the incised depression became clearer. The use of colour infilling therefore may have been used to enhance the visibility of incised imagery through contrast and texture (see also Macramallah 1940: 17). Similarly, colours applied directly to the label surface had to be in sufficient contrast to the colour of the substrate if visibility was a concern.

5.9 Single vs. Double Sided Labels

A total of 64 labels are inscribed on both main faces, 9 of the NIIIA1 phase and 55 the NIIIC-early D phase (Figure 95). I highlight 'main' here to raise the point that each label has six sides but the four thinnest are uninscribed, although for some object types such as coins, this thin edge can be an important location for decoration. Publications are usually explicit about whether a label is double-sided, but the question of sidedness is overlooked from time to time (e.g. de Morgan 1897: 234, fig. 728, for ID 311; Garstang 1905, for ID 213). The data on sidedness presented here are reliable as far as labels were studied first-hand.

Sidedness is particularly significant for the question of materiality. Depending on the intended location of decoration, shaping, finishing, inscription and subsequent manipulation would have proceeded in different ways (see also Section 5.6). We cannot assume that double-sidedness was intended from the outset, but when, then, was this determined? The secondary side may have been utilised only when space on
the primary side was insufficient. Among most labels dated to NIIIIC-early D, coverage of each face is unequal (for distribution see Chapter 7), greatest coverage being on the face perforated in what is thus the ‘upper right’. Less coverage and perforation in the upper left are together defining aspects of ‘secondary’. No double-sided example shows equal coverage.

Again, the way in which label perforations were deployed, whether for suspension or other use, remains unclear, but their location vis-à-vis the imagery directed material engagement in particular ways, e.g. in viewing, manipulation, or attachment, if intended. When a label was decorated on both sides, an added concern for attachment may have been to ensure that both sides could be viewed. This begs the question of which face would have been displayed and whether the presence of the ‘invisible’ imagery was signalled by the visible. Or would the viewer have been required to examine both faces of any label encountered? The nature of these questions is largely practical, but in view of their burial context, embodied engagement should not be assumed for all intended meanings and uses (cf. Dobres 2000: 125).

5.10 Materials and Techniques Across Time-Space

In this section, I begin to draw the individual areas of analysis conducted here together to explore differences and similarities and to understand how the choices made by artists regarding materials and techniques related to the appearance and function of the products. A technique or material may have been employed strictly for practical reasons; perhaps one material was more readily available than another (possibly through recycling, Figure 96), was easier to carve than another, or provided a more suitable surface for applied pigments. The durability of incision over applied colour raises the question of whether makers deliberately selected techniques based on their preservative qualities. Techniques may have also been used for their visual impact, or symbolic meaning. In order to explore these possibilities, Giddens’ (1984: 244-262) point concerning the framing and ordering of practice within a time-space trajectory as vital to accounting for and explaining social continuity and change is relevant. I therefore relate material and technique to each other and their temporal and spatial contexts, and we can see several patterns emerging.

As Figure 97 shows, NIII A1 label-makers employed incision regardless of
substrate material. Whether the absence of infilling in some was intentional or due to
preservation, as mentioned, is unclear. For the NIIC-early D labels, the situation is
more varied with the full range of attested techniques occurring on all material types
(Figure 98). One technical-material relationship is particularly prominent, that of
colour applied to wood used on almost half of the 71 wooden labels (and possibly
more, if the 10 wooden ‘blanks’ were once decorated). When we consider this pairing
spatially, this combination is more common at Saqqara (cf. Figure 77). And when we
take account of the specific archaeological context, we find that these come from
primarily from one tomb, S3504 (Section 4.7.1.3). This particular tomb was equipped
with predominantly painted wooden labels around the time of Djet and refurbished in
the reign of Qa’a, perhaps significantly these later labels also follow this particular
material-technique combination. Comparison of these with labels from Tomb Q
(Abydos) shows extensive differences between each corpus, suggesting that some
aspects of label structures were differentially practised on the local level (see Section
9.7).

If we compare materials and technique against reign, another pattern emerges.
Focusing on the 56 labels found in and around Tomb Q ascribed to Qa’a (Section
4.5.4.7), in separating the painted from the incised (and incised-infilled), a survey of
the imagery on each group shows that 23 of incised bone and ivory labels bear ‘}’
along the right side. ID 376 of painted wood also bears ‘}’. In contrast, 22 painted
labels do not bear ‘}’. The remaining labels are too fragmentary to categorise. Of note
is the apparent lack of ‘}’ on ID 418. It is possible to infer that the choice of technique
was made in relation to imagery type and therefore the symbolic meaning was to
some extent anchored in the method of its expression. Philological interpretation of
these symbolic meanings lies outside this study, but this example demonstrates that
these should emphasise their interdependence on the technological-material aspects of
expression.

In terms of Wenger’s concept of participation and reification in the
reproduction of social structures, we can infer strongly sanctioned rules for label
practices at Abydos during the reign of Qa’a, whereby label-makers constructed a
certain kind of label via painting primarily on bone or ivory and the absence of ‘}’,
while incision on bone or ivory and ‘}’ were important for the formulation of another
type. Content was therefore not only distinguished internally through linguistic
symbols, but also through the technological method and material context of
Label structures – the cultural criteria for what constituted a label – were somewhat differently reproduced in the north at Saqqara where nine, possibly 10 labels, date to the reign of Qa’a (Emery 1954: 5-6). The labels are of the same general shape and size with a perforation in the upper right, but differ from their Abydos counterparts in material and technique. All examples are made of wood and are painted; only one bears ‘\[’.

Examination of these variables among labels according to other sites or reigns does not reveal further significant patterning. While differential preservation is one explanation, another may be that the choices of label-makers or groups reflect local or individual practices and were negotiable, albeit within the constraints of some structures that were less open to negotiation, such as materials, the range of technical choices, scale, etc.

5.11 The ‘Becoming’ of Material Visual Culture and Experimental Archaeology

The theoretical focus on practice demands explicit concern with the social and meaningful “becoming” of artefacts through materially-grounded activities conducted by individuals and groups (Dobres 2000: 132). As a way to think through this notion of “becoming”, similar to Wenger’s concept of objects as both processes and products of those processes, and to consider the kinds of technological concerns which label-makers may have encountered, I undertook an experimental archaeology project to try to make incised bone labels.

My objective was to gain a clearer idea of the influence a particular material, tool or practical technique had in the making of a label plaque and the imagery incised on it. The project was begun in consultation with UCL Institute of Archaeology faunal specialists, Louise Martin and Peter Popkin. Our examination of publication photographs of the NIIIA1 bone labels (Dreyer 1998: e.g. 127, pl. 32, nos. 112 and 124; first-hand study and photography has not yet been achieved) revealed a seam on some examples diagnostic of the metapodial (see Section 5.3.1). Because it was clear that this bone, at a minimum, had been used to make labels, I therefore decided to utilise metapodia as the basis for experimental label-making, although the modern
cattle bone I obtained were larger than their ancient counterparts (Louise Martin, pers. comm. 2004). Gauging the difference is difficult since published osteometric evidence for early Egypt is not readily available, even though complete cattle skeletons have been excavated (Grigson 2000: 39-40; but see Mudar 1982: 27), and sexual dimorphism and other factors mean that bone size will vary (Grigson 2000: 44). Nevertheless, the use of modern bone permitted a general idea of the processes required for metapodial extraction and preparation to be gained, although acquisition by label-makers in such a raw state cannot be assumed.

With the assistance of several UCL Institute of Archaeology students participating in the annual 4-day Experimental Archaeology Course (in 2004 and 2005), we set about making bone labels. Working back from the finished object, we attempted to discern the possible sequences of actions, techniques and tool types required for the making and shaping of the label substrate. One of my interests was to consider where one action might have intersected with and therefore informed subsequent outcomes, such as planning the image composition or other aspects of the imagery.

Experimenting with different flint tools that we knapped, albeit crudely, we cut up the lower limbs of cattle, cutting away the flesh, tendons and cartilage in order to extract the metapodial (Figure 99). The process was time consuming, no doubt due to our unfamiliarity with the tools, techniques and ‘optimal’ gestures for transforming the materials. Once the metapodial was extracted, cutting away the cranial face presented many challenges. We surmised that past label-makers must have used a vice to increase stability whilst cutting (Figure 100). We also found that embodiment played a significant role in how we could position the tools vis-à-vis the materials. Ultimately, for reasons of time, we resorted to the use of modern tools for cutting and separating.

Once extracted, the back of the bone plaque had to be chiselled and heavily sanded to match the smoothness of the original objects (Figure 101). Once the plate was prepared, we were left with a surface measuring approximately 8.5 x 3.5-4.0 cm. Used optimally, we could make 8-15 labels from a single metapodial. As mentioned, an ancient metapodial would have been smaller, and its size dependent upon the species, sex and age of the animal.

In decorating the bone plaques, manipulation of the plate as a whole was much easier for incising, but less of a concern for drilling (Figure 102). If first cut to size, a
label was difficult to incise if not held fast – a problem that was solved either by setting the plaque on a rough surface to reduce slippage or cutting a depression in a block of wood and inserting the label (Figures 103-105), although a purpose-made adjustable vice or frame would have also solved this problem. If soaked in water, the surface softened requiring less pressure for incision, and perhaps a less technical method of fixing could have been utilised.

Once inscribed, a row of labels could then be cut off or sawed through most of the way and snapped off as needed. The rough edges created by sawing and snapping off on our experimental labels resembled closely, if not exactly, the appearance of the edges on the un-sanded originals (Figure 106). Stone, moist sand on leather and modern sandpaper were all tested and sanding on a hard surface produced a sharp straight edge. Rubbing the edge of the bone plaque against an abrasive surface with some give, for example, sandpaper placed face up on the thigh, produced a gentle curve, precisely like that seen on ID 21, if the edge was originally cut at a slight angle. The longer one spent sanding on a flexible surface, the more pillow shape the edge became, very much like ID 277 – an exceptionally carefully and skilfully made label.

We found that the clean, white incisions of a width and depth comparable to those attested on the originals were extremely difficult to see (underlining Gibson’s point concerning the relationship between perception and material properties, Section 2.3). This problem suggested to us that the application of colour to the incisions of some labels was at least in part the result of a past concern for visibility. That some kind of adhesive or binding media was required became evident during the experimental work when soil and charcoal were placed in the incisions. After a brief period of object manipulation the infill fell away. With the addition of fish oil, or other animal fat (on hand from another experimental project), adhesion was successful and continues to be three years on.

After various attempts, we succeeded in producing several labels which roughly resembled the original artefacts (Figures 107-108). As untrained reproducers and bearing in mind the influence of 21st-century, western socialisation on our bodies, gestures, methods of decision making, etc., we felt we gained much insight into the many factors label-makers may have confronted. We were also able to outline the possible sequences of action in the plate method of label production, i.e. which episodes had to occur before or after others, or intermittently, and which were sequence-variable – the chain of operations was certainly not fixed or necessarily
Many scenarios are possible by adjusting the variables and we could only test a small range in a general way. Nevertheless, we came to understand better why label-makers selected the plate method and also gained a clearer idea of the sequence for many steps in the conversion process (see Figure 109 on the chaîne opératoire). By scoring and snapping we were able to reproduce the appearance of the edges on many NIIIA1 labels. This experimental project highlighted the complex web of practices in which the labels were embedded. As material objects, the labels represented to us a significant time investment, accumulation of skill and social knowledge, much of which was prerequisite to, and therefore integral to, the actual business of inscription/decoration, and the cultural and symbolic meanings with which they were imbued.

5.12 Making, Unmaking and Remaking

Comparison of techniques employed on the primary versus the secondary faces shows that among the 64 double-sided labels, makers typically employed a single technique to an entire object. However, in some cases label-making appears to have been an ongoing process. Some labels bear erasure and possible evidence for additions after their initial making. These seem to occur only on the incised labels regardless of material, and are attested only at Abydos and Naqada. However, the double-sided wooden labels, IDs 215 and 216, both elaborately incised on the primary side, bear painted images on their secondary faces. Both appear to be made of the same wood, have similar decoration, date to the reign of Aha and are provenanced to the same site (Cemetery B tombs B18, B19, Abydos; Petrie 1901b: 21, 51). The secondary side of ID 215 bears a ‘mace?’ in red and other possible imagery too faded to identify. The more fragmentary ID 216 bears alternating ‘vessels’ and ‘?’ in red on, or protruding from, a black ‘rectangle’. The use of different techniques for each label face may reflect a temporal separation in episodes of decoration. Perhaps incision of the primary side was the result of the immediate concerns of the (commissioner and) label-maker, while the painted addendum was undertaken by a different individual at a different time and place. The life histories of these two objects seem to have been closely related and may be understood as an indicator of the close proximity in which commissioners, label-makers and users sometimes operated. Moreover, a close
connection between the social contexts of label manufacture and the funerary sphere can also be inferred.

Similar issues are raised by a number of NIIIC-early D labels bearing erasures. The virtually identical labels IDs 212 and 213 both bear erasures in the same lower left corner, an area which comparison shows may have contained numerical or other information (Newberry 1912: 288). Parallel treatment suggests that both were subject to the same set of changed circumstances from the original intentions of the label-maker. If numerical information was erased, we might imagine that items or their quantities or other features involved in the equipping of the tomb or the funeral changed. Why was this new information not then indicated?

Other evidence for content adjustment includes NIIIA1 label ID 168 which was incised on one face but then erased while the opposite face bears an entirely different image. The sequence of each episode is not clear, nor is the relationship between the images.

If matter is removed from a surface rather than adding to it, the image cannot be easily changed or erased and work can accumulate an internal ‘stratigraphy’ (Davis 1989a: 184). Several labels exhibit evidence for subsequent emendation. However, only one label, ID 279, exhibits erasure with subsequent re-incision in the same location.

IDs 311, 319 and 323 all bear erasures to the left of the ‘niched frame’ and below cluster ‘\text{\textcircled{I}}\text{\textcircled{M}}\text{\textcircled{N}}’ (discussed in Chapter 7). Understood as personal indicators (PIs, see Chapter 8 for non-retrospective interpretation), perhaps some change in personnel or their status led to the erasures. Stone vessels from the Tomb U (attributed to Semerkhet) bore erasers of the PI of Merneith (Petrie 1900: 19, pl. 5, no. 5, see also p. 20, pl. 7, no. 6). Could erasure be indicative of changes in ‘ownership’? Erasure is also attested on a cylinder seal (Petrie 1900: 26, pl. 24, no. 77). Could erasure also be a way of effectively decommissioning an object? The significance of the erasure is better understood through comparative study, but at this juncture, this evidence is important in highlighting the dynamic process of label-making and use.

The primary, and often the secondary, label surfaces were prepared prior to decoration. ID 231 is unusual in this respect as the surface was left quite rough. The incision that is discernible appears hasty, if not careless, and some was subsequently crossed out. Was this perhaps a practice label? Its deposition in Tomb ‘O’ at Abydos (ascribed to Djer) suggests that some aspects of label manufacture may have taken
place in the vicinity of the grave – if not their actual shaping/cutting out and drilling, then perhaps surface preparation and incision, as well as erasure/crossing out. ID 231 also bears markings on its secondary side characteristic of being pressed and rocked back and forth multiple times against an object with parallel protrusions, perhaps a vice of some type. It is curious that among all erasures only IDs 109?, 168 and 279 were re-incised before deposition. Could labels left erased possibly represent discard?

Although it is difficult to locate many aspects of label production and use in space prior to deposition, it has been possible to distinguish a wide range of episodes in label manufacture. From the study of photographs and the objects themselves, and by drawing insights gained through experimentation, further insight is gained into the label chaîne opératoire (Figure 109). In conceptualising label practices via this method, it is important to populate this account with past people and embodied actions rather than focus on tools alone and the results of their use alone (see Dobres 2000: 21-22, fig. 1.2). There is the danger, however, of over-individualising activities in the past and it may not be knowable whether a task was accomplished by a single or multiple individuals. Therefore, rather than individuating usages such as ‘do-er’, the episodes of action are described in gerund form to maintain the sense of the ongoing action that characterised them.

5.13 Summing Up

As we have seen, the labels provide many material clues concerning their individual ‘life histories’. In the preceding sections, the materials and materiality – the way that materials are transformed into labels via certain techniques and embodied behaviours has been examined. Through experimental archaeology, I have attempted to understand how these areas are interrelated through practice and participation in an attempt to reconstruct the material conditions that influenced the decisions and actions of label-makers. The concept of chaîne opératoire continues to be useful in thinking about the processes through which the labels were produced.

In what context and for whom would label materials have held significance? Differentiating bone and ivory from wood is usually straightforward, but less so for bone and ivory and even more difficult for ivory type, unless the eye is trained. When ivory is smoothed and polished, and depending on the orientation of the piece as cut from the tusk, it can be particularly difficult to differentiate type with the naked eye,
in my experience. Individuals with regular contact with materials, such as label-makers and inscribers, probably appreciated which ivory type was used, but unless this knowledge was transmitted, other users and viewers may have not had the experience to discern some material types. Throughout the making and use-life of a label, the significance of its materials probably varied, perhaps being unimportant in some situations, yet nevertheless informing use and perception on some level.

Label-makers exploited only a small range of possible materials that could have been used for label making: bone, ivory, wood and stone (although there is some question over the latter). So why these particular materials? Why were not labels made from sun baked or fired clay plaques, pot sherds, pieces of mudstone or limestone flakes? The restriction of materials in label-making attests to the specific cultural choices that were involved in making a label. Knowledgeable individuals engaged in embodied technological practices in the deliberate transformation of material surfaces through additive and subtractive techniques in order to produced a particular kind of object and graphically express ideas. The notion of the 'becoming' (Dobres 2000: 130-132) of material culture has directed attention to the process as well as its outcome – or perhaps more accurately, its ‘outcoming’. By thinking through the chaîne opératoire of the inscribed labels we come to understand that these material-graphical objects simultaneously embody processes as well as the outcome of those processes (Figure 109).

I have attempted to demonstrate that as material objects, labels were not simply foundations to support image and script, but constituted and influenced their expression and the way the labels were made and practised as a whole. This is particularly clearly demonstrated in the analysis of labels from Tomb Q, Abydos, where painting and incision were each employed for different label context types. To consider further the relationship between material and image, I now shift the focus of analysis to the graphical content, first taking stock of the image repertoire in Chapter 6, followed by a detailed examination of image composition in Chapter 7.
6 The Graphical Repertoire

6.1 Classifying and Categorising Images

The analysis of label imagery aims to address research question 3 concerning the significance of graphical content for label practices from a non-anachronistic perspective (Section 1.8.3). This aim is achieved in two parts: this chapter deals with the enumeration of the label image repertoire while Chapter 7 examines image associations and the use and structuring of graphical space.

More than 4304 individual images or visual objects (VOs) have been distinguished and encoded in ATLAS.ti (131 are not included in the analysis due to poor preservation). Identification, classification and categorisation are not always straightforward. The projection of three-dimensional objects onto/into a two-dimensional surface can introduce ambiguities for the unfamiliar viewer. A ‘circle’, for example, could resemble any number of objects. Nevertheless, between modern perceptions, on the one hand, and knowledge of early Egyptian material culture and environment, on the other, the organisational scheme employed first attempts to discern visual resemblance to things in the world, e.g. humans, flora and fauna. Rather than burden the reader with alphanumeric designations and the need for consultation of a key, unrecognisable imagery is described and usually categorised morphologically. Where graphical associations seem significant, these are also taken into account in categorisation.
Chapter 6: The Image Repertoire

Lynn Meskell (2004: 41) problematises the notion that things belong unambiguously to discoverable natural kinds noting the oft cited example of Borges' Chinese encyclopaedia wherein animals are divided into categories, including animals which belong to the emperor, embalmed ones, fabulous ones, innumerable ones, ones that look like flies from a distance, and others (see also Foucault 2002 [1966]: xvi). Categorisation by its very nature is connected with essentialism – the idea that things possess inherent properties or qualities that make them one kind of thing or another (Goodman 1993: 6-7). In undertaking a task similar to the one here for his "List of Hieroglyphic Signs", Gardiner (1973 [1927]: 438-439) noted that image form is apt to change according to its context or the method of depiction employed by artists. As illustrated below categories are not, and cannot be made, mutually exclusive (cf. Gardiner 1973 [1927]: 440). Further, "...that a visual display happens to resemble some real object does not guarantee it depicts that object" (Davis 1989a: 181, emphasis in original). Moreover, imagery would have been open to different interpretations, explained at different levels by different groups of people within a past community (Skeates 2005: 54; see also Chapter 8).

Where I describe an image in terms of a real object, then, this is not intended as a certain interpretation of an image's past meaning, but provides a handle for getting to grips with the range of difference and similarity present. The degree to which arbitrary meaning can be discerned, that is, content understood based on the conventions of a particular system (see Morphy 1989: 6), e.g. the bird atop the 'niched frame' interpreted as representing or presencing a deity, is considered for selected image clusters in Chapter 8.

Characterisation is a subjective perceptual process whether situated in the present or past. The arrangement presented here thus represents only one of a number of organisational schemes. However, some degree of detachment can be achieved by adhering to a main methodological tenet of this study, the avoidance of teleological interpretation, instead sourcing contemporary evidence for socio-cultural practices. This provides some idea of the kinds of knowledge potentially accessible to individuals and groups involved in the manufacture, use and deposition of labels. Therefore, in addition to needing a system of categorisation for heuristic purposes, I endeavour to remain sensitive to the data by taking account of the associations and relationships expressed and the kinds of categories constructed on the labels (see Chapters 7 and 8), and how these relate to the ways in which some early Egyptians...
6.2 Identifying and Defining Visual Objects

Expanding on the terms "simple and composite visual objects" employed by Schäfer (2002 [1919]: 93) in his extensive study of Egyptian dynastic art, I distinguish five image types as set out in Figure 110. The 'SVO' constitutes the smallest unit of analysis. Many SVOs are made up of a number of integral sub-elements, e.g. 'tail feathers' of a 'bird', or the 'handle' of a 'vessel'. Analysis of this internal level of detail would undoubtedly prove fruitful, but as the primary aims of this study are not palaeographical, sub-elements are considered only as far as they aid VO identification, categorisation and the interpretation of compositional practices. For example, the orientation of the 'tail feathers' and 'head' of a 'bird' signals directionality and view, which may in turn relate it visually to, or distinguish it from, other components of the composition. It is not always possible to draw sharp lines between visual entities (Schäfer 2002: 93), but by identifying, comparing and contrasting imagery according to these four VO types, it is hoped that the analysis aims will increase our understanding of the kinds of imagery label-composers employed.

Of the 433 labels in this study, 414 bear imagery. Amongst these, 4304 VOs are identified with certainty (an additional 131 are uncertain, due to poor preservation, etc.). The frequencies for SVOs, CEs and SEs by phase are given in Figure 111, and the SVOs and CVOs in Figure 112.

I have grouped all VOs into 23 Families (see 3.3.2), which in turn are divided into the four main categories as listed in Figure 113. Due to the fragmentary state of the 'Unclear' group and the need to focus on the potentially more productive data within the constraints of the thesis, these are not described or categorised further. However, re-examination of this category may prove useful when the 50+ label fragments from German work at Abydos (Günter Dreyer, pers. comm.) are published. These groupings, rather than ontological claims for 'universal' style categories, such as 'representational' (realistic) style as opposed to 'geometric' (non-representational) style (see Wollheim 1989 cited in Gell 1998: 156), are heuristic, constructed as a 'way in' to begin exploration of the evidence in order to discover the kinds of categories and structures that were meaningful to those who commissioned, made, used and
attributed meanings to the labels.

Across the 'corpus', larger images tend to carry more detail than smaller images (cf. ‘£’ on ID 266 with ID 414). The available surface area of an artefact can have a direct impact on the scale and/or number of images accommodated and vice versa (cf. IDs 241, 242 and 243 with IDs 226 and 227). Sub-type variability is often discernible on the larger labels (cf. one kind of 'axe' on 264 (5.4 x 6.5 cm) with another type on ID 360 (3.3-3.5 cm)), but details may drop as density increases, sometime inhibiting identification. Thus, we see that even the basic task of image identification/description and classification cannot be divorced from materiality – the relationship between technical expression, object and image scale is a recursive one. For selected SVO types, then, some discussion of sub-types is included but overall the level of detail to which analysis is directed is the general VO type.

In addition to level of VO detail, data completeness and stylised and/or schematic rendering influence the level of certainty in VO identification and categorisation. Frequency counts include only those VOs for which classification is certain, thus 97% of the 4304 total number of VOs identified is accounted for here (Figure 114).

The frequencies of VO types are shown in Figures 111-112. SVOs are the most common type in both periods. CEs occur less frequently as part of some 463 CVOs (Section 7.4). SEs (not shown in the figure) are encountered 140 times, albeit only on NIIIIC-early D labels (Section 6.4.5).

The presentation of the repertoire in the following sections proceeds according to the ordering in Figure 113. Each Family (e.g. ‘Fauna’), and its respective types (e.g. ‘bird’ (this is the descriptive Code assigned to each Quotation in ATLAS.ti)) are described, and frequency data, observations on sub-types where relevant, general temporal distribution and visual contexts presented and discussed.

6.3 Figural VOs

Figural image Families and their types are presented and discussed alphabetically (see Appendix 2 for full list). Patterning for each family is presented in Figures 115-136, which contain all the relevant frequency data. These figures also provide a summary of image distribution within the composition. However, this level of analysis and the method for measuring it is detailed in Chapter 7, especially Section 7.7.
6.3.1 Adornment

Description and Frequency

The 'Adornment' Family comprises items relating to the dress and ornamentation of 'human' and other 'anthropomorphic figures' and includes 14 Codes and 119 VOs (Figure 115). These include objects which may be worn as clothing, headgear, footwear and jewellery. Items held in the hands (e.g. 'flails', 'staves', etc.) may serve purposes similar to some objects of bodily adornment in indicating social identity or status, but since the focus here is on compositional relationships, these are grouped with other held objects, namely 'implements', (e.g. 'maces', 'fowling nets', etc.). The 'tail' is an animal body element that occurs in the context of 'adornment' suspended from the back of 'human figure' and is therefore included here. Where animals are shown with tails, these are not classified separately (see Section 6.2 on the treatment of internal detail).

Sub-types

Sandals, collars and beads show little sub-type variation but other categories exhibit significant variability. Certain kinds of differentiation in bodily appearance were important in identity construction, such as the focus on the head for the figure of the ruler (Piquette 2001). The artist often took care to differentiate types of headgear, several of which are illustrated in Figure 137. All occur exclusively in association with the human body apart from ‘$\alpha$ / $\beta$’ which may also occur in association with non-human VOs as seen on IDs 405 and 406. This item is coloured red on ID 294 and thus referred to as the 'red crown'. It is doubled with ‘$\gamma$’ which is coloured white and thus referred to as the 'white crown'. The use of these names is therefore derived via non-anachronistic means, but their later known significance is not assumed since it cannot be inferred from the label evidence (or the comparative evidence drawn on for the thesis project, Chapter 8).

Several types of garments can also be distinguished. For example, a 'kilt' with front and back aprons overlapping at the front can be distinguished on five labels, all worn by a large figure striding to the right: IDs 295, 300, 302, 304, 308 (all of which probably date to Den). Other types include short and long kilts, one with a knot or tie at the waist (ID 47), and smaller, more roughly incised examples which appear to
show ‘ties(?)’ or ‘skins(?)’ hanging below the hemline (IDs 212 and 213 dated to Aha). A full body wrap or robe appears on seated figures on ID 241 and is probably worn by seated figures in other cases, e.g. IDs 307 and 332.

**General Graphical Context**

Quite evenly distributed, ‘Adornment’ VOs are slightly more common on the right side of labels (Figure 115). Overall, only 9% are SVOs compared with 91% CEs. Several of the former include ‘long garments’, exclusive to NIIIA1 (IDs 172-176[?]). VOs on the NIIC-early D labels include ‘collars’, ‘strings of beads’, and a ‘garment w/fringe(?)’ (ID 288). All three examples of ‘sandals’ are the only ‘adornment’ type that occurs on the secondary face of labels (e.g. IDs 301, 304). ‘Human figures’ are typically the most complex CVO types (Section 7.5) on the labels and ‘adornment’ constitutes the largest CE type of those associated with ‘figures’. As is observed elsewhere, the body is a major focal point for the construction of social identity in early Egyptian society (Wengrow and Baines 2004) and beyond, particularly for the Egyptian ruler (Baines 1995).

**General Temporal Distribution**

The aforementioned ‘long garments’ are the only examples shown unworn for the NIIIA1 (e.g. ID 172). All other depictions of adornments dated to the NIIC-early D, an increase which corresponds to the increased depiction of detailed human figures (100+) and which occur frequently up to the reign of Den. After this time, most ‘human figures’ are rendered schematically and within the context of the ‘pestle+vessel(?)’ motif (the earliest example of this motif occurs on ID 281 (probably dated to Djet; the figure to the right of the vessel has been scratched out (Section 5.12)). The reduced depiction of variously adorned ‘human figures’ post-Den corresponds with a reduction in narrative scenes and other changes in the use of pictorial space (see Chapter 7).

### 6.3.2 Architecture

**Description and Frequency**

The ‘Architecture’ Family includes 10 Codes and 67 VOs (Figure 116). Exclusive to the NIIIA1 labels are ‘theriomorphic structures’ – SVOs in the shape of an animal
with a tail in profile (3 of 9 examples) and ears and/or tusks (?) (9 of 9). Linear hatching running vertically and horizontally (5 of 9), or at angles (4 of 9) may be suggestive of woven materials (see Petrie 1901b: 31). This along with what appears to be an entrance at the base of some (IDs 71, 72, 73, and possibly IDs 66?, 74), provide the basis for the ‘architecture’ classification. The likeness of this with a structure with a more clearly indicated entrance on a seal impression (dated to Djer) is striking (Figure 138).

Many rectangle VOs are often interpreted as ‘architecture’. This classification of those with crenelated exterior edges (e.g. IDs 204, 349) is substantiated by contemporary funerary structures which exhibit this shape in plan (Emery 1954: pl. 2; see also Figure 53). I am not aware of any archaeological evidence for circular crenelated features. Rectangles bounding other VOs may serve an organisational purpose like SEs (Section 6.4.5). From a grounded approach at least, I hesitate to classify all as ‘architecture’ VOs, but since all behave similarly, i.e. they bound or frame other VOs, I have chosen to classify these motifs according to the compositional function of ‘framing’ (see Section 6.4.7 on ‘Frames’ below).

Sub-types
A unique structure on ID 288 is described by Petrie (1900: 23) as the “oldest architectural drawing known”. He sees it depicting a tomb with slight mound, slope/stairway into the tomb and to the right of this, three graves with stelae over them. These features are also attested on other structures although not this configuration: rounded top (e.g. ID 215), rectangle with protrusions containing notches (e.g. ID 209), and the tall, ladder-like segment (e.g. IDs 215, 278). Three sub-types are contrasted on IDs 277 and 278: ‘□’, ‘rectangle, V, many’, and ‘architectural frame with protrusions’ which bounds the first two. Commonly interpreted as sanctuaries (Adams and Ciałowicz 1997: 63) or shrines, on the basis of non-reportspective interpretation and a label-centred analysis, the significance of these structures is not apparent.

General Graphical Context
‘Architecture’ VOs are more common in the upper right (Figure 116). Overall, 55% are SVOs and 45% are CEs. The latter are often associated with ‘human’ and ‘animal figures’, as seen on e.g. IDs 215, 277, 332 and 333, ‘snakes’, ‘headgear’, ‘trees’,
'ships', and 'standards' with 'birds' or 'arrows' (and 'bilobate beetles(?))', see Adams 1999).

**General Temporal Distribution**

All 'theriomorphic structures' date to NIIIA1 as do three other possible 'architecture' VOs. All other architectural VOs are found in the NIIIC-early D labels.

### 6.3.3 Body Elements

**Description and Frequency**

The 'Body Elements' Family includes 19 Codes and 284 VOs (Figure 117). Both faunal and human parts can be distinguished. A small number of parts are not 'distinct' enough to be attributable to either category, both due to stylisation and the increased ambiguity among SVOs over CEs, since the former can be less revealing in the absence of associations.

The most common body element is the '𓊪'. Upper limbs and fauna heads also occur frequently. The large number of 'hands' is due to the number of label preserved from the tomb of Den, the 'niched frame' PI of whom includes a '𓊪'.

Artists also combined human and animal body elements together or with inanimate objects, as seen by the 'fish' with upper limbs (ID 205), the 'tail' (classified above as 'adornment', Section 6.3.1), 'bird+implements' (e.g. x3 on IDs 212, a 'feather/reed' on ID 326, or '𓊪' on e.g. ID 406). Such examples provide insights into the ways in which early Egyptian artisans conceptualised bodies and their properties in relation to other object types (Piquette 2004). This also highlights the importance of situating categories, such as animal versus human, or animate versus inanimate, within the cultural context in question.

**Sub-types**

Few sub-types can be distinguished among the 'body elements'. Had all lower limbs been classified together, then animal and human sub-types could be distinguished, but I distinguished these at the level of encoding – again an example of how the analyst's choices influence the outcome of analysis. Some differences in detail are of note. For example, the number of 'fingers' on the '𓊪' in the 'niched frame' of Den is three (not four), or the fingers may be unarticulated (cf. ID 303 with ID 297). While not a sub-
type, as encountered with 'headgear' where the social identity of the figure is signalled, perhaps such variability signalled the identity of the artists or collectives.

**General Graphical Context**

'Body elements' are more common in the upper left followed by the lower right (Figure 117). Overall, 71% of 'body elements' are SVOs and 29% are CEs. The latter occur in contexts such as that of ‘\_\_’, or are used emblematically (following Fischer 1977), such as ‘limbs’ attached to a ‘fish’ (ID 205) or ‘niched frame’ (IDs 211, 279, 280). This joining of human and animal body elements with other bodies or inanimate objects is a representational device that continued in use throughout the dynastic period (Baines 1989: 474).

Disembodied body elements are usually static, but action is suggested on ID 377 where multiple ‘\_’ descend from a ‘\_’. A similar motif appears on IDs 378, 379, and 380 but the ‘\_’ issue instead from ‘vessels’, perhaps conveying the idea of dispensing. Some VOs (e.g. ‘U’) interlock with other images, but this may relate to artistic use of space rather than an interest to convey the act of extending the arms.

The fragmentation of bodies and unification of parts can tell us about Egyptian concepts of the body; we find label-makers dividing up the body in particular ways. The ‘eye’ with ‘pupil’ and ‘eyebrow’ are fragmented from the larger bodily surface of the face (e.g. IDs 178, 413). Upper limbs including ‘hands’ and ‘fingers’ and the ‘head’ may be fragmented at a joint (e.g. ID 428 for ‘U’, ID 292 for ‘finger’, ID 265 for ‘head’). ‘\_\_’ (e.g. ID 288) and ‘\_\_’ (ID 379) appear to fragment at the hem line of the garment, and ‘\_\_’ at the mid-upper arm rather than the joint. ‘\_\_’ includes the animal’s forelimb(s?), head and mane, a point of fragmentation that may relate to the artists’ choice of the recumbent bodily pose in profile as influenced by the natural boundary of the ‘mane’ (see ID 266). A depiction of an upper limb attached to part of the torso (ID 178, secondary side) is unusual in lacking a boundary line on its left side, a rare feature unattested on other NIIIA1 labels and rare among NIIIC-early D examples. Apart from a ‘headless quadruped’ (ID 96) and ‘\_\_’, most ‘body elements’ VOs are small fractions of the larger whole.

**General Temporal Distribution**

About 19 VOs or 7% date to the NIIIA1 and 265 or 93% date to the later phase. A
dominant motif on the former is the 'head of a horned animal (usually) on a stake/support' (e.g. ID 93). A possible pair of ‘U’ occurs on IDs 78 and 152, and may constitute one of the few NIIIA1 VOs that carry over into the NIIIC-early repertoire (see Figure 139 and Section 9.2).

6.3.4 Containers

Description and Frequency
The ‘Containers’ Family comprises images depicting various forms of vessels and other container types. These are grouped into five main types with a total of 221 VOs (Figure 118).

Sub-types
A range of vessels type can be distinguished. Closed forms predominate including vessels with flat and round bases, with and without handles, globular forms with low and high necks, cylinder jars, bags (IDs 215, 216, 290, 291), and possible baskets or boxes (ID 359). In addition to morphological differences, some types bear internal markings possibly showing decoration (e.g. ID 204), contents(?) (IDs 290, 291), or materials such as stone (e.g. ID 378, see also Section 5.7.1).

General Graphical Context
‘Container’ SVOs number 108 and CEs number 113. The former tend to occur in the lower part of the composition, one of the strongest distribution patterns for any VO Family. Where ‘containers’ are associated with ‘human figures’, open forms are usually encountered (e.g. IDs 210, 215, 216(?), 241). Pairs of horizontally aligned ‘baskets’ are usually accompanied by a ‘serpent’ (‘₤’) and a ‘bird’ (e.g. ‘₤’, IDs 351, 408, but cf. IDs 228, 241, 277, 278).

As seen on ID 359, the tabular layout forces imagery into thin vertical columns. Several ‘containers’ are vertically bracketed by a cluster of VOs above and a ‘numerical’ group below (see Section 8.7.1). Overall, the isolation of ‘containers’ is notable, as is the care taken to distinguish sub-types and their occurrence with numerical VOs.

Some types depicted may relate to objects archaeologically co-occurring with the labels (see Section 4.7.2). Other labels may have been attached or otherwise
associated with the container types they depict, at least for SVOs. This is less clear for CEs, such as the ‘tray(?)’ held by a ‘figure’ ID 215, or the ‘bowl’ between the ‘figures’ on IDs 210 and 241. Where multiple ‘containers’ occur on a single label, or where none appear at all, other label associations and roles must be considered. Overall only about 25% or 107 labels bear vessels.

General Temporal Distribution
Only one ‘container’ is possibly attested among the NIIIA1 labels (ID 52); the other 220 occur on the NUIC-early D labels (Figure 118).

6.3.5 Fauna
Description and Frequency
The animal world is by far the most widely depicted image type attested on the labels, including mammals, fish, fowl, insects and reptiles. The ‘Fauna’ Family comprises 21 Codes and 567 VOs (Figure 119). Birds are the most common faunal type – more than double any other VO Family. If the choice of imagery was in the interest of differentiation, it has been suggested that this can have hardly been aided by the numerous types of bird depicted (Baines 2004: 158). As argued at the beginning of this chapter, classification and categorisation must be seen in the light of their socio-cultural context. Birds of numerous types were a prominent part of the environment (Houlihan 1986) and there seems no reason to doubt that an early Egyptian would be intimately familiar with avian life along the Nile and in the adjacent desert.

Sub-types
In addition to many types of ‘bird’, three different ‘serpents’ can be distinguished, ‘ungulates’ such as ‘bovids’, ‘caprids’ (including disembodied ‘animal heads’, e.g. IDs 94, 322, 372 (Section 6.3.3)), ‘canines’, ‘elephants’, a ‘hippopotamus(?)’, a ‘lion(?)’. At least five types of ‘fish’ are morphologically distinct.

The sex and age of certain animals is made explicit in some examples. Two ‘bulls’, each on IDs 215 and 241, and a ‘gazelle’ on ID 379 have ‘horns’ and ‘penises’. The animal life depicted on the labels constitutes one of the more diverse Families.
General Graphical Context

'Fauna' SVOs number 309 and CEs number 258. As a whole 'fauna' are not restricted to a particular area of the composition (Figure 119). In a small number of instances anthropomorphisation (following Lorblanchet 1989: 140) of animal pose, gesture or activity is encountered. IDs 350 and 351, show a baboon seated on a rectangular 'stool', similar to seated 'figures' on e.g. IDs 307 and 332. Anthropomorphisation occurs during the reigns of Narmer and Aha in particular: 'fish' are given 'arms' (e.g. ID 205, cf. Ashmolean ivory cylinder (E.4975), and 'birds' wield implements with their limbs (e.g. ID 211) or carry objects (ID 241). Likewise, zoomorphisation of human figures – or anthropozoomorphisation (see Lorblanchet 1989: 140) – although less common, is exemplified by the 'animal tail' as 'adornment' (Section 6.3.1) and the sole example of a 'snake' on the brow of the main 'figure' on ID 304. The creation of hybrids through the fragmentation and unification of different elements underlines the cultural contingency of categories and the degree of fluidity (vis-à-vis modern categories) that characterise early Egyptian conceptualisation of human and animal bodies (see also Section 6.3.3).

General Temporal Distribution

16% of 'Fauna' occur on NIIIA1 labels while the NIIC-early D bear 84% (Figure 119). Analysis shows continuity among some types, such as the 'bird' often co-occurring with the 'niched frame', while others are restricted in time-space, such as the 'baboon' (ID 350, dated to Semerkhet). Creatures limited to the NIIIA1 labels include elephants and single occurrences of 'lizard', 'scorpion' and 'rat(?)', and 'bubalus' (see Body Elements in Section 6.3.3). The NIIC-early D labels are the exclusive bearers of 'baboons', '日报道', 'gazelle', as well '正如'. Common to both phases are 'birds', 'quadrupeds', 'snakes', and 'fish'. A complete 'lion' may appear on ID 244, but the line delineating the belly area appears to be missing. If the white pigment on this object was applied in modern times, it may have been added mistakenly to cracks rather than intentional incisions, thus explaining the line extending from the shoulder to the rear part and the head to the upper left. Both may then be separate VOs, e.g. '正如' and '日报道', the latter being the sole occurrence on the labels.
6.3.6 Figures

Description and Frequency
The ‘figure’ Family comprises three Codes and 133 VOs (Figure 120). Most appear to be human but some, while anthropomorphic, are not distinct enough to be clearly identified as human. One of the most elaborated VO types on the labels, ‘figures’ are characterised by different kinds of ‘adornment’ (Section 6.3.1), pose, activity, and other associations which make this category a rich source for studying the construction and visual expression of the body and early Egyptian (elite) identity (Piquette 2001; 2004; Wengrow and Baines 2004). Given their wide array of graphical associations, narrative sequences can be inferred. These range from drawing a ‘bow’ (ID 50), spearing or harpooning (e.g. ID 300), carrying items (e.g. ID 215) to dancing/running (e.g. ID 298), grinding/pounding (e.g. ID 281), and undertaking some act against another individual (e.g. IDs 210, 241; much discussed as a posited scene of human sacrifice, e.g. Baud and Etienne 2000; Cruzeby and Midant-Reynes 2000; Emery and Sa’ad 1938: 84).

Sub-types
In addition to adornment (Section 6.3.1), figures differ in pose, including standing or striding (ID 241), stooping (e.g. IDs 212, 241), sitting (e.g. IDs 307, 312), and kneeling or crouching (e.g. ID 241). The sex of four, possibly five, individuals on the NIIIA1 labels is indicated by the presence of a penis or penis sheath (e.g. ID 52). This aspect of identity does not appear on ‘human figures’ on the NIIC-early D labels but is indicated for a small number of animals (see Section 6.3.5).

General Graphical Context
‘Figure’ VOs are slightly more common in Q4 but generally occur in all areas of the label (Figure 120). ‘Human figures’ are associated with most other image categories. The intensity with which ‘figures’ are associated with other VOs is clearly indicated in Figure 120 where 91% are CEs. Associations are key in expressing the significance or status of a figure, unlike a container, for example, which is far less often distinguished by direct graphical associations (Section 7.3). The same can be said for ‘body element’ SVOs, both human and faunal, which suggests that the separation of bodies and body elements into different categories is justifiable in this respect.
Numerical signs (Section 8.7.1) and SEs (Section 6.4.5) are the only categories with which they do not actively engage, providing further evidence that these VO Families are consistently more abstract in meaning than others.

**General Temporal Distribution**

5% of figures appear on the NIIIA1 labels compared with the 95% attested among the later examples (Figure 120). This small number of 'figures' on the earlier labels is paralleled by limited elaboration of the body compared with the later 'figures'. With the increase in figures during the NIIIC-early D, the number of associations and items of adornment also increase showing greater interest in bodily expression. However, this emphasis decreases over time. 90 of the figures occur on labels dating from Narmer up to Den (Figure 141). This dramatic decrease in the number of 'figures' after the reign of Den is related to broad changes in other features of composition. For example, the dozen 'figures' attested on labels dated to Qa'a virtually all occur as part of a standardised composite image where a figure stands to the left of a vessel holding an implement, probably a pounder, which protrudes from the vessel. I return to the question of associations, format and changes in content over time in Chapter 7.

**6.3.7 Flora**

**Description and Frequency**

The 'Flora' Family comprises 18 Codes and 262 VOs (Figure 121) and is the largest Family next to 'fauna'. Whole plants and trees and their components are attested, many characterised by a single stalk with one or two pairs of 'leaves/stems(?). Six-seven floral VO are repeated numerous times, often on the same label (e.g. ID 325), while the remainder occur far less often.

**Sub-types**

Discerning meaningful sub-types is complicated by the schematic shape of most and the difficulty of differentiating stylistic difference from categorical difference. The three flora VO on ID 265 may be the same type as those on ID 369, and in some cases '+' and '-' appear to be used interchangeably (cf. IDs 412, 421 with IDs 325, 423). The number of protrusions on '-' vary, but here the differences appear to be stylistic rather than typological.
General Graphical Context

‘Flora’ SVOs comprise 82% and CEs make up the remaining 18% (Figure 121). Where they do occur as CEs, they are not typically associated with animate VOs. ‘Flora’ are more numerous in Q3; this is mainly due to ‘#’ which often occurs in this location. ‘f’ and/or ‘g’ often occur in Q4 on labels dated to Qa’a. As CEs, flora often occur inside rectangles in association with the ‘figure + pestle + container’ motif (e.g. ID 412). Three floral elements extend from the head of a sprawled figure on ID 205 in a unique example of a ‘flora + figure’ association on the labels. This motif is also attested on the Narmer palette and is understood to signal personal or group identity (Fairservis 1991).

General Temporal Distribution

‘Flora’ comprise 4% of the NIIIA1 repertoire and 96% belong to the NIIC-early D labels. This VO type remains an important component of the label repertoire through the period of making and use. The most enduring VO type is ‘#’ which, if not depicted on NIIIA1 ID 157, is attested through to the reign of Qa’a, but three others from the NIIIA1 may have continued in use on the later labels (see Figure 139).

6.3.8 Furniture

Description and Frequency

The ‘Furniture’ Family comprises 4 Codes and 16 VOs (Figure 122). Items of furniture are considered here to be those objects which provide a supportive surface for anthropomorphic figures (e.g. IDs 241, 350, 379). The top of the ‘nicched frame’ serves a similar purpose for ‘birds’, as do ‘standards’ for a range of other entities but these are classified separately as ‘Support’ (Section 6.3.11). A vessel-shaped VO on the third row of ID 358 (currently ‘Unclassified’, Section 6.4.10) is similar in shape to an offering table found in the burial chamber of Saqqara Tomb X where the label was also found (Appendix 8), possibly warranting reclassification to this Family.

Sub-types

From the perspective of function, all VOs in this family are essentially sub-types of the ‘seat’. The distinctions in Figure 122 are based on general morphological
differences and seem to be significant since they co-occur with different 'figures' who sit on them (e.g. ruler, other individuals, baboon, etc.). The 'stool w/leg', on IDs 378, 379 and 380, is notable in that the front leg of the 'stool' is not depicted but the leg of its bearded occupant doubles as the leg of the 'stool'.

**General Graphical Context**

Apart from the aforementioned 'offering table', only a single 'Furniture' SVO (ID 310) is attested compared with 15 CEs (Figure 122). The latter all occur with 'seated human and anthropomorphic figure'. Several appear in narrative contexts such as those on labels of Den in the architectural context of a 'pavilion' (e.g. ID 307, Section 6.3.2) and others occur in a procession (ID 241).

**General Temporal Distribution**

All 'Furniture' VOs identified with confidence occur on the NIIC-early D labels. A woven structure on NIIIA1 IDs 115 and 116 has been identified as a 'chair' (Dreyer 1998: 124, nos. 103-104).

### 6.3.9 Implements

**Description and Frequency**

The 'Implements' Family comprises 24 Codes and 296 VOs (Figure 123). These include various objects that can be held in the hand, such as the 'flail' or 'baton' (e.g. ID 307), or wielded to accomplish various tasks, such as cutting, piercing (e.g. ID 241), capturing (e.g. 'fowling net', ID 308), or sealing (e.g. 'cylinder seal', e.g. IDs 319, 414).

**Sub-Types**

Most ' Implements' can be divided into discrete categories based on shape. A main sub-type distinction is among 'axes'. The contrast is particularly clear where two co-occur one above the other on many labels dated to the reigns of Den through to Qa’a (e.g. ID 425). Type is distinguished by shape and colour, and spatial location as discussed in Chapter 7. The head of the upper 'axe' (type 1) is smaller and elongated, coloured red (where colour data is available), and hafted to a long, slightly curved handle. The lower 'axe' (type 2) has a relatively larger and rounded, flaring head with
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lugs or a smaller hammer head at the back, perhaps for balance. The whole is coloured black (where colour data is available), and hafted onto a handle that appears to be wrapped or decorated (see also IDs 411, 412, 414, 426, 427, etc.). ID 422 shows the type 2 ‘axe’ depicted, but sub-type 1 is absent (perhaps implied?). There is also some differentiation among ‘staves’ including length and elaboration of the top (ID 297(?)) and/or bottom (ID 389). All ‘harpoon’ VOs have a straight shaft and a single tang on one side, apart from one with a forked end wielded by a figure who plunges it into a ‘pool(?)’ (ID 325). ‘Maces’ appear to be roughly of the same type, but ID 304 shows the detail of vertical lines on the handle suggestive of its construction or decoration, perhaps similar to the aforementioned ivory cylinder in the Ashmolean museum (E.3915, Whitehouse 2002: 434, fig. 4).

General Graphical Context

‘Implement’ SVOs comprise 63% and CEs make up the remaining 37% (Figure 123). Many are associated with anthropomorphic figures, usually held and raised up (e.g. ‘staff’, ‘shield’, ‘flail’) or placed in contact with the ground, or used to manipulate another object or figure, such as the ‘rope’ of a ‘clap-net’ being drawn around birds (a contemporary fowler’s clap-net is attested on a black steatite gaming disk with calcite inlay from tomb S3035 (Emery and Sa’ad 1938: pl. 12 C, Cat. No. 310; Houlihan 1996). Comparison of embodied action and association aids in identifying isolated implements and their use (e.g. ‘arrow’, ‘harpoon’, ‘staff’). Although less certain, implement functions may be inferred via object association, such as an ‘adze(?)’ juxtaposed with a ‘block’ or similar object (ID 382). A ‘mace’ simply juxtaposed with the ‘pole’ of a ‘standard’ on ID 297 is a rather unique association type where the ‘mace’ may have itself come to embody the idea of killing or overcoming another individual (e.g. ID 304). Without recourse to later evidence, we can interpret the ‘mace’ on ID 297 as a symbol of social power over others, through violent means if necessary. I return to the question of symbolism as constructed on the level of the composition in Chapter 7.

General Temporal Distribution

‘Implements’ comprise only 3% of the NIIIA1 label repertoire, including ‘human figures’ holding a ‘bow’ with ‘arrow’ in place (e.g. ID 52), and a ‘bearded figure’ on ID 53 who raises a ‘stick’. Among the 97% on the NIIIC-early D labels, these occur
mainly in association with 'human figures'. IDs 205, 211, 279 and 280 are notable for showing an anthropomorph, a 'fish' with 'upper limbs' in the first instance, and a 'niched frame' on the latter two labels wielding a 'mace' or 'staff' against other individual(s). This emblematic use of imagery is associated mainly with the PI of the ruler, constituting an important iconographic device for expression of the ruler's power over others which persists through the dynastic period (Baines 1995).

6.3.10 Landscape

Description and Frequency
The 'Landscape' Family comprises 9 Codes and 59 VOs (Figure 124). Features visible in the ancient Nile Valley landscape include the relatively flat floodplain and the low and high deserts, ranging from hilly to mountainous, which flank the valley to the east and west (cf. Schäfer 2002 [1919]: 237-238). Hilly desert terrain may be represented by two or four peaks (e.g. IDs 147, 155) and ''=>' (ID 335). Strips of undulating terrain may depict low desert or uneven areas of the floodplain (ID 304). Watery environments may be indicated on IDs 293 or 325 in the form of a 'pool(?). Rectangular motifs placed under 'boats' probably depict 'water' (below), which helps support the interpretation of (most) SEs as 'dry land' (Section 6.4.5; Schäfer 2002 [1919]: 237-239).

Sub-Types
Sub-types are not apparent.

General Graphical Context
SVOs comprise 58% of 'landscape' VOs and CEs make up the remaining 42% (Figure 124). The point concerning VOs identification through graphical context is exemplified by the 'water' VO which, in isolation, does not readily declare its identity, e.g. '—'. Through co-occurrence with 'boats', which either hover above (e.g. IDs 327, 360, 413) or rest on it (e.g. ID 350), this interpretation can be substantiated. Schäfer's observations on the depiction of water in various periods characterises the situation on the labels. Water serves as "the bearer of the action without reference to the form of its surface, it is almost always represented in the form of a narrow rectangle with straight edges" (Schäfer 2002: 238-239). Note that when underlying a
'boat', * is differentiated from the SE ' ' (Section 6.4.5) in that it does not extend the full length of the label. 'Hills' and 'peaks' occur as SVOs but 'peak' CEs co-occur with 'elephants', 'birds', 'snakes' and a 'bovid'. 'Undulating terrain' also occurs with the latter creature (ID 215). On ID 304, a violent narrative scene is located in a particular landscape to an extent that is otherwise unattested on the labels.

**General Temporal Distribution**
18% of 'landscape' VOs occur on the NIIIA1 labels all of which are hill/mountain-like motifs upon which various creatures tread or are otherwise associated. 82% of this VO type appear on the NIIIC-early D labels (Figure 124). The '4 conjoined peaks' motif occurs in both temporal phases, associated with a 'bird' in the earlier examples (e.g. IDs 147, 148), and a 'bovid', probably a 'bull', on some NIIIC-early D examples (cf. ID 301).

### 6.3.11 Support

**Description and Frequency**
The 'Support' Family comprises VOs which provide a foundation for other VOs and includes 13 Codes and 101 VOs (Figure 125). These include 'stands' for 'vessels' (e.g. ID 380), 'stakes/supports' for severed caprid 'heads' (e.g. ID 94), 'standards' for 'canines' (e.g. ID 297), 'crossed arrows' (e.g. ID 191) and other VOs (e.g. IDs 215, 241), and 'perches/supports' for 'birds' (e.g. IDs 84, 136). This Family is therefore defined both morphologically and functionally.

**Sub-Types**
Some forms of 'Support' may pierce(?) the VO, such as the 'caprid head', while others rest on (e.g. ID 295) or are affixed to the 'support' (e.g. ID 193).

**General Graphical Context**
All 'Support' SVOs by virtue of their iconic function are CEs (see Section 7.4), often associating with 'Fauna' (e.g. ID 205) and 'crossed arrows' (e.g. ID 215).

**General Temporal Distribution**
32% of 'Support' VOs occur on the NIIIA1 labels primarily as 'stakes/supports' for
caprid 'heads' and 'perches/supports' for 'birds'. 'Perches/supports' also occur among the remaining 68% of this VO type on the NIIC-early D labels (Figure 125, see also Figure 139).

6.3.12 Transport

Description and Frequency
The 'Transport' Family includes 8 Codes and 81 VOs (Figure 126). These include depictions of objects that provide the means of transportation for 'people', 'birds' or goods, with two main types: 'boats' (e.g. ID 360) and 'sledges' (e.g. ID 306).

Sub-Types
'Sledges' all appear to be of one type but significant differences in types of boats can be discerned. What appears to be a pair of 'boats', in one of few examples of overlapping VOs (see also Emery and Sa'ad 1939: 110; Section 7.3.5), is shown in the upper register of ID 215. Three 'boats' of a different kind appear in the third register. 'Boats' may also be distinguished in the elaboration of their prows and/or sterns with what may be floral and faunal elements (e.g. IDs 212, 350).

General Graphical Context
Only 4% of 'Transport' VOs are SVOs and 96% comprise CEs. 'Boats' are the only VO that rest on or float just above the VO identified as 'water', as discussed (Section 6.3.10). This motif continues the full length of the label on the virtually identical examples ID 215 and 216, and on each the only VOs contiguous with it are boats. The majority of 'boats' and 'sledges' appear to have 'cabins' (e.g. ID 215), 'cargo(?)' (e.g. 242), a 'bird perch/support' (e.g. ID 414), a 'pavilion' (ID 212) or other objects amidships.

General Temporal Distribution
A single possible 'transport' VO appears on the NIIIA1 labels in the form of a fragmentary 'boat stern' (ID 171) and may be similar to the double horn-like stern feature seen on, e.g. IDs 212, 350, 414. The other 82 'transport' VOs occur on the NIIC-early D labels.
Summary of Figural VOs

Having presented the analysis for the Figural VOs above, at this juncture we can see various patterns emerging. In Figure 142, the VO Families are plotted in descending order from left to right accompanied by the number of VOs per Family. The general correspondence between the gradual decrease in the number of types per Family and their constituents may be significant. As discussed, this patterning is to some extent a product of my ability to recognise differences, and how I then organise similarities and differences in the classification scheme. One underlying assumption has been that differences and similarities lie mainly in morphology. It has become increasingly clear through the analysis that distribution (or syntax) and associations are integral to function and meaning. This can be seen with the ‘containers’ Family. Morphological distinctions are present, but an overriding distinction is between containers in the lower left of the picture field and those occurring elsewhere.

The most numerous category by far is the animal world (Figure 142). This trend persists throughout label-making and use, but is most concentrated on the NIIIA1 labels, although these are less numerous compared with the NIIIC-early D labels. This is interesting in light of the jar-labelling function typically attributed to labels, particularly the NIIIC-early D examples. Even if interpreted strictly according to our later knowledge of writing and in line with administrative or accounting explanations, it is notable that ‘containers’ are not more numerous.

6.4 Non-Figural VOs

Because the imagery presented and discussed in this section cannot be identified and classified according to an iconic scheme – in as far as identification has been discerned from within the immediate and contemporary contexts of the labels – classification is primarily descriptive (Figure 113). One effect of reduced iconicity to my modern eye is that classification in this section has been more sensitive to composition (e.g. ‘frames, Section 6.4.7), and as a result perhaps more meaningful in terms of the ways label-makers classified and deployed images across label surfaces.

Given the need to project some order onto the imagery where a more grounded one was not forthcoming, analysis follows the order of VO Families as listed in Figure 113. This proceeds from circular to linear shapes and within this follows an alphabetical order.
6.4.1 Circular

Description and Frequency
The Circular Family includes 14 Codes and 111 VOs (Figure 127) and both circular and oval forms are included. Some VOs comprise a circular outline, termed ‘circle’ or ‘oval’, while ‘bull’s eye’ indicates a circular depression with its interior scooped out. ‘Ring’ describes two concentric circles. ‘bull’s eye’ is not wider than the width of the lines used to render other VOs. Some are elaborated in various ways, including internal lines and dots. The interpretation of ‘threshing floor’ has been proposed for the ‘oval w/notch, multiple’ VO found on four NIIIA1 labels (Dreyer 1998: 14; e.g. ID 166, Section 4.13.1), but remains conjectural pending further evidence, hence the inclusion of these VOs in the ‘Circular’ Family. Overall, ‘circles’ are the most common VO, followed by ‘bull’s eye’.

Sub-types
A possible sub-type is found among ‘circles’ occurring in Q2 of the NIIC-early D labels; these may be empty or contain 1-2 ‘bull’s eye’ (cf. ID 422 with ID 406 (compared with caution as latter is documented as a drawing only). On the NIIIA1 labels, ‘circles’ and ‘bull’s eye’ may be used interchangeably (cf. ID 101 with ID 102). Such differences may be related to the level of detail or techniques employed by label-makers, rather than an intention to depict a different VO type.

General Graphical Context
Circular imagery predominates on the right side of the label overall (Figure 127). SVOs comprise 78% and CEs 22%. ‘Circles’ often containing ‘bull’s eye’ commonly occur in Q2, but only on labels with ‘bull’s eye’. A small number of ‘circular’ VOs occur in narrative contexts. At least two labels dated to Aha (IDs 212, 214(?)) show five ‘circles’ floating above the heads of three ‘human figures’ enclosed in ‘architecture’. One of four ‘circles’ on label ID 241 dated to Djer is held by a ‘bird’ and two by a ‘human figure’ while a fourth rests on the ‘ground(?’). Action may be suggested by series of ‘bull’s eye’ appearing to issue from several images: a seated ‘baboon’ (IDs 350, 355(?)), a ‘vessel+stand’ (e.g. ID 378), ‘hook’ (e.g. ID 377), and ‘double baskets’ (e.g. ID 228).
6.4.2 Curvilinear

Description and Frequency
The 'Curvilinear' Family includes 13 Codes and 379 VOs (Figure 128). These include shapes formed by non-transecting curved lines, both closed forms, e.g. ‘■’, and open forms, e.g. ‘§’.

Sub-types
Some ‘■’ appear to have internal markings (e.g. ID 359), but otherwise no meaningful sub-types can be discerned.

General Graphical Context
SVOs comprise 94% of ‘curvilinear’ VOs and CEs make up the remaining 6%. Fewer occur in the lower right of the label (Figure 128). The iconic significance of ‘■’ cannot be determined via the approach employed in this study, despite its later role as a temporal indicator (Allen 2000: 103), but it is notable for its consistent placement on the right side of the label. It is first attested on ID 277 dated to Djet and up to and including labels dated to Den it often accompanies narrative scenes. Clock-wise (1) and counter clock-wise (4-5) ‘○’ SVOs occur alone or with a ‘tall wedge’ on the NIIIA1 labels. On the NIIC-early D labels, ‘○’ is always counter clock-wise and usually occurs with clusters of numerical signs (Section 8.7.1).

General Temporal Distribution
98% of ‘Curvilinear’ VOs occur on the NIIC-early D labels, while 2% appear on the NIIIA1 labels, namely an ‘upturned ■’.

6.4.3 Simple Linear Shapes

Description and Frequency
The ‘Simple Linear Shapes’ Family includes six Codes and 71 VOs (Figure 129).
These are comprised of single straight, wavy or zigzag lines that begin and end on the same axis. ‘____’ is most common with 44 occurrences due to its use in the PI of Den, as with ‘____’ (Section 6.3.3).

Sub-types
The only possible sub-type occurs among ‘____’ where the number of peaks varies (cf. ID 279 with ID 329). When co-occurring with ‘fish’ this VO has two peaks only (IDs 277, 279, 314, 335) suggesting that morphology depends upon context, or that a different VO is intended.

General Graphical Context
SVOs comprise 69% of 71 VOs and CEs make up the remaining 31%. Slightly more occur in the upper left part the label (Figure 129). The three NIIIA1 VOs connect other VOs together (e.g. ID 149). Apart from ‘____’ in its PI capacity, the NIIIC-early D examples are mainly SVOs and therefore not associated with narrative action.

General Temporal Distribution
4% of VOs occur on the NIIIA1 labels, while 96% appear on the NIIIC-early D labels (Figure 129). This is consistent with the generally smaller quantity of non-figural VOs among the earlier labels, a point to which I return below (see Sections 6.4.2, 6.5).

6.4.4 Complex Linear Shapes
Description and Frequency
The ‘complex linear shape’ Family includes 10 Codes and 38 VOs (Figure 130). Mainly oriented along horizontal or vertical axes, these are formed by two or more perpendicular, contiguous or intersecting lines. These are differentiated from ‘rectangles’ and ‘triangles’ on the basis of their open form.

Sub-types
A variable number of intersecting horizontal or vertical lines have been grouped together and coded ‘H2-5, V3-4’ (note: “H” = horizontal, “V” = vertical), but it is possible that the number of lines is significant, perhaps representing distinct VO types or sub-types.
General Graphical Context
SVOs comprise 82% of 44 VOs and CEs make up the remaining 18%. These are more common in the upper part of the label (Figure 130). None occur in the context of narrative action. Another interesting tendency is for this linear imagery to follow a rectilinear orientation that parallels, or is perpendicular to, SEs and/or the edges of the label itself. The framing influence of the label substrate on VO shape, orientation and organisation is examined further in Chapters 7 and 8.

General Temporal Distribution
All VOs in this Family occur on NIIIC-early D labels (Figure 130).

6.4.5 Structuring Elements (SEs)
Description and Frequency
The SEs Family includes six Codes and 141 VOs (Figure 131). SEs include horizontal and vertical lines which extend from one edge of the label to the other and divide the picture surface into rows, columns or a combination. Horizontal SEs include a single horizontal SE, e.g. ‘—’ as seen on ID 242, and double horizontal lines with short vertical lines, e.g. ‘∥’ as seen on IDs 215 and 216. Vertical lines may be single or double, e.g. ‘|’ and ‘||’ and divide the picture field into 2-6 columns. SEs are consistently oriented either along a vertical or horizontal axis relative to each other (if co-occurring) and to other images, paralleling the rectilinearity of the label substrate.

Sub-types
The ‘—’ SE occurring on IDs 215 and 216 dated to Aha have been established as depicting ‘water’, but they also perform the same structuring role as ‘—’ SE. Their alternation to meet the topographical needs of the ‘boats’ which rest on them permit us to infer that the ‘—’ SE should be understood as depicting the ‘ground’ as well as providing grounding for some VOs (see also Davis 1976).

General Graphical Context
Horizontal or vertical SEs may be employed separately on different labels (e.g. ID 205) or on one label in two different configurations referred to as ‘mixed’ and
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'tabular' (e.g. IDs 307, 359, respectively; see also Section 7.10.4). Only horizontal SEs are contiguous with other VOs (or they float slightly above it). The 'grounding' function of '—' SEs is clear: VOs are never 'suspended' from '—' SEs. Apart from tabular labels, horizontal SEs, when the sole SE type on a label, always co-occur with imagery that conveys sequence (ID 241) or action (ID 298) and therefore can be understood as integral to the construction of visual narrative. Horizontal SEs are compositional devices yet iconic in character. In contrast, VOs do not 'interact' with ']' or '||' SEs (e.g. IDs 358, 427). These are used primarily, if not exclusively, as demarcating devices.

General Temporal Distribution
SEs are not attested prior to the NIIC-early D labels. The '—' SE is used only up to the reign of Den when the vertical SE is introduced (e.g. IDs 330, 331), used in combination with the '—' SE (ID 307) or alone. The way in which SEs are used to construct the composition and how this changes over time is discussed in detail in Section 7.9.

6.4.6 Rectangles

Description and Frequency
The 'Rectangles' Family includes 12 Codes and 83 VOs (Figure 132). These are closed forms, and as mentioned below (Section 6.4.7), are distinguished from 'frames' as they do not bound, nor are they contiguous with, a separate VO. Some 'rectangles' have internal horizontal, vertical or diagonal markings, or notches. Two 'rectangles' are empty but have external elaboration in the form of a '•' or '⌂', the latter being somewhat similar to '❖' but taller; because these cannot be clearly distinguished as CEs, they have been accounted for as elaboration of a single VO type.

Sub-types
Some variability is present in the number of internal vertical lines or external elaboration. It is otherwise difficult to identify significant variability.
General Graphical Context
SVOs comprise 60% of 86 VOs and CEs make up the remaining 40%. Overall these VOs tend to occur in the lower part of the label (Figure 132), although the NIIIA1 'rectangles' occur only in the lower part of the label in association with a 'bird+perch/support' (e.g. ID 140). ID 143 shows a 'rectangle' surmounted by a 'bird', a motif suggestive of the later 'niched frame', and this may very well be more appropriately classified as 'architecture' (Section 6.3.2). Two NIIIA1 examples are contiguous with bottom edge of the label (IDs 142, 144). If not intentional, this apparent cropping may be the result of cutting labels to shape post-incision, as has been noted in Section 5.6. Distribution of the NIIC-early D examples is more widespread, but 'rectangles' tend not to be part of narrative imagery.

General Temporal Distribution
8% of the 83 VOs occur on the NIIIA1 labels, while 92% appear on the NIIC-early D examples (Figure 132).

6.4.7 Frames
Description and Frequency
The 'Frames' Family includes 14 Codes and 172 VOs (Figure 133). These include rectangular (e.g. ID 405) and some circular (e.g. IDs 204, 215) VOs which 'contain' or 'bound' other VOs (see Section 7.3.2), and are thus classified more according to compositional function than morphology, although these are interrelated. All 'frames' are closed forms apart from 'c-r' and 'frame, semi-circular' (e.g. ID 335). Four 'oval w/notch, multiple' VOs (e.g. ID 163) partly fit the criteria for 'frames', but whether the 'notches' depict separate VOs remains unclear. This VO type is presently included in the 'Circular' Family (Section 6.4.1).

The most commonly occurring 'frame' VO is a 'bi-partite rectangle'. The lower part contains a series of vertical lines thought to represent a type of architectural panelling or niched walling known from early Egyptian architecture and early high status coffins (Wilkinson 2000: 149). The upper section is a simple rectangular outline containing 1-3 CEs interpreted as the PI of a ruler. This motif is conventionally, albeit anachronistically, referred to as a 'serekh' (Section 1.5.5); as mentioned to maintain the contextual focus and emphasis on morphology and
composition, I use the descriptive phrase ‘niched frame’.

Sub-types
In addition to the changing PI, among the ‘niched frames’ there is variation in two main components. The upper horizontal line of the upper part of the ‘niched frame’ is usually straight but eight exhibit a slightly concave top which swoops up to the right side (e.g. ID 214). Comparison does not readily suggest a compositional reason for this particular shape, which occurs on eight examples from both Naqada (e.g. ID 212) and Abydos (e.g. ID 211), all of which date to Aha. Variability in the lower part of the frame includes different quantities of vertical lines (4-8, cf. ID 348 with ID 230), to a series of interconnected lines forming ‘niches’ (e.g. IDs 256, 297, 348), which may be elaborated with a lattice pattern (ID 234) or zigzag line (ID 428). Within a single reign variability can range widely. This is probably not the result of technique (see painting on ID 306 and incision on ID 428), but rather due to stylistic choices on the part of individual artists or collectives, although the denotation of different objects or referents cannot be ruled out.

General Graphical Context
Given that ‘frames’ are defined according to their compositional function (cf. ‘Rectangles’ above), all are CEIs. They tend to occur in more commonly in the upper part of the label (Figure 133). Apart from ID 376 dated to Qa’a, ‘frame’ VOIs occur on the primary side of the labels. In the context of narrative scenes they appear to be a destination (ID 241), or location for activity (ID 212). ‘Niched frame’ VOIs are unique in engaging directly in anthropomorphic activity (IDs 205, 211, 279, 280). The ‘niched frame’ is surmounted by a ‘bird’ in all examples apart from ID 197. A frame in ID 242 may be a contiguous with a ‘bird’ (and ‘← ’), but this is more likely to be the result of spatial constraints (cf. ID 243).

General Temporal Distribution
At least one possible ‘frame’ occurs on the NIII A1 labels (ID 170), and a damaged ‘circle w/inset rectangle’ is attested (ID 167), but it is not clear if it contains a VO(s). Otherwise, ‘frames’ are a phenomenon of the NIIC-early D labels (Figure 133) appearing on 25% of all labels of this period apart from the reign of Merneith.
6.4.8 Strokes and Notches

Description and Frequency
The 'Strokes and Notches' Family includes 17 Codes and 127 VOs (Figure 134). 'Stroke' refers to short horizontal or vertical lines. 'Notch' refers to the shape of a particular short SVO that most commonly occurs on the NIIIA1 labels, resulting from the technique used to create an ovoid notch (Section 5.7.1). The most common SVO in the Family is a series of six 'notches' and 'H1' also occurs frequently. Most can be understood as numerical signs (Section 8.7.1).

Sub-types
No sub-type distinctions are apparent.

General Graphical Context
'Stroke and Notch' SVOs comprise 98% of 133 VOs and CEs make up the remaining 2%. These tend to occur on the right side, but are particularly common in the lower (Figure 134), a pattern also observed for vessels and 'v', the significance of which becomes more apparent when VO Clusters are examined (Section 7.5). The NIIIA1 'notches' commonly occur in series of 6-12, and do not co-occur with other imagery in contrast to the NIIIC-early D 'notch, 6' which is restricted to the upper right in association with a particular set of SVOs (again, see Section 7.5). 'Strokes' occur singly or in series of 2-8. 'v' VOs co-occur in horizontally stacked pairs with 'circles' and '●' (e.g. ID 102). Vertical 'v' often occur below or just to the right of other SVOs (e.g. IDs 212, 359), or in isolation in two cases on the secondary side (IDs 213, 264).

General Temporal Distribution
53% of 133 VOs occur on the NIIIA1 labels, while 47% appear on the NIIIC-early D labels (Figure 134). 'Notches' are found in abundance on at least 70 of the NIIIA1 labels, a label type which therefore constitutes 36% of the entire 'corpus'. The only types of 'notch' attested on the NIIIC-early D are 'notch, 6' (12 occurrences) and 'notch, 4-5(?)' (IDs 242, 243). '/' and '−' are also common to the NIIIA1 labels. All other types of 'stroke' occur on the NIIIC-early D labels.
6.4.9 Triangles

Description and Frequency
The ‘Triangle’ Family includes five Codes and 53 VOs (Figure 135). These consist of simple (i.e. non-intersecting and non-elaborated) triangular and wedge shapes, and are closed in form, and an open ‘inverted v-shape’ (similar to the criteria of the ‘simple linear shape’ Family (Section 6.4.3), but excluded due to its lack of rectiliniarity). ‘△’ is by far the most common VO (e.g. ID 383), all of which occur in the PI of Qa’a (although whether the occurrence on ID 348 is a PI of Qa’a debatable, see Dreyer et al. 1996: 73).

Sub-types
A degree of variability is discernible among the ‘△’ VOs. When painted ‘△’ may be somewhat more amorphous (e.g. ID 390), than when incised (e.g. ID 425), but overall no clear sub-type distinctions can be discerned.

General Graphical Context
SVOs comprise 53% of 53 VOs and CEs make up the remaining 47% (Figure 135). ‘Triangles’ occur primarily in Q1 or Q2-4/Q4, reflecting location of the PI of Qa’a (Figure 135) and coincides with the ‘niched frame’ or the ‘△ / □’ CVO. None occur in the context of narrative scenes. The different shape and context of triangular VOs on IDs 45, 242, 243 and 325 confirm that these are different types.

General Temporal Distribution
6% of the 53 VOs occur on the NIIIA1 labels, while 94% appear on the NIIC-early D labels (Figure 135). All three instances of the ‘wedge, tall’ occur on NIIIA1 labels. The remaining ‘triangular shapes’ are found on the NIIC-early D labels and as mentioned, almost all date to Qa’a.

6.4.10 Unclassified Shapes

Description and Frequency
This Family of SVOs consists of images which cannot be identified and do not fit easily into any of the non-figural, geometric Families (Figure 136). In inventing such a category there is a concern, expressed in a similar context by Lorblanchet (1989: 223)
110), that the impression of spurious exactitude is given – that somehow the foregoing categories are more meaningful, when some distinctions may only be illusions. Perhaps what is of greatest interest to the research is why certain VOs and motifs are difficult to recognise. We can be somewhat comforted in the fact that only 6% of the imagery falls into this Family (Figure 140). 258 Unclassified SVOs are classified into 84 Families (see Appendix 2 for full list).

Sub-types
Not applicable.

General Graphical Context
Unclassified SVOs comprise 76% of 258 VOs and CEs make up the remaining 24%. These are slightly more common on the left side of the labels (Figure 136). The graphical context of most of these is one of isolation and relates to the point noted earlier, that the lack of direct graphical association makes it more difficult for the unfamiliar viewer to assess a VOs iconic significance.

General Temporal Distribution
6% of the ‘unclassified’ VOs occur on the NIIIA1 labels, while 94% appear on the NIIIC-early D labels (Figure 136). This points to the great recognisability of this early repertoire, but is also related to the fewer VOs among the NIIIA1 labels overall.

6.5 Summing Up
In total, 4304 VOs have been isolated on the inscribed labels, 4173 of which can be relatively clearly identified (iconically, morphologically and compositionally), described and categorised into 23 Families (see Figure 113). The distribution of these types (Codes) across the 12 Figural Families and the frequency of the types are given in Figure 142. ‘Implements’, ‘Fauna’, ‘Body Elements’ and ‘Flora’ comprise the most prominent Families for both type and frequency. ‘Containers’ are also numerous although the general types are less numerous.

Various shifts in emphasis on image types can be observed from the earlier to the later phase as summarised in Figure 143. As my analysis shows, 92 ‘Fauna’ VOs make up 26.6% of the repertoire on the NIIIA1 labels, while ‘Fauna’ comprise 489 or
only 12.7% of NIII-early D repertoire (Figure 143). Baines (2004: 158) states that the focus in the early Egyptian image repertoire on ‘Fauna’ generally lessened over time. As far as the labels are concerned, this is true from one perspective. However, it is also the case that the individual ‘fauna’ types are greatly expanded on the later labels, as are other VO types. As a Family it is striking that ‘Fauna’ occur almost twice as frequently as any other figural VO Family. The repeated use of certain image types within each phase shows that early Egyptian commissioners and label-makers were making deliberate choices but these were restricted in particular ways. For the later phase especially, which spanned a greater period of time and multiple sites, many aspects of label practices were rigidly reproduced across these dimensions, while others were more variable – an issue explored more fully in the next two chapters.

Within the immediate context of the artefacts, it is possible to see the increase from NIIIA1 to NIIC-early D as recursively related to increased surface area (Section 5.5.1), which permitted, or was the result of, the need to increase image density, although the intense use of label surfaces is less apparent on those found outside Abydos (e.g. ID 229 dated to Djer and ID 369 dated to Qa’a from Saqqara).

As for the question of continuity between phases, a number of NIIIA1 VOs may carry on in use on the later labels. Kahl (2003a) has outlined some of these across a variety of graphical substrates, including the ‘bird+perch/support’ motifs (cf. ID 129 with ID 211). The possible continuities are summarised in Figure 139 but remain tentative in light of few associations that might allow substantiation on more than morphological grounds. As pointed out in Section 6.1, this can be unreliable for gauging similarity in use and meaning across time-space. Baines (2004: 158) recently noted the similarities between the NIIIA1 VOs and later hieroglyphs such as some birds, a water motif, and possibly a ‘cobra’. He suggests that due to the schematic nature of some signs, parallels may simply not be evident. One area where grounds for conceptual continuity can be posited with more confidence is in the numerical function of NIIIA1 ‘notches’ (but to a lesser degree, in my view, for ‘e’!) with the later use of ‘strokes’ and related numerical VOs, as discussed later in a wider comparative context in Section 8.7.1. Overall, however, the analysis of the graphical repertoire demonstrates that the break between the corpora is stronger that the continuity. The extent to which this can be also demonstrated for composition is explored in the next chapter.

As discussed in Chapter 5, the material and archaeological similarities...
between both phases of label use is striking, yet evidence for graphical continuity is very limited – despite the strong desire of many investigators to see the early set of labels as clear forerunners of later scriptorial and iconographic traditions (Section 1.5.5). Having examined the individual building blocks of label composition here, further insight into relationships between and among label practices is gained by looking at the way composers combined and organised imagery within the material and spatial context of the label surface.
7 Graphical Composition

7.1 Introduction

The substance and meanings of images are constituted through a complex web of past social practices involving the maker's knowledge of those practices and her or his intentions. In picking up a tool and commencing intentional mark-making – making one mark and not another – a process of limiting and filtering occurs cognitively and in practice. This process and its outcome are also influenced by the method of expression, by the location, size, and orientation of the marked object relative to the marker, and by knowledge of past marks elsewhere and their meanings as perceived by the maker(s) and audience. An important component of image making/perceiving is therefore the comparative process to establish: 1. units (equal and unequal) and 2. elements (arrangement according to degrees of difference; Foucault 2002 [1966]: 59).

In the previous chapter the main graphical components, or Visual Objects (VOs), for analysis were determined and the label image repertoire established. To further contextualise the trends observed and to finish tackling research question 3 (Section 1.8.3), the main aims of this chapter are:

- To continue grounding study and comparison in the images themselves and their immediate material-graphical context using the methods developed in Chapter 3 and with the aid of ATLAS.ti
7.2 SVO/CE Attributes

As established in Section 6.1, 4304 VOIs were identified on the labels and these were characterised as SVOs, CVOs, CEs or SEs (Figure 110). Four main attributes further characterise VO expression and situation within the composition (Figure 144):

- Mode
- Orientation
- View
- Direction

Each VO was encoded for these variables permitting the attributes to be queried in various combinations along with temporal and spatial data to look for meaningful patterning. Each attribute is described below and the results of analysis presented and discussed. At this juncture I should reiterate that conventional hieroglyphic fonts had to be used because alphanumerical designations and written description became too cumbersome; for publication I envisage a label-specific font.

7.2.1 Mode

Here 'mode' refers to two mutually exclusive aspects of a VO that distinguish whether it occurs in isolation or in relation to a horizontal line:

- Floating
- Grounded
  - On ‘—’ SE
  - On the horizontal lower edge of the label

A VO not in physical contact with another VO is described as 'floating'. 'Grounded' describes a VO that sits on or just above a ‘—’ SE (e.g. ID 307; Section 6.4.5), although label composers may employ the bottom edge of the label in a similar
fashion, abutting images against it as seen on ID 277 (Figure 144). A supporting or ‘grounding’ function is not attested for vertical lines indicates their more clear-cut role as structuring devices. This contrasts with the dual role of ‘—’ and ‘ ’ (‘water’) as SEs and iconic VOse. VOse rendered in the grounded mode are more likely to be directly associated with other images via ‘contiguity’ or ‘overlap’, etc. creating relationships that convey sequence and narrative action (e.g. ID 241). Floating images, SVOs and many CEs, lack this physical connection, but sequence or action may be implied through adjacency or clustering, although this is less common (Section 7.3.6).

In analysis, mode was assessed for SVOs and CVOs. The CEs of CVOs may also be described as floating, and rarely grounded (see ‘bounding’ in Section 7.3.2), but as these are part of a large compositional unit it was deemed more informative to focus on coherent graphical units. The results are presented by phase in Figure 145; the floating mode is by far the most common on both faces of labels throughout both phases. Grounding occurs on the NIIC-early D labels only and is restricted to the primary side.

A possible, and otherwise unattested, example of one vertical VO grounded on another may be seen on ID 348 where a ‘canine+standard’ appears to be grounded onto ‘?’. However, this ivory label could not be studied first-hand, and the graphical association in question may be the result of slippage in manufacture or a crack. For two different interpretations see Figure 146.

### 7.2.2 Orientation

When the label is turned so that the perforation is at the top, iconic VOse on the labels maintain an upright orientation vis-à-vis each other. Even from an overhead or side view (Section 7.2.3), iconic VOse appear to be ‘upright’ (e.g. ID 323, ‘—’ in ‘frame’). Comparison with other early Egyptian visual culture shows that upright orientation was not a universal (e.g. Tomb 100, Quibell and Green 1989 [1902]: pls. 75-79). On the labels, however, I can find only one instance of variable orientation for what appears, morphologically at least, the same VO type, cf. ‘—’ on ID 349 oriented horizontally (dated to Semerkhet), with IDs 372, 373, 427 and 428 oriented vertically (dated to Qa’a). Because orientation otherwise remains constant, analysis focuses on two other aspects of image orientation: view and direction.
7.2.3 View

'View' refers to the aspect from which a VO is depicted. Four types can be determined for iconic VOs (Figure 144):

- Lateral symmetrical
- Lateral asymmetrical
- Frontal
- Overhead

Given their somewhat ambiguous iconic nature, view for SEs and 'strokes and notches' is not productively analysed and these are encoded 'none'. The view for most non-figural and unclassifiable VO Families is 'unclear'.

The analysis of view shows that expression of the same VO type was not practised uniformly across time-space. Some VOs are rigidly reproduced, while the expression of others was apparently more negotiable. For example, one might expect the PI (see Chapter 8 for non-retrospective interpretation) of the Egyptian ruler to be standardised, but we find that the ‘○’ in the PI of Den could be depicted both in profile (e.g. ID 297 (inside the 'niched frame')) or from an overhead aspect (e.g. ID 350 (bottom centre)) and the fingers may or may not be articulated. Where the digits are distinguished, it is curious that only three are depicted.

Discerning view for 'frames' is difficult. Those with a zigzag border (see e.g. the rectangular 'frame' in Q2 of ID 277 and a circular example on ID 325) are paralleled on contemporary objects such as palettes (e.g. the so-called town or cities palette, de Morgan 1897: pl. 3; see also Section 6.4.7). These are not elaborated on top to indicate a roof feature, nor are they grounded and thus likely to depict a frontal or side view of an architectural structure (e.g. Q2 in ID 215). We are probably correct to understand these 'frames' as enclosures with niching, or a similar construction technique, from a bird's-eye view. The same view can be understood for ‘□’ with the opening indicating an entrance. The lower section of the ‘niched frame’ appears to depict the façade of a panelled structure or object (it is not clear from the label evidence, at least, that a portable object such as a box or small shrine can be ruled out) from the frontal view, particularly in the more detailed renditions (e.g. ID 234 is the
most detailed example). What is intended by the upper part of the niched frame is more difficult to determine.

Overall, in both label phases composers tended to depict VOs from the lateral view with asymmetrical VOs being more common than symmetrical (Figure 147). The overhead view is the least common, but possibly represented on NIIIA1 labels, e.g. ID 163, and NIIIC-early D ‘عائل’ (e.g. ID 310), ‘?’ (e.g. ID 377), a possible ‘pool’ (ID 325), and many ‘frames’.

7.2.4 Direction

Direction – the lateral orientation of a VO – is captured using four codes in ATLAS.ti (Figure 144):

- Right-facing
- Left-facing
- Right- and left-facing
- None

Direction is clearest for asymmetrical VOs which may be right- or left-facing. Symmetrical VOs, e.g. ‘Una’, having no directionality, could be equally described as bi-directional, but are encoded as ‘none’. As the results of analysis show (Figure 148), non-directional VOs are the most common type for both main phases of label use. Right-facing images are somewhat less common, but three times more numerous than left-facing VOs.

The rare combination of left- and right-facing directionality in a single VO (not shown in Figure 148) is attested on ID 205 where the torso and limbs of a ‘human figure’, about to be struck by another ‘figure’ with a ‘mace’, face right but the head turns leftwards towards the impending blow. On IDs 306 and 308 the body of figure pulling a rope to close a fowling net (contra Godron 1990: 63-64) moves in a rightwards direction but the head faces left (toward the catch). This was also probably the case on fragment ID 307, but part of the scene in the lower right is lost. Other VOs are simultaneously directional and non-directional, such as horned animal heads where the head is shown in profile while the horns are shown from the ‘frontal’ view, e.g. ID 94 dated to the NIIIA1 phase and IDs 211, 213, and 422 dated to NIIIC-early
D. VOs which face left seem to do so in at least two situations. Where two figures or other entities are engaged in an activity together, one turns to face the other, e.g. IDs 47, 212, 213, 241 (two 'figures' in top right register, and bird and human in second register). ID 297 presents a curious example of a 'bird' facing left into a 'figure'; although not clearly engaged in an activity as seen in ID 241, the directional relationship is similar. A second situation occurs where a 'figure' faces left and adjacent, floating VOs also face left which suggests they are semantically related. The significance of directionality is considered further below for groups of VOs, both CVOs and Clusters (Sections 7.4.3, 7.5.3).

7.3 Image Associations

In his study of Egyptian visual culture, Schäfer (2002 [1919]: 159, 166) interprets spatial relationships between objects in two-dimensional art, for example, 'grouping' and 'layering', as expressions of real object relationships in the world, e.g. 'in front', 'behind', 'near', 'far', etc. To show that something was inside a 'container', the Egyptian artist might show the contents floating just above or 'resting on' the container. The material Schäfer draws on is later in date than the labels. For label imagery and other early visual culture, it is not always clear whether spatial proximity represents some aspect of a real spatial relationship, or is a product of compositional constraints, rules of linguistic syntax or other factors. It is useful to draw on Schäfer's terminology, but in keeping with an artefact-centred approach, VO associations are described with reference to the two-dimensional environment of the picture field. The main types of association identified include (Figure 149):

- Contiguity
- Bounding
- Alignment
- Overlapping
- Clustering

The results of the analysis for association by type, label side and chronological phase are presented in Figure 150. Each is examined in some detail below.
7.3.1 Contiguity

Contiguity is a direct type of association involving:

- 2+ VOs sharing a line which may be accomplished according to three different methods:
  - Inanimate contiguity
  - Holding
  - Held

Illustrated in Figure 149, contiguity is one of the criteria for distinguishing between SVOs and CVOs (Section 7.4). Contiguity often occurs with animate VOs, e.g. 'figures' (Section 6.3.6), and is thus distinguished in ATLAS.ti coding from both the perspective of the subject and object. Again, VOs characterised by a contiguous association are termed CEs (Section 6.2). Contiguity is also the key criterion for the grounded mode (Section 7.2.1), but the emphasis here is on the relationship between VOs rather than the overall structuring of the composition via '—' SEs (Section 7.8).

The results of analysis for contiguity are shown in Figure 151 for the 1120 VOs characterised by this association according to Family. 'Caprid heads+stake/support' frequently occur on the NIIIA1 labels, hence the larger number of 'Fauna' and 'Support'. The close graphical relationship between animate VOs (human and animal bodies, and body elements) and implements is also apparent for both periods. Some VOs never occur in the context of a contiguous association (not specifically shown in Figure 151), such as ‘—’ ‘☑️’ ‘ хр’ ‘й’ and other floral VOs, ‘☑️’, ‘ хр’, ‘vessels’ and disarticulated body elements, as well as non-figural and unclassified VOs.

7.3.2 Bounding

Bounding described the association whereby:

- 1 VO contains 1+ VO(s)

Illustrated in Figure 149, this association is related to the question of how to differentiate VO types (e.g. SVO, CE and CVO, Section 6.2). The bounding function
of rectangular shapes was used to differentiate the ‘rectangles’ and ‘frames’ VO types (Sections 6.4.6-6.4.7), and is therefore self-defining. The frequencies and distribution presented for the ‘Frame’ Family in Figure 133 therefore mirror patterning for bounding. Some VOs exhibit internal marks, such as the hatching in ‘\(\rightarrow\)’, but this most likely depicts the construction method and materials rather than imagery to be understood as distinct bounded VOs (e.g. IDs 228, 378, 405).

For the NIII A1 phase, seven bounding VOs are attested including: ‘circles’, a ‘circle with protrusions’ and ‘ovals’. For the NIIC-early D phase, 163 bounding VOs are attested, the ‘niched frame’ (distributed across most reigns) and ‘frame+figure +f+o’ (mainly attested on labels dated to Qa’a at Abydos) being the most common CVO types.

### 7.3.3 Bounded

The inverse of bounding (Section 7.3.3), ‘bounded’ describes:

- 1+ VO(s) contained entirely within another VO

Quantities by phase are given in Figure 150. Being far more common for the NIIC-early D labels, these are also shown by Family in Figure 152. All occur as the contents of ‘frames’ which include architectural motifs. In any one frame, 1-13 bounded CEs (Section 6.2) may be present, rendered mainly in the floating mode. Less frequently, bounded CEs may be grounded along the baseline of the frame (e.g. ID 358), also seen on ID 422 where a ‘frame’ bounds ‘figure +f+o’ – a CVO within in a CVO (29 occurrences on labels dated to Qa’a). Bounded Clusters include: ‘\(\text{bird+rectangle}\)’, ‘\(\text{=}+\)’, ‘\(\text{=}+\)’. Objects such as ‘pots’, ‘baskets’ or other ‘containers’, ‘boats’, or even ‘bodies’, do not show VOs ‘inside’. SVOs which never, or very rarely, occur in a bounded relationship include ‘\(\text{=}\)’, ‘\(\text{=}\)’, ‘\(\text{=}\)’, ‘\(\text{=}\)’, ‘\(\text{=}\)’. Bounded Clusters include: ‘\(\text{=}+\)’, ‘\(\text{=}+\)’, ‘\(\text{=}+\)’. Objects such as ‘pots’, ‘baskets’ or other ‘containers’, ‘boats’, or even ‘bodies’, do not show VOs ‘inside’. SVOs which never, or very rarely, occur in a bounded relationship include ‘\(\text{=}\)’, ‘\(\text{=}\)’, ‘\(\text{=}\)’, ‘\(\text{=}\)’, ‘\(\text{=}\)’.

### 7.3.4 Partially Bounding/Bounded

‘Partially bounding’ or ‘partially bounded’ refers to:
• 1 x VO that interpenetrates or interlocks with another VO

In this situation VOs do not make direct contact through contiguity (Section 7.3.1) or overlap (Section 7.3.5) (Figure 149). The results of analysis are shown in Figure 153 and 154. Only three examples are attested for the NIII A1 labels: ‘bird+perch/support’ with ‘figure+implement’ (ID 53), ‘quadruped’ with ‘upper limbs(?)’ (ID 78), and ‘rectangular-shape+upper limbs(?)’ (ID 151). In contrast 103 occur among the NIII C-early D labels: 55 partial bounding VOs and 48 partially bounded (e.g. IDs 230, 312). For example, examples of ‘n’ interpenetrate with ‘J’ and the latter may be partially bounded to different extents by the former (cf. IDs 364, 369). An ‘implement’, possibly ‘i’, is inserted into ‘U’ in the same Cluster seen on labels from Abydos (e.g. ID 230) and Saqqara ID 277, see upper left in Figure 149).

Overall, VOs characterised by ‘partially bounding/bounded’ associations show more variability in their configuration than those which are bounded/bounding associations. For example, imagery within the upper part of the ‘niche frame’ never transgresses the bounding line nor is it juxtaposed with the ‘frame’ from the outside for instance, yet ‘o’ may be inserted into ‘U’ or placed outside it completely (cf. IDs 350, 407).

This raises a point to which I frequently return, that in some circumstances label composers were reproducing certain compositional practices very closely, while other ways of working were more negotiable. In some cases decisions regarding image composition appear to have been based upon several factors. In addition to rules of syntax or symbolic meanings, aesthetic concerns or compositional space seems to influence composers’ choices. For example, ‘niche frames’ bearing the PI of Narmer show the ‘chisel’ slotting into the space that for all subsequent reigns is filled entirely with the vertical niche pattern (cf. IDs 204, 205). It seems that the chisel had to retain vertical orientation, yet in its juxtaposition with a long VO the shape created a somewhat awkward fit within the upper rectangle of the ‘niche frame’. By inserting the chisel into the niche façade, the vertical patterning of that motif and the VO complemented each other. This ‘visual play’ may have also created further opportunities for symbolic meaning, as seen for the interaction of the ‘bird’ and the PI of Aha, where the bird wields the VOs. It is curious that ID 197 lacks the ‘chisel’ as well as the ‘bird’ atop the niche frame (a sole example on the labels) which has been located against the top edge of the plaque making the addition of the
'bird' impossible.

7.3.5 Overlap

'Overlap' describes an association where, extending beyond contiguity (Section 7.3.1):

- 1 x VO obscures or transgresses the outline of another

Artisans typically render 'figures' so that if carrying or holding object(s), obscuring of the body or carried object is minimised. As seen on ID 215 in the second register on the left, a 'figure' carries a 'basket' or 'tray' and each entity is relatively clearly delineated. Analysis shows (Figures 155-156) that the situation encountered in the upper register of ID 241 is quite rare (Figure 157). Here we see that the body of an individual carrying a large 'fish' is partially obscured by the fish. The left arm of the figure is obscured completely, but the right can be seen supporting the load. Proportionally, the human body is not smaller; in fact, it appears slightly elongated with the neck extended so that each component is quite fully depicted.

Overlap may also occur internally, at the sub-VO level, and although systematic examination of this falls outside the scope of the thesis, it is worth noting since the presence of variability supports the ongoing observation concerning the different degrees of rigidity with which artisans reproduce some VO types. Thus, the majority of '£' (72 of 74) show a single 'forelimb' in profile. On ID 264, however, the right upper 'limb' of '£' appears to overlap a left upper limb. ID 266 shows the paws of '£' also appearing to overlap. Although rather schematic, both limbs appear to be indicated, the left paw extending beyond the left. Both labels are from Saqqara Tomb 3504 and while some variation among artists was acceptable, wholesale change such as depiction of the '£' from the frontal view, did not occur.

Technically, clothing and other items of adornment overlap or cover parts of the human body in depiction. Obscuring sections of the underlying body seems permissible in this context; however, for some kinds of bodily overlap composers seem to avoid obscuring the body, thus foregrounding some VOs over others. For example, in all instances where the 'tail' protrudes from the lower back of a 'figure', the 'tail' passes behind the rear leg of the figure and never in front (IDs 298, 300, 302,
304, 306, possibly 307, 308). On ID 304, the body on the right is overlapped by a ‘standard’ and the left leg of the ruler, but the body of the ruler remains in full view.

7.3.6 Clustering

‘Clustering’ is an association type describing:

- 2+ VOs in the floating mode in close proximity, attested on 2+ labels

Clusters are similar to CVOs in that two or more VOs are located in close proximity, but differentiated by the lack of contiguity. Analysis shows the presence of at least 138 Cluster types (see Appendix 14). All incorporate SVOs, CEs and/or CVOs and are attested for both phases. This unit of analysis is treated more fully below (Section 7.5), as a key element of graphical composition.

7.3.7 Alignment

‘Alignment’ refers to the way in which similar or identical VOs, most of which are part of a Cluster (Section 7.5), may be configured. Types include:

- 2+VOs aligned and repeated horizontally
- 2+VOs aligned and repeated vertically
- 3+VOs stacked and repeated both horizontally and vertically
- 3+VOs aligned and repeated diagonally/following a curve

For NIIIA1, analysis shows horizontal alignment for identical VOs (ID 111), vertical for ‘=’ and ‘/’ (e.g. IDs 102, 121), ‘wavy-lines’ (IDs 146, 161) and stacked horizontal and vertical for ‘notches’. Among NIIIC-early D labels the repeated horizontal alignment of VOs is the most common, followed by vertical and then stacked (Figures 150, 158). Diagonal/curving alignment is attested only for ‘...’ issuing from or entering into a ‘_’ (e.g. ID 350) or other ‘container’ (e.g. ID 379). Cluster alignment is discussed in more detail in Section 7.5.

Comparison of horizontal versus vertical alignment shows that composers tended to align identical VOs horizontally. This seems particularly clear on ID 288
(Figure 159) where three sets of ‘@’ and ‘↑’ are aligned horizontally. Other examples
are given in Figure 160. We might infer that morphological similarity was emphasised
via lateral alignment, which together presumably signalled similar semantic meaning.
While this might be partly true, where identical VOs do not align horizontally (Figure
160), VO shape may also be a mitigating factor since many vertical examples are of
long, broad shapes. Overall, a matrix of factors, shape, similitude, the circumstances
of the wider composition including narrative and doubtless semantic meaning
influenced the kinds of alignment composers chose.

7.4 CVOs

CVOs are comprised of 2-4 CEs during the NIIIA1 phase of label use and 2-12 CEs
for the NIIIIC-early D labels. Of some 475 CVOs overall, approximately 70 types can
be identified. The frequencies and temporal phase distribution were given in Figure
110 (and for temporal distribution for occurrences of five or more see Appendix 14).
The distribution by reign and types which show continuity are illustrated on Figure
161. The ‘head+stake/support’ and ‘קוד+peaks’ CVOs are exclusive to the NIIIA1
labels but others such as ‘bird+perch/support’ and ‘figure+ן+ו’ continue in use (see
also Section 6.5 and Figure 139). Several aspects of CVOs are examined below and
main trends discussed.

7.4.1 Presence/Absence of Constituent Elements

Of the CVO types attested, their CEs are relatively fixed, although minor differences
can be observed with some elements being absent occasionally or seemingly falling
out of use. Several NIIIA1 labels bear the CVO ‘head+stake/support’, e.g. ID 98, but
on IDs 100 and 101 the ‘stake/support’ is absent. As on ID 197 dated to Narmer, the
‘chisel’ and ‘bird’ are absent (cf. IDs 204, 205).

The earliest instances of CVO ‘figure+ן+ו+ figure’ occur on IDs 212 and 213,
almost identical labels dated to Aha, as a narrative scene (Figure 162). This group also
appears on ID 281 with one curious difference – the right most ‘figure’ in the group
has been erased (see Section 5.12), an absence that is maintained in all subsequent
attestations (17). The compositional presentation of the group is further altered by
being located within a ‘frame’, a configuration attested through to the reign of Qa’a
when it occurs frequently (x12, e.g. IDs 307, 422).
In addition to the absence or presence of some CEs, change also occurs in the form of apparent substitution. The combination of ‘\(\text{x}+\text{r}\)’ hovering just above ‘baskets’ (therefore constituting a Cluster, not a CVO) is first attested on IDs 212, 213(?) and 214 dated to Aha. On IDs 277 and 278 dated to Djet we find ‘\(\text{x}+\text{r}\)’ instead. From the reign of Den ‘\(\text{y}\)’ disappears from this configuration and the ‘serpent’ returns forming CVO ‘\(\text{y}\)’, attested 31 times. On two labels (IDs 405, 406) dated to Qa’a, however, the ‘serpent’ is again substituted with ‘\(\text{y}\)’. It is possible that composers/viewers considered each version to have altogether different meanings – the contexts are different, or this may be a case where for other reasons, CEs could be substituted for one another. The most continuously attested CVO overall is the ‘niched frame’ motif (Figure 161).

7.4.2 Configuration

Variability is also present in the configuration of some CVO types. The bounded CEs in the ‘niched frame’ usually float within the upper frame, but exceptions include the interlocking position of the ‘chisel’ in the ‘niching’ for the PI of Narmer (IDs 204, 205). The ‘niched frame’ of Aha shows an even more dynamic configuration (e.g. ID 211). Rather than the contents of the upper frame (here a ‘shield+\(\text{r}\)’), being completely separated from other VOs as seen with the ‘niched frame’ of Narmer, the lower limbs of the bird surmounting the frame extend into the bounded area and appear to grasp the implement (as though they were upper limbs but claws or hands are not detailed). This configuration is consistent for all ‘niched frames’ of Aha, yet none of the subsequent ‘niched frames’ exhibit this ‘visual play’.

7.4.3 Ordering and Direction

The asymmetrical constituent elements of a single CVO typically face to the right. For a small number, however, elements within the same group may face opposing directions. This is seen where two anthropomorphic figures, or one and another CVO type co-occur, e.g. ID 47 (NIIIA1) and IDs 205, 210, 241 and 304 (NIIIC-early D labels). Such ordering and directionality among the figures, in addition to the associations of contiguity or holding/held, construct complex visual units wherein sequence and action are conveyed. Such configurations typically appear on the labels.
with ‘—’ SEs (see also Section 7.4.1). Directionality for ‘\(\uparrow\)’ also exhibits variable patterning based on its juxtaposition with the ‘niched frame’. Since this combination of CEs also occurs as a Cluster, the topic of the next section, I will postpone close examination of this patterning until the discussion (Section 7.6).

7.5 Clusters

Having examined variability among CVOs including presence/absence, configuration, ordering and direction, I now consider these aspects for Clusters, as defined above (Section 7.3.6). More than 130 Cluster types were identified for both phases (Figure 163 shows a selection, Appendix 14 shows distribution). Some gaps in the data are likely to reflect poor preservation to some degree (see e.g. the reigns of Merneith and Anedjib). As it stands, the patterning shows that some Clusters are restricted to a single reign while others span two or more. It is particularly striking that extended continuity is attested for only one type: ‘container+\(\_\)’. This provides a further indication of the extent to which labels, on the one hand, constituted a fixed category of material culture, yet on the other, were dynamic and changeable.

Another pattern can be observed, namely that the reign of Den emerges again as a watershed for change. Clusters introduced in the early part of the 1st Dynasty are not attested beyond this reign, while many new ones come into use at this time, several of which endure until the end of the period. The disappearance of ‘\(\_\)=numerical signs’ and most other uses of numerical signs (see Section 8.7.1) also coincides with the end of the reign of Den, constituting a major break with what had been a longstanding numerical function for labels, attested since NIIIA1. Perhaps this role for some labels became obsolete or was replaced by another practice, although without further research what this might have been is difficult to say. The greatest range in Cluster types is attested on labels dating to Qa’a.

7.5.1 Presence/Absence of Constituent Elements

Like CVOs, some Cluster Families vary in their constituent elements, but types can be identified based on repeated occurrences of the same group. This is often corroborated by similarities in surface distribution (below) and graphical context. The most comprehensive and consistent combination of elements attested for any one Cluster is
designated as the Family 'standard', i.e. Family \( \text{standard} \), but 'variations' \( \text{standard} \), \( \text{standard} \), (a reversal in order), or the apparent abbreviation \( \text{standard} \) are also included (for each variant of this Cluster type compare the right-hand columns of IDs 405, 406, 411, respectively). Of course, 'standard' and 'variation' are heuristic categories only; what label composers considered standard/non-standard may not be knowable or necessarily a relevant concept for explaining why Clusters were rendered in similar or varied ways.

Constituent elements of some Clusters are always expressed while others are not. For example, all elements appear consistently for the Clusters 'bird+\[\text{bird}\]+', '\( \alpha+\text{boat}+\text{bird} \)', 'bird+boat+\text{bird}' among others.

Patterning in absences varies widely. The 'flora' element may not be expressed in the '\( \text{flora} \)+ (H1?)' Cluster (cf. IDs 405, 409, 412, 425, all dated to Qa'a). An element commonly absent from several Clusters is '\( \alpha \)', including '\( \alpha+\\alpha+\alpha+\\alpha \)'; including examples dated to Den (IDs 306, 307, 314(?)) and Semerkhet (IDs 350, 355), but present in most examples dated to Qa'a. Cluster '\( \alpha+\\alpha+\alpha+\\alpha \)' is fully expressed in 14 instances across the reigns of Den, Semerkhet and Qa'a, yet ID 325 (Den) shows only one '\( \alpha \)', and both are absent on IDs 372 and 382 (Qa'a). Deliberate decisions on the part of label-composer in Cluster construction are also illustrated by the consistent presence of '\( \alpha \)' in '\( \alpha+\alpha+\alpha+\alpha \)' on labels dated Den only, e.g. IDs 326, 332. Through participation certain practices become increasingly conventionalised, while others accumulate a history of fluidity which may also then become conventionalised.

Another type of absence/presence variability is exemplified by the '\( \text{flora} \)+\[\text{flora}\)' (Qa'a). Each element is alternately (and respectively) absent on IDs 411 (damaged?), 413 and 424. It would seem that only two of the three elements were essential at any one time. This is also seen for the 'niched frame' of Narmer where '\( \text{bird} \)' may be omitted (cf. ID 205 with ID 197 where the 'bird' CE is also absent). Similarly, Cluster 'architecture+trees' exhibits differences in element quantities: six 'architectural' and seven 'tree' elements are present on ID 243 (Djer), but on the (almost) identical label ID 242, the composer included only five 'architectural' and five 'tree' elements. It is difficult to discern a constant pattern which might explain why label composers chose

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7 It may be significant that the 'flora' SVO exhibits a single set of leaves only, but this cluster occurs in a similar context including '\( \alpha+\alpha+\alpha \)' on IDs 306, 307 and 326 all of which have double sets of leaves suggesting all instances represent the same cluster Family.
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to express all or a selection of elements.

Series of ‘!’ or various quantities of ‘+$r$’ often occur together. ‘$g$’ also occurs in series of 1-8, sometimes with ‘$I$’. As alluded to, these VOIs are traditionally interpreted as numerical signs, an interpretation which can be reached from a grounded approach, as fully demonstrated in Section 8.7.1. In the context of writing in Mesoamerica, numerical signs require juxtaposition with iconic imagery because numerals were understood not in an abstract sense, but in relation to a real object (see Houston 2000: 147-149). If we consider whether this was the case for Egyptian numbers, we find a VO placed directly above the numerical Clusters. With the notches on the NIIIA1 labels, the relationship might be conveyed by context, if labels were attached directly to objects, or paired with another label identifying another feature.

The degree of variability overall for presence/absence is minimal, but nevertheless is informative for assessing the degree to which composers, or collectives of composers, could develop, challenge, adapt or reinterpret aspects of compositional practice.

7.5.2 Organisation

The organisation of VOIs in terms of alignment was noted above (Section 7.3.7), most of which also form Clusters (Section 7.3.6). Thus, when the elements of a Cluster are the same VO, these are often organised horizontally, less commonly in a diagonal or in an arc, and also (relatively uncommonly), vertically. Clusters comprising differing elements are less commonly aligned horizontally, e.g. ‘$g_-$+$I$’, and more commonly arranged vertically, e.g. ‘$o+$as+notch’ or combinations of horizontally and vertically stacked elements, e.g. ‘$I$+bird+$\circ$’ (e.g. ID 242), and ‘circle+notch2/6’ (e.g. ID 406), often configured in compact graphical units. The least common configuration is diagonal alignment, e.g. bird+$\nearrow$+$I$+bird’ (ID 408, secondary side).

With the NIIIA1 Clusters, the organisation of the picture field is relatively fluid with areas of the picture space left empty between or around the VOIs. Clusters on many NIIC-early D labels show more rigidity in organisation, with Clusters tending toward alignment along a horizontal/vertical axis. An interest in symmetry is particularly apparent on ID 413 where the neatly incised ‘$I$’ is carefully centred between the convex bases of the ‘baskets’ above it. This can be seen on the majority
of labels from Abydos and Helwan, whereas Clusters on labels from Saqqara, many without SEs, are less likely to form block-like configurations, e.g. IDs 229 dated to Djer and 369 dated to Qa'a.

7.5.3 Ordering and Direction of Constituent Elements

Clusters also exhibit variability in order and direction. Order reversal exhibited by Cluster ‘bird+^+j+bird’ was noted above. Variable order is also attested for Cluster ‘bird+^+j+bird’ which in 13 of 15 occurrences appears on the secondary side of the label. The latter three elements of this Cluster may be swapped (cf. IDs 409, 417, 420), and direction may also change (ID 412, based on the orientation of both ‘bird’ SVOs) or the overall configuration may vary (cf. ID 415 with primary sides of IDs 405, 406? (‘j’ mistaken for a floral motif here?).

IDs 215 and 216 are identical in material, technique, format, and very similar in content, but the ‘container’ present in Q4 of ID 215, is absent on ID 216 although a space almost large enough to accommodate the VOs was left, as though something was going to be inserted, or there was some hesitation or uncertainty on the part of the composer. On the same labels difference in ordering can be observed for ‘(s)+-^+bird’. All are stacked vertically on ID 215, but on ID 216, the composer has changed the configuration of ‘-^+bird’ to align horizontally above the sequence of 3x ‘9’ below.

On IDs 306 and 307 Cluster ‘(s)+-^+o^’ (third register from the top) faces left, provoking much debate (for a summary see Godron 1990: 61-64, 188) since right facing is the norm for the broader context in each example and for all other attestations of this Cluster.

In Cluster ‘(s)+-^+i’ on ID 306, the ‘i’ is inserted into ‘(s)’ rather than occurring to the left of ‘(s)’. The order of the VOs seems to accommodate an aesthetic interest in a block-like arrangement, yet this does not occur for other attestations of this Cluster (e.g. IDs 291, 308).

7.6 Summing Up: CVOs and Clusters

In the first half of this chapter, I have examined the compositional features of individual VOs including mode and associations, and presented two types of VO
groupings, CVOs and Clusters. Various trends of difference and similarity between the two main label phases and other temporal-spatial shifts were observed. There remains one VO grouping to present and discuss: ‘niched frame+\textsuperscript{\text{gb}}’. This grouping provides a useful example for contrasting the results achieved by a grounded method with those from a philological approach.

In his extensive study on early Egyptian writing, Kahl introduces the sign ‘\text{\textcopyright}'. and lists its function as a ‘logogram’ and its phonetic value as \textit{nb.ti} (this value and its interpretation as a name for the ruler are retrospectively derived, although this method is not specified, Kahl 1994: 519, see G16). Following traditional sign-list presentation (Gardiner 1973: 438-548), a stylised font is employed as an archetype for all occurrences of the sign group in a left facing orientation, to conform to the left-to-right reading convention for the Latin script. The artefactual sources are listed for reference, but the way in which these graphical-material contexts differ and might construct meaning and function differently is not indicated. For example, on ID 212, the group is not contiguous; all SVOs float, yet Kahl gives this label (“Qu.240”) as the earliest occurrence for “\text{\textcopyright}”.

Examination of ‘\text{\textcopyright}’ on the labels shows that important variability is present. A total of 33 examples are attested. Substitution of ‘\text{\textcopyright}’ with ‘\text{\textcopyright’ is encountered for two Clusters (IDs 277 (left facing), 278 (right-facing)), and two CVOs (IDs 405, 406 (both left-facing)). Further, when the group first appears, on IDs 212 and 213 dated to Aha, and IDs 277 and 278 dated to Djet, it is configured as a Cluster, not a CVO. It is in this guise that the group occurs inside a frame or architectural feature.

After the reign of Djet the group is not attested again until the reign of Semerkhet (e.g. ID 348). On labels of Qa’a it occurs, with eight right-facing (e.g. IDs 422, 423), and 17 left-facing (e.g. ID 364). This is the largest number of left-facing CEs for any one CVO (or Cluster) type and begs the question of why this group deviates from the NIIC-early D norm of a right-facing direction (Section 7.2.4). Emery commented on the presence of this reversal, which as a CVO is present only on labels of Qa’a:

The argument that when the \textit{nebti} name and ths [sic] Horus name of a living king are coupled together, the \textit{nebti} group i. [sic] written in the reverse way to the
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Horus group, has no foundatione [sic] It is true that on the labels of King Ka’a the two names face each other, but there is a [read “no”?] significance in this, for the variation in direction of groups of hieroglyphic signs at this period is not unusual and is a common feature on many ivory and wooden labels.

(Emery 1961: 35)

Emery’s meaning is not entirely clear (errors seem to have been introduced in the editorial/publication process), but he seems to be suggesting that the reversal of ‘¶’ is of little significance. A survey of the 25 occurrences dated to this reign in their broader compositional context shows, however, that left-facing occurs only when the CVO is juxtaposed with the ‘niched frame’. Otherwise, ‘¶’ faces right. In turn, when we review the directionality of the ‘niched frame’, without exception all 60 attestations face to the right. Therefore, we can infer that the variation in the direction of ‘¶’ is not simply a feature of early scribal practices, but signals a meaningful association between two groups of images.

In attempting to explain this pattern further, we saw in Section 7.2.4 that ordering and directionality established narrative relationships between VOs. However, figures/anthropomorphs, implements and other associated objects that helped to convey sequences of action are absent here. Perhaps ordering and directionality are deployed rather to focus attention on the ‘niched frame’, highlighting something of its steadfast character, as perhaps symbolically extended to the individual or institution signified by the ‘niched frame+PI’ motif (see Section 8.7.2 where the interpretation of this PI is established from a grounded approach). Without comparative study, the meaning of this graphical relationship from a grounded approach should remain tentative, but this example has demonstrated, I hope, the importance of taking account of imagery within its wider compositional contexts. This leads me to the next area of analysis which I present and discuss below, that of image distribution and how label-makers constructed compositions as a whole at different times and places.

7.7 General Image Distribution

Given that SEs are features of only 102 labels, all of which date to the NIIIC-early D, 

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8 Text appears to be missing, if not a bibliographic reference.
9 At the time of writing, no right-facing examples were documented. All have been recovered during the DAI Abydos re-excavation.
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the problem arises of how to gauge and compare distribution in a systematic way for the remaining labels in what I have termed the ‘plain’ format (below) and for labels overall from both phases. To obtain a general idea of overall distribution before analysing the explicitly formatted labels (Section 7.8), I devised a quadrant framework. The decorated surface of each label is divided into four main quadrants and image frequencies for each counted. Since imagery does not always fall neatly within a quadrant, overlap is also taken into account (Figure 164). Therefore, one of nine quadrant codes was encoded for each of the 4304 VOs in ATLAS.ti. The value of the quadrants approach lies in its utility as a heuristic tool for uniformly measuring imagery distribution and density regardless of compositional type. Charts showing VO distribution by VO Family were already presented in Chapter 6 (Figures 115-136). Focussing on composition rather than content, the results of the quadrant analysis for both SVOs and CEs are presented below by chronological phase, with trends observed for selected reigns.

7.7.1 Distribution of SVOs and CEs: NIIIA1

The results of quadrant analysis for SVOs and CEs on the NIIIA1 labels are presented in Figure 165. This shows that label composers tended to place imagery centrally (Q1-4) or in the lower half (Q3-4, Q4). This may be in order to accommodate, or as a result of, the placement of the perforation in the upper half where fewer VOs occur (Section 5.6.1). The number of VOs per quadrant range from 0 to 4. Clusters of comparatively small SVOs, mainly ‘circles’/‘’ and ‘short horizontal or diagonal lines’, tend to occur in the lower half contributing to the higher number of VOs in this area. VOs occur on the secondary side, albeit far less frequently, but here too central placement is also evident. Overall NIIIA1 imagery is characterised by low density and large size relative to the small surface area of the label (averaging 1.5 to 2.0 cm in either direction), as is apparent from the high degree of VO-grid overlap. The restriction of imagery to the two most expansive faces of the labels may seem like a given, and the fact that the label edges are never graphically elaborated is probably related to the constraints presented by the thin, flat rectangular shape of the label and its small size, but is also recursively related to the intended function and therefore deliberate choice (cf. the edge of a £1 coin for example).
7.7.2 Distribution of SVOs and CEs: NIIC-early D

The patterning in SVO and CE distribution and density changes on most NIIC-early D labels is demonstrated in Figures 166-167. As above, distribution by side is highlighted in the former and distribution by VO type in the latter. CEs occur more commonly in the upper part of the label as, therefore, do the CVOs they constitute (Section 7.7.3). A significant increase in density can be observed; the VOs in any one quadrant range from 0 to 14, compared with 0 to 4 for the NIIIA1 corpus.

A reduction in the degree of image overlap between the main quadrants can be observed. To some extent, the patterning that emerges from the analysis is partly a product of the method employed. When projecting the 9-square grid on the NIIC-early D labels, the relatively larger size of the NIIC-early D substrate (Section 5.5.1) in relation to the typically smaller VO size make it less likely for VOs to extend beyond the boundary of one or more quadrants. When the visual unit of analysis is defined differently, for example, at the level of CVOs or Clusters (below), the amount of grid-VO overlap increases. Nevertheless, the patterning clearly shows the increase in image quantity and density, even more so for those dating to the early NIIID (discussed in relation to changes in format, below).

While the NIIIA1 labels, apart from the peculiar example of ID 178, do not approach the density of the NIIC-early D labels, some of these later examples are similar to the NIIIA1 style with a small number of dispersed images. This is typically found on labels of the plain format (below), dating to the first half of the NIIC-early D period. For example, the wooden painted labels from Tomb S3504 tend toward the NIIIA1 patterning with large (relative to label size), dispersed images and exhibit a general avoidance of the area of perforation (e.g. IDs 123, 204, 372).

The impact of the location of the perforation (Section 5.6.1) on VO distribution, as compared with the NIIIA1 labels, diminishes. Rather than the spatial separation between this feature and the imagery as attested on these early examples, composers tend to integrate perforations into the graphical composition. This is demonstrated by high visual activity in Q1 and Q2 (cf. e.g. ID 172 with IDs 211 or 284). This integration is facilitated by a larger surface size and relatively smaller image size.
7.7.3 Distribution of CVOs and Clusters: Both phases

Because CVOs and Clusters are comprised of multiple VOs and cover a larger surface area, distribution at this scale shows an increased VO-quadrant overlap compared with the distribution of single VOs (see also Chapter 6). Spatial distribution patterning of NIIIA1 CVOs and Clusters is given together for comparison in Figure 168. The tendency for these to be located in the centre of the picture field is apparent, with second most frequent concentration occurring in Q3-4. This latter pattern relates mainly to the ‘notches x5-12’ Cluster which constitutes 26 of the 36 occurrences. Overall composers tended to situate imagery toward the left and lower part of the composition. The most likely explanation is the concern to maintain some distance between imagery and the perforation in the upper right (see also Section 5.6.1).

The results of analysis for NIIIC-early D CVOs and Clusters are presented in Figure 169. Graphical activity tends to concentrate in the upper left or upper parts and is otherwise relatively evenly distributed across the four main quadrants. This contrasts with the tendency toward central placement on the NIIIA1 labels. Imagery may also be unevenly distributed across the available surface, but as demonstrated below, the type of horizontal and vertical formatting employed during the NIIIC-early D shows a more even distribution, but has a dispersing effect resulting in a reduction of centralised visual activity.

When we look at the distribution of specific CVO or Cluster types, many regularly occur in a particular area of the picture field. Early attestations of ‘figure+t+o’ were discussed in Section 7.4.1. The bounded examples bearing the niched frame of Den always occur in the upper part of the left column (Q1), those of Semerkhet also sit in the left column, but directly below the ‘niched frame’ in Q3, as do those bearing the PI Qa’o, but usually in the lowermost of the two or three frames aligned vertically (e.g. ID 412).

7.8 Compositional Format

Having discussed the components of composition, I now turn to how these are assembled. The picture surface of the labels may be organised according to a ‘plain’ format, that is, the absence of explicit structuring lines, during both the NIIIA1 and NIIIC-early D periods of labels use. On the NIIIC-early D labels only, the surface may be divided into rectangular areas, by either horizontal or vertical SEs (Section
6.4.5). In some cases, imagery during this period may also be arranged as though SEs were present, but without their explicit expression. Single or multiples of ‘—’ or ‘|’ SEs may be employed on a given label forming horizontal or vertical layouts. ‘—’ and ‘|’ SEs may also be combined into formats termed ‘mixed’ or ‘tabular’ (see Section 7.8.3). A shift from a horizontal layout of label imagery prior to the reign of Den to vertical organisation has been noted previously, mainly in the context of a coinciding increase of administrative titles and other bureaucratic designations (Redford 2001: 95-96; Trigger et al. 2001: 56-58). Kaplony (1963: 308, pls. 143-144) also outlined general changes in composition for explicitly formatted labels (Figure 170). It is possible to trace such changes and continuities in format in greater detail for the NIII A1 and NIIC-early D phases.

The analysis and discussion in the following is directed only to labels bearing explicit and inexplicit SEs. After considering the compositional use of ‘—’ (Section 7.8.1) and then ‘|’ (Section 7.8.2), I then present an analysis of VO distribution within the context of the different format types identified (Section 7.8.3).

### 7.8.1 Using Horizontal Lines and Edges

Typically extending from one edge of the label to the other, ‘—’ SEs serve to divide the picture surface into registers which simultaneously separate and group together series of images. Horizontal lines also perform a direct linking function by acting as a grounding line for VOs which are typically animate, such as human and animal figures, and a small number of other objects (Section 7.2.1). Frequencies for labels laid out horizontally are given in Figure 171.

The abutting of images with the bottom edge of the label is attested on some NIII A1 and NIIC-early D labels. The former occurrences appear to be related to the manufacture practice of decorating the surface prior to cutting out the final label shape (e.g. ID 78; Chapter 5). This may also be the case with some NIIC-early D labels, but the VO types are limited to ‘architecture’ (e.g. IDs 258, 277, 386, 414, 416), ‘|’ (e.g. ID 194), ‘9’, ‘containers’ (e.g. ID 285), a floral VO on ID 277, but this phenomenon may also be related to a compositional requirement that certain VOs were ‘grounded’. Especially common among instances where ‘architecture’ is grounded along the bottom edge, the lower line of the VO is not explicitly expressed – the edge doubles as part of the depiction. Abutting may also have to do with technique.
when lines ran perpendicular to a label's bottom edge, the composer simply 'followed through' with the tool, taking the line over the edge (Figures 172, 173). Review of the evidence shows that this technique spans time-space as well as materials and techniques.

The use of the label edge as a frame for the composition and the ground for some VO types, if not incorporated into the depiction of their shape, supports the main argument of Chapter 5 – that the form and expression of graphical media are embedded in and influenced by materials and materiality, and from a practice perspective we see that one cannot be isolated from the other.

7.8.2 Using Vertical Lines

Vertical lines divide the picture surface into vertical bands or columns. Both single and double vertical lines are attested (frequencies are given in Figure 171). Single lines may extend from the top to the bottom edges of the label although some hover just shy of the edge. All double vertical lines extend fully from one edge of the label to the other.

13-17 further labels bear a combination of vertical and horizontal lines referred to as 'mixed' types (below). On the tabular formatted labels (e.g. IDs 358, 359), lines may truncate one another. The vertical lines on tabular label ID 359 from Saqqara probably do not extend to the bottom edge (T.J.H. James, pers. comm., 2006). If this is indeed the case, this would be the sole example of space set apart by compositional lines that was not used.

7.8.3 Label Format Types

The explicit uses of ‘—’ and ‘|’ SEs define six main format types. Each is presented and described below (see Figure 174):

**Plain format**: This earliest attested label format is comprised of an undivided surface. Imagery floats within the picture field, frequently clustered toward one edge or area, often in relation to another Cluster. Less commonly imagery appears unevenly dispersed. This is the only format type attested during the NIIIA1 phase and continues in use through to the end of NIIIC-early D, and is attested for most reigns.
Horizontal format: Labels from the tomb ascribed to Narmer and its vicinity at Abydos show that the horizontal line is introduced into the composition prior to or during this reign. This runs from one vertical edge of the label to the other, dividing the picture surface into two horizontal registers. Labels from tombs at Abydos and Naqada show that from the reign of Aha/Neithotep into the reign of Djet, 2-4 registers were used, and 4 registers in the reign of Den. This format is not attested beyond the reign of Den.

Columnar Format: In the reign of Den label-makers begin dividing the picture field into two vertical columns which run roughly down the centre, shifted slightly to the left in the reign of Anedjib, and usually to the right thereafter. The purely vertical layout is also attested for the first time during the time of Den (IDs 330, 331, 332, 333, probably 334, 335). Perhaps significantly, it is only a second PI of Den, ‘$a+xxx+xxx$', that occurs in this format type, suggesting linkage between particular compositional formats and their content (e.g. IDs 331, 332). Labels from the reign of Semerkhet exhibit two and three columns, and many from the reign of Qa’a also exhibit this layout.

Mixed A: This format is comprised of a mixture of ‘—’ and ‘|’ SEs. The whole is divided into two columns, the right being sub-divided into four registers and the left remaining a single column. This format is exemplified by IDs 307 and 323 and is attested only in the reign of Den.

Tabular format: The division of the field by ‘—’ and ‘|’ SEs into a grid is termed the tabular format, and is only attested on three labels, two from Saqqara (IDs 358, 359) and one from Helwan (ID 360).

ID 360, although not archaeologically datable to a specific reign within the NIIC-D period (Köhler 2004b: 13, 38), bears two VO Cluster types (‘bird+boat+$f$’ and ‘$f+|$’) which are reminiscent of labels dated to the reign of Semerkhet (cf. IDs 350, 355). The former Cluster is also datable to Qa’a as is perhaps significantly the ‘|$|$’ SE (see Section 6.4.5).

Tabular label ID 359 from S3504 is comprised of one horizontal line intersecting five vertical lines to form 10 ‘cells’, with an eleventh full-length column.
on the far right. The excavator does not date the label specifically (Emery 1949: 22 and 107). I suggest, on the basis of the frame, which is absent on the earlier labels linked to the reign of Djet via Cluster ‘∪+(?)+r’+f’+f’, but present on labels dated to Qa’a, that this label dates to the refurbishment of S3504 in the reign of Qa’a. The ‘||’ SE also dates it to early NIIIID (above). ID 358 also possibly dates to the reigns of Semerkhet or Qa’a on the basis of it being found with ID 354, a columnar label which can be more clearly dated on the basis of format, the presence of Cluster ‘||’ SE, and the early NIIIID architectural style of the tomb (see Emery 1949: 109).

**Mixed B format:** Five labels, which are mainly columnar in format, show a short horizontal line in the left column extending roughly from the centre toward the left edge of the label and running under the ‘niched frame’ motif. This format is referred to as ‘Mixed B’ as it is attested only in the reign of Qa’a.

### 7.9 Summing Up: Format

The seven main format types are given by frequency in Figure 173. In Figure 174 this information is plotted against reign, and Figure 175 clarifies overlap and mutual exclusivity in usage. Prior to the reign of Den the predominant format of labels was either ‘plain’ or ‘horizontal’. During the reign of Den a shift away from horizontal organisation towards a vertical arrangement occurs and from the end of Den’s reign to the end of the 1st Dynasty, compositions are predominantly laid out vertically with the persistent ‘plain’ format also in use. Double vertical lines are attested only in the reign of Qa’a, or very tentatively proposed for the reign of Semerkhet (ID 354). 15 total configurations are attested as shown in Figure 176. Thus a clear pattern of change over time (cf. Figure 175) can be charted laying the groundwork for a label typology that is not based on content alone (e.g. year label, oil label, sandal label, etc.).

Nevertheless, there are relationships between format and content, including patterning among SVO, CVO and Cluster types, which require fleshing out. For example, ‘?’ is attested 47 times among the NIIIC-early D labels. In a small number of instances it appears to be deployed by label-composers in a structuring capacity on IDs 306, 307 and 360 where it is contiguous with ‘—’ SEs. Always located on the far right – VOs never appear to its right – ‘?’ virtually always
extends from the top to the bottom edge of the label, acting as an inner vertical border for the picture field. A similar compositional function is also seen in later vessel inscriptions dated to Khasekhem from Hierakonpolis (Quibell 1989 [1900]: pl. 38) where the scale of \( \text{'}\text{'} \) corresponds to the content to its left. This correspondence was already observed for ID 277 (Section 7.8).

7.10 Image Distribution According to Format

It now remains to link the analysis of the repertoire begun in Chapter 6 and the relationships identified between VO types and the way in which these are deployed within the label space according to format. Below I focus on the explicitly formatted labels. A general idea of VO distribution according to format type is plotted in Figure 177. Again, due to differential preservation, only those images which could be identified with a good degree of confidence were examined (see Appendix 12 for certain and uncertain classification). Despite imprecision in discerning whether the uneven frequencies for each format type are the result of preservation or cultural practice, the data present insights into how format influences image distribution and organisation and vice versa and how this changed over time-space.

7.10.1 Distribution Within the Horizontal Format

Because horizontal lines also act as grounding lines (Section 7.2.1), ‘Figures’, ‘Fauna’, ‘niched frames’ and other ‘Architecture’, and ‘boats’ typically occur in the upper register(s). Where animate entities and directionality can be discerned, activity may run the entire length of the register from right to left (e.g. middle register ID 215), or form internal units set off by direction reversal as seen on the right of the top register of ID 241 where the figure faces inwards. Rather than a segment, imagery in an entire register may turn in on itself, as seen on the ID 212 type label where focus is directed to the ‘grinding/pressing(?)’ activity in the centre, while imagery on either side faces inward toward the action.

Several action themes can be discerned among the horizontally formatted labels, as can patterning in VO distribution as indicated in Figure 178. Overall, CVOs occur more commonly in the upper registers while in the lower registers SVOs occur more frequently (e.g. ‘\( \text{'}\text{'} \), ‘\( \text{\textquoteright}\text{\textquoteright} \)’, ‘\( \text{\textquoteright}\text{\textquoteright} \)’, ‘numerical’ SVOs and

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7.10.2 Distribution Within the Vertical Format

The vertical layout is characterised by an increase in the frequency of SVOs and a decrease in CVOs. With the introduction of this format, the associations of contiguity, holding and held become less common and the narrative style of depiction diminishes in use. The grounding role of ‘—’ SEs and their partially iconic usage (i.e. land and water) are not maintained for vertical lines, which play an almost exclusive structuring role. In the few instances where contiguity is attested between ‘VOs’ and ‘|’ or ‘||’ SEs, this appears to be a symptom of spatial constraint rather than a deliberate relationship of support or suspension.

Among the themes and patterning observed and outlined in Figure 179, Clusters in the left column are more fixed over time-space than those in the right column. For example, ‘—−−−+−+(†)’ is attested at least 31 times from the reigns of Den to Qa’a, and always occurs in the left column (Q3 or Q1-3).

Another feature which is almost exclusive to the vertical format is the doubling of SEs, i.e. ‘||’. This practice may be exclusive to the reigns of Semerkhet and Qa’a. The Saqqara West Cemetery where ID 377 was found has been dated to Den (Kaiser 1985). This date may be called into question based on content, however. In addition to ‘||’, it bears Cluster ‘•••+−−’ and the only two other occurrences of either of these appear on labels dated to Semerkhet and Qa’a. ‘||’ occurs on four other labels from Helwan, IDs 378, 379, 380 and 381. Together, these five double-columned types from northern sites are not only similar in bearing ‘||’, but also resemble each other in the presence of floating VOs in the right column (which may relate to personal identity in the basis of the seated figure, see Section 8.7.2), and the ‘container’ located in Q3. Such labels are not attested at Naqada, but similarities can be drawn to labels of Qa’a from Abydos (e.g. IDs 386, 395). Comprised of two columns, these bear the ruler’s PI in the right column and depict a ‘container’ in Q3. Although tentative, the patterning of these variables does suggest that the labels characterised by the vertical format from Helwan and Saqqara can be dated more specifically to the latter two reigns of the 1st Dynasty (cf. Köhler’s (2004b: 38) general dating of NIIIIC-D).
7.10.3 Distribution Within the Mixed A Format

The Mixed A format is represented by five examples which are clearly preserved and eight others which are probably also of this type. The images in each column show patterning in mode and Cluster type as outlined in Figure 180. The right column is always divided into four horizontal registers and almost all bear narrative scenes but the themes differ from those encountered in the horizontal format. Where ‘|’ is preserved the ‘—’ SEs abut it in one of the few examples where VOs are integrated into the structure of the composition. Many of the VOs in the left column are characteristic of those encountered in the vertical and mixed B formats during subsequent reigns (cf. Figures 179, 182).

Overall, 13 labels fit the Mixed A format which can be identified exclusively on the basis of format and Cluster types. The strength of compositional patterning is striking when we look at the archaeological context of each label. All were found at Abydos in or around Tomb T, attributed to Den. Patterning is also present in materials and technique. All technique types are attested, although applied colour is attested only for ID 306. 11 are made of wood and two of elephant ivory – no bone or hippopotamus ivory is used for this format. This patterning is important for the question of the degree to which labelling was a fixed or fluid practice. Here we see that the Mixed A is highly restricted in time-space.

7.10.4 Distribution Within the Tabular Format

Only three labels are attested in the tabular format, two from Saqqara (IDs 358, 359) and one from Helwan (ID 360). All can be stylistically dated to the reigns of Semerkhet or Qa’a, and to some degree this is archaeologically supported for the Saqqara examples (Section 4.7).

The uppermost register on IDs 358 and 360 resemble organisation as found on labels in the vertical format. On ID 358, the centre top cell, or ‘frame with inset rectangle (‘entrance(?)’’)’ set apart by its black colour, bounds a ‘standing(?)figure’ who appears to hold an ‘implement’ in what may be another example of ‘figure+\text{implement}\text{+}v\text{+}’. To the right and upper right is perhaps ‘(?)+\text{Cluster}\text{+}’ a Cluster which also appears on the secondary side laid out in the plain format (faint
markings here and the positioning suggests a third VO should be present in both cases, thus, ‘∪+[...]+[,]’. Perhaps the VOs in the upper part of these two labels acted as the ‘header’ for the composition, indicating the identity of an individual, collective or institution as owner, giver, or receiver of the items listed. A similar identifying purpose can be posited for the ‘bird+frame(?)’ on ID 359 (see also ID 376 dated to Qa’a which bears a ‘bird+frame’ on the secondary side).

Within the cells proper, distribution is restricted to tight, often stacked, configurations. VOs are rendered in the floating mode. Where only one VO is present, it is roughly centred horizontally and vertically, perhaps the default position for single images. Positioning also seems to be influenced by inscription commencing from the top and descending. Some of the lowermost VO(s) may be contiguous with the ‘—’ SE, as seen with the ‘strokes’ on ID 359, but this seems to be related to available space, rather than intentional grounding. In contrast, the ‘series of short Dl’ and ‘ll’ in two adjacent cells on ID 358 appear to be deliberately grounded. On ID 358, a black and red ‘triangular’ VO (head of ‘~TJ(?)’; a handle may be visible) appears to straddle the horizontal line, in what might be the only example of VO-SE overlap.

The location of the numerical signs in ID 359 is similar in position to earlier labels, including those from Naqada (e.g. ID 195) where an item is located above and numerical signs below, the order of which is on all labels (from top to bottom, left to right): ‘€’ (if present) > ‘ő’ > ‘?’. The presence of ‘|’ on ID 360 is unique among the tabular labels, and here it is incorporated into the grid layout in a blurring of the VO versus SE categories. As mentioned, Köhler (2004b: 38) dates this label to NIiIC-D generally, however the Cluster ‘bird+bird+‡’ in the upper left occurs in this position (Q2) only on labels dated to Semerkhet and Qa’a, indicating again a NIiID date (cf. IDs 327, 328 which Petrie associates with Den (1900: pl. 16, nos. 21, 24)).

7.10.5 Distribution Within the Mixed B Format

Five labels are attested for the Mixed B format (Figures 173, 182), of which two subtypes can be discerned. The right column, which is undivided, always contains ‘|’ along the right side and a series of Clusters of specific types. The left column, divided by a horizontal line, also shows patterning of Cluster types. Reminiscent
of the temporal, spatial and material restriction seen for the Mixed A format, this
type is also exclusive, to the site of Abydos, to the reign of Qa’a, and in terms of
material, two are of bone and three of ivory.

7.11 Discussion: Composition and the construction of a label
typology
In the foregoing examination I have outlined the kinds of compositional practices
developed and reproduced by label-composers/makers in rendering individual and
groups of images. Patterning in mode, orientation, view and the general use of
space were systematically examined for individual VOs. Groups of images were
distinguished via recurrence and association types as Clusters or CVOs. Patterning
in absence and presence of constituent elements, ordering, configuration and
directionality was also highlighted. A recursive relationship between the
rectilinearity of the label substrate, compositional structuring and CVO/Cluster
configuration was also observed. The shape of the label influences this in two
ways, first, by providing a rectangular canvas and, second, by framing the
compositional field. The compositional field, in turn, may be divided into smaller
rectangular spaces by explicit and non-explicit horizontal and vertical SEs.
Together, VO attributes and compositional features were studied in relation to
these divisions of the picture space; we saw that CVOs and Clusters tended
towards their own internal rectilinearity, elements running parallel with and/or
perpendicular to each other. The utility of conceptualising the interaction between
the broader material context of the labels – the “material structural conditions” –
and graphical content was demonstrated. In practice, material circumstances
constrain and afford, as well themselves being influenced by the processes of
making, composing and viewing (Barrett 2001: 158). Graphical activity therefore
takes place in close relation to material boundaries; VOs are not placed obliquely
to the label edge or an SE, nor do they typically traverse these. The significance of
distribution within the explicit formats was also considered in terms of graphical
associations which convey/embody action or signal other types of relationship,
bringing us to the point where – via a grounded, non-retrospective approach – the
symbolic significance of these can be explored, and upon which I expand in the
subsequent chapter.
When mapping these compositional variables onto the temporal-spatial framework, we can see that, on the one hand, the development and reproduction of some practices transcended time and space, such as the directness of graphical associations among animate entities, often anthropomorphic, or the inclusion of ‘’ on most explicitly formatted labels from the reign of Djet. On the other, some practices were confined to a particular phase or reign, site, or region, as seen, for example, with use of the tabular format in the north or the Mixed A format at Abydos in association only with Tomb T ascribed to Den. Thus, we see a tension between the fixed nature of some aspects of the inscribed labels, while the practice of others was more fluid. I will return to this issue in Chapters 8 and 9 in relation to structuration – the conditions governing the continuity or transmutation of social structure (Section 2.3.1) – to consider further why practitioners simultaneously reproduced some structures with precision while other features exhibit marked variability.

The combinations of VO and format types are sufficiently distinct that it is possible to trace continuity and change over time-space with an excellent degree of precision. As a result of detailed analysis of composition and building on the compositional changes for selected labels mapped out by Kaplony (Figure 170; 1963: pls. 143-144), it was possible to create a detailed typology according to which the catalogue is organised (Volume 2). The organisation presented here foregrounds changes and continuities in the use of composition, followed by content, with time being secondary. Archaeological distribution is not factored into the organisation. Therefore, some labels such as ID 137 found in the area of the tomb of Djer and therefore dated to this reign, are out of sequence according to a strictly chronological typology. Nevertheless, the general organisation of the catalogue follows chronological sequence with NIIIA1 labels presented first, followed by the NIIIC-early D labels.

In sum, as Davis (1989a: 183) tells us, because of the possibility of ambiguity in two-dimensional display, as well as fortuitous resemblance and variability in ‘seeing-as’, no amount of study of the visual properties of a mark can tell us for certain whether it is an image or what exactly it is an image of. Indeed, no object in the world is meaningful outside embodied perception and social-cultural context. I have therefore attempted to undertake and present the kind of account that emphasises the relational nature of imagery and that is sensitive to the
graphical as well as material context. To fulfil the aim of a contextual approach, I now turn to two comparative datasets in order to situate the material covered in this and the two preceding chapters within their wider graphical and socio-cultural milieu.
8 The Wider Graphical Context

8.1 Introduction

To contextualise the detailed study of the inscribed labels presented in the preceding chapters, the aim of this chapter is to examine them from a comparative perspective, thereby addressing research questions 4-5 (Sections 1.8.4-1.8.5). It is also my intention to demonstrate further the value of the theoretical-methodological framework of the thesis (Chapters 2-3) through successful application to other datasets.

The wide array of early Egyptian 'visual' culture – funerary stelae, cylinder seals and seal impressions, vessel markings (pre- and post-firing), decorated mudstone palettes, and many other objects (Dreyer 1998; Kahl 1994: 171-310; Wengrow 2006: 200) – provides a wealth of comparative material for addressing how the labels relate to their wider contemporary graphical and social contexts of use. For NIIIA1, in addition to labels, jar inscriptions and cylinder-seal impressions form the main bodies of graphical evidence. Well-provenanced (although Section 4.2 on archaeological preservation remains relevant) and -published, and of an adequate sample size, I have selected the following two object types for comparative examination:

- NIIIA1 painted jar inscriptions from Tomb U-j, Abydos, for comparison with the NIIIA1 label corpus
• NUIC-early D funerary stelae, also from Abydos, for comparison with NUIC-early D labels

Both, like the labels, were deployed as marking technologies in funerary contexts; furthermore, the decoration of both has received extensive study from art historical and linguistic perspectives, many investigators deriving 'interpretive keys' from later more fully understood sources in order to unlock meanings in this earlier material (see Wengrow 2006: 9). As this thesis argues, such retrospective methods effectively collapse the time-space axes of practice and run the risk of overlooking the distinctive roles that graphical objects served for the individuals and groups who made and used them. Comparing the labels with contemporary 'visual' culture makes it possible to obtain more methodologically-sound interpretive 'keys' and, in my view, should precede wherever possible the use of analytical procedures that look to later sources.

The goal of the case studies is to unpick the practice networks through which these material-graphical objects were actively constituted by looking at similarity and difference in: archaeological context, material form, and image repertoires and composition. The first two points are examined separately for each object type, and the latter two are examined together.

8.2 Comparative Case Study 1: NIIIA1 Jar Inscriptions

For NIIIA1 labels, the primary comparative corpus comprises 120 inscribed ceramic wavy-handled cylinder jars (see Figures 183-191) found during the DAI excavations of Tomb U-j and neighbouring tombs (Dreyer 1998; see Section 4.5.1). I should note that for this period, in addition to the jar and label inscriptions, cylinder-seal impressions form another main body of graphical evidence for early script development.

Approximately 95 whole and 85 fragmentary jars are inscribed on their external surfaces in a somewhat cursive fashion using applied black pigment, 120 of which are sufficiently well-preserved for inclusion in this case-study (Dreyer 1998: 47-91; Wengrow 2006: 202). Here we see imagery applied directly to the surface of objects, mediating more directly between the containers and their contents than in the case of the labels, whether these were attached to external packaging or directly to items.
In comparing the labels materially and compositionally with the inscribed wavy-handled jar imagery, several questions require attention:

- How does the materiality (substance, scale, morphology, etc. vis-à-vis the embodied actor) of the jar influence the application of graphical imagery compared with that of the labels?
- How do colour and technique compare and what is the significance of the relationship of scale, both between the vessels and their imagery and between images on a given vessel?
- How do compositional features and associations on the jars compare with those attested on the labels?
- What are the implications for meaning and function in practice for graphical markings applied directly to containers versus markings possibly mediated via some means of attachment?

To begin grappling with these questions, I first present the archaeological context of the jars, and then examine the materials and techniques employed in their production followed by the image repertoire, compositional features and inter-image associations. These areas are then considered together within the social context of technological practice and embodied perception.

8.2.1 Archaeological Context

Within the tomb (Figure 27) the jars were concentrated in three adjacent chambers, Chamber 1 (Figure 29, the burial chamber according to the excavator, Dreyer 1998: 7, 9), Chamber 2 (Figure 192) and the northern part of Chamber 5 (Figure 193), all in the north-west corner of the complex. This apparent concern to place the wavy-handled jars in the northern part of the tomb is also suggested by the location of other vessel types (marl bottles and polished bowls) in the southern part of Chamber 5 (Dreyer 1998: 10), placement which perhaps significantly does not break up the north-western concentration of wavy-handled jars.

Dreyer (1998: 28) assesses the wealth of the tomb owner on the basis of the presence and large number of wavy-handled jars, citing the tendency during the N1IC-D cultural phase for only the richest graves to contain wavy-handled jars, typically 30-50% of the total for a given grave. Some jars in Tomb U-j were found stacked
vertically and impressions on the wall of Chamber 2 (Figure 192) suggest that in areas jars were stacked up to five layers high. An estimated 800 jars may have originally been deposited in Chambers 1, 2 and 5, comprising a minimum of 60% of the total vessels deposited in the tomb, indicating the extraordinary wealth of the owner.

In addition to assessing the possible economic status of the deceased, the location of the jars in the north-western corner of the tomb may also be informative for understanding how marked objects were associated with the body. Wavy-handled jars were often placed at the head of the deceased (Dreyer 1998), and although skeletal remains have not survived in Tomb U-j, perhaps the location of the jars related to their original position. If deposition commenced in the north-west end of Chamber 1 and if the aim was to place jars near the head of the deceased, this area may have been filled first, requiring further jars to be placed in the adjacent Chamber 2. When this became full, instead of continuing into Chamber 3, with which it communicates via a narrow portal (see Figure 193), the jars were placed to its south in Chamber 5 which would have been closer to the body, if this was indeed the burial chamber. Here the intention to keep wavy-handled types together despite separating walls is clear as they are restricted to the north, and fragments of different vessel types were recovered from the southern part of the tomb. That the similar goods are not placed in communicating chambers suggests a possible deviation from the originally intended use of space. Although we cannot be sure of the sequence of deposition, or the factors upon which related decisions were based, thinking diachronically about the process of equipping the tomb offers some insight into the kinds of behaviours and intentions influencing distribution of the wavy-handled jars.

The relevance of this is amplified when we consider that the labels are restricted to Chambers 11 and 12 (Section 4.5.1.2). Thus, each object type is distinguished spatially within the tomb, as well as in the directness of the method of marking/labelling.

Where sufficiently preserved, the jars were filled two-thirds with a dark greyish-brown sponge-like substance (Dreyer 1998: 28, pl. 21; Figure 194). Residue analysis was inconclusive beyond confirming that it neither was Nile mud nor ash (as attested at other sites, Newton 2005). The angled position at which the contents had settled caused Dreyer (1998: 28) to suggest that the contents were once partially liquid and, from the eroded condition of the vessel interiors probably contained acids, such as those found in vegetable oils or similar substances (see also Serpico and
8.2.2 Materials and Techniques

Wavy-handled jars are so named because each jar is elaborated with alternating impressed and raised ‘wavy-handle’ decoration at the shoulder. Dreyer (1998: 22) distinguishes ‘handle’ types I-IV and three ware groups, all of marl clay tempered with sand, crushed limestone and other crushed stone of varying amounts and grades of coarseness. Of the surviving total from Tomb U-j, jars belonging to each group include: Group 1 = 75%; Group 2 = 20%; Group 3 = 5%. Each ware group is subdivided into larger and smaller examples, “A” and “B”, respectively. Measurements overall range from 21.7-39.7 cm in height and 9.0-14.4 cm in diameter at the narrowest point and 10-16.6 cm in diameter at the widest point (Dreyer 1998: 23-28). Distribution of jar inscriptions appears to cross-cut ware types, but some patterning is apparent based on jar size with almost all “A” jars and 85% of “B” jars being inscribed.

The graphical technique employed on the jars was the post-firing application of black pigment to the external surface of the upper part of the vessel body, usually closer to the wavy-handle pattern encircling the shoulder than the base. Pigment on the base of one vessel is too poorly preserved to assess the content or deliberateness of application. The use of black pigment seems to be consistent while colour on the labels, in the form of a paste infilling, varies somewhat (Section 5.8). Ascertaining more precisely the technology involved in image production on the jars requires first-hand examination, but based on the published photographs the lines appear to have been applied quite dry using a coarse brush-like instrument (perhaps a rush?), resulting in the uneven deposition of pigment.

Although rougher or “cursive”, signs such as the scorpion and the bucranium appear to be the same as those on the labels, albeit executed via difference technical styles (cf. Figure 183 with ID 154 and Figure 186 with ID 93). The shape of the images is therefore influenced to a great extent by the technology deployed in their expression (see also Baines 2004: 159); the result of embodied gestures of image-makers in negotiating the material surfaces and substances via particular tools (Section 5.11). Compared with the jar imagery, label-making and elaboration, whether individually or as plates of bone (not clearly attested for ivory), required a different
sent of tools and techniques. The labels were probably rotated in the course of incision, relative to the body of the designer/maker, whereas the purely additive process of jar decoration may have reduced the need for gripping (embodied or mechanical), their large size and weight perhaps permitting inscription while placed upright on their flat bases. Embodied technological concerns inevitably influenced the style of imagery. Related to this is the issue of scale, to which I return below, but at this juncture it is worth pointing out differences in internal detail between the large jar imagery, e.g. the ‘scorpion’ in Figure 183, in comparison with much smaller-scale ‘scorpions’ on IDs 153 and 154.

8.3 Comparative Case Study 2: NIIC-early D Funerary Stelae

In this section I compare the NIIC-early D labels with another form of labelling used in the funerary context, namely funerary stelae. Stelae survive from at least three label-yielding cemeteries. A single 1st-dynasty stela is known from Saqqara (Emery 1961: 89-90, fig. 53, pl. 30a; Kemp 1967: 26). At least 40 funerary stelae spanning the 1st-4th Dynasties have been found at Helwan. Archaeologically, few if any have been encountered in situ, although recent excavations have uncovered a small number in archaeologically intact contexts (Haeny 1971; Köhler 2004b: 34-36). Köhler (2004b: 36) not only sees these as attesting the importance of identifying the deceased, but also suggests that the depiction of offerings supports the notion that early Egyptians perceived the deceased as requiring care, attention and remembrance not only during the funeral but also afterwards. The role of the labels as part of attention directed to the deceased post-burial is suggested by evidence from Saqqara (Section 4.7.1.3), and cannot be ruled out for other contexts (Sections 4.5.4.5-4.5.4.6).

Of all sites contemporary with the labels, the Abydos stelae survivals are most numerous and well-published (Amélineau 1899; Petrie 1900; 1901b; 1925). At the scale of the tomb complex, their temporal and spatial distribution parallels that of the labels, providing an appropriate comparative dataset. By way of focus, I include only those stelae found in Cemeteries B and the ‘Royal Tombs’ (although those found around the North Cemetery enclosure graves (Section 4.6) are doubtless related (see Petrie 1925)).

The Abydos NIIC-early D stelae comprise six ‘niched frame’ stelae (Figures 195-197, 199-201), three large stelae without this motif (Figures 198, 202, see details...
in Figure 203), and more than 187 small examples also without the ‘niched frame’ and often showing a seated human figure (see drawings in Figure 204-206, 216 and photographs in Figures 207-215). The large stelae are conventionally classified as ‘royal’ and the small examples as ‘private’. Here I focus on morphology and refer to ‘large’ and ‘small’ stelae, and among the former, indicate the presence/absence of the ‘niched frame’.

Amélineau (1899: pls. 34-37; 1904: pl. 18) recovered the limestone ‘niched frame’ stela of Djer (Figure 196) and some 40 small stelae during his excavations (Amélineau 1899: pls. 34-37); Petrie’s approximate drawings of 31 of these are given in Figure 216, and his numeric designations are used here but with the prefix “A” (e.g. “A1-31”). Amélineau also found a large limestone stela between the complexes attributed to Den, Semerkhet and Qa’a (1899: 247, pl. 41, lower left; Figure 202; 1904: 30, fig. 12).

Petrie subsequently recovered over 145 stelae (1900 pis. 30-36; 1901b: pis. 26-30A; arranged here in chronological order; numbering retained, note No. 49=50 for methodological reasons). While all were drawn, he recounts that “some” were lost before they could be photographed, being reduced to crumbled masses of flakes in a rainstorm (Petrie 1901b: 33; Nos. 98, 104 and 115, if not 95-119?, were lost). Of the nine large/‘niched frame’ stelae that are linked to the known rulers of the 1st Dynasty, four form two pairs (Figure 203).

The Amélineau and Petrie publications remain the primary means of access to this corpus, pending the new edition by Geoffrey Martin (but see Martin 2003). Unfortunately, the old published photographs and drawings tend not to show the entire object (cf. Figure 214, No. 37 with Figure 217; see also Amélineau 1899) – a prime example of the interpretive filters that characterise the re-presentation of archaeological material (Section 3.2.3), as well as the problematic habit of prioritising the graphical over the non-graphical aspects of objects.

The identification of these carved stone slabs as ‘funerary stelae’ has been determined based on their association with subsidiary burials, usually consisting of single inhumations, and on the presence of the depiction of a single individual accompanied by other imagery (Figures 217-218). This evidence has led to the understanding that they served as grave markers for court functionaries and members of the rulers’ personal entourage (Emery 1961: 62; Petrie 1900: 4; Trigger et al. 2001: 52). The idea that they were servants has been contested (Bestock 2002 cited in Keita...
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and Boyce 2006; Petrie 1925; Thomson and Randall-MacIver 1905). At least three stelae depict 'canines' and may have marked the graves of such creatures (Nos. A10-A12).

According to an apparently retrospective method — investigators are again not explicit about the interpretive strategy employed — stelae imagery is read as the personal name and, in some cases, the title(s) of the deceased. From a grounded approach, let us consider Stela No. 37 (Figure 217), found in association with grave M within complex U ascribed to Semerkhet. The grave contained the skeletal remains of a dwarf (Petrie 1900: 13), and the 'figure' depicted on the stela is indeed dwarf-like in its proportions, particularly in the limbs. On the basis of archaeological context and the similarities between the depiction and the skeletal remains, we have good evidence that the 'figure' on the stela and accompanying VO Cluster refer to the individual in grave M, thereby providing us with an 'interpretive key' for grounded explanation and interpretation. The question of distinguishing names and/or titles is set aside for methodological reasons (even when retrospective interpretation is applied, difficulty arises in discerning semantic function and meaning, e.g. Petrie 1900: 8; Wilkinson 2001: 72). To refer to VO clusters which can be understood as referring to the social identity of an individual, as with the dwarf stela example, I employ the general term 'Personal Indicator' (PI).

With this general understanding of the functions and meanings of the stelae as the point of departure, the comparative data and discussion presented below explores the ways in which this type of marking practice, directed to personal identity, was constructed differently or similarly to imagery on the labels. The comparison does not assume a priori a referential function for images.

8.3.1 Archaeological Context

Where preserved and specified in the reports, 'niched frame' stelae are archaeologically associated with the main 'royal' burial complex. For the small stelae the resolution of archaeological distribution is generally recorded to the level of main burial complex (Figure 219); only 20 can be linked to a specific grave, however (Figure 220). The situation is slightly confused in some cases. Petrie gives the grave designations for some stelae on their drawings, while the position of others is indicated on the tomb plans but not on their drawings. However, the information on
the plans for complex U does not correspond with the stelae in every case. Further, No. 46 is assigned only generally to Tomb U or Q (Petrie 1900: pl. 31), but on this plan the stela is noted as coming specifically from Chamber N of Tomb U (Petrie 1900: pl. 60).

A number of small stelae, based on patterns of weathering, were probably set upright with the lower portion buried in the ground (Petrie 1900: 27). If every subsidiary burial was marked by at least one stela (but cf. Nos. 36-37 = two for one grave?), it is clear that many have not survived (for one possibility for the low number of survivals see Figure 221).

Each main tomb probably had two ‘niched frame’ stelae set up side by side on the east side at ground level (Petrie 1900: 6), or possibly on top of the superstructure (Dreyer 1991: 104). A pair was found on the east side of the tomb of Merneith, although one had fallen into the tomb (Petrie 1900: 26, pl. 64 (secondary face)). The better preserved example shows the ‘niched frame’ motif to be absent (Figure 198), similar to the large stela in Figure 202, but incongruous relative to the other large contemporary stelae with their ‘niched frames’. This pattern is also evident on the reconstructed seal listing the NIIC rulers (up to Den), where the PI of Merneith is preceded by ‘$\sqcap{\text{M}}$’ rather than ‘$\sqcap{\text{N}}$’ (Figure 9). Interpreted retrospectively as ‘Mother of ‘one of the sedge [ruler]’”, this cluster is commonly understood to indicate that Merneith held the position of queen regent or similar (Wilkinson 2001: 62), rather than sole ruler, thus accounting for the absence of ‘$\sqcap{\text{M}}$+niched frame’.

The details of the second stela of Merneith remain an open question due to poor preservation (Martin 2003: 82; Petrie 1900: 26). The single, but fragmentary, ‘niched frame’ stela of Semerkhet was also discovered on the east side of the main chamber of complex U. Following suit, two ‘niched frame’ stelae bearing the PI of Qa’a (Figure 201) were also discovered on the east side of Tomb Q, one apparently (having fallen?) inside Chamber 3 (Petrie 1900: pl. 60).

Returning to the marking function of the small stela, in areas W and Z (ascribed to Djet) they may have related to a VO Cluster applied in coloured pigments on the southern wall of some 16 subsidiary graves which Petrie interprets as the name of the deceased (1900: 8, pl. 63; Figure 222). A patch of whitewash was first applied to the mud-plastered brick and over this the Cluster was painted in red and black (“traces of”) pigment with a broad brush. The Clusters are consistently located near the top edge.

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Beyond possible semantic meanings, consideration of the materials, techniques, colours and location suggests a concern for visibility. The contrast of red and/or black on white and the high placement of the VOs may have permitted visibility whether one was inside the chamber or on the desert surface. Perhaps in this way, the correct placement of the body and any accompanying items could thus be ensured without obscuring the VOs on the wall in the process. Similarly, depending on when the chambers were roofed over and the stelae set up, the visibility of these VOs may have aided verification that stelae were set up in the correct location. In area Z and W at least, stelae might have been understood as functioning in tandem with the imagery underground, the former directed to the world of the living and the latter to the ‘underworld’. Alternatively, the identity-related function of the Cluster on the chamber wall ceased once the graves were covered over, and its role was then assigned to the stela. However, none of the surviving stelae from known graves (Figure 220) coincide with surviving ‘painted’ VOs (Figure 222). The VOs on stela No. 5 (grave unknown) are identical with W45, but the orthography differs (cf. also stela No. 7 and the Cluster in Z1, and No. 13 with W48). Comparison of the Clusters with all stelae shows differences in type, associations and, significantly, the ‘human figure’ is absent. Based on the evidence presented here, whether these painted Clusters corresponded with the stela set up at the grave or otherwise represent a type of PI, such as the names proposed by Petrie (1900: 8), remains unclear.

While stelae and labels come from similar archaeological contexts affected by similar preservation issues (Section 4.2), numerically and spatially the distribution of stelae differs (Section 8.3.1). The position of either marking device relative to the burial is also distinct; stelae are set up outside while labels were, for the most part, found deposited within. The archaeological context shows that the stelae made reference to something that was not readily apparent from the outside of the grave – the identity of the deceased, differentiating human from canine bodies, shapes of human body (e.g. dwarves), and other aspects of identity. For the label, the association between the marker and the marked and visibility is a more complex issue, and one which particularly highlights the theoretical importance of seeking explanations that situate function, meaning, visibility, etc. in practice over time-space. At certain points during the bringing of goods to the cemetery, equipping of the tomb/grave, burial and closure, the labels may have been alternately visible and invisible to different people (or other beings) at different times. Further, the marker-
marked association of stelae was one-to-one, or two-to-one in the case of the larger types, but the association of the labels was more complex, as discussed below.

### 8.3.2 Materials and Techniques

Stelae are made from a small number of stone types (Figure 203). The greater range among the ‘niched frame’ stelae demonstrates the differential access to materials certain members of society had over others. Material differences are also paralleled by the contrasting scale of stelae. The most fully preserved ‘niched frame’ stelae of Djet stood more than 143 cm high and 65.5 cm long and 25 cm thick (but see discussion below on visibility). In contrast, where precise measurements are available for relatively whole examples (e.g. Martin 2005), small stelae range from 30.0-48.7 in height, 16.0-23.3 cm in length and 3.5-6.5 cm in depth. Stelae may have been buried to different depths, but erosion marks on the stela of Djet (Figure 197) indicate that although stelae were very tall, almost half of the object was set in the ground. Thus, the significance of size cannot be assessed outside the context of use. Further, different parts of the object would have been engaged with in different ways and attributed different meanings during manufacture, transport and setting up. Once fixed in the cemetery landscape, new perceptual and performative opportunities would become available (while other were precluded), such as viewing, placing offerings(?) and other activities – or equally none at all.

As for technique, stelae were shaped and elaborated using a range of methods, including hammering, scraping and engraving with edges chamfered or tapered, and the backs could be roughly or smoothly dressed (Martin 2005: 2, 5). More than one method might be employed on a single object (Petrie 1900: 27). All ‘niched frame’ stelae have rounded tops, and, apart from that of Den, are framed by a band of stone raised above the interior which was removed to a shallow depth through carving or hammering. Likewise, the imagery on all larger stelae was rendered in raised relief. On the stela of Semerkhet (Figure 200), the area around the PI Cluster was hammered away, while for the stelae of Djet and Qa’ā, the surface has been smoothed and polished. Based on the published images and excavator commentary, no evidence for the use of applied pigment, whether for drafting or image colouring, can be discerned on the ‘niched frame’ examples.

Like their larger counterparts, most small stelae appear to have rounded tops,
although this is not always clear from the published images (above). Low relief is the commonest technique, usually shallow and rough although some examples are quite bold. Incision is rarely attested, but where it does occur, a single line or outlining is used, the latter style first being attested in the reign of Den (e.g. Nos. 23, 24; Petrie 1900: 27, pls. 31, 34). Two different subtractive techniques are evidenced on a single stela, No. 122. Imagery on the left of this stela is incised while pecking or hammering was used to created imagery on the lower right. Like IDs 215 and 216, with infilled incision on one face and applied pigment on the other, the temporal-spatial contexts separating these episodes of creation are not discernible. These relate to the point made earlier (Section 2.3.2) concerning objects as simultaneously constituting both processes and outcomes. Also in comparison, outlining occurs on the labels in two cases (IDs 290 and 291, perhaps a criterion that should be taken as showing these object are not labels, but see discussion in Section 4.13.2 on archaeological context), but pecking or low relief involving the removal of the stela surface from around the image is not attested (Section 5.7). The use of applied pigments is relatively common on the labels (Section 5.8), but far less so on the stelae. Stelae No. 102 bears red pigment which is used to render imagery virtually identical to the relief of No. 59, but at half the scale (Petrie 1901b: 33, pls. 34, 37). On stela No. 120 each VO is carved in low relief and outlined with pigment with details indicated on some, such as the ‘hair(?)’ of the seated ‘figure. The use of colour appears to be secondary to the use of relief but it is difficult to determine to what extent this pattern is a product of poor preservation.

8.4 Comparing and Contrasting Graphical Repertoires

Compared with the NIIA1 label repertoire (Section 6.5), the surviving range of imagery on the wavy-handled jars is limited. Often decorated with single or pairs of VOs, the left-most VO exhibits the greatest variety with 14-15 distinct VOs (Dreyer 1998: 84, nos. 193-187; Wengrow 2006: 200; see Figure 223). Dreyer (1998: 178) interprets the VO on the right (where pairs occur), usually a ‘branched-pole’ or similar, as meaning ‘plantation’. He proposes that the VO to its left designates the owner of the plantation supplying the ‘commodity’ which he interprets in traditional androcentric fashion as a ‘king’s’ name. The preponderance of ‘scorpions’ (60-64 jars bear one each) leads Dreyer to attribute the tomb owner to a ‘king Scorpion’, but on a
plantation-name theory, the numerous 'scorpions' could indicate a prominent 'donor'. Kemp (2000: 233) points out the unlikelihood of so many signs each referring to a different king occurring in one tomb (U-j) rather than being evenly spread through the necropolis. Others have voiced similar doubts or prefer a more cautious interpretation of these images (e.g. Breyer 2002; Kahl 2001).

Turning to the stelae, the graphical repertoire is extensive, far exceeding that of the Tomb U-j wavy-handled jars and the NIIBA1 labels, although not as numerous and varied as the NIIC-early D label imagery. 90% of the stelae VOs are also common to the labels suggesting that designers/makers were sharing and reproducing similar graphical forms, and were probably members of the same or closely related communities of practitioners. Beyond the overlap of individual VOs types, however, at the level of the analytical unit of the VO Cluster we find that stelae Cluster types are in fact highly unique vis-à-vis the label Clusters. This highlights the contingency of cultural forms; that without reference to the practice networks of which they were part and evaluation of the appropriateness of the level at which patterns are sought and measured, the outcome of analysis may bear little relevance to past meaning.

Stelae dated prior to the reign of Den tend to be inscribed with 1-4 VOs, whereas those associated with the tomb attributed to Den bear 4-12 VOs. Note that in VO quantity and type, Nos. 95 and 96 ascribed to Tomb complex O are more characteristic of those from T. The number of surviving stela from the later complexes of Anedjib (X), Semerkhet (U) and Qa’a (Q) are too few in number to permit reliable comparison, but VOs are clearly more numerous on stela No. 26 (U) as well as those found in the area between U and Q. Thus, for the small stelae, a general increase in VO quantities, as well as density, can be observed over time with, once again, the reign of Den being the pivotal period of change. These trends are paralleled on many types of inscribed label (Section 7.6).

Not only are the Clusters on the small stelae (Figures 204-206, 216) virtually exclusive to this object type, but there is the virtual exclusivity of the ‘+niched frame’ motif to the larger stelae (but see Petrie 1900: pl. 31, No. 34 from complex U which appears to depict a ‘frame’ surmounted by a ‘bird’). The area where one might expect to find the ‘niched panelling’ is not preserved, however. The ‘niched frame’ type remains stable over time with no more than 1-3 VOs bounded within the ‘frame’. The highly formalised character of this stela type is paralleled not only in the choice of imagery, but also in orthography, technique and scale. The fixity of these features
on the large stela across time-space stands in contrast to the variability among the small stelae, although the situation is reversed for materials of manufacture. The large stelae are made from a range of stone whereas the small stelae are made largely of limestone (based on published identification; first-hand examination is needed).

As discussed above (Section 8.3.1), the ‘alendar niche’ is absent from the stela of Merneith (Figure 198), but the large size of the PI Cluster extending across much of the upper area of the monument declares its exceptional status, together with the large size of the foundation and the high relief in which it is carved. When comparing the Merneith stela (Figure 198) and the Louvre stela (E.21710; Figure 202), with its large size and the sharp, carefulness of its relief, and in some respects, the absence of a ‘human figure’, the difference is not that great. Further, ‘alendar niche’ usually occurs in the context of the niched frame PI and may allude to the high status of the individual it identified. Its distance from the rest of the PI Cluster is unusual (Martin 2003: 82). Together both stelae challenge the boundary between the categories of ‘private’ and ‘royal’ stelae and show that, like the labels, these object types were constituted on multiple, often overlapping, levels.

8.4.1 Selected Detailed Comparisons

Some VO types are notable for their presence across more than one object type and others for their restriction to a single object type. Frames are rare (ID 170) to nonexistent among the NIIIA1 labels and jars, whereas the later large stelae bear the ‘niched frame’ motif. In contrast again, only three ‘frames’ are attested amongst all the small stelae whereas ‘frames’ frequently occur on many NIIC-early D labels (Section 6.4.7). Continuity in the use of numerical VOs throughout label use contrasts with the complete lack of this VO type on jars and stelae. Other VOs such as SEs and ‘|’ appear only on labels during the later phase of making and use. Another notable pattern is the limited depiction of ‘human figures’ on the NIIIA1 comparanda which contrasts with the increased use of human and anthropomorphic during the NIIC-early D (see also Section 6.3.6). Several patterns warrant further detailed investigation, but for the present, I have selected this VO type for detailed comparative examination in this section, laying the foundation for the grounded interpretation of certain VO Clusters later in this chapter.

Among the NIIIA1 jar inscriptions, ‘figures’ are not attested and are also
scarce among the labels of the same period with only 8-10 attested, whereas ‘figures’ appear over 130 times on the NIIIIC-early D labels. A distinctive feature on about 69% of the 177 small stelae studied is the presence of a seated/kneeling and standing ‘figure’ (including three standing ‘canines’; Figure 224).

Many seated ‘figures’ are characterised by unarticulated upper limbs and a large headdress or voluminous arrangement of the hair which extends down to the middle of the back. This ‘figure’ type is understood to depict a female body. Skeletal analysis has only been possible for a fraction of individuals once interred in subsidiary graves. The remains of at least 27 males and 17 females are documented from the ‘Royal Tombs’ cemetery (Keita and Boyce 2006: 66-67). Stela No. 39 appears to show a protrusion from the chin, but first-hand study is required to determine whether this feature is intentional or the result of surface damage or lighting when photographed (I suspect the drawing was made from the photograph rather than the original object, cf. Figure 204, No. 39 with Figure 215, No. 39). No other ‘human figure’ on the stelae appears with facial hair.

‘Figures’ with little or no adornment or elaboration of the head are understood to depict male individuals. This ‘figure’ type exhibits a wider range of postures than female ‘figures’. For seated examples, the lower limb(s) protrude sharply to the right and sometimes left, perhaps to emphasise the feet or make clear a particular seated posture such as legs folded, in contrast to the figures with the knees raised up in front of the chest or projecting outwards. Stela No. A29 shows a ‘figure’ holding a ‘bow’ with arm extended, reminiscent of the male ‘figures’ (based on the presence of a ‘penis’ or ‘penis sheath’) wielding a ‘bow+arrow’ on the NIIIA1 labels, although all stand (IDs 49, 50, 51, 52).

No. 58 (Petrie 1901b: pls. 26 and 28) dated to Djer is exceptional in its depiction of a large standing/striding individual, the details of which are somewhat poorly preserved, but nevertheless suggestive of dwarfism. Likewise, the shape of the ‘human figures’ on Nos. 36 and 37 (and possibly 38) is also indicative of dwarfism and may have been for the burial of dwarves (Spencer 1980: 16, pls. 6-7). These ‘figures’ are also notable in that they stand rather than sit and, apart from No. 58, float above the Cluster at the top of the stela instead of the more common position below (cf. Figures 217-218).

The figure types and their percentages are given in Figure 224 and distribution according to tomb complex is given in Figure 225. Seated ‘figures’ are by far the most
common, particularly those with knees out which are more common on the earlier stela, and those with raised knees becoming more common by the reign of Den.

Bodily postures and types, sometimes in association with implements, are therefore combined in various ways (Figure 226). These are informative for charting how gender was constructed and the kinds of bodies, and allusions to occupation or skills that were important in graphical expression in the funerary context. Certain aspects may be emphasised through compositional context, as discussed below (Section 8.5). Dwarf body shapes may be emphasised by placement at the top of the stelae and a standing posture. Male and female genders seem to be differentiated mainly through bodily pose and limb articulation. A ‘bow’ may indicate occupation (archer), but may also be integral to male gender practices, age, ethnicity, or other aspects of social identity. The absence of a figure on a stela may equally express yet another aspect of social identity or perhaps a default is implied.

If we compare the stelae figure types with those attested on the NIIIIC-early D labels, we find that when all features are considered together, the labels do not really bear these types. The ‘human figures’ on e.g. IDs 350 and 351 dated to Semerkhet perhaps come closest as the only figures depicted in the floating mode. Otherwise, the seated and standing figures attested on the labels hold an extensive range of implements, and their dress and adornment are much more detailed and compositional contexts differ significantly from the stelae (e.g. mode, narrative associations, etc.).

For both the stelae and labels the ‘human figure’ is a common VO type (see Section 6.3.6 for a decrease in frequency over time) and one which exhibits the greatest attention to morphology. For some, direct archaeological links can be established between skeletal remains, such as a dwarf (Petrie 1900: 13), and depictions on the small stelae. Whether a ‘human figure’ on a label should be understood as equating with a known individual or as symbolic of a general social category, and how the figure related to the deceased, the performance of the burial rite, or those bringing or supplying burial items, etc. is difficult to establish.

8.5 Comparing Compositional Features

The following sections focus on the compositional features of the comparative datasets. The NIII1A1 jar and NIIIIC-early D stelae are discussed together in relation to the labels.
8.5.1 Mode

In terms of mode of images (Section 7.2.1), all VOs on the jars are depicted in the floating mode. The grounded mode is not attested among these or labels of this period (but see Section 7.2.1, IDs 155, 156). On the stelae, floating VOs also dominate. A kind of grounding occurs for the seated female 'figures' but is different from the use of explicit horizontal SEs as found on the labels. The stelae 'figures' have horizontal lines extending from their bases to the right and left, leaving the base of each VO 'open' – a practice that, based on my experience, is unusual for rendering most image types from any prior or subsequent period. This quasi-grounding for female 'figures' is, however, restricted to stelae associated with the burial complex of Djer. Examples where a single horizontal line runs underneath a VO and may also close off the base are rare, seemingly only to be represented on stelae Nos. 51, 55, 79, 82 and 86 (again, dated to Djer only). A standing/striding male figure of a dwarf on No. 58 dated to Djer also appears to be grounded on a single horizontal line. A slightly different situation is encountered on Nos. 62, 72, 75 and 83 where the line extending from either side of the 'open' figures is paralleled by a horizontal line running underneath. A seated female figure dating to Den (No. 121) is 'closed' by a horizontal line but also has a second horizontal line running below. Without examining the stelae first-hand it is difficult to determine whether such second, lower horizontal lines are to be understood as ground lines for 'figures' or perhaps serve to delineate the picture field from the stone surface below, if not where it was set into the ground. This may also be the case on the 'niched frame' stelae, or as seen on No. 48 (dated to Qa'a) where the standing/striding male figure hovers just above the lower horizontal edge of the picture field (Figure 227).

The use of SEs as encountered on the labels may be present among some stelae dated to Djer and one to Qa’a. While the concern to ground figures compositionally is not evidenced on stelae dated primarily to Djer, perhaps we need to consider 'grounding' more literally. Depending on how deeply a stela was buried in the ground, the desert surface itself may have providing the grounding for 'human figures' that is so critical on the labels. Notably, the major shifts in composition on the labels, such as VO mode where grounding virtually disappears with the introduction of the vertical format during the reign of Den and floating VOs become
more common (Section 7.11), do not seem to be paralleled on the funerary stelae.

8.5.2 Orientation and Direction

On the labels when the perforation is positioned toward the top, the orientation of whole figural images can be understood as ‘upright’ (see Section 6.1 on the contingent nature of orientation and inferring ‘real’ positions), and this is generally the case for figural imagery on a given NIIIA1 wavy-handled jar when standing on its flat base – the position attested for those found *in situ* (Figure 192). ‘Scorpions’, ‘birds’, ‘ships’ and the ‘unidentified animal’ VOs are not shown ‘upside-down’. The orientation of the ‘fish’ is notable given its vertical, head-down position, unlike the ‘fish(?)’ on ID 157 and all ‘fish’ on the NIIIC-early D labels which are horizontally oriented. The vertical orientation of the Red Sea Pteroceras/Lambis shell with its opening to the right is consistent with other (probably) contemporary examples attested on the thigh area of three colossal statues from Coptos (Petrie 1896: pl. 3; Ashmolean 1894.-105d, 105e; JE 30770 and 30771).

Determining the orientation of VOs that are quite symmetrical in shape, such as ‘floral elements’ (e.g. Figure 183) is difficult, but the preference for a vertical orientation seems to be clear. This is also maintained for the ‘bovid head+stake/support’ CVO (Figure 186), which also remains ‘upright’ in all examples. Overall, the orientation of any one VO type remains fixed across the NIIIA1 label and jar repertoires, a practice that is continued among the NIIIC-early D labels. Apart from the ‘fish’, another trend over time is the maintenance of the vertical or horizontal positioning of VOs, a pattern which stands in contrast to other contemporary graphical media, such as cylinder seal imagery where rotation of 90° is attested (e.g. Figure 228; Kaplony 1963: fig. 362).

The rigidity seen in lateral orientation is also present in the directionality of the jar imagery. All asymmetrical figural VOs face to the right. At the macro-level of comparison, the NIIIA1 label imagery faces either right or left by contrast (Section 7.2.4), although left-facing is far less common. At the micro-level, label compositions are consistent in that where two or more such images co-occur, both always face the same direction.

As with the NIIIC-early D labels, the orientation of all recognisably figural VOs on the stelae appears to be ‘right side up’ – they are not ‘upside down’ in the
way that some figures are inverted in the wall painting for Tomb 100 (Hierakonpolis, NIIC; Quibell and Green 1989 [1902]: pls. 75-79), for example. The ‘U’ SVO is usually shown with the ‘arms’ open at the top on both labels and stelae, but on Nos. 137, 140 and 141 the limbs are turned down and bend out at the elbow, e.g. ‘Q’, each interlocking with a type of ‘bird’. This appears to be a particular fixed Cluster type, in contrast to ‘LI’ which co-occurs with a small range of different VOs. It is also worth noting that the form and orientation of ‘Q’ and ‘U’ accords with the forms attested later in Gardiner’s (1973) sign-list: D28 and D32. Whether depicted from an overhead or frontal view, either orientation may still be described as ‘upright’. Directionality on the stelae is consistently right-facing for 100% of the asymmetrical figural VOs. In contrast, on the NIIC-early D labels 16% of images face left (see Section 7.2.4). The consistency in orientation and directionality on the stelae results in a lack of visual dynamism which contrasts significantly with the labels which bear oppositions and narrative sequences between ‘figures’ and other animate or in-animate CVOs and Clusters.

8.5.3 View

The view from which images are depicted on both the wavy-handled jars and the stelae includes profile, frontal and a combined profile-frontal view, as seen for the ‘scorpion’ and ‘horned bovid-head’. In this respect both sets of imagery follow the same patterning observed for the inscribed labels (Section 7.2.3).

8.5.4 Graphical Associations

The graphical associations identified on the NIIIA1 and C-early D labels, e.g. contiguity, bounding, bounded, interlocking, alignment (Section 7.3), are variously attested on the jars and stelae. The majority of jar images are SVOs. CVOs include the ‘scorpion+branch(?)’, ‘scorpion+rectangle’ and ‘bovid head+stake/support’, and the only type of visual association among these is contiguity, which in the first example appears to be one of ‘holding’/’held’; interlocking, bounding and overlapping associations are not attested.

As for the stelae, the ‘niched frames’ examples are no different from contemporary labels with regard to associations. On the small stelae clustering is
common while contiguity (and holding/held), bounding/bounded and overlapping/overlapped occur infrequently, if at all. Interlocking occurs with pairs of open ‘arms’, both upturned (as seen on the labels) and downturned (unattested on the labels). Downturned ‘arms’ interlock exclusively with a particular type of ‘crested wading bird’ (e.g. No. 24) while the upturned ‘arms’ are combined with various VO types (e.g. No. 5). VOs which have perpendicular or protruding elements seem to be incorporated in this compositional ‘play’ more often than other shapes (Figure 229), although designers do not take up all possible opportunities for coalescence – no doubt due to the syntactical requirements in constructing certain symbolic meanings.

The ‘holding/held’ association is attested between ‘male human figures’ and ‘implements’, e.g. bows, staves/sticks (e.g. Nos. A29 and 48). Gender was not only constructed pictorially through body shape and pose, but also by the presence or absence of bodily interaction with other objects:

- Male = standing or seated+extended upper limb(+holding+implement) (e.g. No. A29)
- Female = raised lower limbs+no object interaction (e.g. No. 123)

This combination of bodies and body elements with inanimate objects brings to mind the emblematic imagery (Baines 1989: 474), such as the ‘smiting fish’ (ID 205 dated to Narmer) and ‘smiting niched frame’ (ID 211 dated to Aha). This image type is not a feature of the preserved ‘niched frame’ stelae, but where we would expect it, namely on the stela of Aha, only a small fragment survives which may date to this ruler if not to Narmer (Figure 195). In only one instance is an emblematic CVO attested on a small stela, No. 51 for a female individual, where an ‘upper limbs+shield+’ CVO known in the context of the niched frame to be the PI Aha is depicted. The stela is, in fact, not dated to Aha, but is dated by Petrie to Djer, perhaps indicating that the social status or role of family members or others close to the ruler carried on into the reign of Aha’s successor.

### 8.5.5 Sequence, Repetition and Alignment

The regularity in the direction of jar imagery is paralleled in sequence. Where the ‘branch(?)’ co-occurs with other VOs (‘scorpion’, ‘shell’, ‘fish’) it is always located
on the right side. The 'scorpion' co-occurs with the 'loop', 'reed/palm frond' and 'rectangle' and is consistently located above these. Regularity in sequence, as well as scale, direction and location within the available surface indicates the presence of a set syntax. In comparison, the figural imagery on the stelae and labels exhibits more variability in direction and sequence (both horizontal and vertical).

VO repetition and alignment on the NIIC-early D labels occur mainly for identical VOs (Section 7.3.7), yet this is rare on the stelae. Horizontal and vertical alignment is attested, however. Stela No. 58 (dated to Djer) bears two open 'hands' depicted from the overhead view with the thumb at the top aligned vertically above a standing 'male figure'. As seen on labels dated to Den, 'itant' appears one above the other followed by 't' on eight stelae bearing 'female figures', found around the complex of this ruler (e.g. No. 120). Three 't' are repeated horizontally on No. 13 (area W).

Non-identical alignment is attested on various stelae where 2-5 VOs are vertically arranged one above the other (cf. Nos. 2, A15). Where 'human figure' are depicted, these tend to be located below the accompanying Clusters; the latter may be grouped to the right of the figure's head or body. This practice of placing imagery associated with a particular 'human figure' above it or in front of the face can also be seen on some labels (e.g. IDs 330, 333). This seems to have become a convention by the time the large carved mudstone palette from Hierakonpolis was made (based on the reading of the Cluster in the 'niched frame' this object is dated to the reign of Narmer, but the stratigraphic evidence for this dating is problematic (Fairservis 1991). It is only on the stelae with VOs which appear to depict dwarf bodies that the accompanying VO Clusters occur below the figure rather than above or flanking the sides.

In addition to stacking VOs horizontally or vertically, VOs may be combined to form 'blocks'. For example, two taller VOs may be placed side by side and low, broad VOs may be placed above or below each other (e.g. Nos. A6, A17, 137). This creates a visual rectilinearity which is reminiscent of the rectilinearity of label Clusters. The block-like organisation of VOs is particularly evident on stela No. 48.

Overall, the standardisation of sequence is clear on the jars whereas the contemporary labels show more variability. Repetition is infrequent on the stelae but often occurs on the labels. Variability among all object types in alignment suggests that this was an area where individual designers could exercise a greater degree of
choice than, for example, in orientation, directionality, stela shape and size.

8.5.6 Format
On the jars and stelae the main organisational device is clustering set off by the surrounding empty surface; VOs are not dispersed across the available surface, but are grouped in the uppermost section and restricted to one face. Format can be described as ‘plain’ (Section 7.8) as it does not involve the use of explicit SEs as found on the NIIC-early D labels, but the use of clustering and scale to distinguish graphical areas can be seen on No. 48 (dated to Qa’a). The VOs in the upper half are smaller than those below and each group is clustered toward the top and bottom, respectively, creating an inexplicit horizontal SE between the two groups, thus dividing the composition into an upper and lower ‘register’.

The band of raised stone, mentioned above, which forms a border around the edge of the ‘niched frame’ examples and may have been important symbolically for creating a bounded space for containing or distinguishing the PI of the ruler is also attested on stela No. 48 and may indicate something of the status of the owner. This delineation of the picture field is never attested on the jars or labels. In the latter case, this may be due to the edge of the label itself acting as a frame for the composition. This stela departs considerably from all other stelae with more than 43 VOs arranged in (inexplicit) columns and rows (Figure 227). Beyond image quantity and density, the rectilinearly exhibited by the overall shape and compositional organisation of this stela is also more reminiscent of labels dated to Den and thereafter than its counterparts.

8.5.7 Scale and Use of Space
Comparison of image distribution at the macro-scale (inter-artefact), and the micro-scale (intra-artefact) provides insight into the compositional use of space. The distribution of label imagery (Section 7.7) and the way in which the edges of the object itself frames the composition presents a different dynamic compared with the decorated jars.

The available surface of the jars is expansive yet only a portion – the area roughly half way between the jar rim and base – is graphically elaborated. The three
dimensional surface also presents a delineation of the picture field that is defined more by choice and embodied perception than the material structural conditions noted for the labels. A survey of the surviving whole and fragmentary jars (with at least half the circumference preserved), shows that whether a single VO or Cluster, images consistently wrap around the jar only to the point where they begin to disappear when viewed head-on. In other words, the sides of the jar effectively frame the imagery, but only when viewed from a particular perspective.

The scale and the restricted lateral placement of the imagery may have been due to the embodied visual perception of the maker, that in order to make and/or perceive the imagery the maker/viewer would not need to rotate the vessel (or move her or his head/body in either direction). If the jars were static when decorated or viewed, whether placed side-by-side and stacked vertically as suggested by archaeological evidence (Section 8.2.1, where decoration took place remains an open question), the available surface could have been framed as well as restricted by adjacent vessels. It would not be possible to move the tool of application beyond the point where two jars abutted or to see the imagery if it extended around the vessel sides. The scale of imagery with regard to its lateral spread is indeed often as large as it can be without disappearing around the ‘edge’. This concern to avoid extending it around the body of the vessel contrasts markedly with the arrangement of imagery of the decorated wares (‘D-Ware’) of the preceding Naqada II cultural phase (Wengrow 2006: 102). The material and graphical features of each object became intertwined in the process of making and presented certain material conditions or structures that would have influenced subsequent use, perception and meanings – hence, the importance of attempting to understand the materiality of imagery within the network of action through which it was produced and perceived.

Assessing the ratio of image coverage to available picture space is informative for assessing the role of each object type as an image foundation. The primary purpose of the jars as indicated by object morphology and the presence of residues (Figure 194; Dreyer 1998: 28, pl. 21) was a containing one, although the potter may have taken into account the requirements of post-firing graphical elaboration in choosing how to finish the exterior of the vessel. This containing function and the localised distribution of imagery, the restriction of which may be due to circumstances of its application and/or intended visibility, can be understood as indicating its secondary role as a surface for inscription was secondary. In contrast,
for the stelae imagery, scale, quantity and the use of space would have been primary concerns for the artisan – perhaps even before selecting a slab of stone of a particular size. Subsequent use and visibility, namely the particular method of setting up and display in the cemetery which required for those installed in the ground that a large portion of the slab was left uninscribed, would have also impinged on the organisation of the composition. Further, only one side was ever inscribed. The scale and spatial organisation of the label imagery by comparison shows that the imagery usually covers the majority of one surface, if not part of the second main surface, indicating the primary role of the substrate as a foundation for imagery. This is also supported by the absence of features indicative of additional functions, such as containing, as part of a box, an inlay or other object (e.g. Figure 231). Put another way, for the labels the substrate surface is usually synonymous with the picture field, while the picture field for jars and stelae covers only a fraction of the substrate.

The intentions behind the selection, shaping and preparation of the material surfaces of the jars, stelae and labels impinge on the relationship between the substrate and constrate. The status of the imagery, its shape, scale and the extent of distribution oscillates between being more foregrounded in the case of the stelae and labels and less so for the jars. The nature of this relationship is an important criterion for constructing a particular category of material culture, and as seen for the labels, the foregrounding of imagery remains rigidly fixed over time thus constituting a structure for defining this particular type of material-graphical practice. If exactly what appeared on ID 380, for example, was inscribed on a jar, or if a label was installed in the ground outside a grave, it would doubtless lose a great deal of its meaning as well as function.

As for inter-object scale, this is difficult to assess for the jars due to few VOs co-occurring on one object, but most VOs on the stelae appear at roughly the same scale. In a context where comparison is possible, ‘human figure’ often appear slightly larger. Stela No. 48 once again presents an exception compared with the other stelae; a large ‘human figure’ which stands/strides to the right and holds a ‘staff’ or other implement horizontally in the right arm is matched in scale by three large VOs immediately to the left. These fill the full height and length of the field next to the ‘figure’ thus emphasising the lower area of the stela (Figure 227). The numerous VOs above are smaller and densely arranged, more densely than most other stelae. Further, the Clusters are neatly aligned along an inexplicit SE and arranged in rectilinear
block-like groupings (see below). The rectilinearity of this stela composition and the care taken in its organisation, as well as execution, is unique. The raised band framing the composition is also notable as it is only otherwise encountered on 'niched frame' stelae – another point of overlap between the two main stela types.

In comparison with inter-object scale on the contemporary labels (Chapter 7), the vast majority of VOs are depicted at the same scale, but 'human figures' tend to be larger as do 'niched frames' and, on occasion, 'implements' (see ID 236). In contrast to the frequent placement of 'figures' in the lower part of the field on stelae, 'figures' tend to occur in the upper part of label compositions.

8.6 Jar, Stelae and Label Imagery in Practice

Because the investigator encounters only the material outcomes of action, it is easy to be seduced by apparent fixity of material-graphical evidence. On the one hand, similarities in general archaeological context, repertoire and style, both palaeographic and compositional, point toward inscriptions on the labels and ceramic wavy-handled jars as being two different inscriptive realisations of the same overall system (Baines 2004: 60-61). On the other hand, detailed consideration of the relationship between the material substrates, technological action, and the temporal and spatial conditions of making, use and reception shows that the ways in which each was practised were quite distinct. In this section, I draw together the areas discussed above within the context of practice focusing on embodied engagement, visibility – and equally – invisibility.

In the case of the NIIIA1 jars and labels, in addition to spatial separation within the tomb (Section 8.2.1; Figure 27), the scale of imagery also has important implications for practice, bearing in mind that, in terms of reception at least, this was contingent upon the conditions of reception and the intended audience (see also Baines 2004: 152). For example, the 'scorpion' VOs on the jars are 6.0-13 cm in height and length (Dreyer 1998: 47), several times larger than their label counterparts. The individual images range from 0.5-1.0 cm in height to 0.7-1.63 cm in length (IDs 153, 154). In both making and use, jar imagery would have been more easily discernible, both from a distance (Baines 2004: 158), and by multiple persons simultaneously. Likewise, viewing could have been accomplished without manual manipulation of the jar. In contrast to the potential for public audiencing, making and
viewing the labels may have been a more intimate experience. If we assume that imagery performed a role beyond its mere presence, we must then ask how a user/viewer would know whether or not a label was double-sided. No evidence survives for how this was signalled (e.g. the equivalent of “PTO”). Presumably one had to turn every label over to examine the secondary side. Thus, compared with the jars, tactile engagement may have been more intense both for reasons of scale and image location.

In the case of the NIIIC-early D stelae, the focus of material-graphical action was the marking of personal identity of the deceased. Part of this function was accomplished via the spatial location of the stela(e) outside yet adjacent to the tomb or grave of the individual concerned. In contrast to the potential for portability of the labels and jars, the fixed location of most, if not all, stelae would have presented a different set of affordances that influenced embodied engagement and reception.

We are reminded by one feature present on every label (apart from ID 433), that certainly in making and probably in use – these were not static objects (in contrast to tomb stelae for example, Section 8.3). Based on the location of the majority of perforations in either upper corner (the labels with a tab present an interesting exception, e.g. ID 257), and depending on how attachment was accomplished (if intended), the context of up, down, right and left vis-à-vis the maker/designer presumably shifted, creating a somewhat oblique viewing experience if suspended. This contrasts with earlier observations concerning the recursive relationship between the rectilinearity of the label substrate, compositional structuring and CVO/Cluster configuration – while maintained at the micro-level of the object, this may not have been the case when the label was suspended/attached. Possible orientations of the labels in their contexts of practice, such as an oblique orientation, have not been considered in modern re-presentation methods. In both the context of publication and museum mounting (Figure 17), the labels are presented upright with regard to the representational imagery and with the right and left edges aligned with the rectilinear edges of the page or display. The label catalogue (Volume 2) also follows this convention, but it might be more appropriate to orient photographs and drawings in a way that reflected a suspended or other use.

In contrast to the portability and opportunities for embodied manipulation presented by the labels (albeit only?) prior to the sealing of the tomb – if the living were the intended recipient(s)), and although the image repertoire is very similar, the
stelae present a very different scenario. All appear to be single-sided with imagery clustered in the uppermost area of one face. Figure 197, the well preserved stela of Djet, and Figure 217, a small stela also dated to the reign of Djet illustrate particularly clearly this deliberate positioning of the imagery within the available surface of the stone slab. Evidence for erosion of the upper half and the discovery of some stelae in situ (Section 8.3.1) confirm that the lower uninscribed portion was buried in the ground with the intention of leaving the upper decorated portion exposed. At least in its final use context, perception of the stela slab would have only been partial, but this also has the effect of foregrounding the decorated end and emphasising the fixity of the imagery and therefore the identity and location of the deceased.

The impact of scale on display and reception of the stelae would have been further influenced by the cultural landscape in which they were set up. Archaeological evidence for tomb and subsidiary grave superstructures is limited. O'Connor (1991: 7) and Dreyer (1991) take different views on the nature of tomb superstructures (see also Wilkinson 2001: 233), but if these were low mounds, a large 'niched frame' stela may have been relatively prominent feature of the complex. Depending on the location of a stela and the shape and height of the superstructure, visibility and invisibility from one point to another may have constrained or availed opportunities for contrasting the scale and other material features (e.g. stone type, shape, technique and colour) of the 'niched frame' with small stelae – as well as the symbolic messages on the stelae. It may have been possible to view only one stelae at a time, or several at once, or both depending on how one moved through the cemetery landscape and the kinds of funerary structures built or under construction at the time. If one can judge from the discovery of two stelae of Qa'a on the east (entrance) side of the tomb, the impact was double, as least for the 'niched frame' stelae. Subsidiary graves probably did not have double stelae; only three possible pairs have survived but without further archaeological information it is difficult to know whether these were from the grave of the same individual (Petrie 1900: pls. 31, 35, Nos. 36, 37; Petrie 1901b: pls. 26-27, Nos. 5, 102; possibly Nos. 128, 129). The stylistic and technical differences between Nos. 2 and 102 (applied pigment versus carving and scale differences as discussed above) suggest these were not a pair.

The location of the 'royal' tombs at the base of the desert cliffs, aligned with the large wadi issuing from them, may have contributed to the visual impact of monuments situated in this area (Wilkinson 2001: 232). But who would have visited

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the cemetery? Family members? Cemetery and religious personnel? The general public? To what degree can we assume open access or perhaps access only at the time of the burial? The question of who is not easily answerable based on the evidence studied here, nor is the question of viewer knowledgeability, or levels therein, for discerning the semantic or other symbolic meanings of the imagery. What is clear is that no one aspect of the functions or symbolism of these monuments was intended to construct meaning in isolation. Depending on when the stelae were introduced into the cemetery, their role and meanings may have changed in relation to the construction of the tomb, its equipping and the performance of burial ritual(s), as well as possible mortuary activities.

In thinking about opportunities for reception and visibility/invisibility for all object types discussed here, the conditions of viewing the surfaces of the object would have been mediated by various media depending upon environmental conditions (Gibson 1979). Light may have ranged from direct, bright sunlight to dark shadow, and other sources of light used, such as an oil lamp. Depending on location, whether indoors or outdoors, airborne particles such as sand and dust, smoke from cooking fires, lamps or incense, etc. would have influenced the appearance of material surfaces and imagery, whether during application of the pigments and subsequent episodes of display and viewing. In addition to possible symbolic significance then, the choice of image colour may have been intended to ensure sufficient contrast with the colour of the foundation. The bright white of freshly made incisions on bone and ivory can be very difficult to see unless the surface is a darker colour or the incisions are filled in with a darker coloured pigment (Section 5.9), one explanation proposed for the dark coloured pastes preserved on many labels (Section 5.8.2), and a likely factor in the choice of the dark grey/black colour for the jars inscriptions.

Some objects illustrate the notion of the ‘becoming’ of material culture touched on earlier (Section 5.11; Dobres 2000: 130, 132). Evidence for making, erasing and remaking on the labels was discussed (Section 5.10.1). Stelae Nos. 131 and 132 both appear to have been adapted to some change in identities after they were completed as both bear careful erasures (Figure 213), although Petrie was able to reconstruct some VOs (Figure 206).

Features of medium-sized stela, No. 48 from the burial complex of Qa’a, also substantiate the theoretical claim that objects are products of ongoing social action (Figure 227; Petrie 1900: 27, pls. 30-31, 36). The stone slab was ground all over and
the edges rounded off rather than squared. The inscription was then sketched onto the surface in red pigment, finalised in black, and the ground then roughly hammered away. However, this hammering and the final scraping and smoothing were never completed (Petrie 1900: 27). Consequently, some VOs are unclear save traces in red and black. This evidence for the process of drafting, redrafting and partial carving, as well as the erasure discussed above for other stelae and the labels (Section 5.12), raises a whole host of questions about why objects were not completed prior to being brought to the cemetery, or why and when they were subsequently erased, or erased and re-inscribed. Finds of incomplete objects in the cemetery raise the possibility that manufacture took place at or near the grave side.

This is also bound up in the mechanics of marking in relation to the nature of the item marked. Labels can be seen as performing a mediatory role between imagery, item and agent. If some labels were attached to lengths of cloth or cloth bags for grain as Dreyer (1993: 35; 1998: 14) proposes, were the labels a response to avoiding marking the cloth directly? Perhaps the labels were employed when direct methods of marking were impractical or undesirable. For the wavy-handled jars, imagery was applied directly to the vessel. Perhaps entities or substances, such as liquids, which could not be handled directly or as isolated entities in the way that a length of cloth, a staff or pair of sandals might be, were marked via a method appropriate to their container type.

The find contexts of some 'niched frame' and small stelae indicate that these objects were placed upright in the ground and were visible. Although it is not entirely clear when offering activities would have occurred in the sequence of tomb equipping, burial and closure, engagement would have involved individuals approaching the decorated side of the stele (depending on the nature of any superstructure, the secondary side may or may not have been accessible). Among many possible forms of engagement in the course of commissioning, making and setting up a stela in the cemetery, if or when perception at the latter situation was the intention, visual as well as tactile engagement are the most likely ways in which individuals would have interacted with these funerary monuments, and this may have required crouching or kneeling for the smaller-sized small stelae. Where stelae were fixed in the ground, in a niche in the superstructure(?) or on top (Dreyer 1991: 104), practice probably involved individuals moving their bodies relative to the stelae rather than manual manipulation.
The issue of portability constitutes a fundamental difference between these methods of labelling/marking, impacting in significant ways upon embodied engagement and sensual perception. Whether as rough blanks or finished objects, the labels would have been highly portable and, based on the types of objects pictured on them and those found in the tombs to which they might have been attached, the whole ensemble was likely to have been portable. The placement of the perforation and the flexibility of the means of attachment (e.g. twine or cord) would have permitted the perceiver to move the label in specific ways relative to her or his body (e.g. to check both sides for imagery and orient it as necessary for viewing/‘reading’). Thus, using and experiencing the labels would have differed in fundamental ways from the stelae or jar inscriptions, thereby introducing different opportunities for and restrictions on performance and audiencing which would have actively mediated other layers of symbolic meaning.

Related to the issue of embodied engagement, the comparison of the possible conditions of viewing offers further insights into the sensual experience of stelae compared with label graphical imagery. Technique and scale are used to illustrate this point. As mentioned, ‘niched frame’ stelae and many small stelae are carved in raised relief, the height of which is more pronounced among the former. Gibson’s (1979) tripartite framework for material properties (substance, surface and medium) is valuable for thinking about the impact of technique. Focusing on visual engagement via the medium of light, full sunlight for example would cause shadow and light to play on the surface of carved stelae in particular ways. The higher the relief, the more pronounced the visual effect, as compared with simple incision or applied pigments. The imagery on the labels, in contrast and as far as their portability and their final deposition in enclosed architectural space suggests, perception may have required torch or lamp light. In conditions of low light, a lack of colour contrast would make imagery more difficult to perceive. Related to the impact of medium on perception are scale and manipulation which would restrict the number of simultaneous viewers. Compared with stelae, the experience and perception of label imagery becomes a more intimate, tactile and personal practice. However, the conditions under which the labels remained accessible were limited, and as far as we can discern, once the ‘royal’ burial complex was closed up, its contents would have become inaccessible. Meanwhile, while access to the cemetery may have been restricted to some degree, the stelae remained visible and present.
The question of practice can also be directed comparatively to graphical composition. With regard to the number of images per object and graphical density (the number of images within a given area) most stelae are basic compared to many labels. Compositions also differ with regard to format with 13 main types attested among the labels, although no more than four types were in use at any one time (see Figures 174-175), while the stelae predominantly exhibit the ‘plain’ format. Both repertoires are almost equally extensive, but the labels bear a greater number of CVOs, visual associations and Cluster types which, in turn, require more complex ways of organising. Many labels also bear imagery on both sides, while no stela is double-sided. The compositions on the labels are therefore highly structured and would have guided viewing in particular ways, such as sequentially along vertical or horizontal axes or from one side to the other, or according to associations among figural VOs, many of which set up narrative relationships (cf. Davis 1992 for a treatment of similar issues in relation to the Narmer palette).

The interpretation of the symbolic functions of VOs from a contextual approach is dealt with more fully below, but at this juncture it is appropriate to point out how depictions which function pictographically (at least on some level) define the kind of relationship between the labelling device and the marked/labelled. As reasoned above, the single human (or canine) figures on most stela can be interpreted as representing or presencing the entity depicted. A stela is therefore part of a one-to-one relationship with the entity to which it refers. In the case of the double ‘niched frame’ stelae, the relationship is two-to-one. Some labels depict entities which, based on archaeological associations, they may actually represent/refer to, e.g. sandals, staves, ceramic and stone vessels, leather bags and other containers. For these the label:labelled relationship may be described as one-to-one. Other labels depict multiple entities, thus forming one-to-many relationships. This may be augmented significantly when the numerical VOs are taken into consideration and (as discussed below in Chapter 9), this raises significant questions about whether a single label could be physically associated with such large numbers of items. The relationship between seals, seal impressions and the items they mark is also relevant. There is a one-to-one relationship between the seal and the object sealed, but the sealing substance may receive more than one impression, and sometimes from more than one cylinder seal (Köhler 2004b: 13). The material-graphical relationships involved in marking practices are multi-layered and multiple in their functions and meanings.
Overall, the labels are a labelling-marking device with a greater number of graphical variables than any of the comparanda. They required more knowledge on the part of the maker assembling the composition and possible viewers in decoding it (perception by mortal or immortal individuals and groups constitutes only one possible intended purpose; other possible interpretations, including the issue of presenting versus re-presenting are discussed in Chapter 9). Any value attributed to this complexity on the part of the investigator must, however, also be situated within the context of practice. Based on the foregoing comparative discussion, one could argue that based on their materiality as well as their final use contexts in restricted architectural spaces, the labels were less accessible. They may have been on display for an unknown period of time in the cemetery or nearby, but as I can distinguish no evidence for wear on their surfaces or around the perforation (Section 5.6.1), extended use and visibility seem unlikely. There is also the question of the degree to which general or specialist knowledge was required for discerning the symbolic meanings and which members of society were in possession of this knowledge (these issues have received some attention previously (Baines 1983; 1988) but as stated, these more abstracted levels of labels meanings and the issue of literacy(ies) must be reserved for future study). Although the labels exhibit greater material, technological, compositional and symbolical complexity, in terms of the social impact of labels compared with stelae, the stelae were probably more accessible, and for a greater period of time, and therefore potentially available to a greater number of members of society.

8.7 Interpretive Discussion: Quantifying and Qualifying People and Things

Previous investigators have 'read' label imagery – via a retrospective method mainly – as the names and titles of people, place names, items and their quantity and quality, and as giving temporal information via narrative scenes or other markers such as 'I' (Section 1.5). Some of these interpretations, particularly narrative scenes or imagery accompanying 'I' as 'year names' cannot be supported via a contextual approach (Section 2.2), while others, such as 'frames' as place indicators become accessible via comparison with contemporary architectural evidence (e.g. O'Connor 1989). As
stated in Chapter 1, my aim has been to ground the interpretation of imagery in the immediate context of the labels and other contemporary evidence as a first step toward filtering out anachronism in previous interpretations. From this perspective, then, in the following I consider to what extent evidence permits interpretation of symbolic meaning. For this, I have selected two kinds of image:

- Clusters as numerical signs
- Clusters and CVOs as personal indicators (PIs)

For these it is possible to generate a clearly explicated 'chain of logic' or interpretive strategy for inferring the symbolic meaning of signs, thus demonstrating the potential for contextual interpretation, and the importance of exhausting this option before resorting to anachronism.

8.7.1 Numerical Signs

A handful of VOs in the label repertoire have been interpreted as numerical signs based on later evidence with the following values:

- 'Notch' = 1
- 1 = 1
- n = 10
- 9 = 100
- † = 1000

Some have applied these with caution (e.g. Legge 1906: 263), while others assert them with less hesitation (e.g. Emery and Sa'ad 1939: 105, No. 70; Spencer 1980: 63; Vikentiev 1959: 26, 30).

For the 'notations' on the NIIIA1 labels, these occur in Clusters of 6-12 laid out either – depending on how one orients the imagery/label – horizontally or vertically. Dreyer et al. (1998: 113-118, 140; see also Baines 2004: 157) propose that each 'notch' represents one unit. The main counting base later attested in Egypt is decimal; units of up to 12 – which cannot favour 12 as a base because 11 should then be the highest number expressed in single digits – are not likely to point to any different
system (Baines 2004: 157). Although the evidence is limited, one is indeed hard pressed to find another explanation for the presence, quantities and configuration of the ‘notches’. It is nevertheless worth bearing in mind the possibility that, as is known for early cuneiform (Nissen et al. 1993: 25), the arithmetic values of the numerical signs might be subject to change depending on the context involved.

Dreyer et al. (1998: 113-118) go on to attribute ‘9’ (IDs 41, 42, 43) the value of ‘100’ or where it co-occurs with ‘wedge, V’ (IDs 44, 45, 46) the value of ‘100+1’. One would also expect that, if ‘notches’ signified ‘1 unit’, a ‘notch’ rather than ‘wedge, V’ would be employed. Due to this and the lack of evidence for intervening numerical signs demonstrating the shift from units to 10s to 100s, I hesitate to apply this interpretation for ‘9’ to the NIII A1 labels (but see below).

Moving to the NUIC-early D labels, ‘1’ occurs between 1-8 times beneath a limited number of objects, mainly containers and strung beads, and is frequently accompanied by ‘n’ (e.g. IDs 264, 359). If we accept that, like the ‘notches’, ‘1’ has the value of one unit and given that it never exceeds 10, ‘n’ may be attributed the value of 10. In turn, ‘n’ occurs between 1-9 times (cf. ID 264 with ID 190). Because it never exceeds 100 and occurs in juxtaposition with ‘9’, the value of 100 may be attributed to ‘9’. This sign is attested between 1-6 times (e.g. ID 241). Various flora sub-types resembling ‘1’ are known in later evidence to have the value of 1,000 (Allen 2000: 97). Those on the labels co-occur with ‘9’ suggesting an associated meaning (e.g. IDs 198, 277, 307?) but whether or not it is numerical cannot be clearly substantiated via the present approach. The assignation of numerical meaning to ‘notches’, ‘1’, ‘n’ and ‘9’ therefore seems tenable from a grounded approach. Nevertheless, this function for ‘9+wedge’ on the NIII A1 labels (e.g. ID 45) remains open to question.

If we group these signs in ATLAS.ti into a ‘Numerical Family’, thus based on symbolic function (rather than classification of figural and non-figural, Section 6.2) and query quantity and compositional distribution across time-space, various patterns emerge (Figure 233). Numerical information was a significant component of the NIII A1 label content with at least 38 or about 20% of labels dedicated to this semantic theme. Label ID 188 from Abydos Tomb B50 is the only post-NIII A1 label entirely dedicated to numerical content and, along with size, technique, image scale and composition, may therefore provide a link between the NII A1 and later labels. However, post-depositional disturbance precludes precise dating of the tomb (Section 4.5.3.1). The small Naqada labels dated to Aha and ID 189 dated to Djer (as far as
Amélineau’s report is accurate) are also similar in style and content.

While none of the NIIIC-early D labels are dedicated to numerical content, about 57 or 23% bear numerical signs. These are combined with many types of imagery on a single label, but we find compositional restriction of numerical information to the lower left area (Figure 233). Here number signs are often accompanied by Clusters involving ‘containers’, and ‘\[\text{\vphantom{1}}\text{\vphantom{1}}\text{\vphantom{1}}\text{\vphantom{1}}\]’, ‘\[\text{\vphantom{1}}\text{\vphantom{1}}\text{\vphantom{1}}\text{\vphantom{1}}\]’, ‘\[\text{\vphantom{1}}\text{\vphantom{1}}\text{\vphantom{1}}\text{\vphantom{1}}\]’, etc., but only up to the reigns of Merneith/Den. Once again emerging as a watershed for cultural change, after this period it would seem that the quantification of ‘containers’ and other items on the labels is no longer practised, apart from the singular exception of tabular label ID 359 dated to Qa’a showing the intensive use of numerical signs. During the reign of Qa’a the only other clear use of numerical signs is found in the upper right where two or six units are attested (e.g. IDs 415, 421, 422).

A pattern of separation for numerical content has been noted for the early Mesoamerican script (Houston 2000; cited in Baines 2004: 156-157) and compositional separation is also evidenced in the early Mesopotamian script (Nissen et al. 1993: 25). Separation is exhibited on the NIIIA1 labels at the macro-level – ‘notches’ are never combined with other VO types on the same label. Micro-level delimitation is seen for numerical VOs on the NIIIC-early D labels through composition as just discussed, and through the use of colour. On ID 359, the numerical signs are distinguished by their black colour from the other imagery mainly in red. Separation is also found at the level of object type. As seen in the comparative case studies, wavy-handled jar and stelae imagery draw on similar repertoires and show some compositional affinities with their labels counterparts, but numerical signs do not occur on these object types.

Overall, the evidence points toward significant changes in the enumerative role of labels. Simultaneously separated yet inter-related, this example demonstrates that any one image category or feature is caught in a web of practice and can only be accounted for and explained as a whole. The changes in use and expression of numerical signs correspond to shifts observed elsewhere in format and other content changes (Section 7.9), and this can be also be seen in the Cluster type examined in the next section.
8.7.2 Finding the Individual

Comparison of the stelae with the labels reveals content and compositional consistencies which transcend object type and offer 'interpretative keys' for explaining meanings of similar label imagery. I use the example of the small stelae with their depictions of 'human figures' in conjunction with similar imagery on the NIIC-early D labels to demonstrate how a non-retrospective approach can be further utilised.

Key 1

The grounded interpretation of Clusters on funerary stelae as signifying personal identity was established above (Section 8.6). In terms of content and compositional grouping, and separation and ordering, many stelae offer the first key for interpreting a Cluster as a PI (see Figure 234).

Key 2

Clusters fitting the criteria of Key 1 are encountered on five labels from Abydos (IDs 296, 330, 331, 332, 333) and three from Helwan (IDs 378, 379, 380), although with the difference that the 'figure' sits on a 'stool' or 'chair'. The Abydos examples fit the pattern but the Cluster tends to be situated above or in front of the figure's face. The same can be understood for the Helwan examples, with the additional feature of the PI and 'figure' being separated from other imagery by the '||' SE. This particular combination of features can be taken as Interpretive Key 2 for decoding other label Clusters, with particular attention being drawn to 'U'.

Key 3

ID 377 from Saqqara, similar in layout and content, bears Cluster 'U+||+#' / 'U+#+||' which may also be understood as a PI on the basis of 'U' being its lower-most VO, and on the presence and relative location of the '||' SE, even though the 'human figure' is absent. Fragmentary ID 381 from Helwan also exhibits these features although the Cluster to the right of '||' does not bear 'U' nor is there really enough room for a 'human figure' to have been depicted in the lower right corner.

Key 4
Comparison of ID 377 with its archaeologically co-occurring (S59) counterparts, IDs 285, 286 and 287, show that the same Cluster appears on these latter examples, albeit with ‘เสา’ on the left rather than the right as seen on ID 377. This change in ordering has not been noted by previous commentators (e.g. Macramallah 1940: 16-17) or left without explanation (e.g. Kahl 2002: 24), yet consideration of the imagery in its wider context suggests that the designer, in another example of ‘visual play’, swapped the VOs around so that vertical orientation and linearity of ‘เสา’ could imply the vertical division of the composition made explicit on ID 377. For the purposes of an interpretive chain of logic, however, this example shows that PI Clusters may not always be set apart explicitly from other imagery. Nevertheless, the presence of ‘เสา’ provides some evidence for continuity in semantic function.

Key 5
Cluster ‘เสา+longleftrightarrow+f’ located along the right side of IDs 290 and 291 can be explained in relation to personal identity based on Key 4. We also find this ‘เสา+longleftrightarrow+f’ on four other labels (IDs 306, 307, 308, 312) where it is located to the left of the ‘niched frame’ of Den, thus giving us Key 5.

Key 6
Assuming that this Cluster maintains its content meaning as a PI in this ‘new’ (within this chain of logic) location, it follows that Clusters situated to the left of the ‘niched frame’ carry similar meaning content.

Among those conforming to Key 6 is Cluster ‘เสา+longleftrightarrow+f’ which appears on ID 230 to the left of the niched frame of Djer. This same Cluster also occurs in this position on two labels dated to Djet (IDs 278, 279). Emery (1954: 102) questioned whether ‘เสา+longleftrightarrow+f’ was another name for the ruler, but acknowledged this was unlikely since the cluster is juxtaposed with the PIs of two different rulers in ‘niched frames’. PI ‘เสา+longleftrightarrow+f’ also occurs on several labels without ‘niched frames’, situated at the top centre or top right (IDs 264, 265, 266, 267, 268, 269, 270, 277; all from S3504, see ID 278 which is unprovenanced). This PI is also attested on the poorly preserved label, ID 230, from the tomb of Djer at Abydos. On other labels of Djer, two further clusters are attested to the left of the ‘niched frame’: ID 256 shows ‘bird+longleftrightarrow+f’, and IDs 242, 243 and 306 bear ‘bird+longleftrightarrow+f’, although a different type of ‘bird’ appears to be depicted in the latter example. From these we can infer the
association of at least three individuals with Djer at Abydos and Saqqara. In the subsequent reign of Den, IDs 306, 307, 308, possibly 309, 312 and 313 also show a PI Cluster ‘U+<+>', mentioned above, to the left of the ‘niched frame’.

**Key 7**

An additional PI feature can be clearly identified during the reign of Den, namely Cluster ‘+w<+’ which occurs above all preserved PIs located to the left of the niched frame (IDs 306, 307, 308, 309, 311, 319, 323, 348?, 414 (with ‘e’)). This Cluster remains relatively constant over time while the PI cluster below usually changes with each reign. I therefore term ‘++’ a ‘fixed PI’ and the Cluster below it a ‘changeable PI’. This fixed PI, according to later linguistic conventions is read as the ‘seal bearer of the one of the bee’ (i.e. the ruler in a particular guise that may refer to Lower Egypt (Erman and Grapow 1982: vol. 1, 434), but again, my aim is to draw explanation and meaning from within the immediate context of the labels and in relation to contemporary visual culture, before moving on to more indirect methods of interpretation.

This bi-partite PI comprised of one fixed and one changing PI Cluster is possibly attested in the reign of Anedjib on ID 347. Although the pigment is very faded, the markings directly to the left of the ‘niched frame’ resemble ‘w’.

Additional faded marks below it may be those of ‘<’. Although this would be the sole example of a ‘stacked’ ‘w<+’ Cluster, there is no other context in which ‘w’ occurs to the left of the niched frame so it remains the most likely possibility at present. ID 358 (available for study only as published), also dated to Anedjib and found at Saqqara (Tomb X) may also bear ‘w<+’ on the upper left although here too the pigment is faded and the surface abraded. To the left of a floral VO a dark, slightly rectangular mark with a possible loop extending upwards may be the cylinder on its lanyard. To the left, above ‘U’ or a similar U-shaped VO, the series of marks to the left may represent ‘w’. The cluster below appears to depict ‘++<+++’ (with an ‘e’ below?). This ‘reading’ remains tenuous not only on grounds of poor preservation, but also because ‘w<+’ is not accompanied by the ‘niched frame’ as it is elsewhere.

The bi-partite PI is again probably attested during the reign of Semerkhet on ID 348, but this area is damaged. Worth noting is the eroded appearance of this area, perhaps deliberately so by sanding along its top and middle left edge especially. By
comparison, the very similar label, ID 349, also appears to be lacking imagery in the upper left area, directly to the left of the tail feathers of the 'bird' surmounting the 'niched frame'. Perhaps both of these rather similar labels were deliberately altered. First-hand study is necessary for confirmation (see also 5.10.1).

During the reign of Qa'a, ' 느+日电 ' + changeable PI, in this case ' ++유+으 ', occur only on ID 414. For the first time in ' 느+日电 ', ' ㅊ ' appears below ' 느 '. This may be related to the practice begun in the reign of Den of adding ' ㅊ ' below ' 느 ' where it occurs in the Cluster ' 느+전 '; cf. ID 325 with IDs 306, 307). The changeable Cluster below ' 느+日电 ', ' 유+으+으 ', fits the criteria established from reign of Djer although ' 유 ' is not in the lowest position as before. Another PI may have been present on ID 417 (Qa'a) at uppermost left, now missing, although unlikely when compared with other labels of this type (see Section 7.11.

**Key 8**

On IDs 311, 319 and 323, the area below Cluster ' 느+日电 ' where the changeable PI is typically located has been scratched out (Section 5.12). Thus, we can expect that some erasures may indicate where a changeable Cluster was once present. That this PI is erased and ' 느+日电 ' remains unaltered is significant. Erasure of the changeable Cluster further reveals a lack of fixity which indicates that social identities were indeed expressed on the labels as composite parts, some aspects being more fluid and limited in time-space (i.e. a lifetime, a temporary social role such as an occupation or period of service) while others transcended the individual, constituting more enduring elements of the structuration of social identity. This is also evident in the changeable yet fixed nature of the 'niched frame' CVO and the duality that characterises the identity of the early Egyptian ruler.

**Key 9**

ID 414 shows ' 느+日电 ' + changeable PI ' 유+으+으 ' located along the upper left part of the label which opens up the possibility of other Clusters occurring in the position as being another type of bi-partite PI. Below ' 느+日电 ' and its changeable PI is Cluster ' 느+전+전 ' (order and constituent elements may exhibit some variability, Section 7.5), a survey of which reveals the same pattern observed for Key 7. ' 느+전+전 ' remains fixed while different Clusters occur below it, some of which include ' 유 '. It is therefore possible that together both Clusters represent another type of bi-partite PI.
This interpretation may be bolstered by the presence of the ‘||’ SE (see Key 2) on 2-3 labels (IDs 354(?), 425, 427), but it does not occur consistently. Further comparison shows that this bi-partite Cluster always occurs on the far left of the label, albeit in a slightly different configuration, and is attested in the reigns of Den (e.g. IDs 307, 313?, 314?), possibly Semerkhet (e.g. ID 348), and Qa’a, when it is sometimes occurs in pairs on the same label (e.g. IDs 420, 421).

8.8 Summing Up

In the foregoing two sections, I have endeavoured to demonstrate the potential for a contextual comparative approach for deriving interpretive keys in order to infer content meaning of graphical imagery as an alternative to retrospective methods. Rather than interpreting these Clusters as personal names or imposing later phonetic values on individual signs (e.g. Kahl 1994: 393, 427, Quelle Nr. 3407; see also A 50 and no. 49), the grounded approach outlined here allows a general understanding of personal identity to be achieved. In some cases this was comprised of two components, one (upper Cluster) exceeding the time-space extent of the other (lower Cluster). Here we see that meaning was constructed both via meaning content and compositional context.

When considering the numerical signs (Section 8.7.1) together with the Pls, a pattern of temporal and physical separation emerges. The temporal span for PI evidence on the labels just noted contrasts with the numerical information, largely confined to labels prior to and including the reign of Den (Figures 235-237). Amongst the plethora of other imagery on these labels, it is possible to chart on some label types a shift from particular emphasis on enumerative content to an increase in expressions of personal identity. In this way, I have addressed the research question concerning the ways in which depictions on the labels fit into wider social practices of communication and the construction of cultural categories, such as people and things.

In fulfilment of a contextual approach to the inscribed labels, the aim of this chapter was also to situate the results of the analysis in the wider graphical context. The NIIIA1 wavy-handled jars and NIIC-early D stelae were examined comparatively with the labels and attention directed to their archaeological, material and compositional features. The cultural choices made in the deployment of imagery
were negotiated differently in different material circumstances, including differences in materials and techniques, as well as scale and portability.

This approach highlights the importance of analysis on multiple levels in the explanation of any one feature, in meaning or practice. It also indicates that change in the organisation of imagery on the labels was a continual process. The label was an arena of continual change, where the organisation and distribution of imagery was challenged and renegotiated, yet the ways in which meanings were expressed were simultaneously fixed and dynamic. Attempts to understand early graphical media, or script formation, must be concerned not only with what a symbol may mean in terms of shared social knowledge, but how and why people made particular choices in the construction of meanings.

In the foregoing, I considered how forms and concepts may have been shared, restricted, or differentially emphasised in manufacture, use/perception, and final deposition. The individual strands of the thesis can now be brought together in a concluding discussion of the processes by which emerging elites and others were expressing themselves and social relationships.
9 Conclusions and Future Prospects

9.1 Overview

Through an extended case study on the NIII A1-early D inscribed labels, in this thesis I have sought to develop a method that situates the study of graphical culture within the context of social practice, with an emphasis on the recursive relationship between embodied actors, materials, and image-making across time-space. I have also sought to understand the labels contextually by directing analysis to the interrelated areas of archaeological context, materials, and graphical content, both with regard to the repertoire and compositional relationships. These areas were also explored comparatively in relation to vessel inscription and funerary stelae, and I have aimed to demonstrate how image function can be inferred via a contextual approach. In the following, I draw out some main points, trends and patterning in the results to outline what can be said of the immediate mechanical and semantic function of the labels. To address research question 5, I briefly consider how these findings relate to the wider context of early Egyptian society and I define further areas for future research that have emerged as most promising.

It is now possible to comment more fully on previous understanding of the inscribed labels. A common assertion is the restriction of label practices to the elite sphere (e.g. Trigger et al. 2001: 58). If status is calculated from tomb size and wealth, examination of the archaeological context (Chapter 4) showed that, while many labels
occur in the context of large richly-equipped tomb complexes at Naqada, Abydos and Saqqara, some 39 NIIIIC-early D labels have been encountered in burials of individuals of a middle or lower class status. These include labels found at Helwan, North (2171 H) and West Saqqara (59) and the small subsidiary graves at Abydos, skeletal analyses from which indicate that these probably belonged to members of the lower echelons of society (cf. Keita and Boyce 2006; with Baines 1989: 477). The close relationship between large tombs and heavily inscribed labels, many bearing ‘niched frame’ and ‘ propósito’ and explicit compositional formatting, suggests that content and type was significant in who had access to different kinds of labels.

Analysis of archaeological context also provided limited evidence for the relationship between labels and individual identity. The skeletal remains from Tomb 59 at Saqqara, in as far as sexing is reliable, were those of an adult male (Macramallah 1940: 36, pl.19), also possible for S3504 (Emery 195420, pl. 27c). On the basis of co-occurring inscriptive and other indirect evidence, female occupants can be posited for the following: Grave 22 ('female figure’ on stelae), Tomb complex O ascribed to Djer, Abydos (Amélineau 1904: 58, pl. 18, no. 14); for Tomb Y attributed to Merneith, Abydos; and very tentatively for the Naqada Mastaba. Male gender is frequently assumed for all other owners of the large tombs, but in the absence of associated skeletal or direct pictorial evidence, the same questions surrounding the Naqada Mastaba (Bagh 2004: 603) and mentioned for U-j (Section 4.5.1.2) are still valid. Similarly, the question of whether or not the seated bearded ‘figure’ on three Helwan labels (e.g. ID 378) depicts the deceased remains difficult to resolve (see Section 9.5). The issue of whose identity is expressed on the labels, as well as the presence and (limited) mixing of types in higher and lower status contexts, raises questions about whether label practices were bound up with the status of the deceased when alive, or whether the social significance of the labels has more to do with the living – individuals, family members or other groups – or both. This issue of the kinds of social relationships and identities the labels were used to mediate and express presents an important area for further research, involving comparisons of other types of inscribed material from both cemetery and settlement contexts.

The labels were probably produced and used to express messages by commissioners, designers, makers, and users, etc., roles which may have been fulfilled by the same or different individuals. However, what these messages were and for whom they were intended remains a complex question. The least disturbed
contexts of discovery are all found inside tombs, suggesting that if label viewing took place, this occurred prior to tomb equipping and closure after which, in contrast to the situation for stelae, visibility would be significantly reduced if not impossible. Nonetheless, the 40 odd labels found in and around Chambers N5 and N6 flanking each side of the entrance of Tomb Q – chambers with external, dedicated entrances – may have suggested that these chambers remained open for an uncertain period of subsequent deposition of funerary offerings. If labels were affixed via their perforation to objects or perhaps hung on a pin or peg (as suggested by Legge 1906: 252) or length of twine for display, we might envisage a more continuously active messaging role for the labels in the funerary context.

9.2 The Relationship Between the NIIIA1 and NIIC-early D Labels

A key question concerns the relationship between the NIIIA1 and NIIC-early D labels. Comparison shows similarity in archaeological context type, although in terms of quantity and concentration for a single tomb, the U-j label deposit is unique, as is the frequency of repeated types for a single context and a single tomb. It is too soon to draw conclusions concerning the significance of the localisation of NIIIA1 label practices, or to substantiate the claim for the centralisation of scriptorial practices outside the Abydos area. Nevertheless, by the reign of Aha, what had became an Abydene tradition (based on present evidence) was adopted and reproduced at Naqada, and by the subsequent reign of Djer members of the northern Memphite community were also engaging in label practices – thus involving the movement of people (not just things).

Comparison of materiality between the NIIIA1 and later labels shows similarities in object shape, materials, and the presence of a single perforation in the upper part. To a lesser extent there is also overlap in size, but the later examples also include much larger plaques. Limited overlap in image content was already noted, and otherwise, major differences can be observed for image quantity, density and compositional organisation. Assessing the significance of what little overlap exists is complicated by the lack of label evidence from the NIIB cultural phase (see also Wengrow 2006: 206). ID 188 from Abydos Tomb B50 was mentioned as a possible candidate (Section 8.7.1).

Indeed, NIIIA1 numerical or ‘notch’ labels are not combined with other image
types (nor are the possible ‘item labels’, below), contrasting with the numerical signs on the later labels which co-occur with a plethora of other imagery. Beyond two dedicated item labels dated to Djer (below), macro-level separation of semantic types is not attested among the NIHIC-early D labels. The small Naqada labels nevertheless stand out as the closest parallels for NIIIA1 labels (Dreyer 1998: 139), in plaque size, layout, and general composition as well as emphasis on numerical information, albeit via a kind of micro-level separation, i.e. numerical signs cover one face while what may be a PI occurs on the secondary face (two combined numerical signs with ‘strung beads’).

An important area for future research is therefore the study of other evidence for the NIIIB1-2 phase. In tracing continuities and changes in other material cultural forms including other graphical media, it should be possible to ascertain whether, firstly, the ‘gap’ between the two label corpora, in view of dating problems surrounding Cemetery U (Görsdorf et al. 1998), really exists, and secondly, whether similar cultural discontinuities can be found elsewhere.

9.3 Mechanical Functions

The survey of the archaeological evidence showed that a segment of twine was found threaded through the perforation of ID 241 (Figure 52). This suggests that the label was suspended but from what remains elusive as no other direct evidence is documented, nor have indirect traces been observed (Section 5.5.1). Nevertheless, if labels were attached to other objects, when general archaeological evidence and label imagery are considered together, some possibilities, albeit conjectural, emerge; these are presented in Figure 239.

The proposal for direct attachment of labels to goods raises a question concerning redundancy – why a label would bear a depiction of the object to which it was attached. When considered in terms of practice, however, the value of redundancy can be appreciated. For example, if the person attaching the label was not the designer/maker, the depiction of the item would have been important in order to match up the label with the correct item. Depending on the literacy level of the individual (see Baines 1983: 67), ideographic rather than logographic signs may have been preferable.

We can only conjecture as to the kinds of contexts in which label attachment
may have been accomplished, and labels or labelled items viewed, if indeed intended for human recipients. At least two types provide content which may be relevant. On ID 241 the anthropomorphic figure being carried, if deceased, may suggest a funerary context, as may the activity – or at least its result – of two figures on the far right, of the procession. In such an activity, items may have been marked with labels for, or upon, delivery. Labels IDs 212 and 213 both show vessels, food and meat items on the left side, apparently on static display. The social context is unclear, but if gifts and offerings were brought for the deceased and perhaps set out for display, labels may have been attached prior to this or at the same time. Perhaps some labelled items were brought and consumed as part of the funerary repast (e.g. Emery 1962), presenting the possibility that some labels encountered archaeologically may be the result of discard. Perhaps having been used in a ritual context these required disposal in that context, much as disused temple equipment at Hierakonpolis that, apparently due to its sacred status, required deposition within the temple precinct (see Quibell 1989 [1900]; Adams 1974a; 1974b). If manufacture took place in the cemetery, this might explain why blank, apparently unfinished and altered labels were nevertheless deposited in a tomb.

Depending on the context of making, attachment, reception and discard/deposition, the labels would have been attributed different kinds of meaning. Graphical symbols may have been used to mediate meaning in more accessible ways than others, requiring different levels of knowledge. Perhaps different types of symbol were accorded different roles depending on use-context. If we consider the similar IDs 300 and 304, for example, ‘[for] a pair of sandals’ (secondary side) might have been the central message in the context of attaching, while for funeral presentation and/or display, or efficacy in the afterlife, the capturing/overcoming scene on the primary side was the main message with focus on the identity and social position of the ruler in the negotiation of relationships in this life, or those hoped for in the afterlife.

Another important area for future inquiry must be the issue of literacy – or literacies – and the question of the extent to which early graphical media were communicated and could be understood on multiple levels, whether by virtue of presencing or representing to communicating elements of language. Given that the deployment of labels was not restricted solely to high status contexts, it is worth considering the extent to which early imagery was not restricted to a scribal class or...
solely the prerogative of those associated with the ruler (see also Kahl 2001: 111).

9.4 Semantic Relationships

As touched upon in Section 4.13, the next most direct form of evidence for the mundane function of the labels is image content. On the basis of this and where possible, archaeological associations, single items/types of item to which some labels may have been associated are proposed (Figure 240).

All examples apart from the 'container' labels date from the reign of Narmer to Den (Figure 6). For NIII A1 examples, it is possible that an item label was complemented by a second label. Amelineau encountered several NIII A1 style labels, probably from his work in the area of the "premier plateau" if not what is now known as Cemetery U. A label depicting a garment and a 'notch label' were found among these. While working in what he called Cemetery B, Petrie's finds also included a garment label fragment (unpublished, ID 176) and a 'notch' label (e.g. ID 1). The DAI also recovered one of each type in two contexts: "U-j 11, lower down" and "U-i, S". In each case, other NIII A1 style labels were recovered but no patterning can be discerned in their combinations (summarised in Figure 241). Although U-j 11 is the most secure context documented, all labels seem to be found in secondary locations. Drawing on Dreyer's (1993: 34; 1998: 113-118) proposal that the 'notch' labels indicate measurements for lengths of cloth it is plausible, although highly tentative, that labels were attached in pairs (or more?). Perhaps a garment label was associated with one or more garments while a numerical label was added to indicate quantity or dimensions, thus explaining their co-occurrence archaeologically.

Another possibility is that labels which appear to depict grain were used to label containers of grain along with a numerical label indicating quantity. More difficult to verify via the present approach is the proposal that other label types indicated source or donor (see Dreyer 1998: 178). Perhaps a third label (e.g. ID 50 or ID 53) attached to an object would indicate this type of information?

The question of the semantic relationship between an item and a label for the NIIIC-early D examples raises different scenarios from the NIII A1 examples, both due to the presence of more label types and because of the combination of content meaning types. Possible item labels are listed in Figure 240, some of
which include numerical information, if not a PI. In the absence of archaeologically secure contexts, it is impossible to discern precisely how the various types were deployed, but it is possible to posit several types of labelled relationships. Item labels that possibly had a one-to-one relationship with an item were those bearing a pair of sandals or a staff. It is also possible that several of one item type were packaged together, a situation where the item on the label simply acted as an archetype for the contents, e.g. the ‘arrow’ on ID 226 was understood as ‘arrows’ (see Petrie 1901b: 22) where the find of multiple arrows in the tomb of Djer is documented, although no direct relationship between the label and the arrows can be established.

Numerical signs on the lower part of many labels may indicate that the label was associated with multiple items, or perhaps multiple lengths or weight units. In the case of the Naqada labels, Bagh (2004: 592) suggested numbers referred to individual beads on a single string, rather than the quantity of strands. For example, on ID 241, if the value of ‘9’ was indeed 100 units, how did this relate to items depicted in the lower register such as ‘〜’, ‘‡’, ‘⇌’, or the ‘vessel’ of which 2(?) are indicated? Whether we understood these pictorially or via later meanings, we are confronted with a one-to-many relationship between the label and associated objects. The situation on ID 264 is also difficult to decipher. Were 14 units of something contained in three vessels? What then do the slightly more rectangular double strokes on the secondary face indicate (see also ID 213)? It is far from clear whether all strokes should be understood numerically, or how the same VO repeated multiple times should be understood, but again a one-to-many relationship is suggested. Perhaps less controversial are the three tabular label types which list a range of items, and in the case of IDs 359 and 360, give quantities. It seems highly likely that these labels were in a one-to-many relationship.

The question then becomes how to understand the function of the perforation in these cases. Perhaps the individual overseeing the delivery, receipt or storage of the items would have strung such labels together as a record. Other tentative scenarios have already been discussed above (Section 9.3).
Chapter 9: Conclusions and Future Prospects

9.5 Whose Personal Identity?

Having outlined what can be learned from the analysis of the mechanical function of the labels and their possible relationship to associated objects brought to the tomb, the systematic analysis of label imagery and its organisation permitted the proposal of contextual interpretation of certain Clusters. Many can be understood as encoding information about personal identity (Section 8.7.2), and this begs the question of what role these expressions played in the functioning of the labels.

In the case of ID 378, for example, if attached to an item (on the basis of image content, a likely candidate would be a basket or stone(?) vessel), the question then arises of how the PI in the right column related to the vessel and/or its contents. In the absence of a tomb stela or similarly direct evidence, it is plausible that the identity expressed may have included the:

- Tomb owner
- Label-commissioner/-designer/-maker
- Intermediate supplier of attached/associated item
- Donor
- Recipient
- Individual/collective overseeing any of the above
- Individual overseeing the equipping of the tomb

Certainly other relationships are possible, but at this stage and even for ruler PIs, it is not possible to determine precisely what meaning was intended for a given PI. This is complicated by the presence of multiple PIs on some labels. Nevertheless, an important point to raise here is that depending on who is indicated and what aspect of social identity is expressed, the implication for the way labels were deployed, the functions they may have served, and the social relationships they mediated over time-space could have varied widely.

9.6 Slippery Signs: Writing or Picture?

The terms ‘writing’ and ‘picture’ are often used to described early graphical media (e.g. Wengrow 2006: 128), but how these categories help us understand this early material is less clear. On one level, these terms imply a precision in distinguishing
function that cannot yet be attained from the available evidence, based on the research presented here. Generalising terms are necessary for pragmatic reasons, but beyond this, ‘writing and picture’ cannot communicate the diverse ways in which artisans deployed images and the extent to which particular graphical expressions varied according to compositional and material circumstances in time-space.

From the outset then, in asking the question of when ‘writing’ emerges, we have already cast our net too short; in searching for one kind of complexity, another kind of complexity is overlooked. To perhaps exaggerate the situation slightly, in focussing on what is writing, what is left behind by default becomes ‘picture’ or ‘art’, effectively a miscellaneous category of ‘non-writing’. In view of the generally imprecise application of the terms ‘picture’ and ‘writing’, and the difficulty in precisely defining the function of label imagery, I employed the more descriptive terms “visual object (VO)” to set out the analytical units, and ‘graphical culture/media’ to describe this material practice. However, in presenting a critique, it is incumbent that an alternative is offered. Therefore, in reviewing the patterning that has emerged in this study, it is possible to infer categories based on how imagery is deployed, and to some extent how it functions.

Five main image groups are outlined in Figure 242. The behaviour of VOs conforming to the scriptorial category is consistent in some ways with the behaviour of later script representing elements of language such as an increasing tendency for images to be organised into rectilinear groups, particularly during and after the reign of Den (see also Allen 2000: 5). The term emblematic is used as per Baines (1985: 41-63; 1989: 476).

Of particular importance is Baines’ recent recommendation for the study of the NIIA1 labels, that it: “…remains fundamentally important for comparative study of the invention of writing, which it opens up to less teleological and linguistically focused interpretation of the system in terms of the forms and capabilities it exhibits, rather than those of a more encompassing, generally, later system” (Baines 2004: 184, my emphasis). Beyond the question of the invention of writing (a point of departure which can be problematic for understanding the role of early graphical media on its own terms), the call for more comparative work is entirely relevant, not only to the NIIA1 evidence, but also to the NIIIC-early D material and this presents a key area for future research within the context of North East African and Near Eastern
graphical practice. Past, recent and ongoing studies (e.g. Kahl 1994; 2001; Kaplon 1963; Riley 1985; Regulski 2007) will also benefit from the greater contextualisation that comparative and practice-centred approaches offer. In addition to greater geographical coverage, an important next step for the present research is its integration with philological studies while avoiding the pitfalls of retrospective interpretation – and, vitally – building upon the procedure for grappling with this issue established in this thesis.

9.7 Labels in Their Wider Social Context

Research question 5 (Section 1.8.5) was concerned with how continuity and change in label practices related to broader transformations in early Egyptian society. There is the immediate social discourse of which the labels are part – a discourse which took place, in as far as it is preserved archaeologically, at the graveside. At the same time, this needs to be situated in relation to other areas of society in order to understand more fully how structures and ‘rules’ were constructed and derived to come into play in the very existence of such a discourse (Foucault 2002: xiv).

Due to archaeological bias in preservation, and excavation, access to direct evidence for non-funerary social contexts has been severely limited (Ray 1986: 308), until recently. Cemetery evidence has therefore played a central role in our understanding of aspects of early Egyptian society, such as the process of government:

In the course of the Early Dynastic Period, artisans and civil servants working for the central government were to fashion the highly sophisticated traditions of art and learning.... Information about the government is derived largely from seals, seal impressions, and inscribed wooden and ivory labels. This material naturally emphasizes ownership of goods and provisioning, and thus gives a far from balanced picture of the government of Egypt at this time.... the archaic form of the Egyptian script with which this material is inscribed presents numerous problems for the translator.

(Trigger et al. 2001: 50, 56)
This account highlights the kinds of methodological difficulties in reconstructing many aspects of early Egyptian society. As one of the main bodies of evidence for social hierarchy and government, as well as the developing iconography and ideology of rulership, the epistemological position of the label has become entrenched and self-limiting. Label types, associations and related contexts which do not fit into the largely top-down accounts are overlooked. Discussion and debate over the NIIIC-early D corpus centre on a handful of the better-known labels. At a maximum, 30-50 of the total labels published received consideration, most of which are explicitly formatted with a co-occurring ‘niched frame’ and ‘}’.

If we return to the areas of the label analysis where some of the main continuities and changes were demonstrated, many of the latter correspond to political transformations. The typological developments set out at the end of Chapter 8 coincide with major social changes including the acceleration of political unification and rule under Narmer. Typological change also coincides with smaller events in the form of regnal successions, some of which involved greater social and cultural change than others. Just when label-making and use appear to be flourishing (approximately 68 from Abydos and Saqqara date to Qa’a), this centuries-old custom ceases suddenly, perhaps being abandoned in favour of a different form of labelling with the beginning of the rule of Hetepsekhemwi, and the changes that led to the transfer of government administration to the Memphite area. Perhaps those who had perpetuated labelling practices over the generations were left behind? Equally, this may be a reflection of a gap in the archaeological record. Label practices may have ceased more gradually, however. The tombs of Qa’a’s successors have not yet been found (evidence suggests their tombs were in the area of the pyramid of Unas at Saqqara, Emery 1961: 92; Grimal 1997: 54). The relationship between label practices and the wider social changes of this period presents a particularly pressing area for further research.

The reign of Den emerges as a particularly pivotal period for label changes, as summarised in Figure 243. Other evidence also shows this to have been a period of innovation, as with the introduction of the stairway entrance to the tomb (Emery 1961: 79-80; see also Godron 1990 for a study of scriptorial evidence). The wider distribution of inscriptional evidence in Memphite cemeteries (Wengrow 2006: 228), also suggests an increase in the influence of the ruler. Particular attention is paid to the acts of the ruler in label depictions, e.g. IDs 294, 304 306 and 307,
alluding to social changes in the expression of elite identity and artistic practices. Charting the social impact of these innovations is, however, complicated by uneven preservation and limited context types; the preceding and subsequent rulers are poorly attested. For the labels, some 61 survive from the area of the complex of Den as compared with a single label dated to the co-regency/preceding reign of Merneith. For the subsequent reign of Anedjib, only a small fragment survives. The dynamic period that the reign of Den appears to be for label-making and use may be partly due to differential preservation, although later evidence indicates a long reign (Grimal 1997: 53).

One is hard-pressed to account for the labels with a single interpretation of function and meaning for the NIIIA1 or NIIC-early D labels as a whole or as temporally distinct corpora. Even for a single temporal or spatial context, this is rarely possible. Broad similarities could be charted in composition and for some Clusters types (Appendix 14) and these probably relate to relatively fixed functions and meanings, but how these transfer in terms of practice into the funerary setting eludes definition. It is striking that when the label types as defined (primarily on a compositional basis) are mapped onto the spatial dimension, types are almost always restricted to a single tomb context. The labels associated with Abydos complex O (Djer) on the Umm el-Qa’ab are separated by only 1600 m from those found in the subsidiary graves of the funerary enclosure of Djer (Figure 42). Yet there is no overlap in the types of labels encountered. That the unusual ‘tab’ labels span two reigns (Djer and Djet) but are unique to the enclosure area is also notable. Likewise, labels dated to Djer or Qa’a at Saqqara bear little relation to those from the same period from Abydos. The extent of the variability and the localisation of label practices has important implications for how we understand the relationship between scriptorial practices as deployed in the cemetery and early Egyptian government and the extent to which such practices were centrally administered.

At the same time, underlying the discontinuities attested between the NIIIA1 and NIIC-early D corpora and the changes associated with regnal succession, and localisation of form and content at the level of the tomb, a common set of principles and procedures underpin many aspects of label practices. This oscillation between the general and the specific – like the duality of participation and reification – is essential for understanding material cultural practice. The defining features of a label at the
barest minimum are its rectangular shape and the presence of at least one perforation. Slightly more variable but nevertheless limited in range are the types of materials used and the size of the labels. Here we saw differences between the two phases with the disappearance of stone, the decreased use of bone, increased use of ivory and the introduction of wood, as well as a continuation of smaller labels, and notably, the introduction of much larger types. Overall, we can infer the presence a set of structures of practice which label-makers consistently, somewhat rigidly, reproduced over social time-space that we can refer to, drawing on Giddens' terminology, as 'institutions', such as general morphology, range of materials, and context of use. Others exhibit more fluidity, albeit never exceeding a certain range. This was seen with the relationship between size and material (e.g. wooden labels tend to be larger), or with technique and content in a particular time-space context (e.g. labels dated to Qa’a at Abydos with ‘¹’ are incised while applied colour is used for those without ‘¹’). As label-designers/-makers drew on these less rigid 'social rules and resources' the process of reproduction or 'reification' was not merely giving expression through things that already existed, but in participation which involved renegotiating functions and meanings in a new context (Wenger 2002: 68).

The shapes of the objects, their materials and techniques guided embodied engagement and framed experience in specific ways. Cognitive engagement was structured through compositional conventions. The order of perception was certainly influenced by image location, scale, and organisation. The labels therefore represent material reifications of particular ways of thinking about the world, of classifying, organising and identifying things, people and places. For certain knowledgeable members of early Egyptian society this may have included the mortal and the divine, the living as well as the dead. Through participation in the reproduction of label practices over time-space, the labels as historical objects would, among other things, have signalled membership in particular communities of practice – perhaps graphical practitioners and related artisans, and those involved in labelling and marking activities in the funerary sphere and possibly elsewhere – and in so doing simultaneously reproduced and reaffirmed those social relationships.
Chapter 9: Conclusions and Future Prospects

9.8 Concluding Remarks

The aim of the thesis has been to move beyond levels of assumptions in the study of early graphical material culture as represented in the philological debates over the emergence of script. It combines a methodological principle of synchronic focus as a starting-point of analysis fused with a methodological principle of context-sensitivity as delivered in archaeology, and adopts the ATLAS.ti software for delivering the data on that fused ground. The theoretical philosophy that binds this thesis together is the notion of images as both processes and outcomes of material-based practice and the importance of understanding practice in the context social time-space. This thesis therefore constitutes a critique of the ontology of the image, in archaeology generally, and in early Egyptian archaeology specifically.

However it is codified by its users or reconstructed by us, knowledge about images is anchored inaugurally in a psychological event ‘outside history’, the moment of taking a mark for something in the world, forever inaccessible to us archaeologically.

(Davis 1989a: 186)

If, however, we see knowledge as more than pieces of information explicitly stored in the brain, that knowing involves primarily active participation in social communities (Wenger 2002: 10), we see that knowledge about images, or any thing for that matter, cannot be separated from the material world. In perpetuating the Cartesian separation of mind:body or subject:object we run the risk of robbing images of their ‘thingness’, and the ways in which they were part of lived relationships and experiences. Learning about, creating, identifying or perceiving images are all processes anchored in embodied perception and/or material action. The psychological process informs, and is informed by, sensory perception and muscular activity in relation to the material world, including bodies, tools, substances and surfaces via a range of media and in a range of social contexts, times and places. While the immediate cognitive process escapes the probing of the archaeologist’s spade, the practice of image-related knowledge can leave material residues which must be integrated into our reconstructions of past society.

At the conclusion of this research I believe that the method developed here for a contextual archaeology of the graphical image offers a coherent alternative to
CHAPTER 9: CONCLUSIONS AND FUTURE PROSPECTS

text: archaeology divisions. Moreover, I hope it demonstrates the potential for non-retrospective explanation and the importance of situating the study of past graphical-material culture firmly within the domain of human interaction and experience.
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and Chłodnicki, M. (eds.) *Egypt at its Origins: Studies in memory of 
Barbara Adams: Proceedings of the Conference on the Origin of the State: 

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243.


Writing, ‘Art’ and Society:
A Contextual Archaeology of the Inscribed Labels
of Late Predynastic-Early Dynastic Egypt

Kathryn E. Piquette

Volume 2

Thesis Submitted to the University of London
for the Degree of Doctor of Philosophy

INSTITUTE OF ARCHAEOLOGY
UNIVERSITY COLLEGE LONDON

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Figures
Figures

**Figure 1.** An ivory (upper, ID 114) and stone label (lower, ID 178), Cemetery U, Abydos, NIII A1 (c. 3300/c. 3100 BCE). (Photograph with permission of the DAI)

**Figure 2.** NIIIC (c. 3100-c. 3000 BCE) labels, IDs 242, 219, 189, 220 (clockwise), 'Royal Tombs' Cemetery, Abydos. (Photograph with permission of the Berlin Ägyptisches Museum)

**Figure 3.** Example of a fragment of what may be a label (ID 292). Dated to the reign of Den, (c. 3000 BCE), ivory, Abydos. (Photo with permission of the University of Pennsylvania Museum of Archaeology and Anthropology)
Figure 4. Example of a relatively complete label. Dated to the reign of Den (c. 3000 BCE), wood, Abydos. ID 307. (Photograph with permission of the British Museum)

Figure 5. Ivory label ID 205 from Abydos bearing the personal indicator of a ruler symbolised by 'catfish' and 'chisel' in two different configurations. (Dreyer et al. 1998: 139, fig. 29)

<table>
<thead>
<tr>
<th>Cultural Phase</th>
<th>Calibrated Dates BCE</th>
<th>Dynasty</th>
<th>Period</th>
<th>Rulers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naqada IID</td>
<td>from c. 2900 onwards</td>
<td>2</td>
<td>Early Dynastic</td>
<td>Hetepsekhemwi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Qa'a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Semerkhet</td>
</tr>
<tr>
<td>Naqada IIIC2</td>
<td>c. 3000-2900</td>
<td></td>
<td></td>
<td>Anedjib</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Den</td>
</tr>
<tr>
<td>Naqada IIIC1</td>
<td>c. 3100-3000</td>
<td>↑</td>
<td></td>
<td>Merneith</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>Djet</td>
</tr>
<tr>
<td>Naqada IIIA1-IIIIB</td>
<td>c. 3300/3200-3100</td>
<td>'0'</td>
<td>Proto-Dynastic</td>
<td>Iri-Hor/Ka (?)</td>
</tr>
<tr>
<td>Naqada IIC-IIID2</td>
<td>c. 3650-3300/3200</td>
<td></td>
<td></td>
<td>Owner of Tomb U-j</td>
</tr>
<tr>
<td>Naqada IA-IIIB</td>
<td>c. 3900-3650</td>
<td></td>
<td>Pre-Dynastic</td>
<td>Aha</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Narmer</td>
</tr>
</tbody>
</table>

Figure 6. Chronological table. (after Hendrickx 1996: 64 and Wilkinson 2001: 27)
Figure 7. Map of Egypt with label find sites in bold. (after Adams and Cialowicz 1997: 66)
<table>
<thead>
<tr>
<th>Source</th>
<th>Site</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Morgan 1897</td>
<td>Naqada</td>
<td>7</td>
</tr>
<tr>
<td>Garstang 1905</td>
<td>Naqada</td>
<td>3</td>
</tr>
<tr>
<td><strong>Naqada total = 10</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amélineau 1899</td>
<td>Abydos (U, B and RT)</td>
<td>4</td>
</tr>
<tr>
<td>Petrie 1900</td>
<td>Abydos (B and RT)</td>
<td>22</td>
</tr>
<tr>
<td>Petrie 1901b</td>
<td>Abydos (B and RT)</td>
<td>60</td>
</tr>
<tr>
<td>Petrie 1902</td>
<td>Abydos (B and RT)</td>
<td>3</td>
</tr>
<tr>
<td>Amélineau 1904-1905</td>
<td>Abydos (B and RT)</td>
<td>5 or 6</td>
</tr>
<tr>
<td>Petrie 1925</td>
<td>Abydos (North Cemetery)</td>
<td>14</td>
</tr>
<tr>
<td>Kaplony 1963</td>
<td>Abydos (RT)</td>
<td>1</td>
</tr>
<tr>
<td>Kaiser and Dreyer 1982</td>
<td>Abydos (B)</td>
<td>1</td>
</tr>
<tr>
<td>Dreyer et al. 1990</td>
<td>Abydos (RT)</td>
<td>4</td>
</tr>
<tr>
<td>Dreyer 1993</td>
<td>Abydos (RT)</td>
<td>1</td>
</tr>
<tr>
<td>Dreyer et al. 1993</td>
<td>Abydos (U and RT)</td>
<td>1 (+ 8 mentioned in Dreyer 1998)</td>
</tr>
<tr>
<td>Dreyer et al. 1996</td>
<td>Abydos (RT)</td>
<td>4 (+ about 40, all in Engel 1997)</td>
</tr>
<tr>
<td>Dreyer 1998</td>
<td>Abydos (U)</td>
<td>168</td>
</tr>
<tr>
<td>Dreyer et al. 1998</td>
<td>Abydos (B and RT)</td>
<td>11</td>
</tr>
<tr>
<td>Dreyer et al. 2000</td>
<td>Abydos (RT)</td>
<td>2</td>
</tr>
<tr>
<td>Dreyer et al. 2003</td>
<td>Abydos (RT)</td>
<td>3</td>
</tr>
<tr>
<td>Engel 1997</td>
<td>Abydos (RT)</td>
<td>53</td>
</tr>
<tr>
<td>Unpublished</td>
<td>Abydos (B and RT)</td>
<td>16</td>
</tr>
<tr>
<td><strong>Abydos total = about 373</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sa’ad 1951</td>
<td>Helwan</td>
<td>3</td>
</tr>
<tr>
<td>Köhler 2004</td>
<td>Helwan</td>
<td>3</td>
</tr>
<tr>
<td><strong>Helwan total = 6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quibell 1923</td>
<td>Saqqara (North)</td>
<td>3</td>
</tr>
<tr>
<td>Emery 1938</td>
<td>Saqqara (North)</td>
<td>11 (or 13)</td>
</tr>
<tr>
<td>Macramallah 1940</td>
<td>Saqqara (West)</td>
<td>4</td>
</tr>
<tr>
<td>Emery 1949</td>
<td>Saqqara (North)</td>
<td>2</td>
</tr>
<tr>
<td>Emery 1954</td>
<td>Saqqara (North)</td>
<td>19</td>
</tr>
<tr>
<td><strong>Saqqara total = 39</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leclant 1961</td>
<td>Tura</td>
<td>1</td>
</tr>
<tr>
<td><strong>Tura Total = 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unpublished</td>
<td>Giza</td>
<td>1</td>
</tr>
<tr>
<td><strong>Giza total = 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unpublished</td>
<td>Abu Rowash</td>
<td>1</td>
</tr>
<tr>
<td><strong>Abu Rowash total = 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Müller 1964</td>
<td>Unprovenanced</td>
<td>2</td>
</tr>
<tr>
<td><strong>Unprovenanced = 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL LABELS</strong></td>
<td></td>
<td>433</td>
</tr>
</tbody>
</table>

Figure 8. Primary sources for label, find sites and quantities.

1 "RT" = 'Royal' Tombs Cemetery
Figure 9. Reconstructions of seal impressions listing ruler personal indicators and other imagery, from the tomb of Den (above) and Qa’a (below), Abydos. (Wengrow 2006: 132, fig. 6.3 Dreyer et al. 1996: 72, fig. 26)

Figure 10. Vessels from Tomb U, Abydos, attributed to Semerkhet bearing erasures of the personal indicator of Anedjib. (Petrie 1901b: pl. 6, nos. 9-10)
Figure 11. General plan of Abydos cemeteries U, B and the Royal Tombs. (Cialowicz 2001: 128, fig. 11, after Petrie 1900b: pl. 58 and Dreyer 1998: fig. 1)

<table>
<thead>
<tr>
<th>Museums with Labels</th>
<th>Quantity</th>
<th>Studied First-hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abydos</td>
<td>80+</td>
<td>Partially</td>
</tr>
<tr>
<td>Ägyptisches Museum, Berlin</td>
<td>10 (+4 lost)</td>
<td>Partially</td>
</tr>
<tr>
<td>Ashmolean Museum, Oxford</td>
<td>17</td>
<td>Yes</td>
</tr>
<tr>
<td>Bolton Museum</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>British Museum, London</td>
<td>13</td>
<td>Yes</td>
</tr>
<tr>
<td>Egyptian Museum, Cairo</td>
<td>58 (+7 unseen)</td>
<td>Partially</td>
</tr>
<tr>
<td>Fitzwilliam Museum, Cambridge</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>Kofler-Truniger Collection, Luzern</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Liverpool Museum, Liverpool</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Manchester Museum, Manchester</td>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>Metropolitan Museum of Art, New York</td>
<td>3</td>
<td>Yes</td>
</tr>
<tr>
<td>Musée Louvre, Paris</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Musées royaux d'Art et d'Histoire, Brussels</td>
<td>10</td>
<td>Yes</td>
</tr>
<tr>
<td>Museum of Fine Arts, Boston</td>
<td>3</td>
<td>Yes</td>
</tr>
<tr>
<td>Oriental Institute Museum, Chicago</td>
<td>20</td>
<td>Yes</td>
</tr>
<tr>
<td>Petrie Museum of Egyptian Archaeology, London</td>
<td>8</td>
<td>Yes</td>
</tr>
<tr>
<td>University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia</td>
<td>13</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Figure 12. Present location with labels, quantity and indication of whether studied first-hand.
Figure 13. *Ivory plaque carved in raised relief, Helwan.* (Sa’ad 1969: pl. 3)

Figure 14. *Glass stamp illustrating the material embeddedness of imagery and the importance of the conditions of inscription (e.g. heat and pressure).* Reads: Order of the servant of God Yezyd amyr of the faithful; qist of oil, exact [sic], by the hand of Abu.... A.H. 60-64. Yezyd, Khalfah 680-683 AD, 1:1. (Petrie 1926: pls. 11-12, no. 86)

Figure 15. **Upper Left:** Photo of an ivory plaque. (Petrie 1901b: pl. 3, no. 1) **Upper Right:** Drawing presumably based on the photograph omits the upper part of the ‘bird’s head’ and the perforation in the upper right corner (Emery 1961: 53, fig. 13). **Bottom:** Author’s photo for comparison.
Figure 16. **Left:** Black and white photo of ID 236 showing the condition of the label when photographed for the excavation report (Petrie 1901b: pl. 5, no. 1). **Right:** Present condition showing label was subsequently crushed and mended, UPM E 940, Abydos, dated to Djer, hippopotamus ivory.

Figure 17. *Labels from Cemetery U, Abydos, mounted inside sealed box in the Egyptian Museum.*
Colour:
In the top right, the colour of ‘\(\text{+}\text{+}\)’ is green, however, the left most stalk of ‘\(\text{+}\)’ is filled with red paste. The colours may have degraded differentially since Emery’s observations but all other VO\(\text{s}\) shown as green, apart from ‘\(\text{+}\)’ in the lower register, are currently darker grey in colour. This also applies to the pigment in the incisions in the ‘ladder’ section of the item carried by the ‘figure’ to the right of the ‘niched frame’ and the incisions forming the ‘heads’ of the ‘human figures’, including the ‘locks of hair’ or ‘forehead protrusions’ of the ‘seated figures’ in the second register.

Morphology:
In the first register, the element atop the ‘ladder’ appears to have a central horizontal line running from one side to the other omitted from the drawing (assuming this is not the wood grain). In the second register, the protrusion from the head of the ‘bird’ contiguous with a ‘disk’ is omitted from the drawing. Also omitted from the drawing is a shape above the head of the ‘seated figure’ (first from the right) — a vertical element with a horizontal line filled with dark grey pigment forming a right angle and extending to the damaged edge. To the left of the figure the ‘>\text{-}\text{shape}’ is not fully drawn and probably depicts a ‘bird’. Immediately to its right, and left of the ‘figure’, is a continuous, rather than broken, incised line resembling a ‘sickle’. In the lower left bottom register in the ‘vessel’ has a pointed rather than rounded base.

Figure 18. Left: Colour photograph of ID 241 for comparison with drawing. Right: Colour tinted drawing with various omissions. (Emery 1938:pl. 18A)
Figure 19. Screen capture of the ATLAS.ii HU with the Primary Document ID 287 open (Macramallah 1940: 16, fig. 17D, pl. 48, no. 1). The numbered outlined areas or 'Quotations' have been encoded for a range of variables, including what they depict. The box on the right shows that Quote 7, named 'lion forepart', has also been encoded.

Figure 20. Network view of IDs 209, 210, and 241 (note figure uses old ID number system). Dashed lines extending from PDs with full image represent Codes. Solid lines represent Relational Links with relationship type indicated, in this case resemblances between labels 'scenes'.
Figure 21. Ivory label ID 239 with secondary side showing markings which may be diagnostic of specific part of the tusk/tooth, E.1498. (photo with permission of the Ashmolean Museum)

Figure 22. Drawing of wooden label ID 265 dated to the reign of Djer with a range of ‘visual objects’; a Cluster is indicated above and a ‘lion forepart’ VO is indicated below, Saqqara. (Emery 1954: 105, fig. 109)

<table>
<thead>
<tr>
<th>Code</th>
<th>Archaeological Context type</th>
<th>Quantity of Labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In situ</td>
<td>8?</td>
</tr>
<tr>
<td>2</td>
<td>Chamber/grave</td>
<td>245</td>
</tr>
<tr>
<td>3</td>
<td>Multi-chambered tomb (chamber unspecified)</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>Surface/secondary deposits/unclear</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>433</strong></td>
</tr>
</tbody>
</table>

Figure 23. Quantity of labels per type of archaeological integrity.
Figure 24. Plan of the Naqada cemetery with Naqada Tomb (Tombeau royal) indicated. (De Morgan 1897: 148, fig. 513)

Figure 25. Plan of the Naqada Tomb with label find locations indicated. (after De Morgan 1897: 155, fig. 518)
Umm el-Qa’ab: Cemetery U

Figure 26. Detail of Cemetery U. (after Dreyer 1998: 5, fig. 1)
Figure 27. Plan of Tomb U-j. (after Dreyer 1998: fig. 2)

Figure 28. Ivory object with traces of red colour found in the northeast corner of tomb U-j Chamber. (Dreyer 1998: 146-147, fig. 85, no. 200, pl. 36)
Figure 29. Chamber 1, Tomb U-j. Contained wavy-handled jars in the northern end (top of photograph). (Dreyer 1998: pl. 4a)

Figure 30. Plan of Cemetery B showing B10 (unknown), B17/B18 (Narmer), and B19/B15/B10/14/12 (Aha) with accompanying subsidiary graves B16. (after Dreyer et al. 1990: fig. 1)
Figure 31. Tomb B50 where bone label ID 188, beads and the remains of wood were found. (Dreyer et al. 1990: fig 5)

Figure 32. Graves excavated by Amélineau's expedition in the first season on the east of the "premier plateau", now known as "B16" (see figure below). (after Amélineau 1904: viii)
Figure 33. Plan of the tomb complex attributed to Djer (cf. figure below). ID 306 is reported as found in Grave 83 in the row to the west. (after Amélineau 1904: vi)

Figure 34. Tomb O attributed to Djer. The tomb is surrounded by 318 subsidiary graves. (Reisner 1936: 22, fig. 18, after Petrie 1901b: pl. 60)
Figure 35. Tomb Z attributed to Djef. Surrounded by 174 subsidiary graves. (Reisner 1936:24, fig. 16, after Petrie 1900b: pl. 61)

Figure 36. Tomb Y attributed to Merneith. The central burial and magazines are surrounded by 41 subsidiary graves. (Reisner 1936: 24, fig. 20, after Petrie 1901b: pl. 61)
Figure 37. Tomb T attributed to Den with stairway entrance to the burial chamber. Surrounded by about 136 subsidiary graves. (Reisner 1936: 59, after Petrie 1901a: pl. 62)

Figure 38. Labels IDs 298, 319 and 331 were found in auxiliary chamber S1 located on the southwest corner of the tomb of Den. (after Dreyer et al. 1990: 77, fig. 8)
Figure 39. Tomb X attributed to Anedjib. Surrounded by 64 subsidiary graves. (after Reisner 1936: 61, fig. 42, and Petrie 1900b: pl. 61)

Figure 40. Tomb U attributed to Semerkhet. Surrounded by about 68 subsidiary graves. (after Reisner 1936: 61, fig. 45, after Petrie 1900b: pl. 60)
Figure 41. Tomb Q attributed to Qa‘a, including magazines and about 26 subsidiary graves. (after Engel 1997: 223, fig. 123)

Figure 42. The secondary face of ID 295 with cork glued to the surface, possible obscuring Petrie’s pencil marking. “6” and “6146” in pencil, and “6146” in yellow relate to the Oriental Institute collection object number. (Photograph with permission of the Oriental Institute)
Figure 43. Funerary enclosures of Djer and Djet with subsidiary graves where labels were found. (after O'Connor 1989: 52, fig.1)

Figure 44. Plan of the Early Dynastic necropolis at Saqqara. “Small graves of 1st Dynasty” comprise the West Saqqara Cemetery. (after Spencer 1993: 105, fig. 80)
Figure 45. Sketch map of 1st-dynasty upper class cemetery at North Saqqara with ruler whose name occurs in a given tomb indicated. (after Emery 1954: 5, fig 1)

Figure 46. Plan of the Saqqara cemetery showing the large mastaba S2171 under which the small 1st-dynasty Tomb S2171 H was found, containing IDs 229, 243 and 254. (after Quibell 1923: pl. 1)
Figure 47. S2171 H in which IDs 229, 243 and 254 were found. 1.4 x 1.5 m, about 90 cm deep. (Quibell 1923: pl. 11, no. 2)

Figure 48. Finds from Saqqara Tomb 2171 H. ID 254 included in upper right corner of upper left photograph. (Quibell 1923: pl. 11, nos. 4, 6-7)
Figure 49. Aerial view of S3035. (Emery 1938: pl. 3)

Figure 50. Plan of S3035. (Vandier 1952: 660, fig. 425, after Emery 1938: pl. 1)
Figure 51. Left: Tomb S3035, Magazine AA. Right: Leather bag found in Magazine AA. (Emery 1938: pl. 19a and c, respectively)

Figure 52. Fragment of cord found threaded through perforation in S3035, Magazine Z (ID 241). (Photograph with permission of the Egyptian Museum)
Figure 53. Label find spots indicated on plan of S3504 prior to the reconstruction of the fire-damaged burial chamber during the reign of Qa’a. (after Emery 1954: pl. 1)
Figure 54. Part of bench against the east façade of the superstructure of Saqqara Tomb 3504 with horned cattle skulls with mud sculpting. (Emery 1954: pl. 7a)

Figure 55. Tomb 3504, Magazine S with remains of objects. (Emery 1954: pl. 16b)

Figure 56. Tomb 3504, Magazine T, top layer of fill. (Emery 1954: pl. 16a.)
Figure 57. Tomb 3504, Magazine BB showing sandals, arrow quiver, and reed matting. Wooden label ID 268 was found here. (Emery 1954: pl. 16c)

Figure 58. Tomb 3504, burial chamber, Sub-room OO. Human remains in the restored burial chamber. 8 or 9 wooden labels were found here (see Figure 53 – central chamber). (Emery 1954: pl. 12c)
Figure 59. Tomb 3504, Sub-magazine N. Baskets. One wooden label (ID 369) was found here. (Emery 1954: pl. 17b)

Figure 60. Tomb 3504, Sub-magazine Y with stone vessels. One wooden label (ID 264) was found here. (Emery 1954: pl. 29b)

Figure 61. Saqqara Tomb X. Two labels were found in the burial chamber. (Emery 1949: pl. 43)
Figure 62. The 'Middle Class' Cemetery at West Saqqara west of the Serapeum. Detail shows the tombs in the central south sondage with Tomb 59 in the centre of groups "B" and "C". (after Macramallah 1904: pls.1-2)

Figure 63. W59 consists of a single rectangular Type "A" grave with rounded corners (2.3 x 1.23 x 1.10 m). The deceased, an adult male, was placed on the back with the head to the north. (Macramallah 1940: pl. 19)
Figure 64. Vessels and palette (no. 34) found in Tomb 59. (Macramallah 1940: 37, fig. 29; not to scale)

Figure 65. Vessels depicted on the four labels found in Tomb 59 for comparison with drawings of the vessels found in the tomb in Figure 64 (above). Note that solid black line on ID 285 represents the lower edge of the label, not a line drawn by the composer.

Figure 66. Mastaba Tomb V, Giza, with subsidiary graves. (Reisner 1936: 31, fig. 23, after Petrie 1907: pl. 6)
Figure 67. Preliminary plan of the cemetery at Abu Rowash, where label ID 370 was probably found. (after Baud et al. 2003: 52, fig. 2)

Figure 68. Vessels placed inside a basket. Subsidiary grave V, 15, Giza. (Petrie 1907: pl. 2)
Figure 69. Percentage of 'substrate' materials used in the manufacture of all labels. Bone is the commonest material at 36-42%. Together the ivory types comprise 40-46%.

Figure 70. Percentage of materials used in the manufacture of the NIII A1 labels, all from cemetery U at Abydos. Bone is the commonest material at 65-73%.

Figure 71. Materials used in the manufacture of NIII C-early D labels.
Figure 72. Distribution of materials by general chronological phase.

Figure 73. Distribution of NIIIIG-early D label materials by reign.
**Figure 74.** NIIA1 bone label (ID 11) with a metapodial seam indicated by the arrow. Tomb U-j, 11, Abydos. Scale 1:2. Dreyer 1998: pl. 27, no. 10.

**Figure 75.** Cattle metapodia in dorsal view and transversal section showing flat surface probably extracted for label making (after Páral et al. 2004: pls. 3 and 4).
Figure 76. Left: Bottom edge of 'blank' label ID 340 of a denser, heavier wood; Tomb 3035, Saqqara; JE 70113. Right: Left edge of label made from a remarkably light-weight wood. The hole in the edge, if not modern damage, may by indicative of recycling. ID 227; Tomb O (Djer), Abydos; BM 35525.

Figure 77. Spatial distribution of label materials. (Tura label material unknown (ID 354))
Figure 78. IDs 212 and 213, both of elephant ivory, are calcine and warped from exposure to high heat. Note similar breakage patterns. Naqada. (Photographs with permission of the Egyptian Museum and Liverpool Museum, respectively)

Figure 79. Level of preservation for all NIII A1 label materials. Preservation for 22 is unclear/unavailable.

Figure 80. Level of preservation of all materials for the NIIIC-early D labels. Preservation for 1 is unclear/unavailable.
### Figures

<table>
<thead>
<tr>
<th>Material</th>
<th>Size</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>bone</td>
<td>12</td>
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</tr>
<tr>
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<td>34</td>
<td>21</td>
</tr>
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<td>wood</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>bone/ivory</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

**Figure 81.** Label material by size cross-tabulation showing a trend for wooden labels to be larger while bone and ivory tend to be smaller.

**Preservation (Constraste) for NIIIA1 Labels**

- Complete: 3%
- Moderately Well-preserved: 21%
- Poorly Preserved: 16%
- Not Preserved: 60%

**Figure 82.** Level of preservation for decoration on the NIIIA1 labels.

**Preservation (Constraste) for NIIIC-early D Labels**

- Complete: 8%
- Moderately Well-preserved: 20%
- Poorly Preserved: 54%
- Not Preserved: 18%

**Figure 83.** Level of preservation for decoration on the NIIIC-early D labels.
Figure 84. Evidence for wood conversion techniques. Left: Evidence for cutting from the 'primary' to the 'secondary' side of ID 228 with line of conversions moving from bottom to top, front to back creating a flared tang of wood at the 'back'. Right: Conversion lines visible on the edge of wooden label ID 203, running at an angle from upper left to lower right.

<table>
<thead>
<tr>
<th>Perforation Type</th>
<th>Total</th>
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<tbody>
<tr>
<td>Single</td>
<td>329</td>
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<tr>
<td>Unpreserved</td>
<td>89</td>
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<tr>
<td>Data unavailable</td>
<td>2</td>
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<tr>
<td>Single, tab, lateral</td>
<td>7</td>
</tr>
<tr>
<td>Treble</td>
<td>2</td>
</tr>
<tr>
<td>Double</td>
<td>1</td>
</tr>
<tr>
<td>Single, tab, frontal</td>
<td>1</td>
</tr>
<tr>
<td>Quadruple</td>
<td>1</td>
</tr>
<tr>
<td>Unperforated</td>
<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>433</strong></td>
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</tbody>
</table>

Figure 85. Perforation type and quantities for all labels. Multiple and tab perforation are attested only among NIHIC-early D labels.

Figure 86. Distribution of perforation on surface of label by chronological phase.
Figure 87. ID 242 (left) and ID 414 (right) showing the relatively smooth edges of the perforation on the primary faces and the slight horizontal splintering around the edges on the secondary face suggesting these perforations were drilled from 'front' to 'back'.

Figure 88. Techniques attested on the NIIIA1 labels and the percentage of each.

Figure 89. Techniques attested on the NIIIC-early D labels and the percentage of each.
Figure 90. IDs 378-380 showing differences in technical style and orthography on labels from the same archaeological context, NIIC-early D, Helwan. (Sa‘ad 1969: 177, pl. 97)

Figure 91. ID 198 with details of the upper and lower left corners showing discoloration that is difficult to explain if due to heat exposure.
Figure 92. The range of coloured pigments attested on the NI11A1 labels, Abydos. **Left:** ID 81 showing black paste infill; Tomb U-j, II. **Centre:** ID 37 showing a greenish infill; Tomb U-j, II. **Right:** ID 87 showing incision with brownish paste or what may be accreted sand or dirt; Tomb U-k, south. All incised bone and single-sided.

Figure 93. Examples of colour on NI1IC-early D labels.
Figure 94. ID 236 showing white substance infilling incision in lower part of label. (Petrie 1901b: pl. 5, no. 1)

Figure 95. Techniques attested per side per phase. The technique for the primary side of four NIIIA1 labels is unclear.

Figure 96. Left: Elephant ivory label ID 377. Right: View of the same from the secondary side with hole drill in its top edge probably from prior use indicating recycling. Hole at top of perforation also appears to be from prior use or manufacture rather than use wear. Saqqara Tomb 59; NIIC-early D; Cairo Egyptian Museum, JE 86172.
Figure 97. Correlation between label materials and techniques for the NIIIA1 labels. Neither wood or applied colour are attested.

Figure 98. Correlation between label materials and techniques for the NIIIC-early D labels. Stone is not attested. Uncertain examples excluded.
Figure 99. Cutting the hide, flesh and other soft tissue away from the bone with roughly-knapped flint tools.

Figure 100. Improvised vice to holding bone steady while sawing of cranial face of metapodial.

Figure 101. Sanding bone flat on a rough stone.
Figure 102. Drilling a hole in a label plaque was easily accomplished if held in a vice, but was also possible if held in the hand, unlike incision (based on our skill level).

Figure 103. Institute of Archaeology student incising a bone label with a small woodworking chisel. The plaque was set on a rough surface to reduce slippage when applying pressure.
Figure 104. In contrast to the method shown in Figure 104, incising a label while holding it in the hand was more difficult with regard to stability and control.

Figure 105. Inserting the plaque into a block of wood to hold it steady while incising was the easiest method and incision could be accomplished more quickly and precisely.

Figure 106. Left: Bone label showing rough protruding edges at the top and bottom from cutting partially through the bone before breaking off.
Figure 107. Laura Jay holding finished experimental label of a bubalus similar to ID 92, made from a cattle metapodial.

Figure 108. Laura Hadley, holding finished experimental labels, after IDs 132 and 150, made from a cattle metapodial.
<table>
<thead>
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<th>Aim of Episode</th>
<th>Tools and Resources</th>
<th>Factors and Concerns</th>
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<tbody>
<tr>
<td>Formulating idea</td>
<td>Cognition, symbolism, cultural transmission of artistic and craft knowledge, muscular memory</td>
<td>Size, technique, format, colour, mode, scale, association, orientation, view</td>
</tr>
<tr>
<td>Designing</td>
<td>Practical considerations</td>
<td>Identiy, prestige, status, rank, gender, age, occupation, ownership, power, belief, ideology</td>
</tr>
<tr>
<td>Choosing material</td>
<td>Practical considerations</td>
<td>Resource availability, size, texture, weight, colour, technique, tool capability</td>
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<tr>
<td>Acquiring material</td>
<td>Tools, local knowledge, hunting, scavenging, exchange, reuse</td>
<td>Style, Technique, form</td>
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<td>Transporting (to place of manufacture)</td>
<td>Boat, animal, human</td>
<td>Distance, time, effort, cost</td>
</tr>
<tr>
<td>Treatment</td>
<td>Tools, cleaning, soaking, drying, waste</td>
<td>Time, effort, cost</td>
</tr>
<tr>
<td>Preparing substance/surface</td>
<td>Tools, skill, conditions, techniques, waste, symbolic knowledge</td>
<td>Cutting, shaping, scraping, sanding, drilling</td>
</tr>
<tr>
<td>Rendering constrate/images (material acquisition)</td>
<td>Tools, skill, conditions, techniques, symbolic knowledge</td>
<td>Incising, applying paste, applying pigment</td>
</tr>
<tr>
<td>Transporting (to place(s) of use)</td>
<td>Boat, animal, human</td>
<td>Distance, time, effort, cost</td>
</tr>
<tr>
<td>Using</td>
<td>Active, passive, Reception/visibility/audienceing</td>
<td>Symbolic considerations</td>
</tr>
<tr>
<td>Maintaining</td>
<td>Erasures</td>
<td>Scratching out, re-incising</td>
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<tr>
<td>Depositing</td>
<td>Ritual, performance</td>
<td></td>
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<tr>
<td>Discarding</td>
<td>Forgetting</td>
<td></td>
</tr>
<tr>
<td>Post-depositional processes</td>
<td>Burning, looting, tomb refitting, tomb refurbishment</td>
<td></td>
</tr>
<tr>
<td>Excavating</td>
<td>Moved, broken, recorded, photographed</td>
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<tr>
<td>Publishing</td>
<td>Written, drawn, photographed</td>
<td>Cost, conventions, politics</td>
</tr>
<tr>
<td>Oral presentation</td>
<td>Speaking, projecting, discussing</td>
<td></td>
</tr>
<tr>
<td>Curating</td>
<td>Conservation treatments, damage, study</td>
<td></td>
</tr>
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</table>

Figure 109. A chaîne opératoire of the labels.
<table>
<thead>
<tr>
<th>Image type</th>
<th>Code</th>
<th>Description</th>
<th>Example</th>
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<tbody>
<tr>
<td>Visual object</td>
<td>VO</td>
<td>Broad term for all image types</td>
<td>Any of the below</td>
</tr>
<tr>
<td>- Simple visual object</td>
<td>SVO</td>
<td>Images that form a single isolated entity and do not come into direct</td>
<td><img src="example1.png" alt="image" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>contact with other images</td>
<td></td>
</tr>
<tr>
<td>- Composite visual object</td>
<td>CVO</td>
<td>Comprised of two or more images in direct contact through the associations</td>
<td><img src="example2.png" alt="image" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>of contiguity and/or bounding</td>
<td></td>
</tr>
<tr>
<td>- Composite element</td>
<td>CE</td>
<td>Components of a CVO are essentially SVOs, but to differentiate them in</td>
<td><img src="example3.png" alt="image" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>coding and analysis they are termed CEs</td>
<td></td>
</tr>
<tr>
<td>- Structuring element</td>
<td>SE</td>
<td>Vertical and horizontal lines used to structure the composition (attested</td>
<td><img src="example4.png" alt="image" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>from the beginning of NIIC-early D)</td>
<td></td>
</tr>
</tbody>
</table>

Figure 110. Visual object types, their abbreviation as used in the text, brief description and examples.
Figure 111. *SVO and CE frequencies by phase.*

Figure 112. *SVO and CVO frequencies by phase.*
**Figures**

**Table: Family Groupings**

<table>
<thead>
<tr>
<th>Family Groupings</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><strong>Figural</strong></td>
<td>VOs resembling objects from the early Egyptian world yet familiar to the modern observer (following Flood 1989: 287)</td>
</tr>
<tr>
<td>Adornment</td>
<td>12 Families, 2186 VOs</td>
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<tr>
<td>Architecture</td>
<td></td>
</tr>
<tr>
<td>Body Elements</td>
<td></td>
</tr>
<tr>
<td>Containers</td>
<td></td>
</tr>
<tr>
<td>Fauna</td>
<td></td>
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<tr>
<td>Figures</td>
<td></td>
</tr>
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<td>Flora</td>
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<tr>
<td>Furniture</td>
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<tr>
<td>Implements</td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td><strong>Linear &amp; Geometric</strong></td>
<td>Non-figural but can be classified according to morphological features and compositional function</td>
</tr>
<tr>
<td>Circular</td>
<td>9 Families, 1200 VOs</td>
</tr>
<tr>
<td>Curvilinear</td>
<td></td>
</tr>
<tr>
<td>Frames</td>
<td></td>
</tr>
<tr>
<td>Lines, Complex</td>
<td></td>
</tr>
<tr>
<td>Lines, SE</td>
<td></td>
</tr>
<tr>
<td>Lines, Simple</td>
<td></td>
</tr>
<tr>
<td>Rectangular</td>
<td></td>
</tr>
<tr>
<td>Strokes &amp; Notches</td>
<td></td>
</tr>
<tr>
<td>Triangles</td>
<td></td>
</tr>
<tr>
<td><strong>Unclassifiable</strong></td>
<td>Morphology does not fit into either above Family groupings</td>
</tr>
<tr>
<td>(see Figure 136 for selected list of Codes)</td>
<td>84 (sub-)Families, 260 VOs</td>
</tr>
<tr>
<td><strong>Unclear</strong></td>
<td>Poorly preserved or laconic and therefore cannot be accurately identified or described</td>
</tr>
<tr>
<td>Unclear SVO</td>
<td>1 Family, 369 VOs</td>
</tr>
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**Figure 113. Four main groupings of VO Families.**

**Figure 114. VOs by phase with quantity and percentage of those definitely identified and those possibly identified. Analysis focuses on the former.**
<table>
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<th>Adornment</th>
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<tbody>
<tr>
<td>Headgear</td>
<td>38</td>
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<tr>
<td>Kilt, short</td>
<td>25</td>
</tr>
<tr>
<td>Robe/wrap</td>
<td>14</td>
</tr>
<tr>
<td>Collar</td>
<td>8</td>
</tr>
<tr>
<td>Garment, long</td>
<td>6</td>
</tr>
<tr>
<td>Tail</td>
<td>6</td>
</tr>
<tr>
<td>Penis sheath(?)</td>
<td>4</td>
</tr>
<tr>
<td>Belt</td>
<td>5</td>
</tr>
<tr>
<td>Kilt, long</td>
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</tr>
<tr>
<td>Necklace beads(?)</td>
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</tr>
<tr>
<td>Sandal</td>
<td>3</td>
</tr>
<tr>
<td>Tunic</td>
<td>3</td>
</tr>
<tr>
<td>Garment w/ fringe</td>
<td>1</td>
</tr>
<tr>
<td>Loin cloth(?)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
</tr>
</tbody>
</table>

**Figure 115.** Adornment VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Figures

<table>
<thead>
<tr>
<th>Structure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladder-like structure</td>
<td>24</td>
</tr>
<tr>
<td>Theriomorphic structures</td>
<td>12</td>
</tr>
<tr>
<td>Pavilion</td>
<td>9</td>
</tr>
<tr>
<td>Platform</td>
<td>8</td>
</tr>
<tr>
<td>Enclosure wall</td>
<td>5</td>
</tr>
<tr>
<td>Architecture, general</td>
<td>3</td>
</tr>
<tr>
<td>Step, 4</td>
<td>1</td>
</tr>
<tr>
<td>Step, 3</td>
<td>2</td>
</tr>
<tr>
<td>Granary</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>67</td>
</tr>
</tbody>
</table>

**Distribution of Architecture VOs**

- Q1, Q1-2, Q2: 37, 55%
- Q3, Q3-4, Q4: 30, 45%
- Q1, Q1-3, Q1-4, Q2-4: 9, 13%

**Architecture VO Types**

- SVO: 37, 55%
- CE: 30, 45%

**Architecture VOs by Phase**

- NIIIA1: 9, 13%
- NIIIC-early D: 58, 87%

**Figure 116.** Architecture VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Body Elements Frequency

<table>
<thead>
<tr>
<th>Body Elements</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2</td>
<td>74</td>
</tr>
<tr>
<td>L</td>
<td>65</td>
</tr>
<tr>
<td>U</td>
<td>45</td>
</tr>
<tr>
<td>Head, fauna</td>
<td>30</td>
</tr>
<tr>
<td>O</td>
<td>20</td>
</tr>
<tr>
<td>A</td>
<td>18</td>
</tr>
<tr>
<td>G</td>
<td>7</td>
</tr>
<tr>
<td>I</td>
<td>5</td>
</tr>
<tr>
<td>Q</td>
<td>1</td>
</tr>
<tr>
<td>Quadruped, headless</td>
<td>4</td>
</tr>
<tr>
<td>Eye w/pupil</td>
<td>2</td>
</tr>
<tr>
<td>Head, general</td>
<td>2</td>
</tr>
<tr>
<td>Limb w/hoof</td>
<td>1</td>
</tr>
<tr>
<td>Limb, 2, upper, holding</td>
<td>2</td>
</tr>
<tr>
<td>Eyebrow</td>
<td>1</td>
</tr>
<tr>
<td>Head &amp; neck, fauna</td>
<td>1</td>
</tr>
<tr>
<td>Horn, 2</td>
<td>1</td>
</tr>
<tr>
<td>Limb, 1, upper w/torso</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
</tr>
</tbody>
</table>

### Distribution of Body Elements VO Types

- **SVO** 81, 29%
- **CE** 203, 71%

### Body Elements VOs by Phase

- **NIII A1** 19, 7%
- **NIIIC-early D** 265, 93%

**Figure 117.** 'Body Element' VOts, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Figures

#### Distribution of Container VOs

<table>
<thead>
<tr>
<th>Containers</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessel</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Container, general</td>
<td>4</td>
</tr>
<tr>
<td>Tray</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>221</strong></td>
</tr>
</tbody>
</table>

#### Container VO Types

- 113 (51%) SVO
- 108 (49%) CE

#### Container VOs by Phase

- 220 (99.5%) NIIIC-early D
- 1 (0.5%) NIIIA1

---

**Figure 118**. 'Container' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
Figure 119. Fauna VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Figures</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Figure</td>
<td>118</td>
</tr>
<tr>
<td>Non-distinct Figure</td>
<td>14</td>
</tr>
<tr>
<td>Wrapped? Figure</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>133</strong></td>
</tr>
</tbody>
</table>

**Figure 120.** Figure VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Flora</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>stk, 1, if, 2</td>
<td>51</td>
</tr>
<tr>
<td>branch_M3</td>
<td>47</td>
</tr>
<tr>
<td>stk, 1, if, 1</td>
<td>39</td>
</tr>
<tr>
<td>stk, 3</td>
<td>25</td>
</tr>
<tr>
<td>reed leaf/feather</td>
<td>23</td>
</tr>
<tr>
<td>tree</td>
<td>16</td>
</tr>
<tr>
<td>stk, 1, if, many</td>
<td>13</td>
</tr>
<tr>
<td>stk, 1, if, 2 w/base</td>
<td>6</td>
</tr>
<tr>
<td>stk, 1, if, many w/base</td>
<td>6</td>
</tr>
<tr>
<td>stk, 1, if, 1 w/base, thick</td>
<td>5</td>
</tr>
<tr>
<td>stk, 1, if, 3, mono</td>
<td>4</td>
</tr>
<tr>
<td>stk, base, long</td>
<td>4</td>
</tr>
<tr>
<td>plant shoot/bud?</td>
<td>4</td>
</tr>
<tr>
<td>stk, 1, if, 2, curved top, roots(?)</td>
<td>4</td>
</tr>
<tr>
<td>stk, 4</td>
<td>1</td>
</tr>
<tr>
<td>stk, 3 w/large base</td>
<td>1</td>
</tr>
<tr>
<td>stk, H3, leaf, 5</td>
<td>1</td>
</tr>
<tr>
<td>flower(?)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>251</strong></td>
</tr>
</tbody>
</table>

**Distribution of Flora VOs**

![Distribution of Flora VOs](image)

**Flora VO Types**

- SVO: 44, 18%
- CE: 207, 82%

**Flora VOs by Phase**

- NIIA1: 10, 4%
- NIIIC-early D: 241, 96%

*Figure 121. Flora VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.*
### Figures

<table>
<thead>
<tr>
<th>Furniture</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat</td>
<td>10</td>
</tr>
<tr>
<td>Stool w/leg</td>
<td>3</td>
</tr>
<tr>
<td>Pedestal/platform</td>
<td>2</td>
</tr>
<tr>
<td>Seat w/dots</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

#### Distribution of Furniture VOs

- Q1, Q1-2, Q2
- Q1-3, Q1-4, Q2-4

#### Furniture VO Types

- 1, 6%
- 15, 94%

- Blue: SVO
- Red: CE

#### Furniture VOs by Phase

- 0, 0%
- 16, 100%

- Blue: NIII A1
- Red: NIIIC-early D

**Figure 122.** Furniture VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Implants</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pestle</td>
<td>19</td>
</tr>
<tr>
<td>Harpoon</td>
<td>17</td>
</tr>
<tr>
<td>Shield</td>
<td>11</td>
</tr>
<tr>
<td>Implement, unclear</td>
<td>6</td>
</tr>
<tr>
<td>Staff</td>
<td>11</td>
</tr>
<tr>
<td>Throwing stick?</td>
<td>11</td>
</tr>
<tr>
<td>Implement?, raised</td>
<td>9</td>
</tr>
<tr>
<td>A</td>
<td>6</td>
</tr>
<tr>
<td>Mace w/ribbons</td>
<td>4</td>
</tr>
<tr>
<td>Arrow</td>
<td>4</td>
</tr>
<tr>
<td>Bow</td>
<td>4</td>
</tr>
<tr>
<td>Spear/oar?</td>
<td>4</td>
</tr>
<tr>
<td>Net, birding</td>
<td>3</td>
</tr>
<tr>
<td>Knife?</td>
<td>2</td>
</tr>
<tr>
<td>Trap?</td>
<td>2</td>
</tr>
<tr>
<td>Drill/Spinner</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>296</strong></td>
</tr>
</tbody>
</table>

**Figure 123.** Implement VOs. Bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Landscape Features</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill, 3, N25</td>
<td>25</td>
</tr>
<tr>
<td>Water(?) N36/39</td>
<td>13</td>
</tr>
<tr>
<td>Peak, 3</td>
<td>8</td>
</tr>
<tr>
<td>Peak, 4</td>
<td>5</td>
</tr>
<tr>
<td>Terrain, undulating</td>
<td>3</td>
</tr>
<tr>
<td>Hill, 2</td>
<td>2</td>
</tr>
<tr>
<td>Peak, 2</td>
<td>1</td>
</tr>
<tr>
<td>Pool(?)</td>
<td>1</td>
</tr>
<tr>
<td>Terrain, marshy?</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62</strong></td>
</tr>
</tbody>
</table>

**Figure 124.** Landscape features VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Support VO Types

<table>
<thead>
<tr>
<th>Support Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand, perch</td>
<td>24</td>
</tr>
<tr>
<td>Pole w/flag</td>
<td>16</td>
</tr>
<tr>
<td>Pole</td>
<td>18</td>
</tr>
<tr>
<td>Pike</td>
<td>12</td>
</tr>
<tr>
<td>H1 on pole</td>
<td>8</td>
</tr>
<tr>
<td>Pole w/crossed arrows</td>
<td>6</td>
</tr>
<tr>
<td>Skin(?)</td>
<td>5</td>
</tr>
<tr>
<td>Ribbon(?)</td>
<td>4</td>
</tr>
<tr>
<td>Stand, vessel</td>
<td>3</td>
</tr>
<tr>
<td>Pole decoration</td>
<td>1</td>
</tr>
<tr>
<td>Pole w/o ladder banner?</td>
<td>1</td>
</tr>
<tr>
<td>Pole base?</td>
<td>2</td>
</tr>
<tr>
<td>Pole w/iangle</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>101</strong></td>
</tr>
</tbody>
</table>

### Distribution of Support VOs

- Q1, Q1-2, Q2
- Q1-3, Q1-4, Q2-4

**Figure 125.** Support VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Distribution of Transport VOs

<table>
<thead>
<tr>
<th>Transport</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat</td>
<td>28</td>
</tr>
<tr>
<td>Boat cargo</td>
<td>26</td>
</tr>
<tr>
<td>Boat, prow feature</td>
<td>11</td>
</tr>
<tr>
<td>Boat, stern feature</td>
<td>5</td>
</tr>
<tr>
<td>Sledge</td>
<td>4</td>
</tr>
<tr>
<td>Sledge cargo</td>
<td>3</td>
</tr>
<tr>
<td>Boat pavilion</td>
<td>2</td>
</tr>
<tr>
<td>Boat, double</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>81</strong></td>
</tr>
</tbody>
</table>

**Figure 126.** Transport VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Circular VOs</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>circle</td>
<td>54</td>
</tr>
<tr>
<td>•, series of 8-10</td>
<td>16</td>
</tr>
<tr>
<td>Circle w/H&amp;V</td>
<td>6</td>
</tr>
<tr>
<td>◆</td>
<td>6</td>
</tr>
<tr>
<td>Oval</td>
<td>6</td>
</tr>
<tr>
<td>Oval, oblong</td>
<td>5</td>
</tr>
<tr>
<td>Oval w/notch, multiple</td>
<td>4</td>
</tr>
<tr>
<td>•, series of 3-4</td>
<td>2</td>
</tr>
<tr>
<td>•, series of 6</td>
<td>1</td>
</tr>
<tr>
<td>•</td>
<td>1</td>
</tr>
<tr>
<td>••</td>
<td>1</td>
</tr>
<tr>
<td>Oval w/dot, 2</td>
<td>1</td>
</tr>
<tr>
<td>Ring</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>111</strong></td>
</tr>
</tbody>
</table>

**Figure 127.** 'Circular' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Curvilinear VO Types

<table>
<thead>
<tr>
<th>Curvilinear VO Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>102</td>
</tr>
<tr>
<td>M</td>
<td>58</td>
</tr>
<tr>
<td>M</td>
<td>53</td>
</tr>
<tr>
<td>L</td>
<td>45</td>
</tr>
<tr>
<td>q</td>
<td>44</td>
</tr>
<tr>
<td>l</td>
<td>36</td>
</tr>
<tr>
<td>&lt;</td>
<td>22</td>
</tr>
<tr>
<td>Half-circle, V3</td>
<td>6</td>
</tr>
<tr>
<td>Half-circle, V</td>
<td>4</td>
</tr>
<tr>
<td>Crescent, H, up</td>
<td>3</td>
</tr>
<tr>
<td>Crescent(?) V</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
</tr>
</tbody>
</table>

### Figures

![Distribution of Curvilinear VOs](image)

- **Curvilinear VO Types**
  - 24, 6%
  - 355, 94%

- **Curvilinear VOs by Phase**
  - 9, 2%
  - 370, 98%

**Figure 128.** 'Curvilinear' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase. 'H', 'V' and 'D' in the table indicate whether a line is horizontal, vertical or diagonal, respectively.
### Distribution of Simple Line VOs

<table>
<thead>
<tr>
<th>Linear, Simple</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1, zigzag</td>
<td>44</td>
</tr>
<tr>
<td>H1, short</td>
<td>12</td>
</tr>
<tr>
<td>V1, short</td>
<td>9</td>
</tr>
<tr>
<td>V1, wavy</td>
<td>2</td>
</tr>
<tr>
<td>D2, short</td>
<td>3</td>
</tr>
<tr>
<td>V1 w/wavy sides</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>71</strong></td>
</tr>
</tbody>
</table>

**Figure 129.** ‘Simple Linear’ VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Figures

<table>
<thead>
<tr>
<th>Linear, Complex</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2-5, V3-4</td>
<td>11</td>
</tr>
<tr>
<td>Ladder, H</td>
<td>8</td>
</tr>
<tr>
<td>x</td>
<td>4</td>
</tr>
<tr>
<td>H1, V2</td>
<td>3</td>
</tr>
<tr>
<td>+-shape, tall</td>
<td>3</td>
</tr>
<tr>
<td>H2, V2</td>
<td>3</td>
</tr>
<tr>
<td>+-shape</td>
<td>2</td>
</tr>
<tr>
<td>x-shape</td>
<td>2</td>
</tr>
<tr>
<td>I-shape</td>
<td>1</td>
</tr>
<tr>
<td>L-shape</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>44</td>
</tr>
</tbody>
</table>

#### Complex Linear VO Types

- **7, 18%**
  - SVO
  - CE

- **31, 82%**

#### Complex Linear VOs by Phase

- **0, 0%**
  - NIIA1
  - NIIIC-early D

---

**Figure 130.** 'Complex Linear' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
Figure 131. 'SEs', bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Rectangle Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangle</td>
<td>24</td>
</tr>
<tr>
<td>Rectangle, V2-9</td>
<td>23</td>
</tr>
<tr>
<td>Rectangle w/V&amp;H</td>
<td>10</td>
</tr>
<tr>
<td>Rectangle w/notches</td>
<td>6</td>
</tr>
<tr>
<td>Rectangle, D, multiple</td>
<td>5</td>
</tr>
<tr>
<td>Rectangle w/notches</td>
<td>4</td>
</tr>
<tr>
<td>Rectangle, V1-3, short</td>
<td>4</td>
</tr>
<tr>
<td>Rectangle, open bottom</td>
<td>2</td>
</tr>
<tr>
<td>Rectangle w/knob</td>
<td>2</td>
</tr>
<tr>
<td>Rectangle, V6, short</td>
<td>1</td>
</tr>
<tr>
<td>Rectangle, V1</td>
<td>1</td>
</tr>
<tr>
<td>Rectangle, H1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>83</strong></td>
</tr>
</tbody>
</table>

**Figure 132.** 'Rectangle' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Frames</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niched</td>
<td>75</td>
</tr>
<tr>
<td>Open base</td>
<td>39</td>
</tr>
<tr>
<td>Notched border</td>
<td>9</td>
</tr>
<tr>
<td>Rectangle, with small inset rectangle</td>
<td>10</td>
</tr>
<tr>
<td>Circular w/notched border</td>
<td>9</td>
</tr>
<tr>
<td>Frame with protrusions</td>
<td>8</td>
</tr>
<tr>
<td>Frame with open base</td>
<td>6</td>
</tr>
<tr>
<td>Divided border</td>
<td>4</td>
</tr>
<tr>
<td>Semi-circular</td>
<td>4</td>
</tr>
<tr>
<td>Rounded top</td>
<td>2</td>
</tr>
<tr>
<td>Triple, rounded top</td>
<td>2</td>
</tr>
<tr>
<td>Oval w/opening</td>
<td>2</td>
</tr>
<tr>
<td>Double, rounded top</td>
<td>1</td>
</tr>
<tr>
<td>Oval w/notch</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>172</strong></td>
</tr>
</tbody>
</table>

Figure 133. 'Frame' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
<table>
<thead>
<tr>
<th>Strokes and Notches</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>notch, 6</td>
<td>31</td>
</tr>
<tr>
<td>stroke, H1</td>
<td>20</td>
</tr>
<tr>
<td>notch, 8</td>
<td>14</td>
</tr>
<tr>
<td>stroke, V1</td>
<td>11</td>
</tr>
<tr>
<td>stroke, V3</td>
<td>10</td>
</tr>
<tr>
<td>stroke, V2</td>
<td>8</td>
</tr>
<tr>
<td>stroke, D2</td>
<td>7</td>
</tr>
<tr>
<td>stroke, V4</td>
<td>7</td>
</tr>
<tr>
<td>stroke, V5</td>
<td>4</td>
</tr>
<tr>
<td>notch, 7</td>
<td>3</td>
</tr>
<tr>
<td>Notch, V9</td>
<td>3</td>
</tr>
<tr>
<td>stroke, V6</td>
<td>2</td>
</tr>
<tr>
<td>stroke, V8</td>
<td>2</td>
</tr>
<tr>
<td>notch, 5-6</td>
<td>2</td>
</tr>
<tr>
<td>notch, 10</td>
<td>1</td>
</tr>
<tr>
<td>notch, 12</td>
<td>1</td>
</tr>
<tr>
<td>stroke, V7</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
</tr>
</tbody>
</table>

Figure 134. 'Stroke and Notch' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
Table 135. Distribution of Triangle VOs

<table>
<thead>
<tr>
<th>Triangle Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangle</td>
<td>41</td>
</tr>
<tr>
<td>Wedge</td>
<td>4</td>
</tr>
<tr>
<td>A-shape</td>
<td>4</td>
</tr>
<tr>
<td>Wedge, tall</td>
<td>3</td>
</tr>
<tr>
<td>Triangle, isosceles</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53</strong></td>
</tr>
</tbody>
</table>

**Figure 135.** 'Triangle' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
### Unclassified (with 4+ VOs)

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>loop, H</td>
<td>22</td>
</tr>
<tr>
<td>fork, 2-pronged</td>
<td>15</td>
</tr>
<tr>
<td>projectile, V?</td>
<td>15</td>
</tr>
<tr>
<td>face, profile?</td>
<td>13</td>
</tr>
<tr>
<td>H1 w/dots</td>
<td>11</td>
</tr>
<tr>
<td>horns/bow?</td>
<td>11</td>
</tr>
<tr>
<td>implement?, H/V1, loop, 2</td>
<td>7</td>
</tr>
<tr>
<td>fork, 2-pronged, inverted</td>
<td>6</td>
</tr>
<tr>
<td>H1, V3-8 w/knobs</td>
<td>6</td>
</tr>
<tr>
<td>joint?</td>
<td>6</td>
</tr>
<tr>
<td>object in mouth</td>
<td>6</td>
</tr>
<tr>
<td>V1, VO?</td>
<td>6</td>
</tr>
<tr>
<td>'heart'-shape</td>
<td>5</td>
</tr>
<tr>
<td>'seagull'-shape</td>
<td>5</td>
</tr>
<tr>
<td>club?</td>
<td>4</td>
</tr>
<tr>
<td>H1, bracket?</td>
<td>4</td>
</tr>
<tr>
<td>loaf-shape</td>
<td>4</td>
</tr>
<tr>
<td>oval w/notch, multiple</td>
<td>4</td>
</tr>
<tr>
<td>rectangle w/protrusions</td>
<td>4</td>
</tr>
</tbody>
</table>

(Total for all 84 Families) (258)

**Figure 136.** 'Unclassified' VOs, bar chart showing distribution across the label surface, and pie charts showing distribution by type and phase.
Figures

Headdress/arrangement of the hair as attested on ID 50, NIIIA1

Skull cap (or hair?) with linear pattern on bearded figure, ID 47, dated to NIIIA1?

Head dress or marker protruding from the forehead with segment hanging down the back, ID 241, dated to Djer

Red and white crown, ID 294, dated to Den

Bag-shaped headdress with serpent on brow, ID 304, dated to Den

<table>
<thead>
<tr>
<th>VO</th>
<th>NIIIA1</th>
<th>NIIIC-early D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair of upper arms</td>
<td>IDs 78, 152, 161</td>
<td>ID 353</td>
</tr>
<tr>
<td>Bird+triangle</td>
<td>e.g. ID 129</td>
<td>IDs 211, 232, 279?, 280, 323</td>
</tr>
<tr>
<td>Bird+crescent/boat(?)</td>
<td>ID 120</td>
<td>ID 212</td>
</tr>
<tr>
<td>Bird+rectangle/frame</td>
<td>IDs 133, 140, 144</td>
<td>e.g. ID 258</td>
</tr>
<tr>
<td>Flora, branch</td>
<td>ID 157?</td>
<td>e.g. ID 326</td>
</tr>
<tr>
<td>Eye+pupil</td>
<td>ID 178</td>
<td>ID 413</td>
</tr>
<tr>
<td>Boat</td>
<td>ID 171?</td>
<td>e.g. IDs 350-351, 353</td>
</tr>
<tr>
<td>Ladder-shape</td>
<td>ID 168?</td>
<td>ID 216</td>
</tr>
<tr>
<td>Circle+notches</td>
<td>IDs 163-166</td>
<td>ID 422</td>
</tr>
<tr>
<td>Peaks, x3</td>
<td>e.g. IDs 63, 149, 156</td>
<td>e.g. ID 335</td>
</tr>
<tr>
<td>Peaks, x4</td>
<td>IDs 147-148</td>
<td>IDs 301, 426</td>
</tr>
<tr>
<td>Pair of human figures</td>
<td>ID 48?</td>
<td>IDs 47</td>
</tr>
<tr>
<td>Spiral</td>
<td>e.g. ID 42</td>
<td>e.g. IDs 192, 318</td>
</tr>
<tr>
<td>Notch, x6</td>
<td>e.g. ID 14</td>
<td>e.g. ID 412</td>
</tr>
<tr>
<td>Bird</td>
<td>e.g. ID 107</td>
<td>ID 220</td>
</tr>
<tr>
<td>Flora, tree(?)</td>
<td>ID 65</td>
<td>ID 242</td>
</tr>
<tr>
<td>Flora, stalk, leaves, many</td>
<td>ID 83</td>
<td>IDs 206, 380</td>
</tr>
<tr>
<td>Caprid head</td>
<td>e.g. ID 100</td>
<td>IDs 322, 372-373, 389</td>
</tr>
<tr>
<td>Rectangle with V x many</td>
<td>e.g. ID 136</td>
<td>e.g. ID 426-425t</td>
</tr>
<tr>
<td>Flora, reed?</td>
<td>e.g. ID 158</td>
<td>ID 198</td>
</tr>
</tbody>
</table>

Figure 137. Headgear sub-types.

Figure 138. Seal impression with a 'zoomorphic structure', dated to Djer, associated with Tomb O, Abydos. (Kaplony 1963: pl. 43, no. 148)

Figure 139. VO's which may carry over from the NIIIA1 labels to the NIIIC-early D labels.
Figure 140. Number and percentage of VOs classified according to the Figural and Non-figural groupings compared with those which could not easily be classified into these, and were thus grouped into the 'Unclassified' Family.

Figure 141. Distribution of 111 human and anthropomorphic figures by reign.
Figure 142. Bar chart showing the 12 figural Families attested for both label phases and the quantity of VO types (Codes) and number of VOs (Quotations) per type.
Figure 143. Percentages of VOs per Family for both the NIIA1 (left column) and the NIIC-early D (right column) label phases, listed according to total Family frequency from top to bottom.
Figure 144. List of Code Families, Codes and their definitions for characterising the ways in which the imagery on the labels is visually expressed.
Figure 145. Quantity of SVOs and CVOs by phase and according to mode. [1] = NIIIA1; [2] = NIIC-early D; "Edge" = the bottom edge of the label.

Figure 146. Photograph of ID 348 and drawings which variously interpret markings on the label (top: Dreyer et al. 1996: pl. 14d; left: Wilkinson 2001: 79, fig. 3.3; right: Engel 1997: 437, fig. 217, no. 4).
Figure 147. Table showing the types of view by label side and phase. [1] = NIHIA1; [2] = NIHIC-early D; LS = Lateral Symmetrical; LA = Lateral Asymmetrical; F = Frontal; O = Overhead; N = None.
Figure 148. Direction of VOs by side and phase. [1] = NIIIA1; [2] = NIIC-early D; N= None and relates to symmetrical images for which directionality is not discernible. R = Right-facing. L = Left-facing. 1 = NIIIA1; 2 = NIIC-early D;
Figure 149. Above: Examples of image associations (ID 277). Below: Table listing the types of image associations attested on the labels and the image types characterised by a given association.
Figure 150. Graphical associations for SVOs, CEs and CVOs by side and phase. [1] = NIIIA1; [2] = NIIIC-early D; O+O = Overlapping/Overlapped; Al+Rpt = Aligned and Repeated; H = Horizontal; V = Vertical; B-ed/B-ing = Bounded/bounding; Contig = Contiguous. Only association types with frequencies of 10 or more are shown.

* Contiguity is the most common association with 1082 examples total. 946 of these are CEs dating to the NIIIC-early D phase and occurring on the primary side. To reduce chart size, an appropriately-coloured arrow with the quantity indicated has been inserted.
Figure 151. Contiguous SVOs and CEs by frequency and Family for the NIIIC-early and NIIIA1 labels.

Figure 152. Bounded SVOs and CEs by frequency, Family and phase.
Figure 153. Partially bounded SVOs and CEs by frequency and Family for the NIIIC-early labels.

Figure 154. Partially bounding SVOs and CEs by frequency and Family for the NIIIC-early labels.
Figure 155. Overlapped SVOs and CEs by frequency and Family for the NIIIC-early labels.

Figure 156. Overlapping SVOs and CEs by frequency and Family for the NIIIA1 and NIIIC-early labels.
Figure 157. Detail of ID 241 showing how the 'fish' overlaps the body of the figure carrying it.

Figure 158. Aligned SVOs by frequency, Family and phase.
Figure 159. ID 289 showing repeated SVOs aligned horizontally and vertically (fragment of ‘hills’ in upper right.

<table>
<thead>
<tr>
<th>Identical VO Types</th>
<th>ID</th>
<th>Identical VO Types</th>
<th>ID</th>
<th>Identical VO Types</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘birds’ x2-3</td>
<td>e.g. 111</td>
<td>‘.’ x2</td>
<td>e.g. 101</td>
<td>‘birds’ x3</td>
<td>305</td>
</tr>
<tr>
<td>‘figure’ x3</td>
<td>244</td>
<td>‘.’ x2</td>
<td>146</td>
<td>‘figure’ x3</td>
<td>245</td>
</tr>
<tr>
<td>‘containers’ x3</td>
<td>265</td>
<td>‘.’ x4+</td>
<td>292</td>
<td>‘notch’ x6-12</td>
<td>e.g. 1</td>
</tr>
<tr>
<td>‘flora’ x3</td>
<td>e.g. 265</td>
<td>‘D’ x3</td>
<td>307</td>
<td>‘D’ x3</td>
<td>414</td>
</tr>
<tr>
<td>‘.’ x2</td>
<td>e.g. 277</td>
<td>‘co’ x2</td>
<td>331</td>
<td>‘’ x3</td>
<td>325</td>
</tr>
<tr>
<td>‘’ x2-6</td>
<td>e.g. 194</td>
<td>‘x 3</td>
<td>427</td>
<td>‘’ 3-8</td>
<td>359</td>
</tr>
<tr>
<td>‘.’ x2</td>
<td>399</td>
<td>‘.’ x2</td>
<td>307</td>
<td>‘.’ x6-9</td>
<td>194</td>
</tr>
<tr>
<td>‘.’ x3</td>
<td>305</td>
<td>‘.’ x2</td>
<td>317</td>
<td>‘.’ x4</td>
<td>426</td>
</tr>
<tr>
<td>‘.’ x2</td>
<td>360</td>
<td>‘.’ x3+</td>
<td>276</td>
<td>‘.’ x3</td>
<td>335</td>
</tr>
<tr>
<td>‘.’ x2</td>
<td>427</td>
<td>‘.’ x2-3</td>
<td>405-406, 426-427</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘.’ x5</td>
<td>e.g. 213</td>
<td>‘.’ x5</td>
<td>241</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘.’ x3</td>
<td>359</td>
<td>‘.’ x2 (two types clear for some ‘.’ x2)</td>
<td>349</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘.’ x2</td>
<td>370</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘boat’ x2</td>
<td>215</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘.’ x2</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
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<td>‘.’ x3</td>
<td>288</td>
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<td>‘.’ x3</td>
<td>288</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘loaf-shape’</td>
<td>414</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘notch’ x6</td>
<td>420</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>‘.’ x2-3</td>
<td>279</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Figure 160. VO types associated through horizontal or vertical alignment, or both and examples.
### Figure 161. Chronological distribution of CVO types with 10 or more attestations.

<table>
<thead>
<tr>
<th>CVO</th>
<th>Narmer</th>
<th>Aha</th>
<th>Djer</th>
<th>Djet</th>
<th>Merneith</th>
<th>Den</th>
<th>Anedjib</th>
<th>Semerkhet</th>
<th>Qa'a</th>
</tr>
</thead>
<tbody>
<tr>
<td>frame, niched</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>human, upright</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bird+perch/support</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>human+f</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>standard</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>figure, seated</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>frame+ CVO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>boat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>head+stake/support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>frame+ harpoon</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame, circular</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame, notched border</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>frame w/protrusions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>mace</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>frame+flora</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
- ■ = Certain
- □ = Uncertain

### Figure 162. ID 210 showing CVO comprised of two figures, one of which holds an implement. A third figure on the left appears to oversee the activity. Dated to Aha (?) but see also ID 241 dated to Djer. Horizontal SE visible along the lower break.
Figure 163. Chronological distribution of NIIC-D clusters by reign. Only those with six or more occurrences are shown. Order is by first appearance and then quantity. * indicates clusters which are names of rulers. ■ = Certain. □ = Uncertain.
Figures

Figure 164. Illustration of the four main quadrant divisions. The 5 areas of overlap are delineated by dashed lines; from top to bottom and left to right, images in these areas are coded Q1-2, Q1-3, Q1-4, Q2-4 and Q3-4.

![Diagram of quadrant divisions](image)

Figure 165. Frequencies for SVOs and CEs by quadrant for the NIIIA1 labels (both sides combined but 13 VOs occur on the secondary side, mainly in the central and lower part of the surface).

![Graph of SVO and CE frequencies](image)

Figure 166. Frequency of SVOs and CE by quadrant and side for the NIIC-early D labels.

![Graph of SVO and CE frequencies by side](image)
**Figure 167.** Frequency of both SVOs and CEs by quadrant for the NIIIC-early D labels (both sides combined).

**Figure 168.** Distribution of CVOs and Clusters by quadrant for the NIIIA1 labels (both sides combined).

**Figure 169.** Distribution of CVOs and Clusters by quadrant for the NIIIC-early D labels (both sides combined).
Figure 170. Changes in the composition of labels from Aha to Den. (after Kaplony 1963: 143-144)

Figure 171. Format type quantities by phase. 'Plain?' refers to preserved labels where the format likely to be plain but poor preservation makes this uncertain.

Figure 172. Left: View of the primary side of label ID 194 showing '5 strokes' which are 'grounded' along the edge of the label. Right: Overhead view of the lower edge of the label.
Figure 173. Bottom edge of ID 277 (primary side facing scale) showing VO incisions 'grounded' along the edge. Cf. Figure 173.

Figure 174. Number and type of explicitly formatted labels by reign. 12 additional labels are 'blank' (Aha=1, Djer=9, Djet=2).

Figure 175. General label format types attested for the NIIIA1 phase and NIIC-early D according to regnal order [reverse order: early to late]. □ = Uncertain. ■ = Certain.
Figure 176. Schematic drawings of the 15 configurations of label format in ascending, chronological order according to first occurrence. Apart from the small plain type, all date to NIII-C-early D. Two variants of the 'tab' label (bottom right, all dated to Djer) are attested: a round front-back perforated tab and a rectangular laterally perforated tab.
Figure 177. Quantity of SVOs per format type. Types are listed from left to right in the order of first occurrence. The results are presented according to three levels of preservation: 1+1 = complete substrate and complete decoration; 2+2 = Well-preserved substrate and well-preserved decoration; 1+2 = complete substrate and well-preserved decoration (see Chapter 5 for discussion of preservation).

<table>
<thead>
<tr>
<th>Horizontal Format</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
<th>Type D</th>
</tr>
</thead>
</table>

Narrative themes in upper 1-3 registers include:

- figure+implement+figure
- boat+water+location
- bearers+portable objects+location
- bearer+running/entrapped? bull+location
- offerings+pounding/pressing activity+observers/overseers

VOs restricted to a particular register include:

- Top: 'niched frame', 'l'
- Bottom: 's+---+bird+\$', 'flora', 's+numerical signs' and/or 'containers'.

Figure 178. Distribution of characteristic VOs, CVOs, clusters and themes in each column of the Horizontal format type.
### Vertical Format

<table>
<thead>
<tr>
<th>Type A</th>
<th>Type B</th>
<th>Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Type A" /></td>
<td><img src="image2.png" alt="Type B" /></td>
<td><img src="image3.png" alt="Type C" /></td>
</tr>
</tbody>
</table>

- '|', consistently occurs on labels in the vertical format from Abydos + all bear PI of ruler
- 'niched frame' maintains its position in the upper part of the composition and is located in the upper part of the middle or left column
- Those from Helwan and Saqqara do not bear PI of ruler, nor do they bear '|', indicating strong link between '|' and the PI of the ruler.
- 'Niched frame occurs in the right column as sole occupant on the ink-inscribed labels from tomb Q only (e.g. ID 388).
- On said labels '|' is absent.

#### Figure 179. Distribution of characteristic VOs, CVOs, clusters and themes in each column of the Vertical format type.

### Mixed A Format

- All SVOs and CVOs float
- 'niched' frame
- other frames
- @+@|+|$+| to the left of the 'niched frame', although |+|$ is erased in three cases (e.g. ID 323, Section 5.12), showing it is understood as a distinct cluster

- 'seated figure+pavilion
- 'either running/striding figure+implements'
- 'striding/running figure+fowling
- 'striding/running figure+fowling net
- 'striding figure+harpoon+pool'
- 'striding figure+implements x2'

**Exclusive to the right column:**
- '|' 'bird+ perch', 'half circle+various VOs+seated figure
- ']|+|+|sledge+|+|+|+|

#### Figure 180. Distribution of characteristic VOs, CVOs, clusters and themes in each column of the Mixed A format type.
General information concerning the label contents are presented in the upper most register or cells (IDs 358 and 360), or far right column (ID 359).

VOs, both those apparently functioning ideographically (ID 358) and those functioning more scriptorially (ID 360), list various items the upper part of cells.

Any numerical VOs are always listed below these.

Figure 181. Distribution of characteristic VOs, CVOs, clusters and themes in each column of the Tabular format type.

All SVOs and CVOs float
• Niched' and other frames

Figure 182. Distribution of characteristic VOs, CVOs, clusters and themes in each column of the Mixed B format type.
Figure 183. **Left:** Wavy-handled jar (U-j 3/6) bearing a depiction of a scorpion applied in black pigment. **Right:** Drawings of scorpions and co-occurring VO's, reconstructed from multiple fragments. (after Dreyer 1998: pl. 13d, and 47, fig. 33a-d)
Figure 184. Left: Wavy-handled jar (U-j 2/12) bearing a depiction of a seashell applied in black pigment. Right: Drawing of same with floral element?, reconstructed from multiple fragments. (Dreyer 1998: pl. 16a, and 59, fig. 40)
Figure 185. Left: Wavy-handled jar (U-j 1/3) bearing a depiction of a fish and branched floral element applied in black pigment. Right: Drawing of same. (Dreyer 1998: pl. 17a, and 63, fig. 43 (j-2))
Figure 186. Left: Wavy-handled jar (U-j 2/1) bearing a depiction of a horned bovid head on a pike or support applied in black pigment. Right: Drawing of same, rightmost reconstructed from multiple fragments. (Dreyer 1998: pl. 18a, and 65, fig. 45 (without floral element = j/5)).

Figure 187. Left: Wavy-handled jar (U-j 11/10) bearing a depiction of an unidentified animal applied in black pigment. Right: Drawing of same. (Dreyer 1998: pl. 19a, and 68, fig. 48)
Figure 188. Left: Wavy-handled jar (U-j 2/4) bearing a depiction of a bird in applied black pigment. Right: Drawing of same. (Dreyer 1998: pl. 19e, and 69, fig. 47)

Figure 189. Left: Wavy-handled jar (U-j S/3) bearing a depiction of a boat in applied black pigment. Right: Drawing of same. (Dreyer 1998: pl. 19i, and 71, fig. 51 (S/3))
Figure 190. **Left:** Wavy-handled jar (U-j S/5) bearing a depiction of rectangular-shaped object with a lattice-work pattern surmounted by a loop. **Right:** Drawing of same. (Dreyer 1998: pl. 19n, and 71, fig. 51)

Figure 191. **Left:** Wavy-handled jar (U-j 2/10) bearing a depiction of a floral element, possibly a palm frond. **Right:** Drawing of same. (Dreyer 1998: pl. 20a, and 73, fig. 52)
Figure 192. **Left:** Chamber 2, Tomb U-j. Contained wavy-handled jars. Note portal in east wall communicating with Chamber 3. (Dreyer 1998: pl. 5a). **Right:** West wall of Chamber 2, showing the impressions of wavy-handled jars which may have been stacked four high. (Dreyer 1998: pl. 5b)

Figure 193. **Chamber 5, Tomb U-j.** Contained wavy-handled jars and fragments in the northern end. (Dreyer 1998: pl. 6a)
Figure 194. Preserved contents in wavy-handled jars (U-j 2/5 and U-j /80). (Dreyer 1998: pl. 21i and I)

Figure 195. Stela fragment thought to belong to the burial complex of Narmer or Aha, limestone, Abydos. UC 14728. (Petrie Museum of Egyptian Archaeology 2006)

Figure 196. Stela of Djer, limestone, Tomb O, Abydos, Cairo JE 34992 (CG 15633). (Udimu 1988)
Figure 197. Stela of Djet, limestone, H 143 cm, W 65.5 cm, D 25 cm, Tomb Z, Abydos, Louvre 11007. (Raffaele 2006)

Figure 198. Stela of Merneith, Tomb Y, Abydos. Cairo JE 34550. (left: Raffaele 2006; right: Petrie 1900: pl. 1)
Figure 199. Stela of Den, greywacke or limestone, H 78.5 cm, W 54 cm, Tomb T, Abydos, Brussels E.0562.

Figure 200. Stela of Semerkhet, black quartzose, Tomb U, Abydos, Cairo CG 14633. (Raffaele 2006)
Figure 201. Pair of stelae of Qa’a, Abydos, Tomb Q, east side. Left: Reconstruction built around original central fragment, black basalt, UPME 6878. Right: Cairo CG 14631. (both Raffaele 2006)

Figure 202. Limestone stela, Abydos. H 63.5 cm, W 56.5 cm, Th 16.0 cm. Louvre E.21710. (Photograph and drawing Martin 2003: 79, pl. 3)
<table>
<thead>
<tr>
<th>Ruler</th>
<th>#</th>
<th>Material</th>
<th>Technique</th>
<th>Direction</th>
<th>Find spot</th>
<th>Reference</th>
<th>Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narmer</td>
<td>1?</td>
<td>Limestone</td>
<td>Carved relief</td>
<td>Unclear</td>
<td>B10</td>
<td>Petrie 1902: 1, 8, fig. 13, no. 168</td>
<td>UC 14278</td>
</tr>
<tr>
<td>Netherhotep</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Aha</td>
<td>1?</td>
<td>Limestone</td>
<td>Carved relief</td>
<td>Unclear</td>
<td>?</td>
<td>Stewart 1979</td>
<td>UC 14278</td>
</tr>
<tr>
<td>Djer</td>
<td>1</td>
<td>Limestone?</td>
<td>Right</td>
<td>Fragments found in the tomb</td>
<td>Emery 1961: 62-63, fig. 26</td>
<td>JE 34992</td>
<td></td>
</tr>
<tr>
<td>Djet</td>
<td>1</td>
<td>Limestone</td>
<td>Carved relief</td>
<td>Left</td>
<td>In tomb</td>
<td>Emery 1961: 69-70, pl. 2b</td>
<td>Louvre 11007</td>
</tr>
<tr>
<td>Merneith</td>
<td>2</td>
<td>?</td>
<td>Carved relief</td>
<td>Left</td>
<td>Fallen inside tomb, east side</td>
<td>(Emery 1961: 65, fig. 29; Petrie 1900: 26, pl. 1)</td>
<td>JE 34550</td>
</tr>
<tr>
<td>Den</td>
<td>1</td>
<td>Greywacke or limestone</td>
<td>Hammered, carved relief, polished</td>
<td>Right</td>
<td>Lying down in the tomb of Den</td>
<td>Petrie 1901b: 10</td>
<td>Brussels E.0562</td>
</tr>
<tr>
<td>Anedjib</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Semerkhet</td>
<td>1</td>
<td>Black quartzose</td>
<td>Hammered, carved relief,</td>
<td>Left</td>
<td>In tomb</td>
<td>Emery 1981: 71, 85-86, fig. 48; Petrie 1900: pl. 64, no. 6</td>
<td>CG 14633</td>
</tr>
<tr>
<td>Qa’a</td>
<td>2</td>
<td>Black basalt (UPM), quartzise (Petrie)</td>
<td>Carved relief, highly polished</td>
<td>UPM right, Cairo left</td>
<td>East side of main structure</td>
<td>Emery 1961: 88, fig. 52; Petrie 1901b: pl. 26, 1903: pl. 5</td>
<td>UPM E 6878; CG 14631</td>
</tr>
</tbody>
</table>

Figure 203. Preserved large scale stelae, materials, technique, direction of imagery, archaeological context, primary publication and museum number.
Figure 204. Drawings of NIIC-early D small stelae Nos. 1-48, Abydos. (after Petrie 1900: pl. 31)
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STELES FROM AROUND THE TOMB OF ZER-TA.

Figure 205. Drawings of small stelae dated to Djer, Nos. 49-94, Abydos. (after Petrie 1901b: pl. 26)
Figure 206. Drawings of small stelae dated to Djer, Nos. 95-146, Abydos. (after Petrie 1901b: pl. 27)
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1.3. STELES AROUND TOMB OF ZER- TA.

Figure 207. Photographs of small stelae dated to Djer, Nos. 49-60, Abydos. (after Petrie 1901b: pl. 28)
Figure 208. Photographs of small stelae dated to Djer, Nos. 61-71, Abydos. (after Petrie 1901b: pl. 29)
Figure 209. Photographs of small stelae dated to Djer, Nos. 72-82, Abydos. (after Petrie 1901b: pl. 294)
Figure 210. Photographs of small stelae dated to Djer, Nos. 83-94, Abydos. (after Petrie 1901b: pl. 29b)
Figure 211. Photographs of small stelae dated to Djet, Nos. 1-12, Abydos. (after Petrie 1900: pl. 33)
Figure 212. Photographs of small stelae dated to Djet and Den, Nos. 13-23, Abydos. (after Petrie 1900: pl. 34)
Figure 213. Photographs of small stelae dated to Den, Nos. 120-132, Abydos. (after Petrie 1901b: pl. 30)
Figure 214. Photographs of small stelae dated to Semerkhet, Nos. 26-37, Abydos. (after Petrie 1900: pl. 35)
Figure 215. Photographs of small stelae dated to Semerkhet and Qa'a, Nos. 38-48, Abydos. (after Petrie 1900: pl. 36)
Figure 216. Drawings of small stelae found by Amélineau Nos. A1-A31, Abydos. (after Petrie 1900: pl. 32)

Figure 217. Limestone stela No. 37 depicting a dwarf, associated with a subsidiary grave near the tomb of Semerkhet, Abydos. H 45, W 24 cm. (British Museum 2006; Petrie 1900: pls. 31 and 33)
Figure 218. Limestone stela associated with a subsidiary grave near the burial of Den. Abydos. UC 14273. (Petrie Museum of Egyptian Archaeology 2006; see also Figure 213; Petrie 1901b: pls. 27 and 30, No. 123)

<table>
<thead>
<tr>
<th>Burial Complex</th>
<th>Stelae Quantity</th>
<th>VO Quantity Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>B10</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>B15</td>
<td>1</td>
<td>1+</td>
</tr>
<tr>
<td>O</td>
<td>68</td>
<td>2-4 (*10)</td>
</tr>
<tr>
<td>Z</td>
<td>9</td>
<td>1-3 (**10)</td>
</tr>
<tr>
<td>W</td>
<td>7</td>
<td>2 to 5</td>
</tr>
<tr>
<td>Y</td>
<td>3</td>
<td>3 to 5</td>
</tr>
<tr>
<td>T</td>
<td>32</td>
<td>4 to 12</td>
</tr>
<tr>
<td>X</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>U</td>
<td>12</td>
<td>2 to 8</td>
</tr>
<tr>
<td>Q</td>
<td>2</td>
<td>4 (**43)</td>
</tr>
<tr>
<td>U/Q</td>
<td>9</td>
<td>3 to 8</td>
</tr>
<tr>
<td>T/U/Q</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>146</strong></td>
<td></td>
</tr>
</tbody>
</table>

Figure 219. Burial complex, number of stела attested for each, and the quantity range of VOs per stела.
* Nos. 95 and 96 only bear 8 and 10 VOs, respectively; ** No. 8 alone bears 10 VOs; *** No. 48 alone bears 43 VOs.
<table>
<thead>
<tr>
<th>Burial Complex</th>
<th>Stelae Quantity</th>
<th>Grave : Stelae Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>B10</td>
<td>1</td>
<td>B10 : No. 113</td>
</tr>
<tr>
<td>B15</td>
<td>1</td>
<td>B15 : No. 119</td>
</tr>
<tr>
<td>O</td>
<td>68</td>
<td>O24 : No. 108</td>
</tr>
<tr>
<td></td>
<td></td>
<td>O52 : No. 112</td>
</tr>
<tr>
<td>Z</td>
<td>9</td>
<td>Z2 : No. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Z8 : No. 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>southern chamber : No. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>southern chamber : No. 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>southern chamber : No. 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>southern chamber : No. 7</td>
</tr>
<tr>
<td>W</td>
<td>7</td>
<td>W30 : No. 116</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W34 : No. 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W51 : No. 10</td>
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<td></td>
<td></td>
<td>W50 : No. 14</td>
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<tr>
<td></td>
<td></td>
<td>W55 : No. 15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W58 : No. 11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y28 : No. 17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y38 : No. 19</td>
</tr>
<tr>
<td>Y</td>
<td>3</td>
<td>—</td>
</tr>
<tr>
<td>T</td>
<td>32</td>
<td>X2 : No. 25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M : No. 36</td>
</tr>
</tbody>
</table>

Figure 220. Quantity of stelae per burial complex including those are archaeological associated with a particular subsidiary grave.²

Figure 221. Stela thought to come from the burial complex of Djer (seated figure is still visible) has been trimmed down and the opposite face reused. (Kaplony 1964: pl. 1, no 1047)

² Nos. 113 and 119 are marked as coming from graves B10 and B15 (dated to Aha), respectively, but Petrie (1901b: 33) does not comment on how either stela is then attributed to the reign of Djer, Aha’s successor.
Figure 222. Clusters ("names") painted on south walls of private graves (area Z and Cemetery W) around the burial complex of Djet, Abydos (Petrie 1900: pl. 63). Scale 78% of 1:8.

<table>
<thead>
<tr>
<th>VO Type</th>
<th>Quantity</th>
<th>Label ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scorpion + branch/stick with thorns (??)</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Scorpion + reed</td>
<td>6</td>
<td>'reed': 158-162</td>
</tr>
<tr>
<td>Scorpion + loop</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Scorpion + rectangle, H1, V multiple</td>
<td>4</td>
<td>cf. 'rectangle, V multiple': 134, 136, 138, 140-141</td>
</tr>
<tr>
<td>Scorpion</td>
<td>38</td>
<td>153-154</td>
</tr>
<tr>
<td>Red Sea shell + branch/stick with thorns (?)</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Fish (head down) + flora</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Fish (head down)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Bucranium head + support/elongated tongue (??)</td>
<td>3</td>
<td>88-91 + circle/disk: 92-96, 98-100 + circle/disk + H2: 101 (w/o support), 102 + bird: 103</td>
</tr>
<tr>
<td>Bucranium head + support/elongated tongue (??) + feather/reed (?)</td>
<td>4+</td>
<td>--</td>
</tr>
<tr>
<td>Fauna, unidentified</td>
<td>3</td>
<td>Unclear</td>
</tr>
<tr>
<td>Bird (falcon?)</td>
<td>3</td>
<td>104</td>
</tr>
<tr>
<td>Ship</td>
<td>8</td>
<td>171?</td>
</tr>
<tr>
<td>Rectangle, V w/loop</td>
<td>1</td>
<td>169</td>
</tr>
<tr>
<td>Flora</td>
<td>9</td>
<td>+ elephant + peaks: 64-65 + canine: 80-83</td>
</tr>
</tbody>
</table>

Figure 223. VOs occurring on the inscribed wavy-handled jars from Tomb U-j. In order of occurrence. (after Dreyer 1998: 4)

3 The identification of this VO as a 'tree/branch' (Dreyer 1998: fig. 34) does not seem to explain the protrusions from both ends in some examples, i.e. j2/13, j5/3 and probably j1/2.
4 Wengrow (2006: 202) identifies this image as a cattle "skull", but details such as the ear (articulated on j2/2), the pupil (j5/2) and closed eye (e.g. j2/1) suggest that the head with soft tissue intact is depicted.
Figure 224. Figure types and percentages on the NIIC-early D Abydos. All seated unless noted otherwise.

Figure 225. Figure types quantities and distribution by tomb complex (apart from those found by Amelineau).
### Figures

<table>
<thead>
<tr>
<th>Type</th>
<th>Features</th>
</tr>
</thead>
</table>
| Female | seated w/knees up+upper limbs not articulated+long hair  
| Posture | seated w/knees out+upper limbs not articulated+long hair  
| Male | seated w/lower limb and both upper limbs articulated+short hair  
| Posture | dwarf-like+standing  
| Body shape | non-dwarf-like+seated (all types above)  
| Occupation/skill/status | seated w/lower and upper limb out+short hair+implement  
| | standing w/upper limb out+short hair+implement  

**Figure 226.** Types of 'figures' depicted on the stelae.

**Figure 227.** Stela No. 48 with rectilinear image organisation, Abydos, "[t]his lay in a chamber on the west of Qa’a" (Petrie 1900: 26) = Engel’s Q-W2 in Figure 41.

**Figure 228.** Cylinder seal impression showing the rotation of the 'cylinder seal on lanyard' 90° to the left. (Kaplony 1963: pl. 9, no. 362)

**Figure 229.** Stelae VOs exhibiting compositional play. (after Petrie 1900: pl. 32, nos. 16-17 and 30)
Figure 230. Globular clay vessel with red decoration including stylised 'boat' motif, NII (c. 3600-c. 3300/3250 BCE), Hu. H 22.9 cm, W (max) 20.2 cm BM EA 30920. (© The British Museum Compass 2000)

Figure 231. Plaque with two perforations and holes which may be for dowels. BM 35513. (Photograph with permission of the British Museum)
Figure 232. VO types on stelae with 7 or more occurrences charted according to tomb complex, listed in reverse chronological order.
Figure 233. Distribution of numerical signs by quadrant and period. Aha and Neithotep are separated to highlight how Naqada labels from this period differ from those from Abydos. Dating of label to NIIA1-C is uncertain. No numerical signs occur in Q4.
<table>
<thead>
<tr>
<th>Interpretive Key</th>
<th>Description</th>
<th>Meaning</th>
<th>Example</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key 1</td>
<td>Based on comparison with contemporary funerary stelae associated with private graves: clusters (often with '♂' as the lower-most VO) + located above a seated individual</td>
<td>PI</td>
<td>No. 8</td>
<td>NIIIID</td>
</tr>
<tr>
<td>Key 2</td>
<td>Cluster with '♂' as the lower-most component + located above a seated individual + the whole of which is located to the right of '</td>
<td></td>
<td>'</td>
<td>PI</td>
</tr>
<tr>
<td>Key 3</td>
<td>Cluster with '♂' as the lower-most component + located to the right of '</td>
<td></td>
<td>'</td>
<td></td>
</tr>
<tr>
<td>Key 4</td>
<td>Cluster with '♂' as the lower-most component + located along the right side forming a non-explicit column</td>
<td>PI (possibly adjusted for composition)</td>
<td>285-287</td>
<td>Den and NIIIID?</td>
</tr>
<tr>
<td>Key 5</td>
<td>Based on Key 4: clusters with '♂' as the lower-most component located to the left of the niched frame</td>
<td>PI+ augmented status</td>
<td>277-278</td>
<td>Djer, Djet</td>
</tr>
<tr>
<td>Key 6</td>
<td>Based on Key 5: cluster + located to the left of the niched frame</td>
<td>PI + augmented status</td>
<td>230, 242-243, 253, 256, 349, 405-406, 411</td>
<td>Djer, Den</td>
</tr>
<tr>
<td>Key 7</td>
<td>Key 5 + '♀+♂'</td>
<td>Fixed PI + changeable PI + augmented status</td>
<td>306-308, 312, 348, 414</td>
<td>Den, Anedjib (?), Semerkhet (?), Qa’a</td>
</tr>
<tr>
<td>Key 8</td>
<td>'♀+♂' + erasure</td>
<td>Fixed PI + (changeable PI) + change in status</td>
<td>311, 319, 323</td>
<td>Den</td>
</tr>
<tr>
<td>Key 9</td>
<td>'♀+♂' + changeable cluster + upper left location (ID 414)</td>
<td>Fixed PI + changeable PI (precedent for key 10)</td>
<td>414</td>
<td>Qa’a</td>
</tr>
<tr>
<td>Key 10</td>
<td>Based on location of 9: fixed cluster 'flora+...+♂'</td>
<td>Fixed PI + changeable PI</td>
<td>411</td>
<td>Semerkhet, Qa’a</td>
</tr>
<tr>
<td>Key 11</td>
<td>Based on Key 10: fixed 'flora+...+♂' + middle/lower left location</td>
<td>Fixed PI + changeable PI</td>
<td>407, 409, 412, 415, 417, 420-421, 425-427</td>
<td>Qa’a</td>
</tr>
</tbody>
</table>

Figure 234. ‘Interpretive keys’ for meaning content of clusters inferred from direct archaeological-graphical evidence from contemporary funerary stelae and applied to similar imagery in the NIIIC-D labels.
<table>
<thead>
<tr>
<th>Reign</th>
<th>* +</th>
<th>Distribution</th>
<th>+ +</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Den</td>
<td>306-309, 311</td>
<td>311, Q1</td>
<td>306-307, 313?</td>
<td>Q3</td>
</tr>
<tr>
<td>Anedjib</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Semerkhet</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Semerkhet-Qa'a?</td>
<td>358?</td>
<td>Q1</td>
<td>407*</td>
<td>Q1-3</td>
</tr>
<tr>
<td>Qa'a</td>
<td>414*</td>
<td>Q1</td>
<td>406*, 411-414*, 416*, 417, 424-427</td>
<td>Q1-3</td>
</tr>
</tbody>
</table>

**Figure 235.** Fixed PI Clusters by reign with label ID and quadrant indicated.
* Co-occurs with a second changeable PI Cluster

<table>
<thead>
<tr>
<th>Reign</th>
<th>306-308 (309?)</th>
<th>311, 319, 323</th>
<th>Erased</th>
<th>+</th>
<th>+</th>
<th>+</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Den</td>
<td></td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Anedjib</td>
<td></td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Semerkhet</td>
<td></td>
<td></td>
<td>—</td>
<td>348-349</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Qa'a</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>414</td>
</tr>
</tbody>
</table>

**Figure 236.** Changeable PI Clusters accompanying ‘fni+£+(£)’ by reign with label IDs indicated, including examples of PI erasure.

<table>
<thead>
<tr>
<th>Reign</th>
<th>314</th>
<th>+ + +</th>
<th>+ +</th>
<th>+ +</th>
<th>+ + +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Den</td>
<td>314</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Anedjib</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Qa'a</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Figure 237.** Changeable PI Clusters accompanying ‘(£)+£+(£)+£’ by reign with label IDs indicated for labels attesting each PI Cluster type.
* Co-occurs with another changeable PI Cluster

<table>
<thead>
<tr>
<th>Label ID</th>
<th>Significance</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>290-291</td>
<td>Name of the Saqqara tomb owner</td>
<td>Emery 1938: 1, but cf. below where same name occurs at Abydos, and Emery 1949: 107</td>
</tr>
<tr>
<td>e.g. 307</td>
<td>Someone associated with the tomb owner</td>
<td>Emery 1949: 107</td>
</tr>
<tr>
<td>e.g. 193</td>
<td>The spouse of the tomb owner, e.g. Neithetep</td>
<td>Sa'ad 1969: 66; Wilkinson 2001: 74</td>
</tr>
<tr>
<td>306-307</td>
<td>Person overseeing the equipping of the tomb, for Hemaka's name next to Den's on Abydos labels</td>
<td>Petrie</td>
</tr>
<tr>
<td>277</td>
<td>'Serekh' is name of king and sign group to left represents another name for the king</td>
<td>Emery 1954: 102 for Djet on ID 277, see also ID 230, see also Vikentiev 1959, pl. 2</td>
</tr>
<tr>
<td>e.g. 89?</td>
<td>Estate owner (for inscription on wavy-handled jars)</td>
<td>Dreyer 1998: 178</td>
</tr>
</tbody>
</table>

**Figure 238.** Examples of how PI Clusters or ‘names’ on the labels and contemporary material are interpreted.
Table 1: Possible Function of Perforation

<table>
<thead>
<tr>
<th>Possible Function of Perforation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>For tying label directly to an individual item</td>
<td>Figure 52 (preserved twine)</td>
</tr>
<tr>
<td>For tying label to the packaging, container, or chamber in which an item(s) was(were) concealed</td>
<td>cloth, hide or reed mat wrapping</td>
</tr>
<tr>
<td></td>
<td>bag</td>
</tr>
<tr>
<td></td>
<td>basket</td>
</tr>
<tr>
<td></td>
<td>box</td>
</tr>
<tr>
<td></td>
<td>vessel</td>
</tr>
<tr>
<td></td>
<td>tomb magazine entrance</td>
</tr>
</tbody>
</table>

Figure 239. Tentative proposed functions for label perforations with examples based on indirect archaeological evidence and image content.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIII A 1</td>
<td>a garment</td>
<td>e.g. IDs 172, 176</td>
</tr>
<tr>
<td></td>
<td>a container of grain?</td>
<td>e.g. ID 164</td>
</tr>
<tr>
<td>NIII C-early D</td>
<td>a mace</td>
<td>ID 215</td>
</tr>
<tr>
<td></td>
<td>gaming board+pieces</td>
<td>ID 216</td>
</tr>
<tr>
<td></td>
<td>an arrow</td>
<td>ID 226</td>
</tr>
<tr>
<td></td>
<td>a granary or granary-shaped gaming piece?</td>
<td>ID 227</td>
</tr>
<tr>
<td></td>
<td>strung beads</td>
<td>ID 195-196</td>
</tr>
<tr>
<td></td>
<td>girdle?</td>
<td>ID 98</td>
</tr>
<tr>
<td></td>
<td>a staff</td>
<td>IDs 236-237</td>
</tr>
<tr>
<td></td>
<td>a pair of sandals</td>
<td>IDs 300-301, 304</td>
</tr>
<tr>
<td></td>
<td>a bag containing a staff</td>
<td>IDs 291</td>
</tr>
<tr>
<td></td>
<td>a vessel</td>
<td>e.g. Figures 63-65, e.g. ID 286</td>
</tr>
<tr>
<td></td>
<td>bovid head</td>
<td>IDs 349, 372</td>
</tr>
<tr>
<td></td>
<td>twigs</td>
<td>ID 241 (Emery 1954: 18, pl. 32)</td>
</tr>
</tbody>
</table>

Figure 240. Possible items to which labels may have been attached by phase with examples given.

<table>
<thead>
<tr>
<th>Abydos find spot</th>
<th>Garment label</th>
<th>Notch label</th>
<th>Associated label finds</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-i, S</td>
<td>ID 177</td>
<td>IDs 14, 39</td>
<td>IDs 58, 64, 122, 146</td>
</tr>
<tr>
<td>Cemetery B</td>
<td>IDs 172, 176</td>
<td>IDs 4 (bears “Aha” on secondary side) and 33</td>
<td>IDs 43, 56, 74, 106, 119, 135, 142</td>
</tr>
<tr>
<td>U-j, E</td>
<td>ID 175 fragment, found alone, but mend with it ID 176 (above)</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Figure 241. Label and find spots/excavation groups which tentatively suggest a relationship between garment and numerical (‘notch’) labels.
### Figures

<table>
<thead>
<tr>
<th>Type</th>
<th>VO Function</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictorial</td>
<td>VO = what it resembles</td>
<td>Usually occurs in the grounded mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Includes animate entities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organisation suggests sequence and direction of action</td>
</tr>
<tr>
<td>Pictorial</td>
<td>VO = what it resembles + something other than what it depicts</td>
<td>Usually occurs in the floating mode, or as a CE in a floating CVO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not usually clustered with other figural VOs</td>
</tr>
<tr>
<td>Scriptorial</td>
<td>VO = something other than what it depicts</td>
<td>Usually occurs in the floating mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parts of animate entities are more common than the whole</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ordering does not suggest action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organised into Clusters, sometimes forming rows, columns, or block-like groups</td>
</tr>
<tr>
<td>Pictorial emblematic personification</td>
<td>VO = something other than what it depicts + parts of animate entities + the whole resembles what it depicts</td>
<td>Occurs in the context of an action scene (e.g. ID 205)</td>
</tr>
<tr>
<td>Scriptorial emblematic personification</td>
<td>VO = something other than what it depicts + parts of animate entities + the whole resembles what it depicts</td>
<td>Occurs in the context of scriptorial imagery, e.g. ID 326</td>
</tr>
</tbody>
</table>

**Figure 242.** Image types based on depictive content, compositional features and associations.

<table>
<thead>
<tr>
<th>Area</th>
<th>Change and Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>The horizontal format no longer attested</td>
</tr>
<tr>
<td></td>
<td>The vertical format first appears</td>
</tr>
<tr>
<td></td>
<td>Unique use of the Mixed A format</td>
</tr>
<tr>
<td>Content</td>
<td>Introduction of ‘£’ as a CVO (not Cluster)</td>
</tr>
<tr>
<td></td>
<td>Introduction of the unchangeable PI Cluster ‘.gca’</td>
</tr>
<tr>
<td></td>
<td>Numerical VOs cease occurring in the lower part of the label after this reign</td>
</tr>
<tr>
<td></td>
<td>‘Item’ labels, apart from ‘vessel’ labels, cease after this reign</td>
</tr>
<tr>
<td>Archaeological context</td>
<td>No clear change</td>
</tr>
<tr>
<td>Materials</td>
<td>No clear change</td>
</tr>
<tr>
<td>Technique</td>
<td>No clear change</td>
</tr>
</tbody>
</table>

**Figure 243.** Areas of change and continuity as attested on labels associated with Tomb T attributed to Den, Abydos.
Appendices

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Appendix 1. Data collection and entry forms

Museum data form:

<table>
<thead>
<tr>
<th>Label ID _____</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: _____ / _____ / 200___</td>
</tr>
</tbody>
</table>

SECTION A: General Information
Museum information

<table>
<thead>
<tr>
<th>Museum name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name, title and position of person assisting me:</td>
</tr>
</tbody>
</table>

Label reference information

<table>
<thead>
<tr>
<th>Object number:</th>
<th>Other museum location number (case #, shelf #, etc.):</th>
</tr>
</thead>
</table>

Copy down description of object from museum label, catalogue, archive, etc.:

Label sketch

<table>
<thead>
<tr>
<th>Face A:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face B:</td>
</tr>
</tbody>
</table>

List any bibliographical info:
### SECTION B: Archaeological information

<table>
<thead>
<tr>
<th>Provenanced? Y / N</th>
<th>Find site:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If unprovenanced, explain how object acquired:

Describe find condition if known:

Describe find context:

Other contextual details:

Chronological information:

### SECTION C: General object information

**General description of label:**

<table>
<thead>
<tr>
<th>Face A:</th>
<th>Face B:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two-sided?</th>
<th>Pierced?</th>
<th>Where pierced</th>
<th>Direction of perforation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurements in cm**

<table>
<thead>
<tr>
<th>Length</th>
<th>Measurement of thickness variation:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>


### Appendix 1 – Data Collection and Entry Forms

#### Material

<table>
<thead>
<tr>
<th>Material</th>
<th>Ivory</th>
<th>Elephant ivory</th>
<th>Hippo ivory</th>
<th>Bone</th>
<th>Wood</th>
<th>Other</th>
</tr>
</thead>
</table>

Comments on material:

#### SECTION D: Detailed description

**Detailed description of face A:**

Describe colours:

Describe condition:

Describe images:

Briefly sketch label:

Describe technique (surface treatment and decoration):

**Detailed description of face B:**

Describe colours:

Describe condition:
Describe images:

Draw images:

Describe technique:

**SECTION E: Photographs**

<table>
<thead>
<tr>
<th>Photographs*</th>
<th>Frame number</th>
<th>Settings</th>
<th>Lighting conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Remember scale in each photo!*

**Section F: Image Permissions**

What type of permission I have to use photographs and drawings:

List POC if I need to request permission for image use:

Further notes and comments:
Microsoft Access data entry form:

Appendix 1 - Data Collection and Entry Forms
Appendix 2. Selected ATLAS.ti Quotes, Families and Codes

ATLAS.ti Codes for archaeological context:

*Quotation; **Code; ***Family of Codes.
ATLAS.ti codes for material properties and features:

*LABEL

**Material

***Bone
- Ivory, type unclear
- Ivory, elephant
- Wood
- Ivory, hippopotamus
- Stone

Perforation

Quantity

Type

Direct
Tab

Perforation Location

Q1
Q1-2
Q1-3
Q3

Preservation, substrate

1 = complete
2 = slightly frag.
3 = moderately frag.
4 = very frag.
5 = unclear

Preservation, constrate

1 = complete
2 = moderately well
3 = poorly
3 = none
4 = unclear

* Quotation; ** Family of Codes; *** Code
ATLAS.ti codes for graphical VOs:

*VO

**Description

***Figural

Non-figural

Unclassifiable

Structuring Element (SE)

Mode

Floating

Grounded

Technique

Applied colour

Incised

Paste

Incised + infill

Incised + colour

Incised, double outline

Direction

Right-facing

Left-facing

Right- and Left-facing

None

View

Lateral asymmetrical

Lateral symmetrical

Frontal

None

Overhead

Location

Q1

Q1-2

Q1-3

Q3

Q2

Q2-4

Q3-4

Q4

Association

Contiguous

Bounded/Bounding

Overlapped/Overlapping

†Clustered

Held/Holding

Aligned and repeated (V or H)

* Quotation; ** Family of Codes; *** Code (only one Code from each Family is attributed to a VO Quotation).
† Code applied only when two or more VOs co-occur two or more times.
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

ATLAS.ti Codes
Code-Filter: All

HU: labels
File: [c:\Program Files\Scientific Software\ATLASTi\TEXTBANK\labels\labels.hpr5]
Edited by: Super
Date/Time: 07/30/07 10:29:05 PM

accretion, impression of textile?
accretion, textile
accretion, twine mark?
accretion, unidentified
adornment, belt
adornment, collar
adornment, collar/necklace
adornment, collar?
adornment, garment w/fringe
adornment, garment, kilt, long
adornment, garment, kilt, short
adornment, garment, kilt, short?
adornment, garment, loin cloth (?)
adornment, garment, long
adornment, garment, long?
adornment, garment, robe/wrap
adornment, garment, tunic
adornment, headgear
adornment, necklace beads (?)
adornment, penis sheath?
adornment, sandal
adornment, sandal/cluster?
adornment, tail
adornment, tail?
anthromorph
anthromorph?
architecture, enclosure wall, profile
architecture, general (?)
architecture, granary
architecture, pavilion
architecture, pavilion-like w/V2
architecture, platform
architecture, step, 3
architecture, step, 4
architecture, structure/building (?)
architecture, structure/chair
architecture, structure/ladder (?)
architecture, zoomorph
architecture, zoomorph?
assoc, algnd&reptd, curve
assoc, algnd&reptd, H
assoc, algnd&reptd, H&V
assoc, algnd&reptd, V
assoc, bounded
assoc, bounded, prtty
assoc, bounded?
assoc, bounding
assoc, bounding, prtty
assoc, bounding?
assoc, clustered

assoc, contiguous
assoc, contiguous?
assoc, held by animal
assoc, held by anthrph
assoc, held by human
assoc, holding
assoc, juxtaposed
assoc, overlapped
assoc, overlapped?
assoc, overlapping
assoc, overlapping?
assoc, ovr&ppd&ovrlppng
body part, animal head
body part, eye w/pupil
body part, eyebrow
body part, feather
body part, feather (?)
body part, finger
body part, hand
body part, hand?
body part, head & neck
body part, head, frontal
body part, head, horned animal
body part, head, human
body part, head, human?
body part, horn, 2
body part, limb w/hoof
body part, limb, 1, lower
body part, limb, 1, upper
body part, limb, 1, upper w/torso
body part, limb, 1, upper?
body part, limb, 2, lower
body part, limb, 2, upper, holding
body part, limb, 2, upper, open
body part, limb, 2, upper, open?
body part, lion forepart
body part, lion forepart?
body part, quadruped, headless
body part, skin (?)
body, human figure
body, human figure?
body, non-distinct figure
body, wrapped (?) figure
check museum data-2-sided???
check pub data
circular, circle w/H&V
circular, circle w/H&V?
circular, circle w/X_O49
circular, circle?
circular, circle_O48 & XX
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

circular, disk
cluster, chisel+fish
cluster, circle+stroke2
cluster, circle+stroke6
cluster, circle+stroke6
cluster, collar+bird+boat
cluster, crescent+1/2
cluster, CVO(bird+perch)+H1&Vmany
cluster, D2/H2+disk+bird+pike
cluster, dagger+lion
cluster, disk+H2+bird
cluster, face?+harpoon+zigzag
cluster, face?+harpoon+zigzag?
cluster, fauna+zoomorph structure
cluster, feather+hash+arms
cluster, figure3
cluster, fish+flora+zigzag+pot
cluster, flag2-3
cluster, flora, 3-part+flora, if2, curved top
cluster, flora+1/2
cluster, flora+arms+H1, V3
cluster, flora+arms+H1, V3?
cluster, flora+axe2+1/2
cluster, flora+axe2+1/2?
cluster, flora+bee+1/2?
cluster, flora+bee+1/2+1/2
cluster, flora+flora
cluster, flora+flora?
cluster, flora+flora+H2, V, many
cluster, flora+flora+H2, V, many?
cluster, flora+flora+notches
cluster, flora+pot+flora
cluster, flora+quadruped
cluster, flora+staff+frame, niched
cluster, flora3
cluster, frame+flora+axe2
cluster, frame+flora+axe2?
cluster, H1 w/dot2+rectangle+reed
cluster, H1 w/dot2+rectangle+reed?
cluster, H1&Vmany+1/2+sledge
cluster, H1&Vmany+3-part
cluster, H1+piercing+flora+sickle
cluster, hand+(loop)+structure
cluster, hand+club(?)
cluster, hand+dots
cluster, hand+dots+club(?)
cluster, hand+zigzag
cluster, head??+flora3
cluster, head+circle/disk
cluster, head+circle+H2
cluster, head+flora3
cluster, head+pot
cluster, head+pot?
cluster, heart+vessel
cluster, hill2+1/2
cluster, hill2+1/2?
cluster, hill2+1/2+wigshape?+human
cluster, hill2+1/2+wigshape+human
cluster, hill2+half-circle+CVO(seated human)

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Appendix 2 - ATLAS.ti Examples of Data Handling Structures and Code List

cluster, hill2+half-circle+CVO(seated human)?
cluster, horns(?)+step3
cluster, horns+hash+legs(pot)
cluster, horseshoe2-9
cluster, human+loop+rectangle+vessel on stand
cluster, human4
cluster, implement+head
cluster, implement+loop+circular VO
cluster, lege+rectangle
cluster, limbs+object
cluster, lion+(arm)+pots3+loaf-shape?
cluster, lion+adze
cluster, lion+arm+pot3
cluster, lion+arm+pot3+loaf-shape
cluster, lion+flora1/3
cluster, lion+flora3?
cluster, lion+implement
cluster, lion+loop+bird+step
cluster, lion+necklace
cluster, lion+pot
cluster, lion+pot3
cluster, loop+bird
cluster, loop+chisel
cluster, loop+circle+peaks
cluster, loop+fish
cluster, loop+fish?
cluster, loop+loop, V
cluster, loop+oval+rectangle
cluster, loop+pot+rectangle
cluster, loop+serpent+fork+arms
cluster, loop+vessel+legs
cluster, mouth+circle
cluster, mouth+zigzag
cluster, necklace+axe
cluster, Neithtep
cluster, notch5-12
cluster, perch+bird
cluster, perch+bird?
cluster, pestle+flora+1/2
cluster, pestle+harpoon
cluster, plant shoot/bud(?)/2
cluster, pot3
cluster, pot3+loaf
cluster, quadruped+flora
cluster, quadruped+H1, V3
cluster, quadruped+H1, V3?
cluster, rectangle+circle+branch
cluster, rectangle+twist+bird
cluster, seal+bee
cluster, seal+bee+Hemaka
cluster, seated figure3
cluster, serpent+peaks
cluster, serpent+rectangle+branch1-3
cluster, shovel-shape+bird+pot
cluster, shovel+(mouth)+(serpent)?
cluster, shovel+loop+zigzag
cluster, shovel+mouth+serpent
cluster, spiral+wedge

cluster, spiral2-6
cluster, star+bovid head
cluster, stick+loop+L+pot+branch
cluster, stick+loop+L+pot+branch?
cluster, stick+pot+branch
cluster, stroke2-8
cluster, triangle+(arm)?
cluster, triangle+arm
cluster, triangle+arm?
cluster, triangle+basket+bird
cluster, twist?(+unclear+arms
cluster, twist+bird
cluster, twist+bird+arm
cluster, twist+lion+pot+basket
cluster, twist+pot+arms
cluster, twist+sickle+arms
Cluster, upper limbs+H1, V3
cluster, V1+bird
cluster, vessel+stroke2/3
cluster, X+|+axe2+shvl+loop+zigzag
colour, black
colour, blush-black
colour, brown
colour, green
colour, greenish, dark
colour, red
colour, red&black
colour, red, dark
colour, reddish-brown
colour, reddish-pink
colour, white
colour, yellow-orange
comparanda
container, bag(?)
container, basket
container, basket w/handle
container, basket/tray
container, basket?
container, general
container, vessel
container, vessel?
curvilinear, 'bullet'-shape N20/22(?)
curvilinear, arcs, joined
curvilinear, arcs, joined?
curvilinear, crescent(?), V
curvilinear, crescent, H, down, N11
curvilinear, crescent, H, up
curvilinear, crook_M4
curvilinear, crook_M4?
curvilinear, H1+V4, wavy
curvilinear, half-circle, V
curvilinear, half-circle, V, 3
curvilinear, half-circle_N1
curvilinear, half-circle_N1?
curvilinear, loop, V, long
curvilinear, loop, V, long, Lside
curvilinear, loop, V, long, Rside
curvilinear, loop, V, long?
curvilinear, loop, V, short
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

curvilinear, loop, V, short?
curvilinear, spiral, CC
curvilinear, spiral, CW
curvilinear, spiral?
curvilinear, twist, 2
curvilinear, twist, 2?
curvilinear, twist, 3
curvilinear, twist, 3?
curvilinear, twist, 4
CVO, architecture
CVO, baboon+seat
CVO, bird+architecture
CVO, bird+bound wings
CVO, bird+crest
CVO, bird+H1, wavy
CVO, bird+implement(?)
CVO, bird+mace+shield
CVO, bird+perch
CVO, bird+perch?
CVO, bird+rectangle
CVO, bird+ring
CVO, bird+serpent+baskets
CVO, bird+triangles
CVO, birding
CVO, birds+net
CVO, boat
CVO, bovid+feather
CVO, bull+mountains
CVO, bull+terrain
CVO, circle+rectangle
CVO, crescent+V1 wavy
CVO, crook+standard
CVO, elephant+triangles
CVO, fauna+object in mouth
CVO, feather+legs
CVO, fish+implement
CVO, fork+H1, V2
CVO, frame
CVO, frame 1/2 circle
CVO, frame, circ+border
CVO, frame, circ+headgear
CVO, frame, niched
CVO, frame, niched?
CVO, frame, open-base
CVO, frame, treble
CVO, frame+rounded top
CVO, frame+bird
CVO, frame+bird on perch(?)
CVO, frame+flora
CVO, frame+H1 w/dot, 2&feather
CVO, frame+harpoon
CVO, frame+human
CVO, frame+implement(?)
CVO, frame+niched border
CVO, frame+notched border
CVO, frame+pestle
CVO, frame+pestle?
CVO, frame+protrusions
CVO, frame+rectangle
CVO, frame+sledge(?)
CVO, head+pike/support
CVO, human, sitting/crouching
CVO, human, upright
CVO, human, upright?
CVO, human+pestle
CVO, limbs+mace+shield
CVO, oval frame+dots
CVO, pavilion
CVO, platform(?)
CVO, serpent+triangles
CVO, sledge+cargo
CVO, stalk+H1, wavy
CVO, stalks+long base
CVO, standard
CVO, step+fork
CVO, textile(?)
CVO, vessel+legs
CVO, vessel+stand
CVO, vessels+half-circles
CVO?, frame+notched border
CVO?, rectangle+entrance
CVO?, vessel+legs?
date, Aha
date, Aha?
date, Anedjib?
date, Den

date, Den?
Date, Den>Qa'a
date, detailed, unclear
date, Djer
date, Djer-Den?
date, Djer?
date, Djet
date, Djet or Qa'a
date, Djet/Den up to Qa'a
date, Djet?
date, Djet?-Den
date, Hemaka
date, Hemaka?
date, Memeith?
date, Narmer
date, Narmer-Aha?
date, Narmer?
date, Neithotep
date, Neithotep?
date, NIIIA1
date, NIIIA1/C
date, NIIIC-early D
date, Qa'a
date, Qa'a?
date, Semerkhet
date, Semerkhet-Qa'a
date, Semerkhet?
direction, left facing
direction, none
direction, right facing
direction, right&left facing
direction, unclear
distro, col, # from left unclear
distro, col, # from right unclear
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

distro, col, 1st from left
fauna, gazelle

distro, col, 1st from right
fauna, hare

distro, col, 2nd from left
fauna, lion

distro, col, 2nd from right
fauna, lizard

distro, col, 3rd from left
fauna, quadruped, crouching

distro, col, 3rd from right
fauna, quadruped, standing

distro, col, middle
fauna, quadruped?

distro, Q tab fauna
fauna, rat

distro, Q unclear fauna
fauna, scorpion

distro, Q1 fauna
fauna, serpent

distro, Q1-2 fauna
fauna, serpent?

distro, Q1-3 fauna
fauna, unguulate

distro, Q1-4 flora
flora, branch_M3

distro, Q2 flora
flora, branch_M3?

distro, Q2-4 flora
flora, flower(?)

distro, Q3 flora
flora, plant shoot/bud(?)

distro, Q3-4 flora
flora, reed leaf/feather

distro, Q4 flora
flora, reed leaf/feather?

distro, reg, 2nd from bttm ej flora
flora, stk, 1, If, 1

distro, reg, 2nd from top ej flora
flora, stk, 1, If, 1 w/base, thick

distro, reg, 3rd from bttm ej flora
flora, stk, 1, If, 1?

distro, reg, 3rd from top ej flora
flora, stk, 1, If, 2

distro, reg, 3rd from top ej (NT) flora
flora, stk, 1, If, 2 w/base

distro, reg, 3rd from top ej (NB) flora
flora, stk, 1, If, 2, curved top, roots(?)

distro, reg, 4th from bttm ej flora
flora, stk, 1, If, 3, mono

distro, reg, 4th from top ej flora
flora, stk, 1, If, 3, mono?

distro, reg, bttm flora
flora, stk, 1, If, many

distro, reg, middle flora
flora, stk, 1, If, many w/base

distro, reg, sub-bttm flora
flora, stk, 1, If, many?

distro, reg, top flora
flora, stk, 3

distro, reg, unclear flora
flora, stk, 3 w/large base

distro, reg, secondary side flora
flora, stk, 3 w/large base?

distro, verso flora
flora, stk, 3?

distro, verso flora
flora, stk, base, long

distro, verso flora
text

derision, baseline
derision, col, 2
derision, col, 3
derision, get
derision, mixed A
derision, mixed A?
derision, mixed B
derision, none
derision, plain
derision, reg, 1+
derision, reg, 2
derision, reg, 2+
derision, reg, 3
derision, reg, 4
derision, tabular
derision, unclear
derision, unclear, baseline
derision, unclear, horizontal
derision, unclear, plain
derision, unclear, vertical
drawing
frame
frame
frame w/divided border
frame w/inset rectangle
frame w/notch
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

frame w/notched border
frame w/protrusions
frame w/protrusions?
frame w/rounded top
frame, 2, rounded top
frame, 3, rounded top
frame, circular w/notched border
frame, circular?
frame, niched
frame, niched w/swoop
frame, niched?
frame, open base
frame, open base?
frame, oval w/opening
frame, semi-circle
frame?
furniture, pedestal/platform
furniture, seat
furniture, seat w/dots
furniture, seat w/leg, 1
implement
implement, adze(?)
implement, arrow
implement, axe
implement, axe?
implement, bow
implement, chisel
implement, chisel?
implement, dagger
implement, dagger?
implement, drill/spinner(?)
implement, flail
implement, flail?
implement, harpoon, double
implement, harpoon, forked
implement, harpoon, forked?
implement, harpoon, single
implement, harpoon?
implement, hoe
implement, knife(?)
implement, mace
implement, mace w/ribbons
implement, mace w/ribbons?
implement, mace?
implement, net, fowling
implement, peste
implement, peste?
implement, raised
implement, seal on lanyard
implement, seal on lanyard?
implement, shield
implement, shield?
implement, sickle
implement, staff
implement, staff?
implement, throwing stick(?)
implement, trap(?)
implement?
internal marking, #
internal marking, chevrons

internal marking, D3, wavy
internal marking, D5
internal marking, dots
internal marking, H
internal marking, H1, zigzag
internal marking, mark on head
internal markings, wavy lines
internal, vessel marks
interpretation, changeable PI
interpretation, fixed PI
interpretation, PI?
label
label, tab
label?
landscape, hill, 2
landscape, hill, 3_N25
landscape, hill, 3_N25?
landscape, peak, 2
landscape, peak, 3
landscape, peak, 4
landscape, pool(?)
landscape, terrain, marshy(?)
landscape, undulating terrain
landscape, water(?)_N367/39(?)
landscape, water?
linear, H1, SE
linear, H1, SE?
linear, H1, short, SE
linear, H2, V, multiple, SE
linear, intersecting, '+' tall
linear, intersecting, +-shape
linear, intersecting, H1, V2
linear, intersecting, H2-5, V3-4
linear, intersecting, H2, V2
linear, intersecting, X-shape
linear, inverted V-shape
linear, ladder, H
linear, perpendicular, 'l'-shape
linear, perpendicular, L-shape
linear, perpendicular, step?
linear, simple, D2
linear, simple, H1, VO
linear, simple, H1, VO?
linear, simple, H1, zigzag_N35
linear, simple, H1, zigzag_N35?
linear, simple, V1
linear, simple, V1 w/wavy sides
linear, simple, V1, wavy
linear, star-N14
linear, triangle, isosceles
linear, triangle, right angle_N29
linear, triangle, right angle_N29?
linear, triangular, inverted, 3, series
linear, V1, SE
linear, V1, SE?
linear, V1, short, SE
linear, V2, SE
linear, wedge
linear, wedge, tall
manufacture, adhesive B4 infill
manufacture, bone curve
manufacture, cutting mark
manufacture, metapodial
manufacture, piercing after VO?
manufacture, recycling?
manufacture, scoring
manufacture, spongy bone
manufacture, top/bottom rough cut
manufacture, VO B4 cutting
manufacture, VO B4 cutting?
manufacture, VO B4 piercing
manufacture, VO B4 piercing?
manufacture?
museum, Luzern?
museum, Manchester
museum, MFA
museum, NYMet
museum, OIM
museum, Petrie
museum, Saqara magazines?
museum, unknown
museum, UPM
must redraw
notch, 10
notch, 12
notch, 6
notch, 7
notch, 8
notch, 9
number, 1
number, 10
number, 12
number, 2
number, 3
number, 4
number, 5
number, 6
number, 7
number, 8
number, 9
obj # Ab 6
obj # Ab 7
obj # Ab 99
obj # Ab K 1000
obj # Ab K 1319; R ---
obj # Ab K 1320; R ---
obj # Ab K 1349
obj # Ab K 1440, R 254
obj # Ab K 1441
obj # Ab K 1442, R255
obj # Ab K 1443, R 264
obj # Ab K 14445, R 257
obj # Ab K 1446
obj # Ab K 1447, R 258
obj # Ab K 1448
obj # Ab K 1449
obj # Ab K 1450
obj # Ab K 1451
obj # Ab K 1452, R 265
obj # Ab K 1453
obj # Ab K 1454, R 259
obj # Ab K 1455, R260
obj # Ab K 1456
obj # Ab K 1457
obj # Ab K 1460
obj # Ab K 1461
obj # Ab K 1462
obj # Ab K 1463
obj # Ab K 1464
obj # Ab K 1465
obj # Ab K 1466
obj # Ab K 1467
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

obj # Ab K 1468
obj # Ab K 1469
obj # Ab K 1470
obj # Ab K 1471
obj # Ab K 1472
obj # Ab K 1473
obj # Ab K 1474
obj # Ab K 1475, R263
obj # Ab K 1476
obj # Ab K 1582
obj # Ab K 1630, R 340
obj # Ab K 1631, R341
obj # Ab K 1632
obj # Ab K 1633
obj # Ab K 1634
obj # Ab K 1635
obj # Ab K 1636
obj # Ab K 1638
obj # Ab K 1639
obj # Ab K 1640
obj # Ab K 1642
obj # Ab K 1643
obj # Ab K 1664
obj # Ab K 1673
obj # Ab K 2500
obj # Ab K 2503a, b
obj # Ab K 2512
obj # Ab K 2515
obj # Ab K 2517
obj # Ab K 2518
obj # Ab K 2520
obj # Ab K 2523
obj # Ab K 2525
obj # Ab K 2526
obj # Ab K 2536
obj # Ab K 2538
obj # Ab K 2541
obj # Ab K 2546
obj # Ab K 2560
obj # Ab K 2578
obj # Ab K 2602
obj # Ab K 379
obj # Ab K 380
obj # Ab K 381
obj # Ab K 568
obj # Ab K 593; R 187
obj # Ab K 594; R 187
obj # Ab K 595; R —
obj # Ab K 596; R —
obj # Ab K 597; R —
obj # Ab K 598; R —
obj # Ab K 599; R —
obj # Ab K 677; R —
obj # Ab K 700; R —
obj # Ab K 728
obj # Ab K 728a
obj # Ab K 728d
obj # Ab K 838; R —
obj # Ab K 839; R —
obj # Ab K unk
obj # Ab K1279; R —
obj # AES 1683
obj # AES 2077
obj # AES 2093
obj # AES 2146
obj # Ash E 1122
obj # Ash E 1164
obj # Ash E 1233
obj # Ash E 1262
obj # Ash E 1332
obj # Ash E 1339
obj # Ash E 1342
obj # Ash E 1480
obj # Ash E 1494
obj # Ash E 1495
obj # Ash E 1496
obj # Ash E 1497
obj # Ash E 1498
obj # Ash E 1528
obj # Ash E 1529
obj # Ash E 1549
obj # Ash E 1675
obj # Berlin 15197 [missing]
obj # Berlin 15464
obj # Berlin 15465
obj # Berlin 15466
obj # Berlin 15467
obj # Berlin 15469
obj # Berlin 15470
obj # Berlin 15471
obj # Berlin 15472
obj # Berlin 18026
obj # Berlin 18027
obj # Berlin 18065
obj # Berlin 18066
obj # Berlin 18067
obj # BM 32650
obj # BM 32668
obj # BM 35516
obj # BM 35517
obj # BM 35518
obj # BM 35519
obj # BM 35524
obj # BM 35525
obj # BM 55586
obj # BM 55588
obj # BM 55589
obj # BM 66955
obj # Bolton 76.09.15/1
obj # Bolton 76.09.15/2
obj # Brussels E130
obj # Brussels E131
obj # Brussels E132
obj # Brussels E133
obj # Brussels E134
obj # Brussels E135
obj # Brussels E136
obj # Brussels E34
obj # Brussels E6143

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Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

obj # Brussels E78
obj # Cairo EM00-120
 obj # Cairo EM00-121
 obj # Cairo EM00-122
 obj # Cairo JE 16830
 obj # Cairo JE 31581, CG 14586
 obj # Cairo JE 31773, CG 14142
 obj # Cairo JE 31774, CG 14101
 obj # Cairo JE 31774, CG 14102
 obj # Cairo JE 31774, CG 14103
 obj # Cairo JE 31774, CG 14104
 obj # Cairo JE 31774, CG 14105
 obj # Cairo JE 31774, CG 14106
 obj # Cairo JE 34383
 obj # Cairo JE 34907
 obj # Cairo JE 34908
 obj # Cairo JE 34917
 obj # Cairo JE 34918
 obj # Cairo JE 35601
 obj # Cairo JE 44365
 obj # Cairo JE 45024
 obj # Cairo JE 47117
 obj # Cairo JE 63346, CG 45024?
 obj # Cairo JE 63351
 obj # Cairo JE 70106
 obj # Cairo JE 70107
 obj # Cairo JE 70108
 obj # Cairo JE 70109
 obj # Cairo JE 70110
 obj # Cairo JE 70111
 obj # Cairo JE 70112
 obj # Cairo JE 70113
 obj # Cairo JE 70114
 obj # Cairo JE 70115
 obj # Cairo JE 70116
 obj # Cairo JE 86172
 obj # Cairo JE 86173
 obj # Cairo JE 86174
 obj # Cairo JE 86175
 obj # Cairo JE 99070[a]
 obj # Cairo JE 99070[b]
 obj # Cairo JE 99070[c]
 obj # Cairo JE 99070[d]
 obj # Cairo JE 99070[e]
 obj # Cairo JE 99070[f]
 obj # Cairo JE 99070[g]
 obj # Cairo JE 99071[a]
 obj # Cairo JE 99071[b]
 obj # Cairo JE 99071[c]
 obj # Cairo JE 99071[d]
 obj # Cairo JE 99071[e]
 obj # Cairo JE 99071[f]
 obj # Cairo JE 99071[g]
 obj # Cairo JE 99071[h]
 obj # Cat. No. 407/413
 obj # Fitzwilliam E.1926.15
 obj # Fitzwilliam E.86.1900
 obj # get
 obj # H56
 obj # Helwan 233
 obj # Helwan 234a
 obj # Helwan 234b
 obj # Liverpool E5116
 obj # Louvre E 25.268
 obj # Luzern K 9649 C
 obj # Manc 4292
 obj # Manc 6763a
 obj # Manc 6763b
 obj # Manc 6763c
 obj # Manc 6763d
 obj # Manc 6763e
 obj # MFA 01.7368
 obj # NY 01.4.182
 obj # NY 09.182.17
 obj # NY 09.182.18
 obj # OIM E 5911
 obj # OIM E 5929
 obj # OIM E 5932
 obj # OIM E 6058
 obj # OIM E 6088
 obj # OIM E 6089
 obj # OIM E 6090
 obj # OIM E 6091
 obj # OIM E 6092
 obj # OIM E 6095
 obj # OIM E 6121
 obj # OIM E 6122
 obj # OIM E 6123
 obj # OIM E 6124
 obj # OIM E 6125
 obj # OIM E 6126
 obj # OIM E 6127
 obj # OIM E 6146
 obj # OIM E 6192
 obj # OIM E 6198
 obj # Sa, Cat. No. 377
 obj # Sa, Cat. No. 378
 obj # Sa, Cat. No. 379
 obj # Sa, Cat. No. 380
 obj # Sa, Cat. No. 381
 obj # Sa, Cat. No. 382
 obj # Sa, Cat. No. 383
 obj # Sa, Cat. No. 384
 obj # Sa, Cat. No. 385
 obj # Sa, Cat. No. 386
 obj # Sa, Cat. No. 387
 obj # Sa, Cat. No. 389
 obj # Sa, Cat. No. 390
 obj # Sa, Cat. No. 391
 obj # Sa, Cat. No. 392
 obj # Sa, Cat. No. 393
 obj # Sa, Cat. No. 395
 obj # Sa, Cat. No. 396
 obj # Sa, Cat. No. 397
 obj # Sa, Cat. No. 401
 obj # Sa, Cat. No. 402/415?
 obj # Sa, Cat. No. 403
 obj # Sa, Cat. No. 404
 obj # Sa, Cat. No. 405?/418?
 obj # Sa, Cat. No. 73
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

- obj # Sa, Cat. Nos. 406/412
- obj # UC 16182
- obj # UC 19603
- obj # UC 19604
- obj # UC 36513
- obj # UC 36718
- obj # UC 36719A-B
- obj # UC 36720
- obj # UC 42905
- obj # UPM E 6843
- obj # UPM E 6880
- obj # UPM E 9379 H
- obj # UPM E 9393
- obj # UPM E 9394
- obj # UPM E 9396
- obj # UPM E 9403
- obj # UPM E 9439
- obj # UPM E 9528
- obj # UPM E 9555
- omission
- omission?
- Petrie 1900
- Petrie 1901
- Petrie 1902
- Petrie, unpublished?
- photo, get
- photo, unavailable
- pierced, 1
- pierced, 2
- pierced, 3
- pierced, 4
- pierced, tab, frontal
- pierced, tab, lateral
- pierced, unpreserved/unavailable
- piercing
- piercing accretion
- piercing, none
- piercing, tab, frontal
- piercing, tab, lateral
- piercing, unclear
- piercing, unpreserved
- piercing?
- pose, bending backward
- pose, bending forward
- pose, crouching
- pose, kneeling
- pose, sitting
- pose, standing
- pres, break, borders on
- pres, break, fresh
- pres, con, 1=complete
- pres, con, 2=mod well
- pres, con, 3=poorly
- pres, con, 4=none
- pres, con, 5=unclear
- pres, con, get
- pres, exvtn-current changed
- pres, lacuna
- pres, modern damage
- pres, sub, 1=complete
- pres, sub, 2=slightly frag
- pres, sub, 3=mod frag
- pres, sub, 4=very frag
- pres, sub, 5=whole/frag unclear
- pres, sub, get
- pres, sub, H&W clear
- pres, surface damaged/erasure
- preservation, burnt
- preservation, burnt?
- rectangle (some notched)
- rectangle w/horseshoe'
- rectangle w/knob
- rectangle w/notches
- rectangle w/V&H
- rectangle, D, multiple
- rectangle, H1
- rectangle, open base
- rectangle, V1
- rectangle, V1-3, short
- rectangle, V2-9
- rectangle, V2-9?
- rectangle, V6, short
- rectangle?
- redraw
- refit 289+115?
- refit 289+138?
- refit, bird+step+loop?
- side, primary
- side, secondary
- side, unclear
- sided, double
- sided, double?
- sided, single, as far as pres
- sided, unclear/blank
- site, Abu Rowash?
- site, Abydos
- site, Giza
- site, Helwan
- site, Naqada
- site, Saqqara
- site, Tura
- site, unprovenanced
- site, unprovenanced (Saqqara North?)
- space, empty
- space, empty?
- stand, perch
- stand, perch?
- stand, pike
- stand, vessel
- standard decoration
- standard ribbon(?)
- standard ribbon/limb(?), 2
- standard w/ladder banner(?)
- standard, crossed arrows
- standard, pole base(?)
- standard, pole w/flag
- standard, pole w/flag?
- standard, pole w/triangle
- standard, pole?
Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

standard?
status, middle-lower class
stroke, 3?
stroke, 4-5
stroke, D2
stroke, H1
stroke, V1
stroke, V2
stroke, V3
stroke, V4
stroke, V5
stroke, V6
stroke, V7
stroke, V8
study, original not seen
sub-VO, beard
sub-VO, ear
sub-VO, entrance
sub-VO, entrance?
sub-VO, eye
sub-VO, eyebrow
sub-VO, fauna, tail
sub-VO, H1
sub-VO, hair
sub-VO, hand
sub-VO, head
sub-VO, head bump
sub-VO, head/neck divider
sub-VO, horns
sub-VO, limb, 1, lower
sub-VO, limb, 1, upper
sub-VO, limb, 1, upper, holding
sub-VO, limb, 1, upper?
sub-VO, limb, 2, lower
sub-VO, limb, 2, upper
sub-VO, limb, 2, upper, holding
sub-VO, limb, 4
sub-VO, mane
sub-VO, mouth
sub-VO, notch of crook, painted
sub-VO, standard, H1
sub-VO, tail
sub-VO, tail feathers
sub-VO, window, 2(?)
sub-VO, wing
substrate, ask Daniel
tech, blank
tech, incised
tech, incised w/paint
tech, incised w/paste infill
tech, outline, double
tech, painted
tech, unavailable/unpreserved
tech, unclear
temporal, carry over
textile/twine marking?
Tomb, Ab, 500?
Tomb, Ab, B, near tomb of Aha in 2 frags
Tomb, Ab, B, not specified
Tomb, Ab, B, old excv. heap
Tomb, Ab, B0/1/2
Tomb, Ab, B10, Aha
Tomb, Ab, B15, Aha/Sma
Tomb, Ab, B15?
Tomb, Ab, B16-1b
Tomb, Ab, B16, Aha, subsidiary
Tomb, Ab, B16? Spencer?
Tomb, Ab, B18&B19
Tomb, Ab, B18, Narmer
Tomb, Ab, B50
Tomb, Ab, enclosure O, grave 612
Tomb, Ab, enclosure O, grave 790
Tomb, Ab, enclosure Z, grave 136
Tomb, Ab, enclosure Z, grave 159
Tomb, Ab, enclosure Z, grave 426
Tomb, Ab, loose rubbish
Tomb, Ab, not specified
Tomb, Ab, not specified, Djer?
Tomb, Ab, O, Djer
Tomb, Ab, O, marked on back
Tomb, Ab, O, nearby ash layer
Tomb, Ab, O, subsid?
Tomb, Ab, O, subsidiary 22
Tomb, Ab, O, subsidiary 26
Tomb, Ab, O, subsidiary 83
Tomb, Ab, on surface by Daressy
Tomb, Ab, Q-(N)W LZ-break
Tomb, Ab, Q-(N)W, under pile of pottery
Tomb, Ab, Q-N
Tomb, Ab, Q-N (infill from 1991)
Tomb, Ab, Q-N*
Tomb, Ab, Q-N5N in front of portal
Tomb, Ab, Q-N6 at NW corner
Tomb, Ab, Q-N6N
Tomb, Ab, Q-N6N in front of entrance
Tomb, Ab, Q-N6N/ NR Stairway W
Tomb, Ab, Q-N6NStairway W
Tomb, Ab, Q-N7+N6N
Tomb, Ab, Q-NN
Tomb, Ab, Q-NN/T-W
Tomb, Ab, Q-NW & W of W8-W9
Tomb, Ab, Q-NW under sand in LZ-Break
west of W8-W9
Tomb, Ab, Q-SE
Tomb, Ab, Q location not specified
Tomb, Ab, Q, offering place
Tomb, Ab, spoil heap from ex. of Den?
Tomb, Ab, T-E
Tomb, Ab, T-E16
Tomb, Ab, T-N
Tomb, Ab, T-NE + T-NEE
Tomb, Ab, T-NEEE
Tomb, Ab, T-NW
Tomb, Ab, T-NW + T-NEEE
Tomb, Ab, T-S + U-entrance
Tomb, Ab, T-SE
Tomb, Ab, T-SSW
Tomb, Ab, T-SW
Tomb, Ab, T-SWQ-NE
Tomb, Ab, T-W

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Appendix 2 – ATLAS.ti Examples of Data Handling Structures and Code List

Tomb, Ab, T, aux. chamber S1
Tomb, Ab, T, Den
Tomb, Ab, T, Den, nearby
Tomb, Ab, U-e, Fuelling
Tomb, Ab, U-i, 1
Tomb, Ab, U-i, S
Tomb, Ab, U-i, S + U-j, nearby
Tomb, Ab, U-j, 1, lower fill
Tomb, Ab, U-j, 11
Tomb, Ab, U-j, 11 + U-j, S (c.10m)
Tomb, Ab, U-j, 11, lower down
Tomb, Ab, U-j, E
Tomb, Ab, U-j, nearby
Tomb, Ab, U-j, NW
Tomb, Ab, U-j, S (c.10m)
Tomb, Ab, U-j, SW-corner (bei U-j 11)
Tomb, Ab, U-k, 1
Tomb, Ab, U-k, S
Tomb, Ab, U-k, W
Tomb, Ab, U-o
Tomb, Ab, U-qq, 1, lower down
Tomb, Ab, U, Semerkhet, in tomb
Tomb, Ab, U, Semerkhet, N25, Fill
Tomb, Ab, U, Semerkhet, near tomb
Tomb, Ab, U, tomb unspecified
Tomb, Ab, U, tomb Dreyer?
Tomb, Ab, U?, tomb not specified
Tomb, Ab, V-pit edge [grubenand] WNW
Tomb, Ab, X, Anedjib, unspec
Tomb, Ab, Y24, Memeith
Tomb, Ab, Z-W
Tomb, Ab, Z, Djet
Tomb, Ab, Z3, Djet (private tomb)
Tomb, Abu Rowash, Tomb 2?
Tomb, get
Tomb, Gi, Mastaba V, grave II
Tomb, He, 591.H.11
Tomb, He, 635 H.9
Tomb, He, 68.H.12
Tomb, Na, No. 431, Chamber C
Tomb, Na, No. 431, Chamber Y+surface
Tomb, Na, unspecified
Tomb, S2171 H
Tomb, S3035
Tomb, S3504, fill above structure
Tomb, S3504, mag BB
Tomb, S3504, mag S
Tomb, S3504, magazine, T (superstructure)
Tomb, S3504, sub-mag DD
Tomb, S3504, sub-mag WN
Tomb, S3504, sub-mag Y
Tomb, S3504, sub-room E
Tomb, S3504, sub-room OO
Tomb, S3504, sub-room OO/sub-room D/DD
Tomb, S59
Tomb, SX, Den>Qa'a?, burial chamber
Tomb, Tura, unspecified
Tomb, unprovenanced
transport, boat
transport, boat cargo
transport, boat cargo?
transport, boat pavilion
transport, boat, double
transport, boat, prow feature
transport, boat, prow?
transport, boat, stem feature
transport, boat?
transport, sledge
transport, sledge cargo
transport, sledge?
type, [N] DEN-AB cf. 27
type, ? N? DEN-AB
type, ?a [N] DEN+AB
type, ?b [N] DEN+AB
type, C2 (inx) ?-SA
type, C2 ?-HE
type, C2 [M4] DEN-AB
type, C2 [M4] SEM-AB
type, C2 [M4] SEM-TU
type, C2 [M4+N] QAA-AB
type, C2 [M4+N] SEM-AB
type, C2 [N?] DEN-AB
type, C2 [N?] QAA-AB
type, C2 [V2] ?-HE
type, C2 [V2] ?-SA
type, C2 [V2] QAA-AB
type, C2 [V2+M4] SEM/QAA-AB
type, C2 QAA-AB
type, C2?R2+ [M4] DEN+AB
type, C2a [M4+N] QAA-AB
type, C2b [M4+N] QAA-AB
type, C2R2a [M4+N] QAA-AB
type, C2R2b [M4] QAA-AB
type, C2R2c [M4] QAA-AB
type, C2R3+ [XXX] DEN-AB?
type, C2R3+ [XXX] DEN-AB?
type, C2R4 [M4+N] DEN+AB
type, C2R4b [M4+N] DEN+AB
type, C3 [V2+M4] SEM-AB
type, C3 [V2+N] QAA-AB

type, P (Prf x 4) AHA-AB

type, P (Prf x0) NIITIC-D-HE

type, P (Prf x2) NAR-AB

type, P (Prf x3) DJR-DEN+SA

type, P ?-SA

type, P [garment] NIITIA1-AB

type, P [M4] MER-AB

type, P [M4] QAA-AB

type, P [M4] SA

type, P [N?] NAR-AB

type, P [N] AHA-AB

type, P [N] AHA?-AB
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>P [N] DJR-AB</td>
<td>Data Handling Structures</td>
<td>type, R3-AHA [N] Na</td>
</tr>
<tr>
<td>P [N] DJR-AB (tab)</td>
<td></td>
<td>type, R3-AHA Ab</td>
</tr>
<tr>
<td>P [N] DJR-SA</td>
<td></td>
<td>type, R3-DJR [N] Sa</td>
</tr>
<tr>
<td>P [N] NAR-AB</td>
<td></td>
<td>type, R3 [N] DJT-AB</td>
</tr>
<tr>
<td>P [N] QAA-SA</td>
<td></td>
<td>type, R3 AHA Ab</td>
</tr>
<tr>
<td>P [N] RO</td>
<td></td>
<td>type, R4-AHA [N] Ab</td>
</tr>
<tr>
<td>P [N] Unk</td>
<td></td>
<td>type, R4 [N] DJR-AB</td>
</tr>
<tr>
<td>P [N+Sprial CW] NAR-AB</td>
<td></td>
<td>type, R4 [N] DJR-SA</td>
</tr>
<tr>
<td>P [NU] NA</td>
<td></td>
<td>type, R4?-AHA [N] Ab</td>
</tr>
<tr>
<td>P [NU] NIIA1_AB</td>
<td></td>
<td>type, stone NIIA1-AB</td>
</tr>
<tr>
<td>P [NU] NIIIC-AB</td>
<td></td>
<td>type, T (C6R2) ?-SA</td>
</tr>
<tr>
<td>P [NU+spiral CCW] NA</td>
<td></td>
<td>type, T (R2C3+) [M4] ?-HE</td>
</tr>
<tr>
<td>P [spiral CCW] NIIA1-AB</td>
<td></td>
<td>type, x blank AHA-AB</td>
</tr>
<tr>
<td>P [spiral CW] AHA-NA</td>
<td></td>
<td>type, x blank DJT-AB</td>
</tr>
<tr>
<td>P [spiral CW] NIIA1-AB</td>
<td></td>
<td>type, z ? NIIA1-AB no photo</td>
</tr>
<tr>
<td>P DJR-AB</td>
<td></td>
<td>type, z blank DJR-AB</td>
</tr>
<tr>
<td>P DJR-AB (tab)</td>
<td></td>
<td>type, z blank DJR-AB (tab)</td>
</tr>
<tr>
<td>P DJR?-GI</td>
<td></td>
<td>type, z blank DJR-AB-DEN-SA</td>
</tr>
<tr>
<td>P DJT-SA</td>
<td></td>
<td>type, z blank DJR-SA</td>
</tr>
<tr>
<td>P DJT?-SA</td>
<td></td>
<td>unclassified, 'ankh'-shape</td>
</tr>
<tr>
<td>P NAR-AB</td>
<td></td>
<td>unclassified, 'bag'-shape</td>
</tr>
<tr>
<td>P NIIA1-AB</td>
<td></td>
<td>unclassified, 'box'-shape w/appendages</td>
</tr>
<tr>
<td>P NIIA1-C-AB</td>
<td></td>
<td>unclassified, 'F'-shape</td>
</tr>
<tr>
<td>P NIIA1/DJR-AB</td>
<td></td>
<td>unclassified, 'heart'-shape</td>
</tr>
<tr>
<td>P NIIIC-AB</td>
<td></td>
<td>unclassified, 'seagull'-shape</td>
</tr>
<tr>
<td>P QAA-AB</td>
<td></td>
<td>unclassified, 'shovel'-shape</td>
</tr>
<tr>
<td>P QAA-SA</td>
<td></td>
<td>unclassified, 'step'-shape, 2</td>
</tr>
<tr>
<td>P P-?-[M4] DEN-AB</td>
<td></td>
<td>unclassified, 'sun w/rays'-shape</td>
</tr>
<tr>
<td>P P-?[M4+N] ANJ-AB</td>
<td></td>
<td>unclassified, 'tusk'-shape w/V</td>
</tr>
<tr>
<td>P P-?[N+DEN-AB</td>
<td></td>
<td>unclassified, 'vessel'-shape</td>
</tr>
<tr>
<td>P P-?[N7] DJR-AB</td>
<td></td>
<td>unclassified, 'wig'-shape</td>
</tr>
<tr>
<td>P P-?[N] DEN-AB</td>
<td></td>
<td>unclassified, amorphous</td>
</tr>
<tr>
<td>P P-?[N] DJR-AB</td>
<td></td>
<td>unclassified, amorphous w/crossed lines</td>
</tr>
<tr>
<td>P P-?[N7] DJR?-AB</td>
<td></td>
<td>unclassified, basket?</td>
</tr>
<tr>
<td>P P-?[N] DJT-AB</td>
<td></td>
<td>unclassified, baton?</td>
</tr>
<tr>
<td>P P-?[N] DJT-AB</td>
<td></td>
<td>unclassified, block being cut?</td>
</tr>
<tr>
<td>P P-?[N] QAA-AB</td>
<td></td>
<td>unclassified, circle w/entrance?, zigzag</td>
</tr>
<tr>
<td>P P-? DEN-AB</td>
<td></td>
<td>unclassified, club?</td>
</tr>
<tr>
<td>P P-? DEN?-AB</td>
<td></td>
<td>unclassified, comb?</td>
</tr>
<tr>
<td>P P-? DJR-AB</td>
<td></td>
<td>unclassified, crook w/package</td>
</tr>
<tr>
<td>P P-? DJR-DEN-AB</td>
<td></td>
<td>unclassified, crook w/package?</td>
</tr>
<tr>
<td>P P-? DJT-AB</td>
<td></td>
<td>unclassified, dash, short, many</td>
</tr>
<tr>
<td>P P-? SEM-AB</td>
<td></td>
<td>unclassified, face, profile?</td>
</tr>
<tr>
<td>P P-? SEM?-AB</td>
<td></td>
<td>unclassified, finger, 3?</td>
</tr>
<tr>
<td>P P-? SMR7-AB</td>
<td></td>
<td>unclassified, finger, 4?</td>
</tr>
<tr>
<td>P P? DJR-AB</td>
<td></td>
<td>unclassified, fish?</td>
</tr>
<tr>
<td>P P? DEN-AB</td>
<td></td>
<td>unclassified, fork, 2-pronged</td>
</tr>
<tr>
<td>P P? DJR-AB (tab)</td>
<td></td>
<td>unclassified, fork, 2-pronged, inverted</td>
</tr>
<tr>
<td>P P? DJR-AB</td>
<td></td>
<td>unclassified, fork, 2-pronged?</td>
</tr>
<tr>
<td>P P? DJT-AB</td>
<td></td>
<td>unclassified, fringe?</td>
</tr>
<tr>
<td>P P? R+ DJT-AB</td>
<td></td>
<td>unclassified, H1-2, V many</td>
</tr>
<tr>
<td>P P? R1-AHA [N] Ab</td>
<td></td>
<td>unclassified, H1 w/dots</td>
</tr>
<tr>
<td>P P? R1 [N] DEN-AB</td>
<td></td>
<td>unclassified, H1 w/dots?</td>
</tr>
<tr>
<td>P P? R1 DEN-AB</td>
<td></td>
<td>unclassified, H1, bracket?</td>
</tr>
<tr>
<td>P P? R1+ DJR-AB</td>
<td></td>
<td>unclassified, H1, thick+sack-shape</td>
</tr>
<tr>
<td>P P? R2 (inx) [N] DJT-AB</td>
<td></td>
<td>unclassified, H1, V3-8 w/knobs</td>
</tr>
<tr>
<td>P R2 [N] DJT-AB</td>
<td></td>
<td>unclassified, H1, wavy</td>
</tr>
<tr>
<td>P R2 [N] NA-AB</td>
<td></td>
<td>unclassified, half-circle w/ticks</td>
</tr>
<tr>
<td>P R2?+Den-AB</td>
<td></td>
<td>unclassified, horns/bow?</td>
</tr>
<tr>
<td>P R2+ DEN-AB</td>
<td></td>
<td>unclassified, implement?</td>
</tr>
</tbody>
</table>
Appendix 2 - ATLAS.9 Examples of Data Handling Structures and Code List

unclassified, implement?, H/V1, loop, 2
unclassified, joint?
unclassified, ladder w/rectangle on top
unclassified, limbs?
unclassified, loaf-shape
unclassified, lobe, double
unclassified, loop, H
unclassified, loop, H w/V1
unclassified, loop, H, V5
unclassified, loop, V, H1
unclassified, mace?
unclassified, object in mouth
unclassified, oval w/hook?
unclassified, oval w/V1
unclassified, perch & base?
unclassified, pin?
unclassified, projectile?, H
unclassified, rectangle w/concave top
unclassified, rectangle w/H1+zigzag+
unclassified, rectangle w/open bottom
unclassified, rectangle w/protrusions
unclassified, rectangle w/side..
unclassified, rectangle, H1, V2 w/notch
unclassified, rectangle, V2 w/pointy top
unclassified, rectangular
unclassified, reeds, bundled?
unclassified, serpent/table?
unclassified, staff w/foot?
unclassified, stk, 3, hanging
unclassified, stroke, 11
unclassified, textile?
unclassified, thumb?
unclassified, triangle tree?
unclassified, triangle w/V7
unclassified, triangular
unclassified, V1 w/hump
unclassified, V1, tang, 3-4
unclassified, V1, VO?
unclassified, vessel/fruit?
unclassified, vessel/textile?
unclassified, wedge
unclassified, Y-shape
unclassified, zigzag w/V6
unclear VO
view, frontal
view, lateral, asymmet
view, lateral, symmet
view, none
view, overhead
view, unclear
violence
VO, CVO
VO, CVO?
VO, SVO
VO, SVO?
### Appendix 3. Naqada Cemetery

**Naqada Mastaba: Inscribed labels and associated finds**

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 212</td>
<td>Elephant ivory</td>
<td>Niched frame of Aha serekh; top right frag. found on surface</td>
<td>161 [T], 167, fig. 549 [D]</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>small vessel</td>
<td>ivory</td>
<td>inscribed with '3 x birds with bound wings'</td>
<td>161, 186, fig. 673</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>small vessel</td>
<td>ivory</td>
<td></td>
<td>161, 186, fig. 669</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>small vessel</td>
<td>ivory</td>
<td></td>
<td>161, 186, figs. 668a-b</td>
</tr>
<tr>
<td>-</td>
<td>fragments</td>
<td>vessel</td>
<td>ivory</td>
<td>VO similar to Pl of Neithotep</td>
<td>161, 186, fig. 677</td>
</tr>
<tr>
<td>-</td>
<td>fragment</td>
<td>shoulder from a jointed statue</td>
<td>ivory</td>
<td></td>
<td>161, fig. 718</td>
</tr>
<tr>
<td>-</td>
<td>fragments</td>
<td>bracelets</td>
<td>ivory</td>
<td></td>
<td>161, fig. 733</td>
</tr>
<tr>
<td>-</td>
<td>numerous</td>
<td>indeterminable objects</td>
<td></td>
<td></td>
<td>161</td>
</tr>
<tr>
<td>-</td>
<td>fragments</td>
<td>large box</td>
<td>ivory</td>
<td></td>
<td>161, 191, figs. 693-695</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>kohl sticks</td>
<td></td>
<td></td>
<td>161</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>double-sided scrapers</td>
<td>flint</td>
<td></td>
<td>161, for type see 201, fig. 770</td>
</tr>
<tr>
<td>-</td>
<td>20</td>
<td>pointed scrapers</td>
<td>flint</td>
<td></td>
<td>161, for type see 201, fig. 771</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>large curved knives</td>
<td>flint</td>
<td></td>
<td>162, for type see 200, fig. 769</td>
</tr>
<tr>
<td>-</td>
<td>about 20</td>
<td>large curved knives</td>
<td>flint</td>
<td></td>
<td>162, for types see 200, fig. 769</td>
</tr>
<tr>
<td>-</td>
<td>2</td>
<td>round scrapers</td>
<td>flint</td>
<td></td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>fragments</td>
<td>small vessel</td>
<td>rose-veined and white limestone</td>
<td></td>
<td>162, 184, fig. 665</td>
</tr>
<tr>
<td>-</td>
<td>8-10</td>
<td>fragments</td>
<td>vessel</td>
<td>quartz and rock crystal</td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>fragment</td>
<td>pebble</td>
<td>quartz</td>
<td></td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>c.20 pieces</td>
<td>vessels</td>
<td>hard stone</td>
<td></td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>9</td>
<td>bowls</td>
<td>hard stone</td>
<td></td>
<td>162, for type see 177-178, figs. 602 and 603</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>large vessel</td>
<td>Hard stone</td>
<td>Next to the 9 bowls (?)</td>
<td>162, for type see 182, fig. 654</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>mortar</td>
<td>pink granite</td>
<td></td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>5 or 6</td>
<td>oblong vessels</td>
<td>steatite/schist</td>
<td></td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Impressed sealing</td>
<td>clay</td>
<td>inscribed with '3 x birds'</td>
<td>162</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>large flat plate</td>
<td>red pottery, with a black 'slip' on the</td>
<td></td>
<td>162, 173, fig. 566</td>
</tr>
</tbody>
</table>

1 "T" = text, "D" = Drawing and "P" = photo
### Appendix 3 – Naqada Cemetery

#### Naqada Mastaba: Chamber V (De Morgan 1897)

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
<td>pieces</td>
<td>charred</td>
<td>bone</td>
<td>human (?), from the central cavity of the chamber</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>skeletal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>remains</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Naqada Mastaba: Chamber C (De Morgan 1897)

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>IDs 190-191, 193-196</td>
<td>All hippopotamus ivory except ID 195 (bone?)</td>
<td>Incised</td>
<td>163 [T], figs. 550-555 [D]</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>(perforated) plaques</td>
<td>Hippopotamus ivory</td>
<td>Perhaps for a necklace?</td>
<td>163, fig. 732a-b</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>arm of a statue</td>
<td>Ivory</td>
<td></td>
<td>163, 195, fig. 720</td>
</tr>
<tr>
<td></td>
<td>2 frags.</td>
<td>bracelets</td>
<td>Tortoise shell</td>
<td></td>
<td>163, 196, figs. 734, 742</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>fish pendants</td>
<td>Ivory</td>
<td></td>
<td>163, 193, figs. 702, 703, 706, 708-713</td>
</tr>
<tr>
<td></td>
<td>1 frag.</td>
<td>Bracelet</td>
<td>Mother-of-pearl</td>
<td></td>
<td>163, 196, fig. 738</td>
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<tr>
<td></td>
<td>1</td>
<td>Long bead</td>
<td>gold</td>
<td></td>
<td>163, 197, fig. 744</td>
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<tr>
<td></td>
<td>1</td>
<td>Wire</td>
<td>Copper</td>
<td>encircling the remains of a wooden object</td>
<td>163, 198</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>unidentifiable</td>
<td>Wood</td>
<td>encircled by copper wire</td>
<td>163, 198, figs. 762-766</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>lion</td>
<td>Rock crystal</td>
<td></td>
<td>163, 193, fig. 782 [sic &gt; 700]</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>bottles</td>
<td>Rock crystal</td>
<td></td>
<td>163, 179, fig. 615</td>
</tr>
<tr>
<td></td>
<td>Several</td>
<td>open bowls</td>
<td>Rock crystal</td>
<td></td>
<td>163, 179, figs. 610, 616, 623</td>
</tr>
<tr>
<td></td>
<td>Several</td>
<td>vessels</td>
<td>Obsidian</td>
<td></td>
<td>163, 180, figs. 625-627</td>
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<tr>
<td></td>
<td>2</td>
<td>open bowls</td>
<td>Egyptian alabaster</td>
<td></td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>Several</td>
<td>cylindrical vessels</td>
<td>Egyptian alabaster</td>
<td></td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>double-sided scrapers</td>
<td>Flint</td>
<td></td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>awls or pointy scrapers</td>
<td>Flint</td>
<td></td>
<td>164, for type see 204, fig. 771</td>
</tr>
<tr>
<td></td>
<td>Frags.</td>
<td>awls or pointy scrapers</td>
<td>Flint</td>
<td></td>
<td>164, for type see 204, fig. 771</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>large knife</td>
<td>Flint</td>
<td></td>
<td>164, for type see 200, fig. 769</td>
</tr>
<tr>
<td></td>
<td>4 or 5</td>
<td>(fragmentary) curved large knives</td>
<td>Flint</td>
<td></td>
<td>164, for type see 200, fig. 769</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>small vessels</td>
<td>geobertite</td>
<td>Inscribed with three 'birds' in a row</td>
<td>164, 184, figs. 661-662</td>
</tr>
<tr>
<td></td>
<td>1 frag.</td>
<td>vessel</td>
<td>Green stone</td>
<td>Inscribed with three 'birds' in a row</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>Various</td>
<td>vessels</td>
<td>Hard stone</td>
<td></td>
<td>164</td>
</tr>
</tbody>
</table>

2 None of the labels found in this chamber show signs of burning but a perforated hippopotamus ivory plaque, probably part of a necklace, was blackened (Bagh 2004: 597)
Appendix 3 – Naqada Cemetery

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>3</td>
<td>beads</td>
<td>Pottery (&quot;terre cuite&quot;)</td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>–</td>
<td>1</td>
<td>bead</td>
<td>Camelian</td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>–</td>
<td>Frags.</td>
<td>box</td>
<td>Wood</td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>–</td>
<td>Copious amounts</td>
<td>cloth</td>
<td>–</td>
<td>Four or five qualities of cloth, some of which were very fine</td>
<td>164</td>
</tr>
<tr>
<td>–</td>
<td>Pieces</td>
<td>cord and lengths of string</td>
<td>–</td>
<td></td>
<td>164</td>
</tr>
</tbody>
</table>
Appendix 4. Abydos, Umm el-Qa’ab, Cemetery U

### Tomb U-e: Inscribed label

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Tomb U-e. Chamber 1</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 839; R —</td>
<td>1</td>
<td>ID 51</td>
<td>Elephant ivory¹</td>
<td>Fill (probably from U-j (Dreyer 1993: 28))</td>
<td>1993: 28 [T]; 1998: 118 [T], 119, no. 48 [P], pl. 29, no. 48 [D]</td>
</tr>
</tbody>
</table>

Possibly once contained vessel(s) based on vessel base impressions (Dreyer et al. 1993)

### Tomb U-j: Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Tomb U-j. Chamber 1</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 598; R —</td>
<td>1</td>
<td>ID 16</td>
<td>Bone</td>
<td>Lower fill, southern half</td>
<td>1998: 9, 114 [T], 115, no. 15 [D], pl. 27, no. 15 [P]</td>
</tr>
<tr>
<td>Ab K 595; R —</td>
<td>1</td>
<td>ID 40</td>
<td>Bone</td>
<td>Lower fill, southern half</td>
<td>1998: 9, 116 [T], 117, no. 38 [D], pl. 28, no. 38 [P]</td>
</tr>
<tr>
<td>Ab K 597; R —</td>
<td>1</td>
<td>ID 44</td>
<td>Elephant ivory⁴</td>
<td>Lower fill, southern half</td>
<td>1998: 9, 118 [T], 117, no. 41 [D], pl. 28, no. 41 [P]</td>
</tr>
<tr>
<td>Ab K 594; R 187</td>
<td>1</td>
<td>ID 84</td>
<td>Bone</td>
<td>Lower fill, southern half</td>
<td>1998: 9, 123 [T], 122, no. 7b [D], pl. 30, no. 78 [P]</td>
</tr>
<tr>
<td>Ab K 593; R 187</td>
<td>1</td>
<td>ID 85</td>
<td>Bone</td>
<td>Lower fill southern half, (intrusive from U-j, 11)</td>
<td>1998: 9, 123 [T], 122, no. 79 [D], pl. 30, no. 79 [P]</td>
</tr>
<tr>
<td>Ab K 596; R —</td>
<td>1</td>
<td>ID 109</td>
<td>Bone/ivory⁵</td>
<td>Lower fill, southern half</td>
<td>1998: 9, 129 [T], 130, no. 137 [D], pl. 33, no. 137 [P]</td>
</tr>
<tr>
<td>Ab K 803a</td>
<td>Frags.</td>
<td>Small stopper sealing (type II)</td>
<td>Mud</td>
<td>NE-corner</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 592d</td>
<td>2 frags.</td>
<td>Disk-shaped (hair?) pin</td>
<td>Ivory</td>
<td>Fill</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 590</td>
<td>Frag.</td>
<td>Comb</td>
<td>Bone</td>
<td>Lower fill</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 587a-b</td>
<td>Frags.</td>
<td>Small bowl</td>
<td>Ivory</td>
<td>Lower fill</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 592d</td>
<td>Frags. inlay</td>
<td>Ivory</td>
<td>Staff or furniture fixture</td>
<td></td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 588a</td>
<td>some fragments</td>
<td>Ivory</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Listed in report as bone (Dreyer et al. 1993: 28)
⁴ Dreyer et al. (1993: 34) incorrectly list material as bone. This is corrected in Dreyer 1998: 118.
⁵ Dreyer et al. (1993: 34) list material as bone. This is adjusted in Dreyer 1998: 129.
<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 592a and c</td>
<td>2 frags.</td>
<td>Gaming stick (Ilia)</td>
<td>Ivory</td>
<td>Fill</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 592b</td>
<td>Frags.</td>
<td>Gaming stick</td>
<td>Ivory</td>
<td>Fill</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 797a</td>
<td>2</td>
<td>Gaming stick</td>
<td>Ivory</td>
<td>Upper fill</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 592d</td>
<td>8</td>
<td>Small frags.</td>
<td>Ivory</td>
<td>Lower fill</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 591</td>
<td>1</td>
<td>Gaming piece (IVb)</td>
<td>Ivory</td>
<td>Fill</td>
<td>Dreyer 1992: 298</td>
</tr>
<tr>
<td>Ab K 580</td>
<td>1</td>
<td>'hkt sceptre' [adze?]</td>
<td>Ivory</td>
<td>NE comer (L 33.6 cm)</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 581</td>
<td>1</td>
<td>blade</td>
<td>Obsidian</td>
<td>Floor, NE comer</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 582</td>
<td>1/2</td>
<td>Spatha (bi-valve)</td>
<td>Shell</td>
<td>Floor, NE corner</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 589a-c</td>
<td>3</td>
<td>Frags.</td>
<td>Ivory</td>
<td>From hair pin, lower fill</td>
<td>1993: 34, 1998: 9</td>
</tr>
<tr>
<td>Ab K 583</td>
<td>1</td>
<td>Hair pin</td>
<td>Ivory</td>
<td>Floor, northern part</td>
<td>1998: 8, 9</td>
</tr>
<tr>
<td>Ab K 579a</td>
<td>2</td>
<td>Nail</td>
<td>Gold</td>
<td>Floor, NE corner</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 579b</td>
<td>Small piece</td>
<td>Sheet/foil ('blech'/?folie)</td>
<td>Gold</td>
<td>Floor, NE corner</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 586b</td>
<td>15</td>
<td>Small bead</td>
<td>Turquoise</td>
<td>Lower fill</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 586a</td>
<td>9</td>
<td>Small bead</td>
<td>Camelian</td>
<td>Lower fill</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 734a</td>
<td>1</td>
<td>Bead</td>
<td>Turquoise (raw)</td>
<td>Fill</td>
<td>1998: 9</td>
</tr>
<tr>
<td>Ab K 579c</td>
<td>3</td>
<td>Fragment</td>
<td>Galena</td>
<td>Floor, NE corner</td>
<td>1993: 34; 1998: 9</td>
</tr>
<tr>
<td>Ab K 584</td>
<td>3cm frag.</td>
<td>Rope</td>
<td>--</td>
<td>Lower fill</td>
<td>1998: 9</td>
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<tr>
<td>Ab K 523</td>
<td>Frag.</td>
<td>Rim</td>
<td>pottery</td>
<td>With Coptic inscription (mends with bottle from U-j 92); upper fill</td>
<td>1998: 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
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<tbody>
<tr>
<td>Inv No</td>
<td>Quantity</td>
<td>Object</td>
<td>Material</td>
<td>Details</td>
<td>Reference</td>
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<tr>
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<td>--------</td>
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<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>Ab K 677; R ---</td>
<td>1/2 (+1/2)</td>
<td>ID 98</td>
<td>Elephant ivory</td>
<td>U-j 11 (+ U-j south, c. 10 m)</td>
<td>13-14, 113ff. [T], 115ff. [D], pls. 27ff. [P]</td>
</tr>
<tr>
<td>Ab K 806d, f</td>
<td>3 frags.</td>
<td>Sealing (IV)</td>
<td>Nile mud</td>
<td>Fill, eastern part (from U-j 10/12?)</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 807, 808b</td>
<td>2 nearly complete</td>
<td>Sealing (V)</td>
<td>Nile mud</td>
<td>Fill, eastern part (from U-j 10/12?)</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 808c</td>
<td>1 nearly complete</td>
<td>Sealing (IV-V)</td>
<td>Nile mud</td>
<td>Fill, eastern part (from U-j 10/12?)</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 808a</td>
<td>1 frag.</td>
<td>Sealing (V)</td>
<td>Nile mud</td>
<td>Fill, eastern part (from U-j 10/12?)</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 808f</td>
<td>5 small frags.</td>
<td>Sealing (type unclear)</td>
<td>Nile mud</td>
<td>Fill, eastern part (from U-j 10/12?)</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 746</td>
<td>1 frag.</td>
<td>Bowl</td>
<td>Ivory</td>
<td>Fill</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 588b</td>
<td>1 frag.</td>
<td>Top of staff</td>
<td>Ivory</td>
<td>Fill</td>
<td>13</td>
</tr>
<tr>
<td>Ab K 742a-g</td>
<td>7 frags.</td>
<td>Gaming sticks (type 1a)</td>
<td>Ivory</td>
<td>Most from lower fill</td>
<td>13</td>
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<tr>
<td>Ab K 741a-c, e-g</td>
<td>6 frags.</td>
<td>Gaming sticks (type 1b)</td>
<td>Ivory</td>
<td>Most from lower fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 797f</td>
<td>13 frags</td>
<td>Gaming sticks (type 3)</td>
<td>Ivory</td>
<td>Fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 798c</td>
<td>c.150</td>
<td>Small fragments</td>
<td>Ivory</td>
<td>From fill to floor</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 763</td>
<td>Frag.</td>
<td>gaming piece (type I)</td>
<td>Ivory</td>
<td>Fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 776</td>
<td>14</td>
<td>Small gaming pieces (types I-II)</td>
<td>Ivory</td>
<td>Fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 734a</td>
<td>1</td>
<td>Bead</td>
<td>Turquoise (raw)</td>
<td>Fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 734c</td>
<td>1</td>
<td>Bead, barrell-shaped</td>
<td>Baked sand (?) *&quot;kompaet verbackenen Sandkornchen&quot;</td>
<td>Fill</td>
<td>14</td>
</tr>
<tr>
<td>--</td>
<td>Several (?)</td>
<td>Boxes?</td>
<td>Cedar</td>
<td>Floor, eastern part and southern edge</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 736a</td>
<td>Frags.</td>
<td>Shallow bowl</td>
<td>Obsidian</td>
<td>Mostly on floor</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 736b</td>
<td>Frags.</td>
<td>Bowl rim</td>
<td>Obsidian</td>
<td>Lower fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 739</td>
<td>Frags.</td>
<td>Bowl</td>
<td>Pink quartz</td>
<td>Mostly on floor</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 740</td>
<td>Frags.</td>
<td>Bowl</td>
<td>Smokey quartz</td>
<td>Mostly on floor</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 738</td>
<td>Frags.</td>
<td>Bottle</td>
<td>Pink quartz</td>
<td>Mostly on floor</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 737a</td>
<td>Frags.</td>
<td>Bowl</td>
<td>Dolomite</td>
<td>Mostly on floor</td>
<td>14</td>
</tr>
<tr>
<td>Inv. No.</td>
<td>Quantity</td>
<td>Object</td>
<td>Material</td>
<td>Details</td>
<td>Reference</td>
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<td>----------</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>Ab K 737b</td>
<td>Frags.</td>
<td>Shallow bowl</td>
<td>Dolomite</td>
<td>Mostly on floor</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 737c and d</td>
<td>Frags.</td>
<td>Bottle</td>
<td>Dolomite</td>
<td>Lower fill</td>
<td>14</td>
</tr>
<tr>
<td>Ab K 796e</td>
<td>Frag.</td>
<td>Dice stick</td>
<td>–</td>
<td>Fill (intrusive, p. 170)</td>
<td>14</td>
</tr>
<tr>
<td>–</td>
<td>2</td>
<td>Grains</td>
<td>Barley?</td>
<td>Bottom of wooden chest in SE corner</td>
<td>14, 194</td>
</tr>
</tbody>
</table>

**Tomb U-k: Inscribed labels and associated finds**

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 560; R –</td>
<td>1 almost complete</td>
<td>ID 41</td>
<td>Bone/Ivory</td>
<td>incised</td>
<td>1993: 36 [T]; 1998: 116 [T]; 117, no. 39 [D], pl. 28, no. 39 [P]</td>
</tr>
<tr>
<td>Ab K 561; R –</td>
<td>1 frag.</td>
<td>ID 171</td>
<td>Ivory (hippopotamus?)</td>
<td>incised</td>
<td>1993: 36 [T]; 1998: 132 [T]; 133, no. 159 [D], pl. 34, no. 159 [P]</td>
</tr>
<tr>
<td>–</td>
<td>Several Frags.</td>
<td>ivory</td>
<td>Bracelets, stick or rod</td>
<td>(gaming?)</td>
<td>1993: 36</td>
</tr>
</tbody>
</table>

**Tomb U-o: Inscribed label**

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 838; R –</td>
<td>1 frag.</td>
<td>ID 170</td>
<td>Elephant ivory</td>
<td>Incised</td>
<td>131 [T], 133, no. 158 [D], pl. 34, no. 158 [P]</td>
</tr>
</tbody>
</table>

No further information in published report.

**Tomb U-qq: Inscribed labels**

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 1319; R –</td>
<td>1</td>
<td>ID 42</td>
<td>Bone</td>
<td>Lower fill</td>
<td>118 [T], 117, no. 40 [D], pl. 28, no. 40 [P]</td>
</tr>
<tr>
<td>Ab K 1320; R –</td>
<td>1</td>
<td>ID 159</td>
<td>Bone/Ivory</td>
<td>Lower fill</td>
<td>131 [T], 130, no. 148 [D], pl. 33, no. 148 [P]</td>
</tr>
</tbody>
</table>

No further information in published report.
Appendix 5. Abydos, Umm el-Qa’ab, Cemetery B

Tomb B50: Inscribed label and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>ID 188</td>
<td>Bone</td>
<td>Incised with numeric VO's; chamber unclear; Chamber B50a (?)</td>
<td>1998: 139 [T], fig. 83b [D]</td>
</tr>
<tr>
<td></td>
<td>Some</td>
<td>Beads</td>
<td>Faience</td>
<td>Chamber B50a</td>
<td>1990: 68 [T]</td>
</tr>
<tr>
<td></td>
<td>Piece</td>
<td>Coffin (?)</td>
<td>Wood</td>
<td>Along the west wall of B50a</td>
<td>1990: 68 [T]</td>
</tr>
<tr>
<td></td>
<td>Fragments of two</td>
<td>Coffin</td>
<td>Wood</td>
<td>c.1.85 m x 0.95 m; c.2.35 m x 1.3 m, as reconstructed from scattered remains; one in B50c and one in B50d</td>
<td>1990: 68 [T]</td>
</tr>
<tr>
<td></td>
<td>?</td>
<td>Remains of vessel contents</td>
<td>Unclear</td>
<td>Reddish-brown; B50a and b</td>
<td>1990: 68 [T]</td>
</tr>
</tbody>
</table>

Examination of the rubbish heaps nearby revealed no further objects that could be attributed to this tomb. The mud stoppers with seal impressions of king Djer found here are probably from a secondary deposition (Dreyer et al. 1990).

Tomb B17/18 (Narmer?): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (2 frags. &quot;recently broken&quot;)</td>
<td>ID 204</td>
<td>Wood</td>
<td>Incised, PI of Narmer; coated with burnt resin, perhaps the contents of a container to which it had been attached?</td>
<td>19 [T], pl. 10, no. 1 [D], pl. 2, no. 4 [P]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>ID 202</td>
<td>Ivory</td>
<td>Traces of applied pigment</td>
<td>pl. 32, no. 30 [D]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>ID 203</td>
<td>Wood</td>
<td>Applied pigment; ‘double-handled, flat-based globular vessel’ with a ‘zigzag line’ running around the middle.</td>
<td>27 [T], pl. 12, no. 4 [D]</td>
</tr>
<tr>
<td></td>
<td>Upper half</td>
<td>ID 215</td>
<td>Wood</td>
<td>Niched frame of Aha; lower half in B19 (below)</td>
<td>21 and 51 [T], pl. 10, nos. 2 and 3, pl. 3A [D], no. 5 [P]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>ID 216</td>
<td>Wood</td>
<td>Niched frame of Aha</td>
<td>21 [T], pl. 11, nos. 2 and 3 [D], pl. 3A, no. 6 [P]</td>
</tr>
<tr>
<td></td>
<td>Some dozens</td>
<td>arrowhead</td>
<td>Flint</td>
<td>&quot;Some hundreds...already removed by French work...&quot;</td>
<td>22 [T], pl. 4, no. 14 [1-9]</td>
</tr>
</tbody>
</table>

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### Appendix 5 - Abydos, Umm el-Qa'ab, Cemetery B

#### Tomb B19/15/10/ and B16 (Aha): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Lower</td>
<td>ID 215</td>
<td>Wood</td>
<td>'Niched frame' of Aha; upper half from B19 (above)</td>
<td>1901: 21 and 51 [T], pl. 10, nos. 2 and 3, pl. 3A [D], no. 5 [P]</td>
</tr>
<tr>
<td>-</td>
<td>Some</td>
<td>Jars</td>
<td>Pottery</td>
<td>Wavy-handled variant &quot;A.3&quot;</td>
<td>1902: 6</td>
</tr>
<tr>
<td>-</td>
<td>1 frag.</td>
<td>ID 214</td>
<td>Ivory</td>
<td>Cf. IDs 160 and 377 from the Naqada Mastaba (above)</td>
<td>1982: 227 [T], pl. 51c [P]</td>
</tr>
<tr>
<td>-</td>
<td>Upper</td>
<td>ID 201</td>
<td>Elephant</td>
<td>Traces of niched frame?</td>
<td>1901: pl. 32, no. 30 [D]</td>
</tr>
<tr>
<td>-</td>
<td>1 frag.</td>
<td>ID 322?</td>
<td>Stopper</td>
<td>Mud Animal impression</td>
<td>1982: 227 [T], pl. 57a [P]</td>
</tr>
<tr>
<td>-</td>
<td>Frags.</td>
<td>Inlay</td>
<td>Ivory</td>
<td>Matching frag. found in B17</td>
<td>1901: 22, pl. 4, no. 16 (and 17)</td>
</tr>
<tr>
<td>-</td>
<td>1 frag.</td>
<td>Vessel?</td>
<td>Gold?</td>
<td>'Niched frame' of Aha</td>
<td>1901: pl. 13, upper middle left</td>
</tr>
<tr>
<td>-</td>
<td>Frags.</td>
<td>Bull's leg</td>
<td>?</td>
<td></td>
<td>1901: 34, pl. 32, nos. 1, 3-5, 12-13</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Box?</td>
<td>?</td>
<td>Incised decoration</td>
<td>1901: pl. 32, no. 52</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Large box?</td>
<td>?</td>
<td></td>
<td>1901: pl. 32, no. 54</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Bowl</td>
<td>Basalt</td>
<td></td>
<td>1901: pl. 47A, no. 53</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Vase</td>
<td>Porphyry</td>
<td></td>
<td>1901: 43, pl. 49, no. 133</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Shallow bowl</td>
<td>&quot;Slate&quot;</td>
<td></td>
<td>1901: 43, pl. 51B, no. 225</td>
</tr>
<tr>
<td>-</td>
<td>Frags. of 2</td>
<td>Jar</td>
<td>&quot;Alabaster&quot;</td>
<td>Wavy-handle</td>
<td>1901: 44, pl. 52, no. 347</td>
</tr>
</tbody>
</table>

- Kaplony (1963: 899) says that Petrie and Amelineau found arrowheads in this tomb.
- Rubbish apparently thrown out of the chambers B15 and B18 included other mud sealings (1982: 227).
- No further associated finds for this chamber noted in Kaiser and Dreyer 1982.

#### Tomb B15 (Petrie 1901; Kaiser and Dreyer 1982)

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1 frag.</td>
<td>ID 214</td>
<td>Ivory</td>
<td>Cf. IDs 160 and 377 from the Naqada Mastaba (above)</td>
<td>1982: 227 [T], pl. 51c [P]</td>
</tr>
<tr>
<td>-</td>
<td>Upper</td>
<td>ID 201</td>
<td>Elephant ivory</td>
<td>Traces of niched frame?</td>
<td>1901: pl. 32, no. 30 [D]</td>
</tr>
<tr>
<td>-</td>
<td>1 frag.</td>
<td>ID 322?</td>
<td>Stopper</td>
<td>Mud Animal impression</td>
<td>1982: 227 [T], pl. 57a [P]</td>
</tr>
<tr>
<td>-</td>
<td>Frags.</td>
<td>Inlay</td>
<td>Ivory</td>
<td>Matching frag. found in B17</td>
<td>1901: 22, pl. 4, no. 16 (and 17)</td>
</tr>
<tr>
<td>-</td>
<td>1 frag.</td>
<td>Vessel?</td>
<td>Gold?</td>
<td>'Niched frame' of Aha</td>
<td>1901: pl. 13, upper middle left</td>
</tr>
<tr>
<td>-</td>
<td>Frags.</td>
<td>Bull's leg</td>
<td>?</td>
<td></td>
<td>1901: 34, pl. 32, nos. 1, 3-5, 12-13</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Box?</td>
<td>?</td>
<td>Incised decoration</td>
<td>1901: pl. 32, no. 52</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Large box?</td>
<td>?</td>
<td></td>
<td>1901: pl. 32, no. 54</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Bowl</td>
<td>Basalt</td>
<td></td>
<td>1901: pl. 47A, no. 53</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Vase</td>
<td>Porphyry</td>
<td></td>
<td>1901: 43, pl. 49, no. 133</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Shallow bowl</td>
<td>&quot;Slate&quot;</td>
<td></td>
<td>1901: 43, pl. 51B, no. 225</td>
</tr>
<tr>
<td>-</td>
<td>Frags. of 2</td>
<td>Jar</td>
<td>&quot;Alabaster&quot;</td>
<td>Wavy-handle</td>
<td>1901: 44, pl. 52, no. 347</td>
</tr>
</tbody>
</table>

#### Tomb B10 (Petrie 1901)

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 59</td>
<td>Ivory</td>
<td>Two perforations (label?)</td>
<td>20 [T], pl. 3, no. 3 [P]</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Vessel</td>
<td>&quot;Alabaster&quot;</td>
<td>Inscribed</td>
<td>20, pl. 2, no. 14</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Vessel</td>
<td>Serpentine</td>
<td>Inscribed</td>
<td>20, pl. 2, no. 15</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Vessel</td>
<td>&quot;Alabaster&quot;</td>
<td>Incised with unknown VO</td>
<td>21, pl. 4, no. 1</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Vase</td>
<td>Dolomite marble</td>
<td></td>
<td>44, pl. 51E, no. 278</td>
</tr>
<tr>
<td>-</td>
<td>Frag.</td>
<td>Inlay</td>
<td>Ivory</td>
<td>Incised with human figure</td>
<td>21, pl. 3A, no. 3</td>
</tr>
</tbody>
</table>

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Appendix 6. Abydos, ‘Royal’ Tombs Cemetery

Tomb O (Djer): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grave 2 Complex O (Petrie 1901)

- 1 ID 94 Bone ("ivory" in Petrie incorrect) 1901: 9, 23 [T], pl. 5A, no. 6 [P]
- 1 Pin Gold [Unclear if found with label] 1901: 9, 23 [T], pl. 5A, no. 7 [P]

Grave 22 Complex O (Amélineau 1904)

<table>
<thead>
<tr>
<th>No.</th>
<th>1 frag.</th>
<th>ID 189</th>
<th>Material</th>
<th>Double-sided</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 6</td>
<td>1 frag.</td>
<td>ID 189</td>
<td>Hippopotamus ivory</td>
<td>Double-sided</td>
<td>57 [T], pl. 15, no. 26 [P]</td>
</tr>
<tr>
<td>No. 7</td>
<td>1</td>
<td>ID 220</td>
<td>Bone</td>
<td>57 [T], pl. 14, 27 [P]</td>
<td></td>
</tr>
<tr>
<td>No. 1</td>
<td>2</td>
<td>Lithics</td>
<td>Flint</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>No. 2</td>
<td>1/2</td>
<td>Bracelet</td>
<td>Flint</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>No. 3</td>
<td>2 frags.</td>
<td>Cylindrical vase</td>
<td>Ivory</td>
<td>Inscribed</td>
<td>57, pl. 15, no. 2</td>
</tr>
<tr>
<td>No. 4</td>
<td>Frag.</td>
<td>knife</td>
<td>Ivory</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>No. 5</td>
<td>Frag.</td>
<td>Vase</td>
<td>Ivory</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>No. 8</td>
<td>1</td>
<td>Pin</td>
<td>Ivory</td>
<td>Very large</td>
<td>57-58, pl. 15, no. 15</td>
</tr>
<tr>
<td>No. 9</td>
<td>1</td>
<td>Arrow tip</td>
<td>Ivory</td>
<td>58, pl. 3</td>
<td></td>
</tr>
<tr>
<td>No. 10</td>
<td>1</td>
<td>Lock</td>
<td>Hair</td>
<td>58, pl. 11, no. 7</td>
<td></td>
</tr>
<tr>
<td>No. 11</td>
<td>1</td>
<td>Plait</td>
<td>Hair</td>
<td>Large; found in middle of the tomb</td>
<td>58</td>
</tr>
<tr>
<td>No. 12</td>
<td>1</td>
<td>Plait</td>
<td>Wig</td>
<td>Almost complete</td>
<td>58</td>
</tr>
<tr>
<td>No. 13</td>
<td>Frags.</td>
<td>Cloth</td>
<td>?</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 14</td>
<td>Frags.</td>
<td>Cord</td>
<td>?</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 15</td>
<td>Frags.</td>
<td>twigs</td>
<td>?</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 16</td>
<td>Some</td>
<td>Incense/resin</td>
<td>?</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 17</td>
<td>Frags.</td>
<td>Vase</td>
<td>Granite</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 18</td>
<td>Frags.</td>
<td>Vases</td>
<td>Porphyry</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 19</td>
<td>1</td>
<td>Object</td>
<td>Metal</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>No. 20</td>
<td>Some</td>
<td>Skeletal remains</td>
<td>Bone</td>
<td>Incomplete</td>
<td>58</td>
</tr>
<tr>
<td>No. 21</td>
<td>1</td>
<td>Stela</td>
<td>Course limestone</td>
<td>Eroded surface, depicts female figure</td>
<td>58, pl. 18, no. 14</td>
</tr>
</tbody>
</table>

6 Incorrectly listed by Amélineau (1904: 57) as no. 22.
7 Incorrectly identified by Amélineau (1904: 57) as ivory.
8 Incorrectly listed by Amélineau (1904: 57) as no. 23.
9 Amélineau (1904: 58) lists No. 7, but this fact label ID 222 that he discusses elsewhere.
10 Several examples given on plate, but specific find not indicated.
### Appendix 6 – Abydos, 'Royal' Tombs Cemetery

#### Grave 26: Complex O (Amelineau 1904)

<table>
<thead>
<tr>
<th>No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1</td>
<td>ID 219</td>
<td>Bone</td>
<td></td>
<td>63 [T], pl. 15, no. 28 [P]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Great quantities</td>
<td>Plates</td>
<td>Hair</td>
<td>62</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Frags.</td>
<td>Vases</td>
<td>&quot;Onyx&quot;</td>
<td>62</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Frags.</td>
<td>Vases</td>
<td>Marble</td>
<td>62</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Frags.</td>
<td>Vases</td>
<td>Schist (?)</td>
<td>62</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Frag.</td>
<td>Vase</td>
<td>? Inscribed</td>
<td>62</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>1</td>
<td>Vase</td>
<td>White marble</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2</td>
<td>Pieces</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>1</td>
<td>Small pot</td>
<td>Onyx</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>1</td>
<td>box</td>
<td>Ivory</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Remains</td>
<td>Skeletal</td>
<td>Bone</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Remains</td>
<td>Skeletal</td>
<td>Bone</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>1</td>
<td>Furniture</td>
<td>Wood</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>1</td>
<td>Lithic</td>
<td>Flint</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>2</td>
<td>Tablets</td>
<td>stone</td>
<td></td>
</tr>
</tbody>
</table>

#### Grave 83: Complex O (Amelineau 1904)

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>1</td>
<td>ID 306</td>
<td>Wood</td>
<td>Niched frame of Djer</td>
<td>124 [T], pl. 15, No. 19 [P]</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Vase</td>
<td>White marble</td>
<td>Almost complete</td>
<td>124</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Vase</td>
<td>Rock crystal</td>
<td>2 frags.</td>
<td>124</td>
</tr>
<tr>
<td>3</td>
<td>2 frags.</td>
<td>Vase</td>
<td>?</td>
<td>From vase found in grave 22 (No. 12?)</td>
<td>124 (123?)</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Vase</td>
<td>Marble</td>
<td>Fragmentary, flared type</td>
<td>124</td>
</tr>
<tr>
<td>5</td>
<td>Frag.</td>
<td>Implement (scraper?)</td>
<td>White blue-veined marble</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Gaming pieces</td>
<td>?</td>
<td></td>
<td>124, pl. 16, 1-5</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>Scrapers</td>
<td>Flint</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>Short sticks</td>
<td>Ivory</td>
<td>Green colour</td>
<td>124</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>Baton</td>
<td>Ivory</td>
<td>Cylindrical</td>
<td>124</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>Arrow tips</td>
<td>Ivory</td>
<td>2 tips coloured (poisoned?)</td>
<td>124</td>
</tr>
<tr>
<td>12</td>
<td>Frag.</td>
<td>Egg shell</td>
<td>Ostrich?</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>13</td>
<td>Frags.</td>
<td>Cloth</td>
<td>?</td>
<td>Rough</td>
<td>124</td>
</tr>
<tr>
<td>14</td>
<td>Frags.</td>
<td>Cloth</td>
<td>?</td>
<td>Fine</td>
<td>124</td>
</tr>
<tr>
<td>15</td>
<td>Some</td>
<td>Wire</td>
<td>?</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>Basketry</td>
<td>?</td>
<td>Large and round</td>
<td>124</td>
</tr>
<tr>
<td>17</td>
<td>Frags.</td>
<td>Basketry</td>
<td>?</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>18</td>
<td>2 Frags.</td>
<td>?</td>
<td>Wood</td>
<td>Worked</td>
<td>124</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>Stopper</td>
<td>Mud</td>
<td>Fine, inscribed</td>
<td>124</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>Beads</td>
<td>Carmelian</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>21</td>
<td>2 pieces</td>
<td>?</td>
<td>Wool</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>22</td>
<td>2 Frags.</td>
<td>?</td>
<td>Mud</td>
<td>Impression of basketry</td>
<td>124</td>
</tr>
<tr>
<td>23</td>
<td>1 piece</td>
<td>?</td>
<td>Iron?</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>Dish</td>
<td>White marble</td>
<td>In fragments, one of which was near the skull of the</td>
<td>124</td>
</tr>
</tbody>
</table>

---

11 Items on plate not numbered. It seems more likely that plate 13, although unnumbered, may have been the intended illustration.

12 Incorrectly identified by Amélineau (1904: 63) as ivory.
### Appendix 6 – Abydos, ‘Royal’ Tombs Cemetery

<table>
<thead>
<tr>
<th>No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Several</td>
<td>Vessels</td>
<td>Pottery</td>
<td>Broken and found in the middle of the coffin (intrusive?)</td>
<td>125</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>Coffin</td>
<td>Cedar</td>
<td>In situ, well preserved</td>
<td>125</td>
</tr>
<tr>
<td>27</td>
<td>1</td>
<td>Skull</td>
<td>bone</td>
<td>Broken in the upper part</td>
<td>125</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>Skull</td>
<td>bone</td>
<td>Complete, hair still intact, nearby lay the broken vessels (No. 25)</td>
<td>125</td>
</tr>
</tbody>
</table>

### Tomb Z (Djet): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Grave Z3 (Petrie 1900)

- 1 frag. | ID 281 | Elephant ivory | Darkened from exposure to heat | 21 [T]; pl. 10, no. 10 [D]; pl. 13, no. 5 [P] |

No accompanying finds specified in report.

### Tomb Y (Merneith): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Tomb T (Den): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### T-E16 (Dreyer et al. 1993)

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

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Appendix 6 – Abydos, ‘Royal’ Tombs Cemetery

No further finds noted in Dreyer et al 1993.

<table>
<thead>
<tr>
<th>T-S1 (Dreyer et al. 1990)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 381</td>
</tr>
<tr>
<td>Ab K 380</td>
</tr>
<tr>
<td>Ab K 379</td>
</tr>
</tbody>
</table>

No further finds noted in Dreyer et al 1990.

Tomb X (Anedjib): Inscribed label

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 347:</td>
<td>attributed to tomb on pl. 42 [D], but find spot not specified on p. 39 [T].</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tomb U (Semarkhet): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 350</td>
<td>Elephant Ivory</td>
<td>Found in the doorway of the tomb</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Furniture leg</td>
<td>Ivory</td>
<td>Found loose in the rubbish in front of doorway of the tomb</td>
</tr>
<tr>
<td>-</td>
<td>Vast quantities</td>
<td>Fatty substance</td>
<td>Unspecified</td>
<td>Saturated sand up to 3 ft. deep</td>
</tr>
</tbody>
</table>

Chamber U-N25 (Dreyer et al. 2000)

| Ab K 2578 | 1 | ID 335 | Bone | In fill | 115 [T], pl. 101 [P] |

No further information provided in report (Dreyer et al 2000: 73-74)

Tomb Q (Qa’a): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q. N5N before Luke (Engel 1997)

| Ab K 1449 | 1 | ID 415 | Ivory |
| Ab K 1446 | 1 | ID 424 | Ivory |

Q. N6 at NW corner (Engel 1997)

| Ab K 1 | 1 | ID 384 | Bone |

Q. N6N/NR Stairway W (Engel 1997)

| Ab K 1457 | 1 | ID 382 | Ivory |

Q. N6N/Stairway W (Engel 1997)

| Ab K 1 | 1 | ID 409 | Ivory |
### Appendix 6 – Abydos, 'Royal Tombs Cemetery'

#### Q-N6N (Engel 1997)

<table>
<thead>
<tr>
<th>Ab</th>
<th>K</th>
<th>R</th>
<th>ID</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1450</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Q-N6N (Dreyer et al. 1996, Engel 1997)

<table>
<thead>
<tr>
<th>Ab</th>
<th>K</th>
<th>R</th>
<th>ID</th>
<th>Material</th>
<th>Find Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1453</td>
<td>K</td>
<td></td>
<td>ID 348</td>
<td>Bone</td>
<td>Incised, 'niched frame' of Semerkhet</td>
<td>1997: 442 [T], 437 [D]</td>
</tr>
<tr>
<td>1451</td>
<td>K</td>
<td></td>
<td>ID 386</td>
<td>Ivory</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
<tr>
<td>1452</td>
<td>K</td>
<td></td>
<td>ID 388</td>
<td>Bone/Ivory</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
<tr>
<td>1453</td>
<td>K</td>
<td></td>
<td>ID 390</td>
<td>Ivory</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
<tr>
<td>1454</td>
<td>K</td>
<td></td>
<td>ID 394</td>
<td>Ivory</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
<tr>
<td>1455</td>
<td>K</td>
<td></td>
<td>ID 391</td>
<td>Ivory</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
<tr>
<td>1456</td>
<td>K</td>
<td></td>
<td>ID 404</td>
<td>Bone</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
<tr>
<td>1457</td>
<td>K</td>
<td></td>
<td>ID 401</td>
<td>Bone</td>
<td>Applied pigment</td>
<td>1997: 439 [T], 442 [T]</td>
</tr>
</tbody>
</table>

#### Q-N6N before entrance (Engel 1997)

<table>
<thead>
<tr>
<th>Ab</th>
<th>K</th>
<th>R</th>
<th>ID</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1441</td>
<td>K</td>
<td></td>
<td>ID 423</td>
<td>Ivory</td>
</tr>
<tr>
<td>1442</td>
<td>K</td>
<td></td>
<td>ID 421</td>
<td>Bone</td>
</tr>
<tr>
<td>1443</td>
<td>K</td>
<td></td>
<td>ID 426</td>
<td>Elephant Ivory</td>
</tr>
<tr>
<td>1445</td>
<td>K</td>
<td></td>
<td>ID 412</td>
<td>Bone</td>
</tr>
<tr>
<td>1446</td>
<td>K</td>
<td></td>
<td>ID 422</td>
<td>Bone</td>
</tr>
<tr>
<td>1447</td>
<td>K</td>
<td></td>
<td>ID 372</td>
<td>Ivory</td>
</tr>
</tbody>
</table>

---

13 Engel (1997: 439) seems to say that IDs 348-349 were found outside Chamber Q-N6N, but does not give them a different find spot designation. There may be an error in the report.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>ID</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ab K 1455, R 260</td>
<td>1</td>
<td>371</td>
<td>Ivory</td>
</tr>
<tr>
<td>Ab K 1456</td>
<td>1</td>
<td>373</td>
<td>Bone</td>
</tr>
<tr>
<td>Ab K 1461</td>
<td>1</td>
<td>400</td>
<td>Ivory</td>
</tr>
<tr>
<td>Ab K 1462</td>
<td>1</td>
<td>395</td>
<td>Bone</td>
</tr>
<tr>
<td>Ab K 1463</td>
<td>1</td>
<td>396</td>
<td>Ivory</td>
</tr>
<tr>
<td>Ab K 1464</td>
<td>1</td>
<td>397</td>
<td>Ivory</td>
</tr>
<tr>
<td>Ab K 1460</td>
<td>1</td>
<td>399</td>
<td>Ivory</td>
</tr>
<tr>
<td>Ab K 1464</td>
<td>1</td>
<td>402</td>
<td>Bone</td>
</tr>
</tbody>
</table>
Appendix 7. Abydos, North Cemetery

Graves 136, 612 and 790 (Djer): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 255 (tab type)</td>
<td>Ivory (hippo)</td>
<td>Incised with niched frame of Djer</td>
<td>4 [T], pl. 2, no. 5 [P]</td>
</tr>
</tbody>
</table>

Grave 612 (Djer) (Petrie 1925)

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 256 (tab type)</td>
<td>Ivory (hippo)</td>
<td>Incised with niched frame of Djer+ J+o+bird</td>
<td>4 [T], pl. 2, no. 8 [P]; pl. 12, no. 1 [D]</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Flakes</td>
<td>Flint</td>
<td>-</td>
<td>pl. 20 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Coffin</td>
<td>?</td>
<td>55x26 [cm?] (register indicates mark on pl. 28. Not clear if on coffin or a pot (below))</td>
<td>pl. 20 (register)</td>
</tr>
<tr>
<td>-</td>
<td>?</td>
<td>Pot</td>
<td>Clay</td>
<td>57b3</td>
<td>pl. 20 (register)</td>
</tr>
<tr>
<td>-</td>
<td>?</td>
<td>Pot</td>
<td>Clay</td>
<td>75 E</td>
<td>pl. 20 (register)</td>
</tr>
</tbody>
</table>

Grave 790 (Djer) (Petrie 1925)

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 221</td>
<td>bone</td>
<td>Incised</td>
<td>7 [T], pl. 2, no. 10 [P]</td>
</tr>
</tbody>
</table>

No stela or skeletal remains were recovered (Petrie 1925: 4, pl. 20)

Grave 159 (Djet): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>1</td>
<td>ID 257</td>
<td>bone</td>
<td>'niched frame' of Djer</td>
<td>3-4 [T], pl. 2, no. 15 [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 258</td>
<td>bone</td>
<td>'niched frame' of Djer</td>
<td>3-4 [T], pl. 2, no. 14a [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 261</td>
<td>bone</td>
<td>No inscription preserved</td>
<td>4 [T], pl. 2, no. 17b [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 262</td>
<td>bone</td>
<td>No inscription preserved</td>
<td>4 [T], pl. 2, no. 14c [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 260</td>
<td>bone</td>
<td>No inscription preserved</td>
<td>4 [T], pl. 2, no. 17a [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 259</td>
<td>bone</td>
<td>No inscription preserved</td>
<td>4 [T], pl. 2, no. 14b [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 252</td>
<td>bone/ivory</td>
<td>No inscription preserved</td>
<td>3 [T], pl. 2, no. 13a [P]; pl. 21 (register)</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>ID 451</td>
<td>bone/ivory</td>
<td>No inscription preserved</td>
<td>4 [T], pl. 2, no. 13b</td>
</tr>
</tbody>
</table>

14 Petrie (1925: 4) is not clear on whether all objects were actually found in the grave or whether some objects were attributed to this grave on the basis on inscriptions.
15 Whether the register lists items "12-16" on pl. 2 as all being labels or not is unclear, but "12" on the plate shows to ivory hemispheres and nos. 13-15, and 17 (see also n. 13 below) are labels.
16 Petrie does not give plate numbers to all labels. "13" seems to refer to three labels and "14" to one, while "17" refers to four. I have numbered these alphanumerically from top to bottom.
### Appendix 7 – Abydos, North Cemetery

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>ID 251</td>
<td>bone/ivory</td>
<td>No inscription preserved</td>
<td>4, pl. 2, no. 13c [P], pl. 21 (register)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>stela</td>
<td>?</td>
<td>PI of &quot;Mernesut&quot;, found in the grave</td>
<td>4 [T], pl. 1 [P]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>chisel</td>
<td>copper</td>
<td>Pl., pl. 21 (register)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Draughtsman</td>
<td>ivory</td>
<td>PI of &quot;Mernesut&quot;</td>
<td>4 [T], pl. 2, no. 16</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Hemispheres</td>
<td>ivory</td>
<td></td>
<td>4 [T], pl. 2, no. 12a and b [P]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Coffin</td>
<td>wood</td>
<td>71 x 36 cm?</td>
<td>pl. 21 (register)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Pot</td>
<td>Clay</td>
<td>Foreign type with handles</td>
<td>pl. 4, no. 9 (drawing)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lions</td>
<td>ivory</td>
<td></td>
<td>4 [T], pl. 7, nos. 1-5 [P]</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>Marbles</td>
<td>?</td>
<td>Geobertile or magnesian limestone</td>
<td>4 [T], pl. 7, no. 6</td>
</tr>
</tbody>
</table>

### Grave 426 (Djet) (Petrie 1925)

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>ID 263</td>
<td>bone</td>
<td>No inscription preserved</td>
<td>4 [T], pl. 7, no. 12 [P]</td>
</tr>
<tr>
<td></td>
<td>?</td>
<td>Lions</td>
<td>ivory</td>
<td></td>
<td>pl. 21 (register)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Needle</td>
<td>Copper</td>
<td></td>
<td>pl. 21 (register)</td>
</tr>
</tbody>
</table>

---

17 Petrie (1925: 4) writes that group of finds on plate 2 numbers 12-17, including the labels, were found with the lions and marbles shown on plate 7, nos. 1-6. The lions and marbles are, however, labeled as coming from grave 156 and the labels and accompanying object are labeled grave 159. In the text on p.4 the relationships between the find spot of the objects to graves 156 and 159. Perhaps Petrie’s attributions are related to same inscription appearing on the draughtsman as the stela? Of perhaps there is a slight error in the publication.
## Appendix 8. North Saqqara

### S2171 H (Djer): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Find No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>ID 229</td>
<td>Wood</td>
<td>Niched frame of Djer</td>
<td>6, 16 [T], pl. 11, no. 5 [D]</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>ID 254</td>
<td>Ivory</td>
<td>Plain</td>
<td>6, 16 [T], pl. 11, no. 6 (upper right)</td>
</tr>
<tr>
<td>3</td>
<td>2 + frags.</td>
<td>Bulls' legs/feet</td>
<td>Ivory</td>
<td>The complete one H 5.0 cm</td>
<td>6, 16, pl. 11, no. 4</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Box lid w/handle</td>
<td>Ivory</td>
<td>3.5 x 5.5 cm</td>
<td>7, 16, pl. 11, no. 6</td>
</tr>
<tr>
<td>5</td>
<td>Frags.</td>
<td>Small objects</td>
<td>Ivory</td>
<td>Pins and inlay (but see inlay below – same?)</td>
<td>7, 17, pl. 11, no. 6</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Cylindrical vase</td>
<td>&quot;Slate&quot;</td>
<td>H 4.5 cm, only complete vase found</td>
<td>7, 16, pl. 11, no. 7</td>
</tr>
<tr>
<td>7</td>
<td>Part of 1</td>
<td>Vase ring stand</td>
<td>&quot;Slate&quot;</td>
<td>D 6.0 cm, lines scratched around the border</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Rectangular palette</td>
<td>&quot;Slate&quot;</td>
<td>L 21 cm</td>
<td>16</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>Scrapers</td>
<td>Flint</td>
<td>c.5 cm</td>
<td>7, 16, pl. 11, no. 7</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Box lid w/knob</td>
<td>Wood</td>
<td>3.0 cm, very sharp pointed</td>
<td>7, 16, pl. 11, no. 6</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>Plaque carved as mat</td>
<td>Wood</td>
<td>L 13 cm</td>
<td>16</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>Mat</td>
<td>?</td>
<td>Found low down, probably covered the tomb (p.17)</td>
<td>17, pl. 1, no. 1?</td>
</tr>
<tr>
<td>13</td>
<td>Frags.</td>
<td>Mat</td>
<td>Reed</td>
<td>On the edge of the tomb there remained part of a mud-covered mat that had once been laid above it” (p. 16)</td>
<td>16, pl. 1, no. 1? [not clear if same as mat said to have underlain the body on p. 6 and below]</td>
</tr>
<tr>
<td>14</td>
<td>Part</td>
<td>Small bowl</td>
<td>Tortoise shell</td>
<td>On which the body had been laid; not clear if same as any of the mats above.</td>
<td>6, pl. 1. no. 1</td>
</tr>
<tr>
<td>15</td>
<td>Frags. of 61</td>
<td>Vases</td>
<td>Quarts,</td>
<td></td>
<td>17, forms given</td>
</tr>
</tbody>
</table>
### Appendix 8 – North Saqqara

<table>
<thead>
<tr>
<th>Find No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>16[a]</td>
<td>9</td>
<td>Cylinder vessels</td>
<td>&quot;alabaster&quot;</td>
<td>Ranging in size from 20-35 cm</td>
<td>17, forms given on pl. XIII</td>
</tr>
<tr>
<td>16[b]</td>
<td>Parts of Vases</td>
<td>&quot;alabaster&quot;?</td>
<td>Ranging in size from 20-35 cm</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Frags.</td>
<td>Calf remains Bone and teeth</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>Tall jar Pottery</td>
<td>17, fig. 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same as no. 5 above?</td>
<td>Frags.</td>
<td>Inlay Ivory</td>
<td>7, pl. 11, no. 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same as no. 3 above? Otherwise omitted from object catalogue on p. 16-17</td>
<td>Frags.</td>
<td>? Feet of casket</td>
<td>7, pl. 11, no. 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same as no. 5 above? Otherwise omitted from catalogue on p. 16-17</td>
<td>Frags.</td>
<td>? Ivory</td>
<td>7, pl. 11, no. 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omitted from catalogue on p. 16-17</td>
<td>c.6?</td>
<td>Arrowheads Ivory</td>
<td>7, pl. 11, no. 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omitted from catalogue on p. 16</td>
<td>Beads</td>
<td>Glaze Spherical and stouts disk shapes</td>
<td>7, pl. 11, no. 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omitted from catalogue on p. 16</td>
<td>Beads</td>
<td>Carnelian Spherical and stouts disk shapes</td>
<td>7, pl. 11, no. 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S3035 (Djer > Den): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>Quantity</th>
<th>S3035: Magazine Z (eastern half) (Emery 1938)</th>
<th>S3035, Magazine Z (eastern half) (Emery 1938)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>401-405</td>
<td>5</td>
<td>Wood Blank</td>
<td>Wood Blank</td>
<td>18 [T]; and 13?</td>
</tr>
<tr>
<td>408/411</td>
<td>1</td>
<td>ID 241 Wood (ebony?)</td>
<td>Niched frame of Djer</td>
<td>18 [T], 35-39?, 35, fig. 8; pl. 18A [D], pl. 17A [P]</td>
</tr>
<tr>
<td>406/412</td>
<td>1</td>
<td>ID 290 Ivory</td>
<td>Found in the SE corner of Magazine Z; Pl of Hemaka</td>
<td>18 [T], 39?, pl. 188 [D], 17B [P]</td>
</tr>
<tr>
<td>407/413</td>
<td>1</td>
<td>ID 291 Ivory</td>
<td>Pl of Hemaka</td>
<td>18 [T], 35-39?, pl. 18C [D], 17C [P]</td>
</tr>
<tr>
<td>341-344</td>
<td>4</td>
<td>Adze handles Wood</td>
<td>Details</td>
<td>18</td>
</tr>
<tr>
<td>345</td>
<td>1</td>
<td>Disk Wood</td>
<td>Convex on one side, flat on the other</td>
<td>18</td>
</tr>
<tr>
<td>346-382</td>
<td>36</td>
<td>Sickles + blades Wood + flint</td>
<td>Details</td>
<td>18</td>
</tr>
<tr>
<td>383</td>
<td>1</td>
<td>Sickle Wood</td>
<td>Pl of 'Semti' and Hemaka</td>
<td>18</td>
</tr>
</tbody>
</table>

---

18 The Egyptian Museum currently holds 11 fragments of wood thought to be blank labels found in the leather bag. Among these only three pairs form refits (see IDs 341-342, 346) for a total of 8 separate objects rather than the five objects to which Emery assigns Cat. Nos.
## Appendix 8 – North Saqqara

<table>
<thead>
<tr>
<th>Cat No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>384–400?</td>
<td>17</td>
<td>Staves</td>
<td>Wood</td>
<td>In cylindrical bags</td>
<td>13, 18</td>
</tr>
<tr>
<td>421</td>
<td>1</td>
<td>Animal foot</td>
<td>Bone</td>
<td>end filed with cross grooves</td>
<td>18</td>
</tr>
<tr>
<td>421</td>
<td>1</td>
<td>Ostracon</td>
<td>Limestone</td>
<td>figures of a bull and monkey in black pigment</td>
<td>18</td>
</tr>
<tr>
<td>421</td>
<td>1</td>
<td>Box, circular</td>
<td>Wood</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>426[?]</td>
<td>2</td>
<td>Bags, cylindrical</td>
<td>Leather</td>
<td>Contained wooden staves</td>
<td>18, 13</td>
</tr>
<tr>
<td>427</td>
<td>1</td>
<td>Matting</td>
<td>Floor</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>428</td>
<td>1</td>
<td>Cloth</td>
<td>White</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>429?</td>
<td>1</td>
<td>Flattened roll</td>
<td>Papyrus</td>
<td>Uninscribed</td>
<td>18</td>
</tr>
<tr>
<td>431</td>
<td>1</td>
<td>String</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>433?</td>
<td>1</td>
<td>Bundle of 200 Arrows</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>435-440?</td>
<td>144</td>
<td>Quiver + arrows</td>
<td>Leather</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>306-340</td>
<td>45</td>
<td>Disks</td>
<td>Copper, stone, wood, horn, and ivory</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

### S3504 (Djet > Den > Qa’a): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>ID</th>
<th>Find Location</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Sub-magazine Y</td>
<td>Sub-room OO</td>
</tr>
<tr>
<td>10</td>
<td>Magazine S</td>
<td>Sub-room OO</td>
</tr>
<tr>
<td>11</td>
<td>Sub-magazine DD</td>
<td>Sub-room OO</td>
</tr>
<tr>
<td>12</td>
<td>Sub-magazine DD</td>
<td>Sub-room OO</td>
</tr>
<tr>
<td>13</td>
<td>Sub-room E</td>
<td>Sub-room OO</td>
</tr>
<tr>
<td>14</td>
<td>Sub-room OO</td>
<td>Sub-room OO</td>
</tr>
<tr>
<td>15</td>
<td>Sub-magazine BB</td>
<td>Filling above structure</td>
</tr>
<tr>
<td>16</td>
<td>Sub-room OO</td>
<td>Sub-room DD</td>
</tr>
<tr>
<td>17</td>
<td>Sub-room OO</td>
<td>Sub-room DD</td>
</tr>
</tbody>
</table>

### Magazine S of S3504 (Emery 1954)

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>378</td>
<td>1</td>
<td>ID 265</td>
<td>Wood</td>
<td>Red and black pigment applied ($^+\text{fill}+$)</td>
<td>16, 105 [T], fig. 109 [D]</td>
</tr>
<tr>
<td>187</td>
<td>Frags.</td>
<td>Furniture, broken</td>
<td>Wood</td>
<td></td>
<td>16, pls. 16b, 28</td>
</tr>
<tr>
<td>194</td>
<td>Frags.</td>
<td>Chairs</td>
<td>Wood</td>
<td>Elaborately carved</td>
<td>16</td>
</tr>
<tr>
<td>188</td>
<td>Frags.</td>
<td>Canopy or bed</td>
<td>Wood + gold foil</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>21</td>
<td>Seal impressions</td>
<td>Clay</td>
<td>(Types 12, 20, 22, 27, 29, 33, 37 and 49)</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

19 Written in volume in pencil: “wrong!”
20 433 is pencilled in volume as “443”, and 434 is pencilled in volume as “?” “444”
21 435 is pencilled in volume as “445”.

---

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Appendix 8 – North Saqqara

Magazine S of S3504 (Emery 1954)

<table>
<thead>
<tr>
<th>Cat No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c.144</td>
<td>Vessels</td>
<td>Pottery</td>
<td>67 of these inscribed with 'tomb owner's' PI and contents, various types</td>
<td>16, 102</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Pot stand</td>
<td>Pottery?</td>
<td>Many inscribed with cluster also occurring on label (h'‐l+f+u)</td>
<td>16</td>
</tr>
</tbody>
</table>

Magazine T (Superstructure) of S3504 (Emery 1954)

<table>
<thead>
<tr>
<th>Cat No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>379</td>
<td>1</td>
<td>ID 171</td>
<td>Elephant ivory</td>
<td>Niched frame of Djet, found amid scattered fragments of woodwork</td>
<td>12, 102-103 [T], fig. 105 [D]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seal impressions</td>
<td></td>
<td>Types 8 and 21</td>
<td>16-17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many frags.</td>
<td>Woodwork</td>
<td>Many inscribed with label ID 171</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Vessels</td>
<td>Stone</td>
<td>Various types</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Vessels</td>
<td>Pottery</td>
<td>Various types</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Pot stands</td>
<td>Pottery</td>
<td>Type X2</td>
<td>16</td>
</tr>
</tbody>
</table>

Magazine BB (Superstructure) of S3504 (Emery 1954)

This magazine had collapsed into the substructure below, but Emery (1954: 17, 21-22) states that the false floor of clean sand separated the contents of this upper Magazine BB from those of Sub-Room Magazine BB. See Figure 57.

<table>
<thead>
<tr>
<th>Cat No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>386</td>
<td>1</td>
<td>ID 268</td>
<td>Wood</td>
<td>Niched frame PI of Djet</td>
<td>18 [T], 102 [D]</td>
</tr>
<tr>
<td>155</td>
<td>1</td>
<td>Gaming piece w/lotus head</td>
<td>Ivory</td>
<td></td>
<td>18, 58, pl. 29</td>
</tr>
<tr>
<td>156</td>
<td>1</td>
<td>Furniture terminal</td>
<td>Wood</td>
<td></td>
<td>18, 44, fig. 29</td>
</tr>
<tr>
<td>211, 213</td>
<td>2</td>
<td>Arrow quivers</td>
<td>Leather</td>
<td>Painted</td>
<td>18, pls. 31, 33</td>
</tr>
<tr>
<td>212</td>
<td>3 pairs</td>
<td>Sandals</td>
<td>Leather</td>
<td></td>
<td>18, 65, fig. 94, pl. 33</td>
</tr>
<tr>
<td>214</td>
<td>Frag.</td>
<td>Mat</td>
<td>Reed</td>
<td>Coloured</td>
<td>18, 66, pl. 33</td>
</tr>
<tr>
<td>219</td>
<td>1</td>
<td>Object of unknown use</td>
<td>Wood</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>215, 223-225</td>
<td>Frags. Carved furniture</td>
<td>Wood</td>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>Large number</td>
<td>Small bunches of twigs tied together</td>
<td>Wood</td>
<td>Some bunches are tied in groups of five (3 bunches)</td>
<td>18, pl. 32</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Inscribed jar sealings</td>
<td>--</td>
<td>Type 17, &quot;dated to Djet&quot;</td>
<td>18, 102</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Inscribed jar sealings</td>
<td>--</td>
<td>Type 20, &quot;dated to Den&quot;</td>
<td>18, 102</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Inscribed jar sealings</td>
<td>--</td>
<td>Type 31</td>
<td>18, 102</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Inscribed jar sealings</td>
<td>--</td>
<td>Type 33</td>
<td>18, 102</td>
</tr>
<tr>
<td></td>
<td>Frags. of 3</td>
<td>Vessels</td>
<td>Stone</td>
<td>Various types</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Over 4</td>
<td>Implements</td>
<td>Flint</td>
<td>Various types</td>
<td>18</td>
</tr>
</tbody>
</table>

Sub-room OO (Burial Chamber) of S3504 (Emery 1954)

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Appendix 8 – North Saqqara

8 (or 9) labels. ID 266 (Cat. No. 390) is assigned to three different locations: Sub-room OO (p. 20), Sub-magazine DD (p. 22), and Sub-room D (p. 105) (see below also). One of the 8 (or 9) labels was found under the restored south wall. The exact label is not specified by Emery (1954: 20), but is probably ID 22 or 26 if "T" is indicative of labels deposited as part of the restoration. Due to the plundering and re-plundering of this chamber, apart from those inscribed with Pis, according to Emery the scatter of objects in the chamber cannot be definitely assigned to the early or later part of the dynasty. See Figure 63.

<table>
<thead>
<tr>
<th>Cat No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>380-385, 390, 395, 397</td>
<td>8 or 9</td>
<td>IDs 361-367, 430, and possibly ID 266</td>
<td>Wood</td>
<td>One (not specified) found under the restored wall on the south side of the room; red and black pigment applied</td>
<td>20, 22, 106-107 [T], figs. 113, 115-121 and 125 [D]</td>
</tr>
<tr>
<td></td>
<td>Many</td>
<td>Human remains</td>
<td>Bone</td>
<td>Adult male, approximately 26 years of age; close to west wall; no trace of burning</td>
<td>20, pl. 27c</td>
</tr>
<tr>
<td></td>
<td>Frags.</td>
<td>Foil</td>
<td>Gold</td>
<td>Found near the human remains</td>
<td>20</td>
</tr>
<tr>
<td>394</td>
<td>1 piece</td>
<td>Wand or throwing stick</td>
<td>Ivory</td>
<td>Inscribed with name of Djet; found after removal of restored walls</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Jar sealing</td>
<td>Clay</td>
<td>Inscribed with name of Djet; found on the south side</td>
<td>20</td>
</tr>
<tr>
<td>62</td>
<td>1 piece</td>
<td>Carved object</td>
<td>Wood</td>
<td>Charred</td>
<td>20</td>
</tr>
<tr>
<td>65</td>
<td>1 frag.</td>
<td>Carved object</td>
<td>Ivory</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>134-137</td>
<td>4</td>
<td>Cosmetic sticks</td>
<td>Ivory</td>
<td>135 = part</td>
<td>20, 65, pl. 31</td>
</tr>
<tr>
<td>141-142</td>
<td>2 or 3</td>
<td>Gaming marbles/balls</td>
<td>Limestone and/or steatite</td>
<td>Lists two objects on p. 20, but 3 listed on p. 60</td>
<td>20, 60</td>
</tr>
<tr>
<td>145-146</td>
<td>Frags.</td>
<td>Vessels</td>
<td>Copper</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>149</td>
<td>Part</td>
<td>Adze-blade</td>
<td>Copper</td>
<td></td>
<td>20, 60</td>
</tr>
<tr>
<td>150</td>
<td>Part</td>
<td>Tool handle</td>
<td>Wood</td>
<td></td>
<td>20, 60</td>
</tr>
<tr>
<td></td>
<td>Large quantity</td>
<td>Vessels</td>
<td>Stone</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Large quantity</td>
<td>Vessels</td>
<td>Pottery</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2 frags.</td>
<td>Vessels</td>
<td>Pottery</td>
<td>‘Foreign’ flagons</td>
<td>20</td>
</tr>
</tbody>
</table>

Sub-room D
ID 14 (Cat. No. 390) is assigned to this and two other locations (see above). This room is not listed among the chambers nor indicated on the plan, although a range of objects throughout the publication are assigned to it.

<table>
<thead>
<tr>
<th>Cat No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>390</td>
<td>1</td>
<td>ID 266</td>
<td>Wood</td>
<td></td>
<td>20, 22, 105, 113 [T], fig. 113 [D]</td>
</tr>
<tr>
<td>62</td>
<td>1 frag.</td>
<td>Furniture</td>
<td>Wood</td>
<td>Charred; incised with criss-cross pattern similar to Cat. No. 29</td>
<td>41, pl. 26</td>
</tr>
<tr>
<td>65</td>
<td>1 frag.</td>
<td>Furniture</td>
<td>Ivory</td>
<td>Carved in a design of bound reeds</td>
<td>41, fig. 23</td>
</tr>
<tr>
<td>147</td>
<td>1 fragments</td>
<td>Furniture, box?</td>
<td>Wood</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>151</td>
<td>1 fragment</td>
<td>Furniture</td>
<td>Wood</td>
<td>Charred; tapered with bevelled edge</td>
<td>44</td>
</tr>
<tr>
<td>152</td>
<td>1 fragment</td>
<td>Furniture</td>
<td>Wood</td>
<td>With two dowel holes</td>
<td>44</td>
</tr>
<tr>
<td>349</td>
<td>1 fragment</td>
<td>Furniture</td>
<td>Wood</td>
<td>Charred; carved band and bead design</td>
<td>55, fig. 57</td>
</tr>
<tr>
<td>350</td>
<td>1</td>
<td>Furniture leg</td>
<td>Ivory</td>
<td>Charred; carved in shape</td>
<td>55, fig. 58, pl. 27</td>
</tr>
</tbody>
</table>

523
### Sub-room D of S3504 (Emery 1954)

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>141</td>
<td>2</td>
<td>Balls</td>
<td>Limestone</td>
<td>Small</td>
<td>58</td>
</tr>
<tr>
<td>142</td>
<td>1</td>
<td>Ball</td>
<td>Steatite</td>
<td>Small</td>
<td>58</td>
</tr>
<tr>
<td>149</td>
<td>1 fragment</td>
<td>Adze-blade</td>
<td>Copper</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>150</td>
<td>1 fragment</td>
<td>Tool handle</td>
<td>Wood</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>143</td>
<td>1 fragment</td>
<td>Arrow head</td>
<td>Bone</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>134</td>
<td>5</td>
<td>Cosmetic pins</td>
<td>Ivory</td>
<td>Plain</td>
<td>65, pl. 31</td>
</tr>
<tr>
<td>135</td>
<td>1 part</td>
<td>Cosmetic pin</td>
<td>Ivory</td>
<td>Flattened butt</td>
<td>65, pl. 31</td>
</tr>
<tr>
<td>136</td>
<td>3</td>
<td>Cosmetic pins</td>
<td>Ivory</td>
<td>Spiral ended</td>
<td>65, pl. 31</td>
</tr>
<tr>
<td>137</td>
<td>1</td>
<td>Cosmetic pin</td>
<td>Ivory</td>
<td>Butt in form of curved feather</td>
<td>65, pl. 31</td>
</tr>
<tr>
<td>138</td>
<td>1 quantity</td>
<td>Leaffing</td>
<td>Gold</td>
<td>Small and shapeless</td>
<td>65</td>
</tr>
<tr>
<td>140</td>
<td>1 piece</td>
<td>Object</td>
<td>Ivory</td>
<td>Carved</td>
<td>65</td>
</tr>
</tbody>
</table>

It is not clear where this chamber is on the plan, but the following finds are listed as coming from this location.

### Sub-room E of S3504 (Emery 1954)

It is not clear where this chamber is on the plan, but the following finds are listed as coming from this location.

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>3927</td>
<td>1</td>
<td>ID 270</td>
<td>Wood</td>
<td>Dated to Djet</td>
<td>21, 2112, 105, fig. 112</td>
</tr>
<tr>
<td>60</td>
<td>1 fragment</td>
<td>Object</td>
<td>Ivory</td>
<td>With fluting on one side</td>
<td>41, pl. 27</td>
</tr>
<tr>
<td>282</td>
<td>Multiple fragments</td>
<td>Gaming piece</td>
<td>Ivory</td>
<td>Tall</td>
<td>59</td>
</tr>
</tbody>
</table>

### Sub-room QQ of S3504 (Emery 1954)

This chamber was burnt out and restored during the reign of Qa'a.

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>3927</td>
<td>1</td>
<td>ID 270</td>
<td>Wood</td>
<td>Dated to Djet</td>
<td>21, 2112, 105, fig. 112</td>
</tr>
<tr>
<td>277</td>
<td>1</td>
<td>Bracelet</td>
<td>Ivory</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>60, 278, 280-281</td>
<td>4 fragments</td>
<td>Furniture</td>
<td>Ivory and wood</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>282</td>
<td>Part</td>
<td>Gaming piece</td>
<td>Ivory</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>284</td>
<td>1</td>
<td>Implement</td>
<td>Copper</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Multiple</td>
<td>Seal impressions</td>
<td>--</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Multiple</td>
<td>Vessels</td>
<td>Stone</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Implements</td>
<td>Flint</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Multiple</td>
<td>Vessels</td>
<td>Pottery</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

### Sub-room DD of S3504 (Emery 1954)

This chamber contained many objects which were apparently ignored by the plunderers and restorers, and are likely to have belonged to the original burial. It is also possible that the items in this chamber came from DD to which it is connected by the robbers' tunnel.

<table>
<thead>
<tr>
<th>Cat. No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>393</td>
<td>1</td>
<td>ID 359</td>
<td>Wood + red and black painted</td>
<td>Dated to Djet</td>
<td>22, 105</td>
</tr>
<tr>
<td>389-391 (sic)</td>
<td>2 Inscribed labels (IDs 269, 267)</td>
<td>Dated to Djet</td>
<td>22, 105. figs. 110-111</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

22 As with Cat. No. 390 (ID see n. 31), label ID 266 (Cat. No. 392) is assigned two different find spots, (p. 105 for Sub-room E and p. 21 for Sub-room QQ).

23 See n. 32
Sub-room DD of S3504 (Emery 1954)

This chamber contained many objects which were apparently ignored by the plunderers and restorers, and are likely to have belonged to the original burial. It is also possible that the items in this chamber came from DD to which it is connected by the robbers' tunnel.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>233B</td>
<td>7</td>
<td>Gaming pieces, tall</td>
<td>Ivory</td>
<td>wrapped in a bundle of reed matting, possible by looters</td>
<td>22, 59, fig. 66, pl. 29</td>
</tr>
<tr>
<td>233A</td>
<td>7</td>
<td>Gaming pieces, low</td>
<td>Ivory</td>
<td>wrapped in a bundle of reed matting, possible by looters</td>
<td>22, 59, fig. 66, pl. 29</td>
</tr>
<tr>
<td>233C</td>
<td>6</td>
<td>Lions</td>
<td>Ivory</td>
<td>Wrapped in a bundle of reed matting, possibly by looters</td>
<td>22, 59, fig. 66, pl. 29</td>
</tr>
<tr>
<td>233D-E</td>
<td>11</td>
<td>'Dice' rods</td>
<td>D=5 flat and E=5 round</td>
<td></td>
<td>22, 59, fig. 66, pl. 29</td>
</tr>
<tr>
<td>233F</td>
<td>35 (sic, 39 on p. 58, 40 on pl. 29)</td>
<td>Marbles/balls</td>
<td>Limestone</td>
<td></td>
<td>22, 59, fig. 66, pl. 29</td>
</tr>
<tr>
<td>234;</td>
<td>3</td>
<td>Bulls legs</td>
<td>Ivory</td>
<td>Probably from gaming table/board or box, found with Cat. No. 233</td>
<td>22, 52, 58, fig. 29</td>
</tr>
<tr>
<td>248-261, 302, 305</td>
<td>16</td>
<td>Tool handles</td>
<td>Wood</td>
<td>4 of copper piercers</td>
<td>22, 61-62, figs. 77-85, 87, pls. 30, 36</td>
</tr>
<tr>
<td>229-231</td>
<td>143</td>
<td>1 fragment</td>
<td>Arrowhead</td>
<td>Bone</td>
<td>22, 61, figs. 74-76, pl. 31</td>
</tr>
<tr>
<td>274</td>
<td>1</td>
<td>Tool</td>
<td>Wood</td>
<td>Mallet</td>
<td>62, fig. 85, pl. 6</td>
</tr>
<tr>
<td>253</td>
<td>1</td>
<td>Polisher</td>
<td>Sandstone</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td>325</td>
<td>3</td>
<td>3 fragments</td>
<td>Furniture</td>
<td>Wood?</td>
<td>66, fig. 95</td>
</tr>
</tbody>
</table>

Sub-room DD?
IDs 359 (?), 267 and 269 (and ID 266?), are said to come from this sub-magazine. A total of three labels are specified in the report for this chamber (IDs 267, 269, 359), but four Cat. Nos. are listed, i.e. "389-391". I suspect Emery intended "Cat. Nos. 389, 391", but since Cat. No. 390 is already attributed to Sub-room D, but one can only wonder if the name of this Sub-magazine was in fact meant to be listed as "Sub-magazine DD", like other Sub-Magazines, if not being confused with Sub-Room DD – since Sub-magazine DD is not on the plan. Emery goes on to propose many objects from this chamber are from the original burial. Found near objects wrapped in reed matting were "...a wooden label painted in red and black a with [sic] tabular list of offerings (Cat. No. 393) and two others dated to the reign of Uadji (Cat. Nos. 389-91)* (Emery 1954: 22, my emphasis).
One label (ID 369), listed as being found in Sub-Magazine N and Sub-magazine W (pp. 23 and 24), although the figure caption (p. 107) for Cat. No. 387 (ID 369) specifies sub-Chamber W. Both versions are included here in Appendix 8.

The walls of this sub-magazine showed signs of fire but had been crudely replaced with mud. Emery (1954: 24) concludes that the contents of the room were post restoration. Figure 59.

## Appendix 8 - North Saqqara

### One label (ID 369), listed as being found in Sub-Magazine N and Sub-magazine W (pp. 23 and 24), although the figure caption (p. 107) for Cat. No. 387 (ID 369) specifies sub-Chamber W. Both versions are included here in Appendix 8.

The walls of this sub-magazine showed signs of fire but had been crudely replaced with mud. Emery (1954: 24) concludes that the contents of the room were post restoration. Figure 59.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>387</td>
<td>1</td>
<td>ID 369</td>
<td>Wood</td>
<td>Niched frame to Qa'a; found in debris above baskets</td>
<td>23-24 [T], fig. 123 [D]</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Inscribed sealings</td>
<td>-</td>
<td>Type 58; found in debris above baskets</td>
<td>24, 102</td>
</tr>
<tr>
<td>361</td>
<td>5</td>
<td>Baskets, lidded, circular</td>
<td>Reed</td>
<td>Found on the floor level and contained unidentified cereal</td>
<td>23-24, 66, pl. 32</td>
</tr>
</tbody>
</table>

### Sub-magazine Y of S3504 (Emery 1954)

See Figure 60.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>376^2</td>
<td>1</td>
<td>ID 264</td>
<td>Wood</td>
<td>Dated to Djet</td>
<td>23, 104 [T], 104, fig. 108 [D]</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Seal impressions</td>
<td>-</td>
<td>Dated to reign of Qa'a</td>
<td>23</td>
</tr>
<tr>
<td>342, 345</td>
<td>2</td>
<td>Gaming pieces</td>
<td>Ivory</td>
<td>Belongs to part found in Sub-Magazine W</td>
<td>23, 40, pl. 27</td>
</tr>
<tr>
<td>363, 365-366</td>
<td>3</td>
<td>Tool handles</td>
<td>Wood</td>
<td>(p. 63 gives 363-365 only)</td>
<td>23, 63</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Ink inscriptions</td>
<td>Vessel fragments</td>
<td>Many unbroken</td>
<td>23, 102</td>
</tr>
<tr>
<td></td>
<td>66+</td>
<td>Vessels</td>
<td>Stone</td>
<td>Many unbroken</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>82+</td>
<td>Implements</td>
<td>Flint</td>
<td>Many unbroken</td>
<td>23</td>
</tr>
</tbody>
</table>

### Sub-magazine W of S3504 (Emery 1954)

One label (ID 369), listed as being found in Sub-Magazine W and Sub-magazine N (pp. 23 and 24), although the figure caption (p. 107) for Cat. No. 387 (ID 369) specifies sub-Chamber W. Both versions are included here in Appendix 8.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>387</td>
<td>1</td>
<td>ID 369</td>
<td>Wood</td>
<td>Niched frame of Qa'a</td>
<td>23-24, 107 [T], fig. 123 [D]</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Seal impressions</td>
<td>-</td>
<td>Type 58; Dated to reign of Qa'a</td>
<td>23</td>
</tr>
<tr>
<td>193</td>
<td>1</td>
<td>Furniture pin + Wood + Copper</td>
<td>Similar to Cat. No. 47</td>
<td>41, pl. 6</td>
<td></td>
</tr>
<tr>
<td>40 and 343</td>
<td>1</td>
<td>Part Stick</td>
<td>Ivory</td>
<td>Belongs to part found in Sub-Magazine Y</td>
<td>23, 40, pl. 27</td>
</tr>
<tr>
<td>53</td>
<td>1</td>
<td>Ball</td>
<td>Limestone</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>364</td>
<td>1</td>
<td>Ball</td>
<td>&quot;Alabaster&quot;</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>1</td>
<td>Knife handle + Copper + Wood</td>
<td>59, fig. 70. pl. 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>39</td>
<td>Vessels</td>
<td>Stone</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>75+</td>
<td>Implements</td>
<td>Flint</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

Note: Emery (1954) states that these were the only object of interest. Presumably other objects were found in the sub-magazine.

---

24 Label ID 264 is listed as Cat. No. 376 on p. 23 and as Cat. No. 396 on p. 104. These likely refer to the same object as I cannot find Cat. No. 376 or 396 listed elsewhere. Perhaps the at some point the '7' was confused for '9' or vice versa, numbers which are commonly confused in handwriting.

526
Appendix 8 – North Saqqara

ID 368: Associated finds not included in this appendix due to the location of the label in fill above the tomb. It probably dates to the refurbishment during the reign of Qa' a. A further label (ID 361) of Djet and Sedjsekhemka, perhaps also from this tomb and similar to ID 277, was published five years later (Vikentiev 1969).
Tomb SX (Den>Qa'a?): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>73</td>
<td>1</td>
<td>ID 356</td>
<td>Wood</td>
<td></td>
<td>109, 114 [T], 115, fig. 65A and B [D], pl. 45A and B (upper) [P]</td>
</tr>
<tr>
<td>74</td>
<td>1</td>
<td>ID 354</td>
<td>Wood</td>
<td></td>
<td>109, 114 [T], 115, fig. 66a [D], pl. 45A and B (lower) [P]</td>
</tr>
<tr>
<td>69</td>
<td>Frags.</td>
<td>Table</td>
<td>Stone</td>
<td>4 detachable legs</td>
<td>113, fig. 63</td>
</tr>
<tr>
<td></td>
<td>Frags.</td>
<td>Vessels</td>
<td>Stone</td>
<td>Many refittable</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Frags.</td>
<td>Bowls</td>
<td>Pottery</td>
<td>Red ware, Type L2</td>
<td>114</td>
</tr>
</tbody>
</table>
Appendix 9. West Saqqara Cemetery

Tomb WS59 (Den?): Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Cat No</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-27</td>
<td>1</td>
<td>ID 377</td>
<td>Elephant ivory</td>
<td></td>
<td>4, 16-17, 21 [T], 16, fig. 17A [D], pl. 48, no. 1d [P]</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>ID 286</td>
<td>Bone25</td>
<td></td>
<td>4, 17-18, 21 [T], 16, fig. 17B [D], pl. 48, no. 1c [P]</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>ID 285</td>
<td>Bone</td>
<td></td>
<td>4, 18, 21 [T], 16, fig. 17C [D], pl. 48, no. 1a [P]</td>
</tr>
<tr>
<td>27</td>
<td>1</td>
<td>ID 287</td>
<td>Bone</td>
<td></td>
<td>4, 18, 37 [T], 16, fig. 17D [D], pl. 48, no. 1b [P]</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Skeleton</td>
<td>Bone</td>
<td>Adult male</td>
<td>36, pl.19</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Dish, large</td>
<td>Schist, black</td>
<td></td>
<td>36, fig. 29, no. 1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Basin</td>
<td>Copper</td>
<td>Found inside schist bowl (1)</td>
<td>36, fig. 29, no. 2</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Bowl</td>
<td>Pottery</td>
<td>Reddish-brown</td>
<td>36, fig. 29, no. 3</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Bowl</td>
<td>Calcite, veined</td>
<td></td>
<td>36, fig. 29, no. 4</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Dish, large</td>
<td>Calcite, veined</td>
<td></td>
<td>36, fig. 29, no. 5</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Bowl</td>
<td>Calcite, veined</td>
<td></td>
<td>36, fig. 29, no. 6</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Dish</td>
<td>Schist, black</td>
<td></td>
<td>36, fig. 29, no. 7</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Jar, narrow neck</td>
<td>Pottery, fine</td>
<td></td>
<td>36, fig. 29, no. 8</td>
</tr>
<tr>
<td>9-13</td>
<td>5</td>
<td>Jars, closed mouth</td>
<td>Pottery, reddish-brown</td>
<td>Two had black silt conical stoppers intact26, all moderately pointed bases</td>
<td>36, fig. 29, nos. 9-13</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>Pot, small</td>
<td>Pottery, reddish-brown</td>
<td>Flat base</td>
<td>36, fig. 29, no. 14</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>Dish</td>
<td>Limestone, yellow</td>
<td></td>
<td>36, fig. 29, no. 15</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>Vessel, narrow neck</td>
<td>Pottery, fine</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>17-18</td>
<td>2</td>
<td>Jars, globular</td>
<td>Calcite</td>
<td></td>
<td>36, fig. 29, nos. 17-18</td>
</tr>
<tr>
<td>19</td>
<td>Frags.</td>
<td>Jar, cylinder</td>
<td>Calcite</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Jar, narrow neck</td>
<td>Pottery, very fine</td>
<td>With handles on each side</td>
<td>36, fig. 29, no. 20</td>
</tr>
<tr>
<td>21-22</td>
<td>2</td>
<td>Blades</td>
<td>Flint</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>Hairpin/kohl stick</td>
<td>Flint</td>
<td></td>
<td>36, pl. 48, no. 2</td>
</tr>
<tr>
<td>28-29</td>
<td>Frags. of 2</td>
<td>Bowls</td>
<td>Calcite</td>
<td></td>
<td>36, fig. 29, nos. 28-29</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>Plate</td>
<td>Schist, black</td>
<td></td>
<td>36, fig. 29, no. 30</td>
</tr>
<tr>
<td>31</td>
<td>1</td>
<td>Bowl, large</td>
<td>Calcite, veined</td>
<td></td>
<td>36, fig. 29, no. 31</td>
</tr>
</tbody>
</table>

25 IDs 285-287 incorrectly identified by Macramallah as ivory (p. 36)

26 Not specified whether impressed with imagery or not.
### Appendix 9 - West Saqqara Cemetery

For photograph of tomb see Figure 63. For drawings of some finds see Figure 64.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>1</td>
<td>Dish, large</td>
<td>Schist, black</td>
<td></td>
<td>36, fig. 29, no. 32</td>
</tr>
<tr>
<td>33</td>
<td>1</td>
<td>Bowl</td>
<td>Schist, black</td>
<td></td>
<td>36, fig. 29, no. 33</td>
</tr>
<tr>
<td>34</td>
<td>1</td>
<td>Palette</td>
<td>Quartzite (p. 36)/Sandstone (p. 20)</td>
<td>Traces of red pigment on one side; L: 7 cm, W: 5 cm</td>
<td>36, fig. 29, no. 34</td>
</tr>
</tbody>
</table>
Appendix 10. Helwan

Tomb 68 H.12: Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM00-121</td>
<td>1</td>
<td>ID 360</td>
<td>Ivory</td>
<td>–</td>
<td>Köhler 2004</td>
</tr>
<tr>
<td>EM00-121</td>
<td>1</td>
<td>ID 381</td>
<td>Ivory</td>
<td>–</td>
<td>Köhler 2004</td>
</tr>
</tbody>
</table>

Tomb 591 H.11: Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM00-120</td>
<td>1</td>
<td>ID 433</td>
<td>Ivory</td>
<td>–</td>
<td>Köhler 2004</td>
</tr>
</tbody>
</table>

Tomb 635 H.9: Inscribed labels and associated finds

<table>
<thead>
<tr>
<th>Inv. No.</th>
<th>Quantity</th>
<th>Object</th>
<th>Material</th>
<th>Details</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>1</td>
<td>ID 378</td>
<td>Ivory</td>
<td></td>
<td>68, 177 [T], pl. 97</td>
</tr>
<tr>
<td>–</td>
<td>1</td>
<td>ID 379</td>
<td>Ivory</td>
<td></td>
<td>68, 177, pl. 97</td>
</tr>
<tr>
<td>–</td>
<td>1</td>
<td>ID 380</td>
<td>Ivory</td>
<td></td>
<td>68, 177, pl. 97</td>
</tr>
</tbody>
</table>
Appendix 11. Tura, Giza and Abu Rowash

**Tura**: ID 353
Archaeological information was unavailable for analysis (see Leclant 1961: 104).

**Giza**: ID 271
Tomb V, Grave 2: Archaeological information was insufficient for detailed analysis (see Petrie 1907).

**Abu Rowash**: ID 370
Archaeological information from Pierre Lacau's 1911-1912 excavations was unavailable for analysis.
Appendix 12. Bar Charts\textsuperscript{27} Showing VO Quantities per Families

\begin{figure}
\centering
\includegraphics[width=\textwidth]{adornment_svos_bar_chart.png}
\caption{Adornment SVOs}
\end{figure}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{architecture_vos_bar_chart.png}
\caption{Architecture VOs}
\end{figure}

\textsuperscript{27} Colour coding for all charts: Blue = Certain identification; Red = Likely identification
Appendix 12 – Bar Charts Showing VO Quantities by Family

Body Elements VOs

Container VOs
Appendix 12 – Bar Charts Showing VO Quantities by Family

Fauna VOs

Figure VOs

Human Figure  Non-distinct Figure  Anthropoid Figure
Appendix 12 – Bar Charts Showing VO Quantities by Family

Flora VOs

Furniture VOs

Implement VOs
Appendix 12 – Bar Charts Showing VO Quantities by Family

Curvilinear VOs

Frames VOs

Simple Linear VOs

- H1, zigzag
- H1
- V1
- V1, wavy
- D2
- V1 w/wavy sides
Appendix 12 - Bar Charts Showing VO Quantities by Family

Complex Linear VOs

Linear, SE VOs

Stroke & Notch VOs
Appendix 12 – Bar Charts Showing VO Quantities by Family

**Triangular SVOs**

**Unclassified VO (5+)***
Appendix 13. Distribution of Figural and Geometric SVOs and CEs
Figural SVO Distribution by Quadrant for Primary Side of NIIA1 Labels:

28 Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.

28
Figural SVO\textsuperscript{29} distribution by quadrant for primary side of NIIC-early D labels:

\begin{tabular}{|c|c|c|}
\hline
Q1: Figural SVOs (642), Primary Side, NIIC-D & Q2: Figural SVOs (872), Primary Side, NIIC-D & Q3: Figural SVOs (861), Primary Side, NIIC-D \\
\hline
Architecture & Architecture & Architecture \\
Body Parts & Body Parts & Body Parts \\
Containers & Containers & Containers \\
Fauna & Fauna & Fauna \\
Figures & Figures & Figures \\
Flora & Flora & Flora \\
Implements & Implements & Implements \\
Landscape & Landscape & Landscape \\
All other VOs & All other VOs & All other VOs \\
\hline
71\% & 78\% & 64\% \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|}
\hline
Q1-2: Figural SVOs (301), Primary Side, NIIC-D & Q1-4: Figural SVOs (112), Primary Side, NIIC-D & Q2-4: Figural SVOs (258), Primary Side, NIIC-D \\
\hline
Architecture & Architecture & Architecture \\
Body Parts & Body Parts & Body Parts \\
Containers & Containers & Containers \\
Fauna & Fauna & Fauna \\
Figures & Figures & Figures \\
Flora & Flora & Flora \\
Implements & Implements & Implements \\
Landscape & Landscape & Landscape \\
All other VOs & All other VOs & All other VOs \\
\hline
79\% & 78\% & 78\% \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|}
\hline
Q1-3: Figural SVOs (221), Primary Side, NIIC-D & Q1-4: Figural SVOs (112), Primary Side, NIIC-D & Q2-4: Figural SVOs (258), Primary Side, NIIC-D \\
\hline
Architecture & Architecture & Architecture \\
Body Parts & Body Parts & Body Parts \\
Containers & Containers & Containers \\
Fauna & Fauna & Fauna \\
Figures & Figures & Figures \\
Flora & Flora & Flora \\
Implements & Implements & Implements \\
Landscape & Landscape & Landscape \\
All other VOs & All other VOs & All other VOs \\
\hline
57\% & 69\% & 62\% \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|}
\hline
Q1-4: Figural SVOs (112), Primary Side, NIIC-D & Q2-4: Figural SVOs (258), Primary Side, NIIC-D & Q3-4: Figural SVOs (184), Primary Side, NIIC-D \\
\hline
Architecture & Architecture & Architecture \\
Body Parts & Body Parts & Body Parts \\
Containers & Containers & Containers \\
Fauna & Fauna & Fauna \\
Figures & Figures & Figures \\
Flora & Flora & Flora \\
Implements & Implements & Implements \\
Landscape & Landscape & Landscape \\
Transport & Transport & Transport \\
All other VOs & All other VOs & All other VOs \\
\hline
62\% & 78\% & 78\% \\
\hline
\end{tabular}

\textsuperscript{29} Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Figural CE\textsuperscript{30} distribution by quadrant for primary sides of NIHIA\textsubscript{1} labels:

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>Figural CEs</th>
<th>Primary Side, NIHIA\textsubscript{1}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: Figural CEs (19), Primary Side, NIHIA\textsubscript{1}</td>
<td>15% Architecture, 9% Fauna, 6% All other VOs</td>
<td>63%</td>
</tr>
<tr>
<td>Q1-2: Figural CEs (28), Primary Side, NIHIA\textsubscript{1}</td>
<td>4% Architecture, 30% Fauna, 6% All other VOs</td>
<td>67%</td>
</tr>
<tr>
<td>Q1-3: Figural CEs (30), Primary Side, NIHIA\textsubscript{1}</td>
<td>10% Architecture, 10% Body Parts, 13% Fauna, 7% Implements, 3% Support, 3% All other VOs</td>
<td>61%</td>
</tr>
<tr>
<td>Q1-4: Figural CEs (74), Primary Side, NIHIA\textsubscript{1}</td>
<td>7% Body Parts, 9% Fauna, 5% Implements, 3% Support, 2% All other VOs</td>
<td>71%</td>
</tr>
<tr>
<td>Q2: Figural CEs (19), Primary Side, NIHIA\textsubscript{1}</td>
<td>21% Fauna, 6% All other VOs</td>
<td>74%</td>
</tr>
<tr>
<td>Q2-4: Figural CEs (29), Primary Side, NIHIA\textsubscript{1}</td>
<td>3% Adornment, 5% Body Parts, 11% Fauna, 3% Flora, 3% Implements, 3% All other VOs</td>
<td>77%</td>
</tr>
<tr>
<td>Q3: Figural CEs (16), Primary Side, NIHIA\textsubscript{1}</td>
<td>6% Fauna, 6% Landscape, 6% All other VOs</td>
<td>60%</td>
</tr>
<tr>
<td>Q3-4: Figural CEs (27), Primary Side, NIHIA\textsubscript{1}</td>
<td>6% Body Parts, 5% Fauna, 10% Landscape, 2% Support, 2% All other VOs</td>
<td>62%</td>
</tr>
<tr>
<td>Q4: Figural CEs (62), Primary Side, NIHIA\textsubscript{1}</td>
<td>2% Architecture, 5% Body Parts, 2% Fauna, 2% Figures, 2% Landscape, 2% Support, 2% All other VOs</td>
<td>66%</td>
</tr>
</tbody>
</table>

\textsuperscript{30} Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Figural CE distribution by quadrant for primary sides of NIIIC-early D labels:

Q1: Figural CEs (643), Primary Side, NIIIC-D
- Adornment
- Architecture
- Body Parts
- Containers
- Fauna
- Figures
- Implements
- Support
- All other VOs

Q2: Figural CEs (572), Primary Side, NIIIC-D
- Adornment
- Architecture
- Body Parts
- Containers
- Fauna
- Figures
- Implements
- Landscape
- Support
- Transport
- All other VOs

Q3: Figural CEs (661), Primary Side, NIIIC-D
- Adornment
- Architecture
- Body Parts
- Containers
- Fauna
- Figures
- Flora
- Implements
- Support
- Transport
- All other VOs

Q4: Figural CEs (557), Primary Side, NIIIC-D
- Adornment
- Architecture
- Body Parts
- Containers
- Fauna
- Figures
- Implements
- Landcape
- Support
- Transport
- All other VOs
Geometric SVO distribution by quadrant for the primary sides of NIIA1 labels:

31 Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Geometric SVO distribution by quadrant for primary sides of NIHC-early D labels:

32 Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Geometric CE\textsuperscript{33} distribution by quadrant for primary sides of NIIIA1 labels:

\begin{figure}
\centering
\includegraphics[width=\textwidth]{geometric_ces.png}
\end{figure}

\textsuperscript{33} Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Geometric CE distribution for primary sides of NIHC-early D labels:

34 Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Geometric CE\textsuperscript{35} distribution by quadrant for primary sides of NIIIC-early D labels

\textsuperscript{35} Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Comparison of figural SVOs versus CEs\textsuperscript{36} for primary sides of NIIIA1 and NIIIC-early D labels:

\begin{itemize}
\item Figural SVOs (320), Primary Side, NIIIA1
\item Adornment
\item Architecture
\item Body Parts
\item Containers
\item Fauna
\item Figures
\item Flora
\item Landscape
\item Transport
\item All other VOs
\item 76%
\item □ □ □ □ □ □ □ □ □
\item Figural CEs (345), Primary Side, NIIIA1
\item Adornment
\item Architecture
\item Body Parts
\item Fauna
\item Figures
\item Flora
\item Implements
\item Landscape
\item Support
\item All other VOs
\item 68%
\item □ □ □ □ □ □ □ □ □
\item Figural SVOs (2531), Primary Side, NIIIC-D
\item Adornment
\item Architecture
\item Body Parts
\item Containers
\item Fauna
\item Figures
\item Flora
\item Landscape
\item Transport
\item All other VOs
\item 71%
\item □ □ □ □ □ □ □ □ □
\item Figural CEs (3561), Primary Side, NIIIC-D
\item Adornment
\item Architecture
\item Body Parts
\item Containers
\item Fauna
\item Figures
\item Flora
\item Furniture
\item Implements
\item Landscape
\item Support
\item Transport
\item All other VOs
\item 73%
\item □ □ □ □ □ □ □ □ □
\end{itemize}

\textsuperscript{36} Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Comparison of Geometric SVOs versus CEs\textsuperscript{37} for primary sides of NIIIA1 and NIIC-early D labels:

\textbf{Geometric SVOs (320), Primary Side, NIIIA1}

- 69% Circular
- 20% Curvilinear
- 1% Lines, Complex
- 1% Rectangular
- 1% Strokes & Notches
- 1% Triangles
- 1% All other VOs

\textbf{Geometric CEs (320), Primary Side, NIIIA1}

- 95% Circular
- 1% Curvilinear
- 1% Frames
- 1% Lines, Simple
- 1% Rectangular
- 1% Strokes & Notches
- 1% All other VOs

\textbf{Geometric SVOs (3561), Primary Side, NIIIC-D}

- 85% Circular
- 8% Curvilinear
- 1% Lines, Complex
- 1% Lines, Simple
- 1% Rectangular
- 1% Triangles
- 1% All other VOs

\textbf{Geometric CEs (3561), Primary Side, NIIIC-D}

- 91% Circular
- 4% Curvilinear
- 1% Frames
- 1% Lines, Complex
- 1% Lines, Simple
- 1% Rectangular
- 1% Triangles
- 1% All other VOs

\textsuperscript{37} Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
Appendix 14. CVO and Cluster Distribution and Frequencies
**CVO\(^{38}\) distribution by Quadrant for primary sides of NIIIC-early D labels:**

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>Figural SVOs</th>
<th>Primary Side</th>
<th>NIIIA1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: Figural SVOs (19), Primary Side, NIIIA1</td>
<td>Fauna</td>
<td>11%</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>Flora</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>All other VOs</td>
<td>4%</td>
<td>13%</td>
</tr>
<tr>
<td>Q1-2: Figural SVOs (28), Primary Side, NIIIA1</td>
<td>Architecture</td>
<td>19%</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Body Parts</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Fauna</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Flora</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Transport</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>All other VOs</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Q1-4: Figural SVOs (36), Primary Side, NIIIA1</td>
<td>Fauna</td>
<td>11%</td>
<td>18%</td>
</tr>
<tr>
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<td>All other VOs</td>
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</tr>
<tr>
<td>Q2: Figural SVOs (19), Primary Side, NIIIA1</td>
<td>Fauna</td>
<td>26%</td>
<td>74%</td>
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<td>All other VOs</td>
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<td>Q2-4: Figural SVOs (38), Primary Side, NIIIA1</td>
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<td>Body Parts</td>
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</tr>
<tr>
<td></td>
<td>Fauna</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Flora</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>All other VOs</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Q3: Figural SVOs (23), Primary Side, NIIIA1</td>
<td>Fauna</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Landscapes</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Support</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>All other VOs</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Q3-4: Figural SVOs (67), Primary Side, NIIIA1</td>
<td>Fauna</td>
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<td>3%</td>
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<td>All other VOs</td>
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</tr>
<tr>
<td>Q4: Figural SVOs (47), Primary Side, NIIIA1</td>
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<td>Containers</td>
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<tr>
<td></td>
<td>Fauna</td>
<td>1%</td>
<td>1%</td>
</tr>
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<td>Figures</td>
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<td>1%</td>
</tr>
<tr>
<td></td>
<td>All other VOs</td>
<td>1%</td>
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</tr>
</tbody>
</table>

\(^{38}\) Only percentages of 1% or more are shown in a given pie chart but those Families with less than 1% are still listed in the legend since the pie slice might be visible. Those Families which are not attested are not listed in the legend.
CVO types and frequencies, by phase/sub-phase for occurrences of four or more:

<table>
<thead>
<tr>
<th>CVO Type</th>
<th>#</th>
<th>NIII A1</th>
<th>Narmer-Den</th>
<th>Den-Qa’a</th>
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<td>frame, niched</td>
<td>74</td>
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<td>40</td>
<td>32</td>
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<td>human, upright</td>
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<td>32</td>
<td>5</td>
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<tr>
<td>bird and serpent</td>
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<td>1</td>
<td>31</td>
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<tr>
<td>bird on perch</td>
<td>21</td>
<td>18</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>human w/pestle</td>
<td>20</td>
<td>0</td>
<td>6</td>
<td>14</td>
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<tr>
<td>standard</td>
<td>21</td>
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<td>17</td>
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</tr>
<tr>
<td>human, sitting/crouching</td>
<td>25</td>
<td>0</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>frame w/pestle</td>
<td>17</td>
<td>0</td>
<td>2</td>
<td>15</td>
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<tr>
<td>boat</td>
<td>19</td>
<td>0</td>
<td>6</td>
<td>10</td>
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<tr>
<td>head on pike/support</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>0</td>
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<tr>
<td>vessel w/legs</td>
<td>14</td>
<td>0</td>
<td>1</td>
<td>11</td>
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<tr>
<td>frame w/harpoon</td>
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<td>0</td>
<td>0</td>
<td>10</td>
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<tr>
<td>frame, circ w/border</td>
<td>9</td>
<td>0</td>
<td>9</td>
<td>0</td>
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<td>frame w/notched border</td>
<td>9</td>
<td>0</td>
<td>6</td>
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<td>frame w/protrusions</td>
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<td>6</td>
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<td>frame, open-base</td>
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<td>elephant on triangles</td>
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<td>frame w/flora</td>
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<td>3</td>
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<td>human, upright?</td>
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<td>4</td>
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<tr>
<td>architecture</td>
<td>4</td>
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<tr>
<td>bird+perch?</td>
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<tr>
<td>fauna w/object in mouth</td>
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<tr>
<td>Frame, 1/2 circle</td>
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<tr>
<td>frame w/niched border</td>
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<tr>
<td>oval frame w/dots</td>
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<tr>
<td>stalks on long base</td>
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<tr>
<td>bird on architecture</td>
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<tr>
<td>bird on rectangle</td>
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<tr>
<td>bird w/bound wings</td>
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<tr>
<td>birding</td>
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<tr>
<td>birds in net</td>
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<tr>
<td>circle on rectangle</td>
<td>3</td>
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<tr>
<td>frame w/pestle?</td>
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<tr>
<td>pavilion</td>
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<td>sledge w/cargo</td>
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<tr>
<td>vessel on stand</td>
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<tr>
<td>architecture &amp; tree group</td>
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<tr>
<td>baboon, seated</td>
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<tr>
<td>bird on crescent</td>
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<tr>
<td>bird on triangles</td>
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<tr>
<td>bird w/implement?</td>
<td>2</td>
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<tr>
<td>bird w/mace &amp; shield</td>
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<tr>
<td>crescent w/V1 wavy</td>
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<tr>
<td>frame w/bird</td>
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<tr>
<td>frame w/bird on perch?</td>
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<tr>
<td>frame w/rounded top</td>
<td>2</td>
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<tr>
<td>frame, circ w/headgear</td>
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</tr>
<tr>
<td>frame, niched?</td>
<td>2</td>
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</tr>
<tr>
<td>frame, treble</td>
<td>2</td>
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<td></td>
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</tr>
<tr>
<td>limbs w/mace &amp; shield</td>
<td>2</td>
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<tr>
<td>step w/fork</td>
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<tr>
<td>vessels &amp; half-circles</td>
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<td>bird on frame</td>
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<tr>
<td>Item</td>
<td>Quantity</td>
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<tr>
<td>-------------------------------</td>
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<tr>
<td>bird on H1, wavy</td>
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<tr>
<td>bird w/ring</td>
<td>1</td>
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<tr>
<td>bovid w/feather</td>
<td>1</td>
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<tr>
<td>bull on mountains</td>
<td>1</td>
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</tr>
<tr>
<td>bull on terrain</td>
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<tr>
<td>crook &amp; standard</td>
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<td></td>
</tr>
<tr>
<td>feather w/legs</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fish w/implement</td>
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<tr>
<td>fork w/H1, V2</td>
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<tr>
<td>frame</td>
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<td>frame on sledge?</td>
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<tr>
<td>frame w/H1 w/dot, 2&amp;feather</td>
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<tr>
<td>frame w/human</td>
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</tr>
<tr>
<td>frame w/implement?</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>frame w/rectangle</td>
<td>1</td>
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<td></td>
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</tr>
<tr>
<td>platform?</td>
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</tr>
<tr>
<td>serpent on triangles</td>
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</tr>
<tr>
<td>stalk on H1, wavy</td>
<td>1</td>
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<td></td>
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<tr>
<td>textile?</td>
<td>1</td>
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</tbody>
</table>

Total 477
Cluster types and frequencies, by phase/sub-phase for occurrences of five or more:

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<thead>
<tr>
<th>Cluster Type</th>
<th>#</th>
<th>NIIA1</th>
<th>Narmer-Den</th>
<th>Anedjib Data</th>
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<td>stroke2-8</td>
<td>47</td>
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<td>28</td>
<td>19</td>
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<tr>
<td>flora+axe2+1/2 circle</td>
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<td>4</td>
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<tr>
<td>dagger+lion</td>
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<td>0</td>
<td>21</td>
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<tr>
<td>bee+axe+bee+axe</td>
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<tr>
<td>branch+numericals</td>
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<td>flora+bee+1/2 circle</td>
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<td>11</td>
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<td>basket2+niched frame</td>
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<td>bird+twist+hoe+bird</td>
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<td>twist+pot+arms</td>
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<td>horseshoe+2-9</td>
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<td>hand+zigzag</td>
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<td>12</td>
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<tr>
<td>face?+arrow+zigzag</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>12</td>
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<tr>
<td>basket2+face</td>
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<td>circle+stroke6</td>
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<td>0</td>
<td>12</td>
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<tr>
<td>bird+loop+step</td>
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<td>11</td>
<td>0</td>
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<tr>
<td>H1+piercing+flora+sickle</td>
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<td>0</td>
<td>11</td>
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<td>legs+rectangle</td>
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<td>loop+serpent+fork+arms</td>
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<tr>
<td>twist+bird+arm</td>
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<tr>
<td>seal+bee</td>
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<td>7</td>
<td>3</td>
</tr>
<tr>
<td>bird+branch+rectangle</td>
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<tr>
<td>H1 w/dot2+rectangle+reed</td>
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<tr>
<td>lion+container</td>
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<td>0</td>
<td>3 (or 5)</td>
<td>5 (or 3)</td>
</tr>
<tr>
<td>bird+boat+crook w/package</td>
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<td>2 (or 0)</td>
<td>5 (or 7)</td>
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<tr>
<td>flora+flora</td>
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<tr>
<td>fish+flora+zigzag+/pot</td>
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<td>serpent+rectangle+branch1-</td>
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<td>shovel+mouth+serpent</td>
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<td>twist+sickle+arms</td>
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NIIIA1 Clusters Families and frequencies:

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NIHIC-early D Clusters Families and Frequencies:

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