# ANCIENT EGYPTIAN CALLIGRAPHY

## A BEGINNER'S GUIDE TO WRITING HIEROGLYPHS

By Henry George Fischer

*Lila Acheson Wallace Research Curator in Egyptology, The Metropolitan Museum of Art*

THIRD EDITION

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# Contents



Erratum

It was intended, in this edition, to reverse N37 on page 13, so that the ripples of water are turned in the opposite direction.

# Preface

In preparing this publication I have once again been able to count on the editorial assistance of Janet Thorpe and on the typographic skill of Bert Clarke, which has been sorely tested by the intricacy of the layout. He has succeeded so well, indeed, that its elegance may belie the fact that this is essentially a random collection of notes, brought together for use in the classroom. Thanks to the unfailing generosity of Lila Acheson Wallace, its price will nonetheless place it within the means of students; and, in defense of its stately appearance, it may fairly be argued that no degree of elegance can do justice to that of Egyptian hieroglyphs when executed at their best.

# Preface to the Second Edition

Contrary to expectations, the original edition of 2000 copies has been exhausted after three years. A considerable number of worthwhile marginalia have accumulated even in so short a time, but by no means enough to justify a reorganization of the main text. Only a few changes have been made in this portion of the book, most of the additions being relegated to the Addenda and terminal references, where the pagination has necessarily been revised.

While the simplified hieroglyphic examples have scarcely been modified (only G51, T25 and V18), several additional variants of ancient models have been provided. It has been possible to insert a few of these in the main text (O28, T25, U23, Aa20), and the Addenda may be consulted for the remainder.

At the very last minute an additional simplified hieroglyph has been replaced (G39), following, in part, a criticism of M.-Chr. Van Hamme-Van Hoorebeke in a review that appeared as this edition was in the hands of the printer (*BiOr* 39 [1982]).

# Preface to the Third Edition

Only a single new variant (T25, Fig. c) has been added to the main text, which contains no more than a few other additions (G17, D21, F36, I6) and minor readjustments. Wherever possible, in this section of the book, references have been introduced to the Addenda, which have again been augmented, as have—to a lesser extent—the terminal references. But the Addenda now contain remarks on several signs that are not listed as such in the main text:  (A9),  (A25),  (A33),  (A48),  (not in Gardiner font),  (D41)  (F12)  (G7),  (O22),  (R5),  (V32),  (V37),  (W4),  (Y3).

# Abbreviations

| | |
|---|---|
| *Aegyptus* | *Aegyptus: Rivista Italiana di Egittologia e di Papirologia*, Milan. |
| Aly, *et al.*, *Le Temple d'Amada* IV | Mohamed Aly, Fouad Abdel-Hamid, M. Dewachter, *Le Temple d'Amada* IV (Cairo, 1967). |
| *ASAE* | *Annales du Service des Antiquités de l'Égypte*, Cairo. |
| *ÄZ* | *Zeitschrift für ägyptische Sprache und Altertumskunde*, Leipzig and Berlin. |
| *Beni Hasan* | P. E. Newberry, *Beni Hasan* I–II, IV (London, 1893–1900); F. Ll. Griffith, *Beni Hasan* III (London, 1896). |
| *BIFAO* | *Bulletin de l'Institut français d'Archéologie orientale*, Cairo. |
| *BiOr* | *Bibliotheca Orientalis*, Leiden. |
| Bissing, *Re-Heiligtum* | F. W. von Bissing, editor, *Das Re-Heiligtum des Königs Ne-woser-re (Rathures)* I–III (Berlin-Leipzig, 1905–1928). |
| *BMMA* | *Bulletin of The Metropolitan Museum of Art*, New York. |
| Borchardt, *Grabdenkmal Ne-user-reʿ* | L. Borchardt, *Das Grabdenkmal des Königs Ne-user-reʿ* (Leipzig, 1907). |
| Borchardt, *Grabdenkmal Śaȝḥu-reʿ* | L. Borchardt, *Das Grabdenkmal des Königs Śaȝḥu-reʿ* I–II (Leipzig, 1910–1913). |
| Brunner, *Die südlichen Räume* | H. Brunner, *Die südlichen Räume des Tempels von Luxor* (Mainz, 1977). |
| Brunton and Engelbach, *Gurob* | G. Brunton and R. Engelbach, *Gurob* (London, 1927). |
| Cairo CG + number | *Catalogue général des antiquités égyptiennes du Musée du Caire: Denkmäler des Alten Reiches (Nos. 1295–1808)* I–II by L. Borchardt (Berlin-Cairo, 1937–1964). |
| Calverley, *Temple of King Sethos I* | A. M. Calverley, assisted by M. F. Broome, *The Temple of King Sethos I at Abydos* I–IV, edited by A. H. Gardiner (London-Chicago, 1933–1958). |
| Caminos, *Buhen* | R. A. Caminos, *The New-Kingdom Temples of Buhen* I–II (London, 1974). |
| Caminos and Fischer, *Epigraphy and Palaeography* | R. Caminos and H. G. Fischer, *Ancient Egyptian Epigraphy and Palaeography* (New York, 1976). |
| Cottevieille-Giraudet, *Médamoud (1931): Les Monuments du Moyen Empire* | Rémy Cottevieille-Giraudet, *Rapport sur les fouilles de Médamoud (1931): Les Monuments du Moyen Empire (Fouilles de l'Institut français d'Archéologie orientale du Caire* 9, Pt. 1 [Cairo, 1933]). |
| Davies, *Antefoḳer* | Norman de Garis Davies, *The Tomb of Antefoḳer, Vizier of Sesostris I, and of his Wife Senet* (London, 1920). |
| *Deir el Gebrâwi* | Norman de Garis Davies, *The Rock Tombs of Deir el Gebrâwi* I–II (London, 1902). |

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| Dittmar, *Hieroglyphen-Schreibfibel* | Johanna Dittmar, *Hieroglyphen-Schreibfibel* (Leinfelden-Oberaichen, 1977). |
| Dunham and Simpson, *Mersyankh III* | D. Dunham and W. S. Simpson, *The Mastaba of Queen Mersyankh III* (Boston, 1974). |
| Edel, *Altägyptische Grammatik* | *Elmar Edel, Altägyptische Grammatik* (*Analecta Orientalia* 34, 39 [Rome, 1955, 1964]). |
| Edel and Wenig, *Jahreszeitenreliefs* | E. Edel and S. Wenig, *Die Jahreszeitenreliefs aus dem Sonnenheiligtum des Königs Ne-user-Re* (*Staatliche Museen zu Berlin, Mitteilungen aus der aegyptischen Sammlung* 7 [Berlin, 1974]). |
| *Egyptian Studies* | H. G. Fischer, *Egyptian Studies* I: *Varia* (New York, 1976); II: *The Orientation of Hieroglyphs*, Pt. 1, *Reversals* (New York, 1977); III: *More Varia* (in preparation). |
| Fakhry, *Monuments of Sneferu at Dahshur* II | Ahmed Fakhry, *The Monuments of Sneferu at Dahshur* II. *The Valley Temple*, Pt. 1: *The Temple Reliefs* (Cairo, 1961). |
| Firth and Gunn, *Teti Pyramid Cemeteries* | C. M. Firth and B. Gunn, *Excavations at Saqqara: Teti Pyramid Cemeteries* I–II (Cairo, 1926). |
| Firth and Quibell, *Step Pyramid* | Cecil M. Firth and J. E. Quibell, *Excavations at Saqqara: The Step Pyramid* I–II (Cairo, 1935). |
| Fischer, *Coptite Nome* | H. G. Fischer, *Inscriptions from the Coptite Nome, Dynasties* VI–XI (*Analecta Orientalia* 40 [Rome, 1964]). |
| Fischer, *Dendera* | H. G. Fischer, *Dendera in the Third Millennium B.C. down to the Theban Domination of Upper Egypt* (Locust Valley, N.Y., 1968). |
| Fischer, "Notes on Sticks and Staves" | H. G. Fischer, "Notes on Sticks and Staves in Ancient Egypt," *MMJ* 13 (1978) pp. 5-32. |
| Gamer-Wallert, *Fische und Fischkulte* | Ingrid Gamer-Wallert, *Fische und Fischkulte im alten Ägypten* (Wiesbaden, 1970). |
| Gardiner, *Egyptian Grammar* | A. H. Gardiner, *Egyptian Grammar*, 3rd ed. (London, 1957). |
| Habachi, *Tell Basta* | Labib Habachi, *Tell Basta* (Supplement to *ASAE*, Cahier No. 22 [Cairo, 1957]). |
| Hassan, *Excavations at Saqqara 1937–38* | Selim Hassan, *Excavations at Saqqara 1937–1938* I–III (Cairo, 1975). |
| Hassan, *Gîza* | Selim Hassan, *Excavations at Gîza* I–X (Oxford-Cairo, 1932–1960). |
| Hayes, *Se'n-Wosret-ʿankh* | W. C. Hayes, *The Texts in the Maṣṭabeh of Se'n-Wosret-ʿankh at Lisht* (New York, 1937). |
| *Hieroglyphs* | F. Ll. Griffith, *A Collection of Hieroglyphs: A Contribution to the History of Egyptian Writing* (London, 1898). |
| James, *Hieroglyphic Texts* I² | The British Museum, *Hieroglyphic Texts from Egyptian Stelae, etc., in The British Museum*, Pt. 1, 2nd ed., by T. G. H. James (London, 1961). |

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| James and Apted, *Khentika* | T. G. H. James and M. R. Apted, *The Mastaba of Khentika Called Ikhekhi* (London, 1953). |
| *JAOS* | *Journal of the American Oriental Society*, Baltimore-New Haven. |
| *JARCE* | *Journal of the American Research Center in Egypt*, Princeton. |
| *JEA* | *Journal of Egyptian Archaeology*, London. |
| Jéquier, *Frises d'objets* | G. Jéquier, *Les Frises d'objets des sarcophages du Moyen Empire* (*Mémoires publiés par les membres de l'Institut français d'Archéologie orientale* 47 [Cairo, 1921]). |
| Jéquier, *Monument funéraire de Pepi II* | G. Jéquier, *Le Monument funéraire de Pepi II*, I–III (Cairo, 1936–1940). |
| *JNES* | *Journal of Near Eastern Studies*, Chicago. |
| Junker, *Gîza* | H. Junker, *Gîza* I–XII (*Akademie der Wissenschaften in Wien. Philosophisch-historische Klasse. Denkschriften* [Vienna, 1929–1955]). |
| *Ḳen-Amūn* | Norman de Garis Davies, *The Tomb of Ḳen-Amūn at Thebes* I–II (New York, 1930). |
| *Kêmi* | *Kêmi: Revue de philologie et d'archéologie égyptiennes et coptes*, Paris. |
| *Kush* | *Kush: Journal of the Sudan Antiquities Service*, Khartoum. |
| Lacau and Chevrier, *Une Chapelle* | P. Lacau and H. Chevrier, *Une Chapelle de Sésostris I^er^ à Karnak* (plates) (Cairo, 1969). |
| L*D Text* II | C. R. Lepsius, *Denkmaeler aus Aegypten und Nubien. Text*, ed. by Eduard Naville, Vol. 11 (Leipzig, 1904). |
| *Lexikon der Ägyptologie I–VI* | *Lexikon der Ägyptologie*, edited by W. Helck, E. Otto, W. Westendorf (Wiesbaden, 1975–1986). |
| *MDIK* | *Mitteilungen des Deutschen Archäologischen Instituts Abteilung Kairo*, Wiesbaden and Mainz/Rhein. |
| *Medinet Habu* I | Oriental Institute, Epigraphic Survey, *Medinet Habu* I (Chicago, 1930). |
| *Meir* | A. M. Blackman, *The Rock Tombs of Meir* I–IV (London, 1914–1924); A. M. Blackman and M. R. Apted, *The Rock Tombs of Meir* V–VI (London, 1953). |
| *Menkheperrasonb* | Nina and Norman de Garis Davies, *The Tombs of Menkheperrasonb, Amenmosĕ and Another* (London, 1933). |
| *Mereruka* | Oriental Institute, Sakkarah Expedition, *The Mastaba of Mereruka* I–II (Chicago, 1938). |
| *Miscellanea Gregoriana* | *Miscellanea Gregoriana* (Rome, 1941). |
| *MMJ* | *Metropolitan Museum Journal*, New York. |
| *Nachrichten Göttingen* | *Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen, Philologisch-historische Klasse*, Göttingen |
| Naville, *XIth Dynasty Temple at Deir el-Bahari* | E. H. Naville, *The XIth Dynasty Temple at Deir el-Bahari* I–III (London, 1907–1913). |

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| Newberry and Griffith, *Bersheh* | P. E. Newberry and F. Ll. Griffith, *El Bersheh* I–II (London [1895]). |
| Northampton, Spiegelberg, Newberry, *Theban Necropolis* | Marquis of Northampton, W. Spiegelberg, P. E. Newberry, *Report on Some Excavations in the Theban Necropolis during the Winter of 1898–9* (London, 1908). |
| *Orientalia* | *Orientalia: Commentarii periodici Pontificii Instituti Biblici*, Nova Series, Rome. |
| Petrie, Abydos | W. M. F. Petrie, *Abydos* I-III (London, 1902–1904). |
| Petrie, *Dendereh* | W. M. F. Petrie, *Dendereh 1898* and *Dendereh Extra Plates* (London, 1900). |
| Petrie, *Gizeh and Rifeh* | W. M. F. Petrie, *Gizeh and Rifeh* (London, 1907). |
| Petrie, *Kahun, Gurob and Hawara* | W. M. F. Petrie, *Kahun, Gurob and Hawara* (London, 1890). |
| Petrie, *Koptos* | W. M. F. Petrie, *Koptos* (London, 1896). |
| Petrie, *Medum* | W. M. F. Petrie, *Medum* (London, 1892). |
| Petrie, *Tools and Weapons* | W. M. F. Petrie, *Tools and Weapons* (London, 1917). |
| Petrie and Brunton, *Sedment* | W. M. F. Petrie and G. Brunton, *Sedment* I–II (London, 1924). |
| Petrie and Quibell, *Naqada and Ballas* | W. M. F. Petrie and J. E. Quibell, *Naqada and Ballas* (London, 1895). |
| Petrie *et al.*, *Lahun* II | W. M. F. Petrie *et al.*, *Lahun* II (London, 1923). |
| *Picture Writing* | Nina M. Davies, *Picture Writing in Ancient Egypt* (London, 1958). |
| *Private Tombs* | *Private Tombs at Thebes* I: *Four Eighteenth Dynasty Tombs* by T. Säve-Söderbergh (Oxford, 1957); IV: *Scenes from Some Theban Tombs* by Nina Davies (Oxford, 1963). |
| *Ptahhetep* | Norman de Garis Davies, *The Mastaba of Ptahhetep and Akhethetep at Saqqareh* I–II (London, 1900–1901). |
| *Puyemrê* | Norman de Garis Davies, *The Tomb of Puyemrê* I–II (New York, 1922–1923). |
| Pyr. | Pyramid text reference, in terms of K. Sethe's arrangement in *Die altägyptischen Pyramidentexte* (Leipzig, 1908–1922). |
| *Ramose* | Norman de Garis Davies, *The Tomb of the Vizier Ramose* (London, 1941). |
| *RdE* | *Revue d'Égyptologie*, Paris. |
| Reisner, *History of the Giza Necropolis* I | G. A. Reisner, *A History of the Giza Necropolis* I (Cambridge, Mass., 1942). |
| *Reliefs and Inscriptions at Karnak* I | Oriental Institute, *Reliefs and Inscriptions at Karnak* I: *Ramses III's Temple within the Great Inclosure of Amon*, Pt. 1 (Chicago, 1936). |
| *Rekh-mi-Rēʿ* | Norman de Garis Davies, *The Tomb of Rekh-mi-Rēʿ at Thebes* I–II (New York, 1943). |
| Saleh, *Three Old-Kingdom Tombs at Thebes* | Mohamed Saleh, *Three Old-Kingdom Tombs at Thebes* (Mainz am Rhein, 1977). |
| *Saqqara Mastabas* | M. A. Murray, *Saqqara Mastabas* I (London, 1905); M. A. Murray and K. Sethe, *Saqqara Mastabas* II (London, 1937). |

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| Schenkel, *Frühmittelägyptische Studien* | Wolfgang Schenkel, *Frühmittelägyptische Studien* (Bonn, 1962). |
| Sethe, *Lesestücke* | K. Sethe, *Ägyptische Lesestücke*, 2nd ed. (Leipzig, 1928). |
| Simpson, *Kawab, Khafkhufu I and II* | W. K. Simpson, *The Mastabas of Kawab, Khafkhufu I and II* (Boston, 1978). |
| Simpson, *Mastabas of Qar and Idu* | W. K. Simpson, *The Mastabas of Qar and Idu* (Boston, 1976). |
| Smith, *History of Epgytian Sculpture and Painting in the Old Kingdom* | Wm. Stevenson Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom*, 2nd ed. (London, 1949). |
| Theinhardt font | Ferdinand Theinhardt, *Verzeichnis der Hieroglyphen-Typen der Reichsdruckerei in 25 Klassen geordnet* (Berlin, 1937). |
| *Ti* | *Le Tombeau de Ti*, 3 parts (*Mémoires publiés par les membres de l'Institut français d'Archéologie orientale* 65 [Cairo, 1939–1966]). Pt. 1 by L. Épron, F. Daumas, G. Goyon, P. Montet; Pts. 2 and 3 by Henri Wild. |
| *Two Sculptors* | Norman de Garis Davies, *The Tomb of Two Sculptors at Thebes* (New York, 1925). |
| Tylor and Griffith, *Paheri* | J. J. Tylor and F. Ll. Griffith, *Wall Drawings and Monuments of El Kab: The Tomb of Paheri* (London, 1895). |
| *Urk.* | *Urkunden des ägyptischen Altertums* I: *Urkunden des Alten Reichs*, 2nd ed., by K. Sethe (Leipzig, 1933); IV: *Urkunden der 18. Dynastie*, 22 pts., by K. Sethe and W. Helck (Leipzig-Berlin, 1906–1958); VII: *Historisch-biographische Urkunden des Mittleren Reiches*, pt. 1, by K. Sethe (Leipzig, 1935). |
| Vandier, *Manuel d'archéologie* | Jacques Vandier, *Manuel d'archéologie égyptienne* I–VI (Paris, 1952–1978). |
| *WZKM* | *Wiener Zeitschrift für die Kunde des Morgenlandes*, Vienna. |

# Ancient Egyptian Calligraphy

# Introduction

If my use of the term "calligraphy" may seem pretentious, it nonetheless states my aim, which is to encourage a better standard in writing Egyptian hieroglyphs. This emphasis is rather different from that of Johanna Dittmar's recent *Hieroglyphen-Schreibfibel*, which primarily seeks to simplify the signs to the point that they can be easily executed. In either case the result is something of a compromise, for I too have proposed a degree of simplification that may not always correspond to what the ancient Egyptians would have done. That is inevitable, since the ancient scribe would not ordinarily have written hieroglyphs in ink without simplifying them to a still greater degree.[1] Artificial as it is, the style adopted here nonetheless seeks to avoid forms that are alien or grossly inaccurate.

Some may feel, indeed, that the standard set here is too high. It seems preferable, however, to attempt a shaky fidelity to form rather than be satisfied with a sure-handed circumvention. By doing so, we shall at least keep the ancient model in mind, rather than blinding ourselves to it. If one makes such an effort, he will be rewarded by an increased appreciation of Egyptian draftsmanship and will acquire a sensitivity to palaeographic variations that may be of value in establishing date and provenance. And he will also, if sufficiently conscious of what he is drawing, acquire a considerable knowledge of iconography, in view of the fact that Egyptian art and writing are extraordinarily interrelated and complementary.

My selection of signs emphasizes (1) those that most require practice, (2) those whose form particularly requires explanation, (3) those that require additional comment, supplementing the remarks of Sir Alan Gardiner in his Sign List (*Egyptian Grammar*, third edition, pp. 438–548). The last two objectives are primarily accomplished by the addition of many Old Kingdom examples, and a few of later date, so as to give a somewhat fuller idea of the range of possibilities (and here it should be emphasized that an earlier form may unexpectedly reappear in inscriptions of a subsequent period). At a few points I have also indicated errors of orientation (P2, P5, U24–25) or of accuracy (A49, D56, G27, G47), or have given somewhat different interpretations (A48, A49, D45, E31, F35, G51, M3, N18, S23, S34, T4, T13, U23, Aa31). In some other cases the prescribed simplification of Gardiner's hieroglyphs calls for the emphasis of a detail such as the long tail of the cormorant (G35) or the long nose of the oxyrhynchus fish (K4). There are also some observations concerning the date when certain forms were introduced.

To facilitate comparison, the facsimiles of hieroglyphs have been drawn to uniform size and

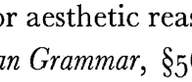
1. There is, however, a semi-cursive style of hieroglyphic writing which, incised on stone, wood or metal, approximates the same kind of simplification, reducing forms to linear thinness (cf. p. 5 below [6]). Mention is made of this style in reference to some of the alphabetic signs: G43, O34, N37, D46, with which some others might be included:  (D58),  (I9),  (I10). Similarly, among the other signs, A1 and W17, to which one may add ,  (M23, M36), with the leaves separate and parallel.

reversed, wherever necessary, so that they correspond to the orientation of the Gardiner font: the "shadow line" has also been eliminated from those copies in which it appears. The references to these examples are given at the end, and the reversals are marked with an asterisk (*). In some cases the nature of an implement has been illustrated from scenes of daily life—again nearly always dating to the Old Kingdom—and the references to these are combined with those given for the hieroglyphs.

My presentation of the signs begins with the monoconsonantal series—the so-called alphabet—which must be mastered at the outset, and which, for this reason, has been given special attention. The other signs follow the normal sequence of letter and number.

Each item is identified by the Gardiner type (which is much less clearly printed in the third edition of the *Egyptian Grammar* than in the original letterpress edition), then the Sign List reference, a descriptive phrase, and finally the phonetic value that is most frequently associated with the sign in question.

Before examining the changes and variations in the hieroglyphs, the student should be aware of certain general considerations that affected their form or proportions:

(1) The transposition, for aesthetic reasons, of groups such as  in *ꜣḫt* "field" is described by Gardiner (*Egyptian Grammar*, §56), but it should be added that this rearrangement derives from the composition of columnar inscriptions, where a tall thin sign in this position, preceding a bird, was often shortened. The same arrangement was sometimes carried over into horizontal inscriptions, where there was no need for it, but the initial sign was then less apt to be shortened. The increasing use of horizontal lines also affected the proportions of signs in other ways; it is doubtless responsible for the more elongated net-sign  (T24) which tended to replace the narrower Old Kingdom form .

Thus the relative size of the sign may be affected by the space available, and this consideration is in turn affected by the way the signs are grouped. The same factors may even, in some cases, alter the proportions of a sign: e.g.  as compared with  (O1: *Ti*, pl. 99), and cf. also the comments on  (O4). Occasionally the relatively larger scale of a hieroglyph may serve to emphasize its importance as pointed out in Caminos and Fischer, *Epigraphy and Palaeography*, pp. 35–36. See also the comments on  (G36) and  (B1, Addenda).

(2) The avoidance, in funerary texts located near the body, of human figures or certain animals, was initially responsible for the substitution of  (D60) for older  (A6), and of  (R14) for  (R13); so also, as Gardiner points out, the use of  (S3) for  (L2). For details of the last two cases see Caminos and Fischer, *Epigraphy and Palaeography*, p. 33 and note 21, p. 47 and note 69. And for  see Addenda, p. 54 below.

(3) A certain degree of meaningless stylization was operative in some cases, such as  (D61) and the replacement of  (T20) by later  (T19). For the latter see *Egyptian Studies* I, pp. 104–107.

(4) Throughout the history of Egyptian hieroglyphs there was a progressive increase in the

use of composite forms, such as  (P7, Middle Kingdom and later) or  (G20, New Kingdom onward, but see Addenda). This evolution is described in *MMJ* 12 (1977) pp. 5–19.

(5) In reversed inscriptions, with the signs facing leftward, some signs occasionally retained their normal rightward orientation (*Egyptian Studies* II, §38). This phenomenon explains the incorrect orientation of Gardiner's  (P5) as well as  (Y4), which he correctly explains as a nonreversal of what should be  (Y3). In a very few cases the retention of rightward orientation might affect only part of the sign; e.g.  for  (T21), as exemplified in Mohamed Saleh, *Three Old-Kingdom Tombs at Thebes*, pls. 14, 18; the same explanation is doubtless to be applied to Gardiner's  (D62), replacing  (D61), for this too occurs in an inscription facing left (*Rekh-mi-Rēʿ*, pl. 27 [20]). Some New Kingdom examples of  (O42) also show partial reversal. Semi-reversed  is common in the Old Kingdom and down to Dynasty XI; see *Egyptian Studies* III.

(6) Cursive writing sporadically influenced the forms of hieroglyphs, and not only hieratic (for which cf. Gardiner, *Egyptian Grammar*, p. 439), but also the semi-cursive style of incised hieroglyphs described in Caminos and Fischer, *Epigraphy and Palaeography*, pp. 40–42. This explains the occasional use of forms such as  for  (M17) or  (Borchardt, *Grabdenkmal Ne-user-reʿ*, pl. 15; *Rekh-mi-Rēʿ*, pl. 102) for  (N28); the hieroglyphic style normally reduces a series of projections to a continuous and unbroken contour.

(7) Graphic assimilation tended to be operative only in specific cases (e.g. the nome emblem of U.E. 2, *JARCE* 2 [1963] p. 49; and cf. the remarks on A47 below). But it sometimes had a more lasting effect, as in the case of  (F35), which was partly assimilated to  (F36), or  (G28), which, in the late New Kingdom, sometimes shows the head bent low as in the contemporaneous  (G52). For other examples, see the remarks on  (T13) and  (T28), and the supplementary references for  (M26); also Addenda:  ,  (M12, M22).

(8) The forms of signs are affected by changes of technology (e.g. tools and weapons) and of fashion (e.g. clothing and furniture); also, in some cases, by the iconographic context of an inscription; both points are illustrated in *Egyptian Studies* III ("Palaeographic Notes," nos. 12 and 2) and in Caminos and Fischer, *Epigraphy and Palaeography*, pp. 34, 37 and n. 37.

Those who wish to make further palaeographic comparisons may find it useful to have a checklist of sources.[2] The following compilations of detailed facsimiles are available, some in color (col.), the remainder in black and white.

## ARCHAIC PERIOD

Hilda U. Petrie, *Egyptian Hieroglyphs of the First and Second Dynasties* (London, 1927).

Walter B. Emery, *Excavations at Saqqara 1937–1938: Ḥor-Aḥa* (Cairo, 1939) pp. 83–112.

2. This list does not include hieroglyphs of the Eighth Dynasty and the Heracleopolitan Period (Dyns. IX-X) which sometimes provide evidence of provenance as well as date; see Caminos and Fischer, *Epigraphy and Palaeography*, pp. 30–31.

## OLD KINGDOM

N. de G. Davies, *Mastaba of Ptahhetep and Akhethetep at Saqqara* I: *The Chapel of Ptahhetep and the Hieroglyphs* (London, 1900) pls. 4–17, 18 (col.).

Margaret A. Murray, *Saqqara Mastabas* I (London, 1905) pls. 37–40.

Margaret A. Murray, *Saqqara Mastabas* II (London, 1937) pls. 6–7.[3]

W. M. F. Petrie, *Medum* (London, 1892) frontispiece (col.).

Wm. Stevenson Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom* (Oxford, 1946) terminal pls. A, B (col.).[4]

Caroline Ransom Williams, *The Decoration of the Tomb of Per-nēb* (New York, 1932) pls. 1–2 (col.).

## MIDDLE KINGDOM

(Armant) Robert Mond and Oliver H. Myers, *Temples of Armant* I-II (London, 1940) pls. 96–97.

(Aswan) Hans Wolfgang Müller, *Die Felsengräber der Fürsten von Elephantine* (Glückstadt, 1940) fig. 43.

(Asyut) P. Montet in *Kêmi* (Paris) 3 (1930) pp. 71–73 and pls. 6–10.

(Beni Hasan) F. Ll. Griffith, *Beni Hasan* III (London, 1896) (col.).

(Bersha) F. Ll. Griffith, *Collection of Hieroglyphs* (London, 1898) pls. 7–9 (col.).

(Deir el Bahri) Dieter Arnold, *Der Tempel des Königs Mentuhotep von Deir el-Bahari* II: *Die Wandreliefs des Sanktuares* (Mainz, 1974) pp. 46–52.[5]

(Karnak) Pierre Lacau and Henri Chevrier, *Une Chapelle de Sésostris Ier à Karnak, Planches* (Cairo, 1969) épigraphie et détails, pls. 1–22.

(Medamud) Rémy Cottevieille-Giraudet, *Rapport sur les fouilles de Médamoud (1931): Les Monuments du Moyen Empire* (*Fouilles de l'Institut français d'Archéologie orientale du Caire* 9/1 [Cairo, 1933]) pp. 41–91 and pls. 27–43.

(Meir) A. M. Blackman, *Rock Tombs of Meir* II (London, 1915) pls. 17–18.

## NEW KINGDOM

(Deir el Bahri) F. Ll. Griffith, *Collection of Hieroglyphs*, pls. 1–4 (col.).

(El Kab) *Ibid.*, pls. 5–6 (col.).

(Theban tombs) Nina M. Davies, *Picture Writing in Ancient Egypt* (London, 1958) (col.).

3. From the mastaba of Ti, for which one should now consult the newer publication in *Mémoires de l'Institut français d'Archéologie orientale du Caire* (Cairo) Vol. 65, and especially the second and third fascicles, admirably executed by Henri Wild. M. Wild planned to publish an additional fascicle that will be devoted to palaeography, but this project was forestalled by his death.

4. See also the extensive tabulation of colors of Old Kingdom hieroglyphs, pp. 366–382.

5. Note that A47 should be labeled A49, and that the example of D40 is Late Period.

In addition to such compilations one may, of course, find much more material in the various publications of hieroglyphic inscriptions, but these are sometimes lacking in respect to fidelity or detail.[6] For the Archaic Period a good source is Peter Kaplony's *Die Inschriften der ägyptischen Frühzeit* III (Wiesbaden, 1963).[7] For the Old Kingdom there are Henri Wild's drawings of the mastaba of Ti (cf. note 3 above); for the Middle Kingdom abundant material may be found in Wm. C. Hayes, *Texts in the Maṣṭabeh of Se'n-Wosret-ʿankh*; and for the New Kingdom one may rely on the numerous epigraphic works of Norman de Garis Davies.

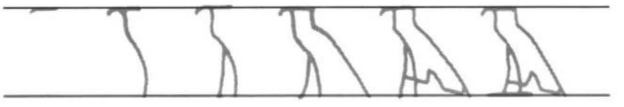
In conclusion, it should be emphasized that this introductory guide is designed to supplement Gardiner's Sign List, and to stimulate the student's interest in that superb analysis and exposition of the subject. In championing a better standard of Egyptian calligraphy, I am again simply reaffirming a tradition set by Gardiner and his colleagues—notably Battiscombe Gunn and Norman De Garis Davies. The proper way to honor a tradition is to improve upon it, and it is my hope that future teachers and students of ancient Egyptian will be inspired to make a conscious effort in that direction.

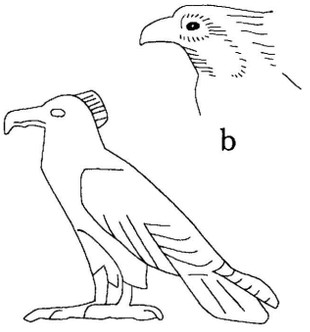
6. This criticism is sometimes applicable, for example, to the drawings in Junker's *Gîza*. One cannot help wondering about the validity of  (Y1), rather than the expected Old Kingdom form  (Y2), in *Meir* V, pls. 6, 8. Problems of this kind (and others) are also encountered in the damaged texts recorded by Alexander Badawy, *The Tomb of Nyhetep-Ptah at Giza and the Tomb of ʿAnkhmʿahor at Saqqara* (Berkeley, 1978) figs. 2–14; for  and  (Y1, A51) read  and  (Y2, A50).

7. Although this compilation by no means constitutes a complete corpus, even to the extent of including everything in such publications as W.M.F. Petrie, *Royal Tombs of the First Dynasty* (London, 1900–1901).

# The alphabetic (monoconsonantal) signs

## G1 EGYPTIAN VULTURE, *ꜣ*.



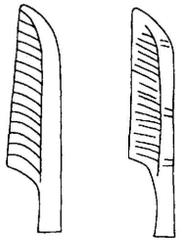


b

a

The outline is most easily controlled if one begins with the head, then draws the front of the bird, continuing with the rearward leg. If this much is correctly executed, it is relatively easy to add the rest. Note the sharp angle at the back of the head, which is explained by the fact that the feathers in that region tend to stand out, particularly if fanned by a breeze. The facsimile shows this detail in an Old Kingdom example, accompanied by the same detail as seen from a living specimen (Figure b).

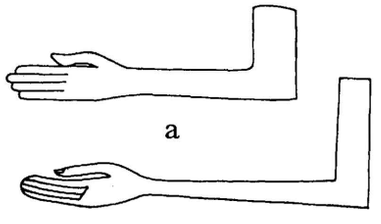
## M17 FLOWERING REED, *i*.



a b

The upper part widens slightly at the bottom. Old Kingdom examples (and those of later date) often represent the flowering portion as a series of striations; the joints in the stem were rarely indicated in the Old Kingdom (Figure b), but appeared more frequently thereafter.

## D36 ARM, *ꜥ*.

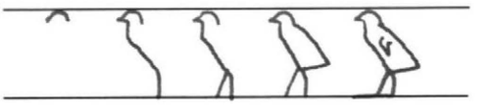


a

b (M.K.)

The Old Kingdom form shows the full breadth of the palm. Later the palm tended to be slightly cupped, as in Gardiner's version. Even in the New Kingdom all the fingers are clearly distinguished in the most detailed examples (e.g. *Ḳen-Amūn*, pl. 13), but this is also true of signs such as D39). And the most detailed New Kingdom examples often show the hand as in the Old Kingdom (e.g. *Ramose*, pl. 42).

## G43 QUAIL CHICK, *w*.

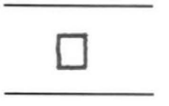


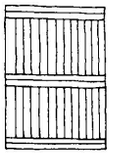
The most difficult of the bird-hieroglyphs. The shape is easier to control if the angularity of the body is emphasized. If drawn quickly, the head tends to be summarized, and this summarization actually occurs in semi-cursive writing: . The indication of the wing is optional.

## D58 FOOT, *b*.

As Gardiner notes, this sign was often very short in Dynasty I (), and even in the Middle Kingdom was often shorter than the full height of the line.

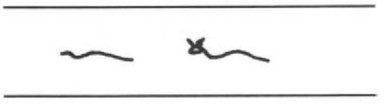
## Q3 STOOL OF REED MATTING, *p*.





The height is normally greater than the width. Old Kingdom examples often show the detail of matting, and from this period, down to the end of the New Kingdom, it was sometimes stylized as : *Egyptian Studies* I, pp. 109 ff.

## I9 HORNED VIPER, *f*.



The rise of the body is slight, and the tail remains flat on the ground.

## G17 OWL, *m*.

Of all the bird-hieroglyphs, this one is the easiest to draw, and it is therefore a good choice for the beginner to practice. The procedure is the same as has been suggested for the Egyptian vulture (G1). The owl is distinguished from all the other birds in that its head is turned to one side, and is viewed full-face. Another distinctive feature is the fact that the hind toe (which is reversible) does not appear. The indication of the wing is optional; so too the summarization of the eyes and beak. Gardiner cites Keimer and Newberry for

discussions, but does not supply the references: Keimer, *Annals of the Faculty of Arts, Ibrahim Pasha University, Cairo*, 1 (1951) pp. 73–83; Newberry, *JEA* 37 (1951) pp. 72–74. The word from which the phonetic value is derived is  "the mourner": Edel, *Nachrichten Göttingen* 1963, No. 4, pp. 99–101.

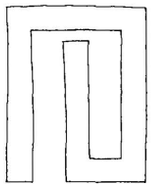
## N35 WATER, *n*.

The number of angular ripples is variable, but the two ends always slant downward. These terminal strokes may be a little longer than the others.

## D21 MOUTH, *r*.

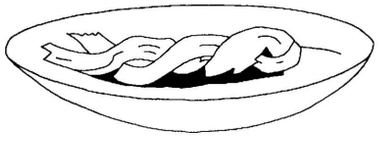
When carefully executed, this sign often shows a pronounced narrowing at the corners, as in the Old Kingdom example illustrated here, and the top is more curved than the bottom (cf. Davies, *BMMA*, March 1918, Sect. II, p. 18).

## O4 COURTYARD, *h*.



In the Old Kingdom this sign is often taller than it is wide, although it may also resemble the square Gardiner version. This is one of the signs that is most apt to change its proportions, depending on the amount of space available; compare the group  (Caminos, *Buhen* II, pls. 18, 23, 35, etc.),  (*ibid.*, pl. 47; I, pl. 70),  (II, pl. 86).

## V28 WICK, *ḥ*.



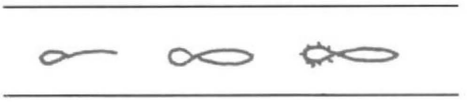
lamp and wick

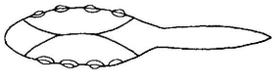
The procedure shown here is ultimately easier than drawing a series of loops, one above another, and it is closer to ancient examples. The uppermost loop is often larger than the others. The use of the twisted flax is well illustrated by an Old Kingdom lamp.

## Aa1 PLACENTA (?), *ḥ*.

The striations should be horizontal, as is usual in examples down to the end of the New Kingdom. The second form (as in the Theinhardt font) occurred only rarely before the Libyan Period: Caminos and Fischer, *Epigraphy and Palaeography*, p. 49, note 78. The third form, with crosshatched detail, is typical of the Archaic Period but recurred occasionally in the Old Kingdom (Fischer, *Coptite Nome*, p. 20). The interpretation of the sign is disputed by Curto, *Aegyptus* 39 (1959) pp. 226–261.

## F32 BELLY, *ḥ*.

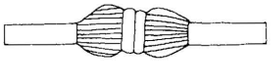




The belly and tail of a mammal, viewed from the underside.

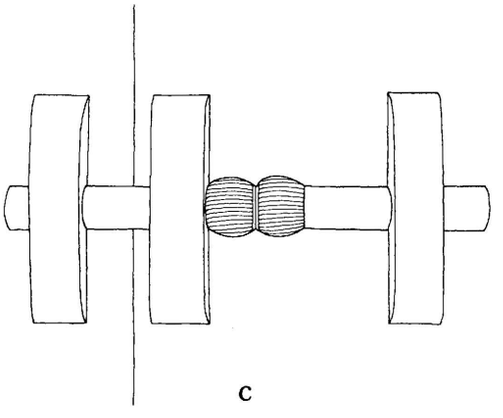
## O34 BOLT, *z*.

Most Egyptologists use the form shown here, although the ancient Egyptians summarized the protuberances by using a pair of rounded dots rather than two short strokes. The operation of the bolt is shown in Figure c: the protuberances at the center limit the degree to which it can slide back and forth between the two fastenings at the right; when the bolt is pushed leftward, beneath the third fastening, the door is locked. Some Old Kingdom examples (Figure b) seem to show a string placed between the protuberances, but it is doubtful that the bolt was ever secured in this fashion; see Graefe, *MDIK* 27 (1971) pp. 148 ff.



a

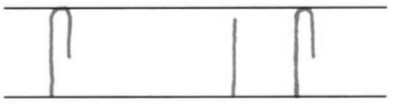
b



c

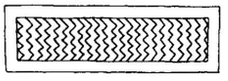
detail of dummy door

## S29 PIECE OF CLOTH, *s*.



This may be drawn with a single line, beginning at the bottom, but a more controlled result may be obtained by drawing the longer part downward, then adding the remainder. For the interpretation of this sign cf. *MMJ* 10 (1975) pp. 14–16.

## N37 POOL, *š*.



The second form (as in the Theinhardt font) was rarely used in hieroglyphic inscriptions until the Late Period, but it is known from hieratic of the Old Kingdom and later, and occurred occasionally in semi-cursive hieroglyphs of that date. The detailed Old Kingdom example (Gardiner's N39) shows vertical ripples of water.

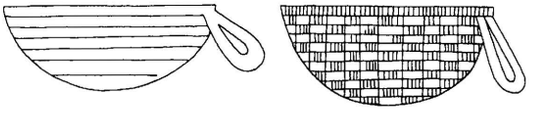
## N29 HILL, *ḫ*.

To draw this sign properly, one must visualize it as a single crest and slope in the hieroglyph for:

mountain (N26) mountain range (N25)

It must be conceded, however, that Old Kingdom examples are sometimes more triangular, i.e. less rounded at the top.

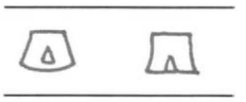
## V31 BASKET, *k*.

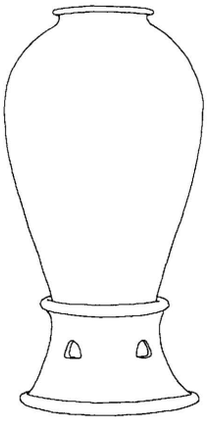


a b

The handle is drawn in terminating the lower contour. Old Kingdom examples often reduce the basketry pattern to a series of horizontal lines. The checkered detail was added much more rarely in that period, but not infrequently thereafter.

## W11 RINGSTAND, *g.*





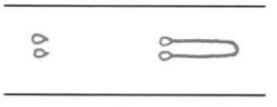
jar on a ringstand

The Old Kingdom form generally shows the bottom edge straight as well as the top one: (W12). The later form (very rarely evidenced in the Sixth Dynasty: Fischer, *Dendera*, p. 89 [9]) shows the bottom curved, as though viewed from above. This implement was used for "seating" round-bottomed pots, as shown in the accompanying figure.

## X1 LOAF, *t.*

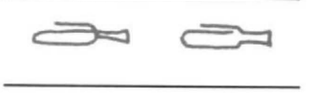
Almost a hemisphere.

## V13 TETHERING ROPE, *ṯ.*



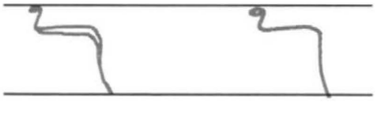
Draw the loops first.

## D46 HAND, *d.*



The first alternative is usually preferred by Egyptologists, and something like this was used by the ancient Egyptians in semi-cursive hieroglyphic texts.

## I10 COBRA, *ḏ.*



The back thickens towards the point where the tail curves downward. This effect may also be obtained simply by raising the line of the back at the same point.

# Other signs (arranged by category)

## A1 SEATED MAN.

Both arms must be flexed, and the rearward arm must meet or overlap the body. The hands (if indicated) are fisted. As in the following signs, even the most simplified forms, such as , do not turn the head into a circle.

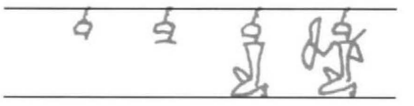
## A2 MAN WITH HAND TO MOUTH.

Unlike A1, the rearward arm is pendant. These two signs are not always clearly distinguished in inscriptions of the Heracleopolitan Period, and A2 was therefore sometimes replaced by  to make the distinction clearer (*RdE* 28 [1976] pp. 153–154).

## A3 MAN SITTING ON HEEL, *ḥmsi*.

## A7 FATIGUED MAN, *wrd*.

## A12 SOLDIER, *mšʿ*.



Variants of the Heracleopolitan Period show the figure drawing the bow (*JNES* 21 [1962] pp. 50–52).

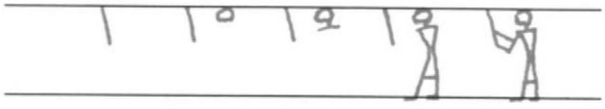
## A19 OLD MAN, *smsw*, *ꜥȝ*, *wr*.

The rearward arm is slightly flexed. For the various readings see *Egyptian Studies* I, pp. 88–93.

## A21 COURTIER, *sr.*

The rearward arm is straight.

## A24 MAN STRIKING, *ḫwi.*



The stick is normally straight in examples prior to the Middle Kingdom; in Middle Kingdom examples it is usually curved (Fischer, "Notes on Sticks and Staves," §2 and note 36). Old Kingdom writings of *ḫwi* sometimes show the stick beating the sign 𓎛 (V28: *MMJ* 12 [1977] p. 9 and fig. 4b). See also Addenda (A25).

## A40 SEATED GOD.

Make the back of the wig vertical. The beard is slightly curved at the tip. From Dyn. XII onward the figure sometimes held 𓋴 (S34) as in the case of 𓀀 (C2); see *ÄZ* 100 (1973) p. 26, note 55.

## A47 HERDSMAN, *mniw, zꜣw.*

In the Old Kingdom example shown here the herdsman carries a staff and goad (for which see Vandier, *Manuel d'archéologie* VI, pp. 48–49). From the Heracleopolitan Period onward (Fischer, *Dendera*, p. 133) the sign was used for *iry* (*ÄZ* 105 [1978] p. 55, note 70). The distinction between this and 𓀁 (A48) is nonexistent, the latter being nothing more than a variant of the same sign. The supposed Old Kingdom prototypes of A48 are actually to be read differently: 𓀁 is *ḫnmt* (Junker, *Gîza* XII, pp. 120–122), while 𓀁 is apparently *inrt* (*Egyptian Studies* I, p. 72, note 22). Old and Middle Kingdom examples occasionally show assimilation of the stick and goad to the feather (𓄤) that is held by the foreigner in A49: Fischer, "Notes on Sticks and Staves," figs. 12, 13; also in a writing of the feast 𓊪𓀁𓂋, *Beni Hasan* I, pl. 24. See Addenda (A48).

## A49 FOREIGNER HOLDING STICK.

Gardiner's version shows a curved stick, but in the clearer of his two examples (*Urk.* IV, p. 614) this is actually a throwstick (𓌙 T14); so also Brunner, *Die südlichen Räume*, pl. 162, and probably *Urk.* IV, p. 759 (1). The more traditional form of the older periods shows a feather: Clère, *MDIK* 16 (1958) pp. 40–41 and Fischer, "Notes on Sticks and Staves," note 41.

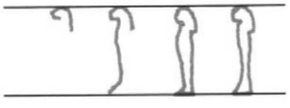
## A50 MAN ON CHAIR, *šps(s)*.

The front legs of the chair are covered by (or fused with) the legs of the man.

## A51 SEATED MAN WITH FLAGELLUM.

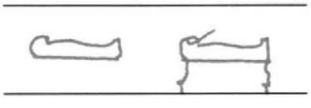
Contrary to Gardiner, this is not the normal ideograph for *šps(s)*; used thus, it is a secondary substitution for 𓀁 (A50). It was initially used as a name-determinative, applied to kings at the beginning of Dyn. XII, then to nonroyal individuals at the end of the same dynasty (*Lexikon der Ägyptologie* II, col. 516). An early example of A51 for *šps* (temp. Sesostris III) occurs in *Meir* VI, pls. 18–19.

## A53 MUMMY.



Not used until the Middle Kingdom.

## A55 MUMMY ON BIER.

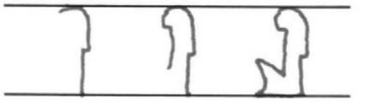


The Old Kingdom form probably shows, in most cases, a man sleeping, but it is often similar to Gardiner's version.

## A56 SEATED MAN WITH STICK.

Used in the Old Kingdom as determinative of *bꜣk*, etc.: for examples see *MDIK* 16 (1958) pp. 135–137 and fig. 3.

## B1 SEATED WOMAN.



The back of the wig should be vertical (as in the case of A40). See also Addenda.

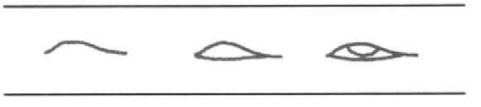
## D1 HEAD, *tp*.

The style of the wig varies (*JAOS* 76 [1956] p. 103). The one shown here (longer than in Gardiner's example) is more common in the Old Kingdom.

## D2 FACE, *ḥr*.

Although the face is that of a man, with a squared-off beard, it is traditionally colored yellow: Smith, *History of Egyptian Sculpture and Painting in the Old Kingdom*, p. 375.

## D4 EYE, *ir(t)*.



In drawing the upper edge, make the curve steeper at the front. The lower edge is almost horizontal, forming a slight curve. As a rule the pupil is partly covered by the upper lid, and does not stare.

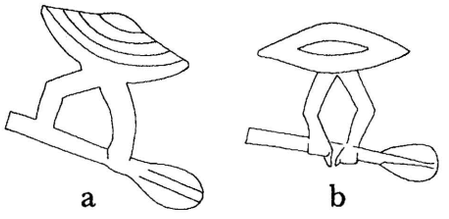
## D10 EYE OF HORUS, *wḏꜣt*.

The vertical element represents the dark patch that appears beneath the eye of the falcon; the spiral is a stylization of the pattern of feathers behind this patch.

## D20 NOSE, *fnd.*

A more summary form of D19, used in all periods.

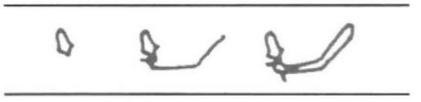
## D33 ARMS PADDLING, *ḫn(i)*.

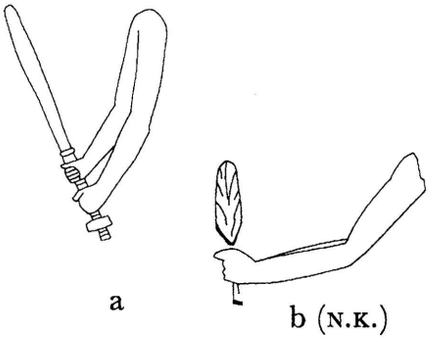


a b

The upper element has been explained as a fire-fan (*r-ḫnw*): Junker, *Gîza* IX, pp. 44–47. The alternative form (Figure b), in which 𓂝 is replaced by 𓎛, is fairly common in the Old and Middle Kingdom, less so in the New Kingdom: *MMJ* 12 (1977) p. 10, note 51.

## D45 ARM HOLDING *MKS*-STAFF, *ḏsr*.

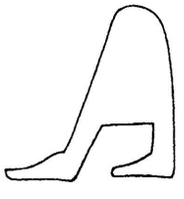




a b (N.K.)

Old Kingdom examples show a pair of arms holding the *mks*-staff, but the Gardiner form may, as he says, show the shorter *nḥbt*, which is otherwise similar (Fischer, "Notes on Sticks and Staves," §9). The New Kingdom form was at least occasionally interpreted as a head of lettuce; the example illustrated here (Figure b) dates to the reign of Tuthmosis IV. In such cases the lettuce is colored green. See also Addenda.

## D54 LEGS WALKING.

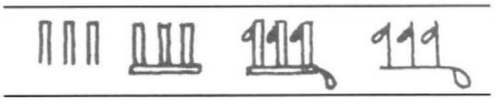


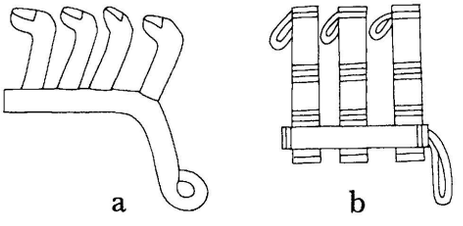
The legs occasionally show a kilt in inscriptions of the Old Kingdom and later (*JARCE* 4 [1965] p. 50 [a]). A somewhat longer pair of legs sometimes replaces 𓂻 (W25) in Old Kingdom inscriptions (*BiOr* 33 [1976] p. 23, note 5). For uses of the reversed legs (D55) see *Egyptian Studies* II, §§41–42, and for the kilt see also the Addenda.

## D56 LEG, *rd.*

The relative shortness of this sign in the Gardiner font is difficult to justify. It may be based on examples such as *Rekh-mi-Rēʿ*, pls. 15 (21), 16 (12), but these, and a few other such cases, occur in columnar inscriptions, where the height of the signs is variable. A more valid example, in a horizontal line, is to be seen *ibid.*, pl. 17, but elsewhere, in the same period, the sign is taller: Nina Davies, *JEA* 47 (1961) pl. 5; *Two Sculptors*, pl. 15; *Puyemrê* II, pl. 66 (frag. 1); *Ḳen-Amūn*, pls. 8 (14), 60; *Private Tombs* I, pl. 11. For tall examples of the Middle Kingdom see Newberry and Griffith, *Bersheh* I, pl. 18; *Beni Hasan* I, pls. 15, 17; Lacau and Chevrier, *Une Chapelle*, pls. 12 (1), 15, 16, 19, 23. It is true that the leg is often relatively short in Old Kingdom inscriptions, but these inscriptions again show a good deal of variation in the height of other signs; for tall examples see Bissing, *Re-Heiligtum* II, pl. 4; Simpson, *Mastabas of Qar and Idu*, fig. 29; *Mereruka*, pl. 67.

## D61 TOES, *sꜣḥ.*

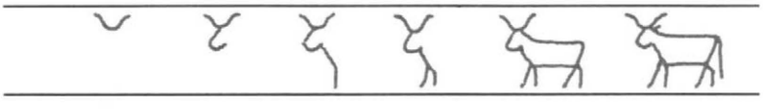




a b

Figure a is the somewhat more naturalistic example cited by Gardiner (early Dynasty IV); Figure b is early Dyn. V (Sahure). For the anomalous form 𓂧 (D62) see above, p. 5(5).

## E1 BULL, *kꜣ.*

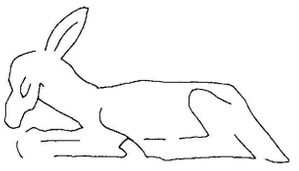


The rump of the animal projects so that the tail falls straight downward, free of the hindquarters.

## E6 HORSE, *ssmt.*

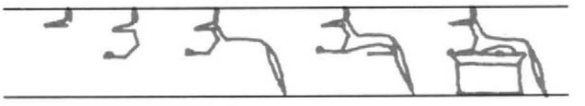
## E8 KID, *ib.* See Addenda below.

## E9 NEWBORN BUBALIS, *iw*.



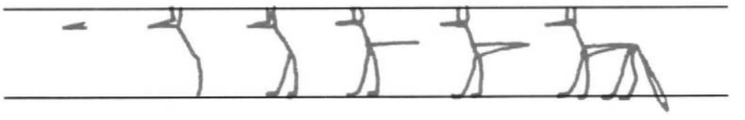
The nascent horns are usually omitted in Old Kingdom examples, but are shown in Simpson, *Kawab, Khafkhufu I and II*, figs. 31, 32.

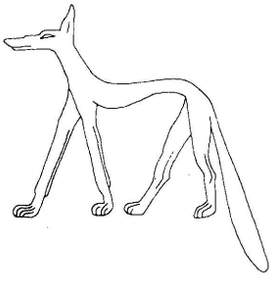
## E16 ANUBIS ON SHRINE, *'Inpw*.



The shrine began to appear beneath Anubis in funerary formulae of the Sixth Dynasty (Pepy I onwards), and more regularly after the Old Kingdom: Fischer, *Dendera*, p. 84 (14).

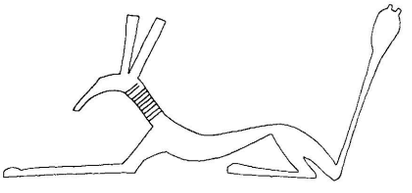
## E17 JACKAL, *z'b*.





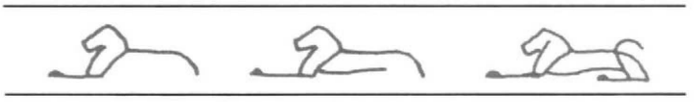
The Old Kingdom form commonly shows a very long tail (descending below the baseline).

## E21 RECUMBENT SETH-ANIMAL, *Sth*.



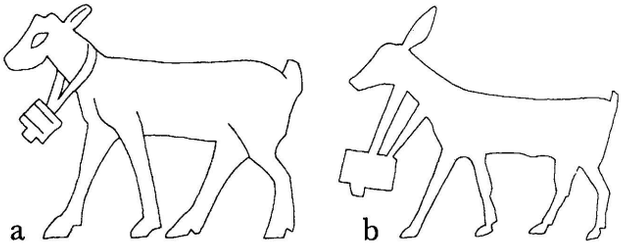
Old Kingdom examples already show the end of the tail as the feathered end of an arrow, cf. *WZKM* 57 (1961) p. 60 and note 3.

## E23, LION, *rw*



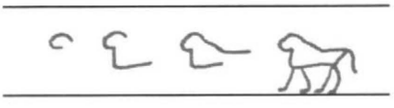
In beginning the lion, start with  , which means "front," then continue to the back (  , meaning "rear") and finally the underside. Note, however, that in  the tail curves around the haunch, while in  it curls up over the back, as in Archaic representations of the lion.

## E31 GOAT WITH CYLINDER SEAL, *sḫ*.



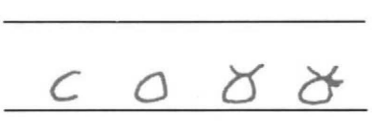

The animal was originally a kid, for the earlier Old Kingdom examples show nascent horns or none. The horns of the adult goat were added in the Sixth Dynasty (e.g. Fischer, *Dendera*, pl. 30 [b]), but the kid (as well as the goat) reappears in the shrine of Sesostris I at Karnak: Lacau and Chevrier, *Une Chapelle*, épigraphie pl. 6, and in inscriptions of the same period at Saqqara: Firth and Gunn, *Teti Pyramid Cemeteries*, pls. 83, 85 (2); also a late Dyn. XI ex.: Gardiner, *JEA* 4 (1917) pl. 8, line 5. As Gardiner notes (in connection with S20), this sign is sometimes replaced by the seal alone, and notably in funerary texts. Conversely, the seal was occasionally omitted from the goat: Clère, *Miscellanea Gregoriana*, p. 459 and note 27; also Davies, *Antefoḳer*, pl. 6; *Beni Hasan* I, pl. 33 (center [4]). The goat without a seal is also used, more appropriately, as an ideographic writing of *ỉfḏ* "greed" in *Beni Hasan* I, pl. 9 (so interpreted by Newberry, p. 27); this identifies the problematic determinative in Prisse I, 4 and 8 (cf. Gardiner, *JEA* 32 [1946] pl. 14 and note c). See also Addenda.

## E32 BABOON, *ỉḏn*.

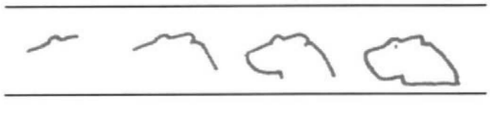


## E34 HARE, *wn*.

## F1 HEAD OF BULL.



## F3 HEAD OF HIPPOPOTAMUS, *ỉt*.



The eye projects, to allow the animal to see above the water when almost totally submerged. The small ear and rounded nose are equally characteristic. As Gardiner notes, this sign for *ỉt* replaces an earlier one resembling (F9); the later *ỉt*-sign was in use as

early as the beginning of Dyn. XII (Davies, *Antefoker*, pl. 8; Hayes, *Se'n-Wosret-ʿankh*, pl. 5 [310]).

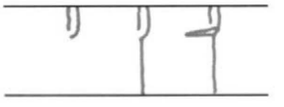
## F5 HEAD OF BUBALIS, *šsꜣ(w)*.

The long muzzle and lyriform horns are characteristic.

## F7 RAM'S HEAD, *šft*.

The ends of the horns turn upward.

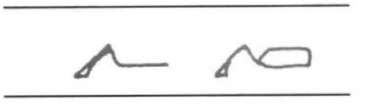
## F12 NECK (OF CANINE), *wsr(t)*.



The long neck should begin at a point midway between the ears. See also Addenda.

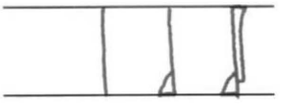
## F21 EAR (OF BULL?), *sḏm*.

## F23 FORELEG OF BULL, *ḫpš*.



In the earlier periods, down to the mid-Eighteenth Dynasty, this form is preferred for *ḫpš* meaning "strength," while  (F24) is used to refer to the foreleg as an offering (*Egyptian Studies* II, §43).

## F25 HOOF (OF BULL), *wḫm(t)*.



Further evidence for the reading is given by Roccati, *RdE* 25 (1973) pp. 254–255.

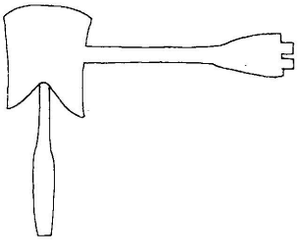
## F26 SKIN OF GOAT, *ḫn(t)*.

Represents a headless goat; the body is angular, the short tail erect.

## F27, F28 COW'S SKIN.

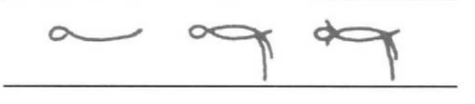
The second sign, as Gardiner says, was regularly used for *s3b* "dappled" (an exception in Clarence Fisher, *Minor Cemetery at Giza* [Philadelphia, 1924] pl. 51 [2]). The first was often used in Old Kingdom writings of the title *ỉwn knmt* (*JNES* 18 [1959] p. 267); this may represent the hide of some other animal, and in the same context it is once replaced by (*Urk.* I, p. 231).

## F29 BULL'S HIDE PIERCED BY ARROW, *sti*.

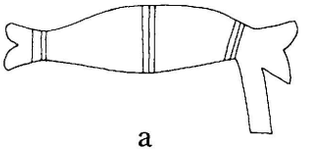


In the Old Kingdom the arrow does not reappear beyond the hide, and the tail is drawn more convincingly. So also the Middle Kingdom example in *Hieroglyphs*, pl. 9 (167), but the later form is attested as early as Dyn. XI: MDIK 31 [1975] pls. 21–23. One Middle Kingdom example shows a shield impaled by two arrows ( , *Meir* I, pl. 2).

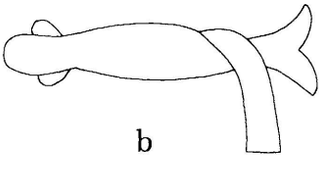
## F30 WATER-SKIN, *šd(w)*.



As Griffith notes (*Beni Hasan* III, p. 18, to fig. 46), this shows "the skin of the legs forming straps and the skin of the neck hanging down." But in the earlier example (a), the water-skin is evidently tied with cords.



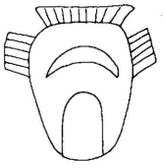
a



b

## F34 HEART, *ib*.

The normal form (a) may be compared to a sectioned sheep's heart (b). The second form (c) was often (but not always) used as determinative of *ḥsty* in the Old Kingdom.

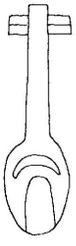


a

b (sheep's heart)

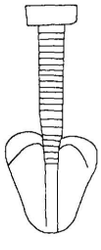
c

## F35 HEART AND WINDPIPE, *nfr*.



Examples of the Archaic Period and Old Kingdom often show a double pair of projections at the top, sometimes slightly separated and sometimes together. The striation of the tracheal cartilage (as in F36) fails to appear even in the most detailed Old Kingdom examples, but was frequently indicated thereafter (*Hieroglyphs*, pls. 7 [49], 9 [164]). Probably this detail is a secondary reinterpretation (by assimilation to F36) of what may originally have been the esophagus (the stomach being *r-ib*, the "mouth of the heart"). It is clear, in any case, that the Old Kingdom scribe regarded the lower element as the heart and not the stomach (*contra* Vycichl, *JEA* 39 [1953] pp. 112–113). See also Addenda below.

## F36 LUNGS AND WINDPIPE, *zmꜣ*.

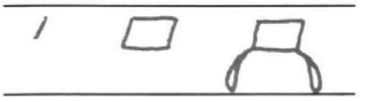


In this case both the shape and the striation of the trachea are apparent from the beginning, in contrast to F35.

## F39 BACKBONE AND SPINAL CORD, *imꜣḫ*.

For semi-reversed forms see above, p. 5 (5).

## F40 BACKBONE AND SPINAL CORD, *ỉw(i)*.



The two ends hang almost symmetrically downward.

## G4 LONG-LEGGED BUZZARD, *tyw*.

The only significant difference between this bird and G1 is the rounded back of the head. The form 𓅱 (Theinhardt font G5) was used in the Late Period. In the Old Kingdom the phonetic value was sometimes biconsonantal *tw*: Edel, *Altägyptische Grammatik*, §32; Fischer, *Coptite Nome*, p. 141.

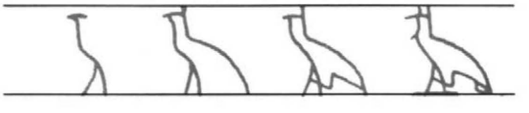
## G5 FALCON, *Ḥrw*.

The head is round; the back begins higher than in the case of G1 and G4, and the wing more completely envelopes the body. This sign sometimes replaces 𓁷 (G7) as the divine determinative in the Old Kingdom and later (Fischer, *Dendera*, p. 211, note 820), and again in personal names of the Late Period (de Meulenaere, *BiOr* 38 [1981], 254); note also 𓎛𓅱 for *ḫm.ỉ* in a Dyn. XII inscription, Sethe, *Lesestücke*, p. 79 (1).

## G14 VULTURE, *nr(t)*, *m(w)t*.

The very hooked beak, the dip in the neck, and the contour of the back are distinctive. Normally the tail should come down to the baseline, although it was occasionally shortened: *Egyptian Studies*, p. 94 and n. 82.

## G21 SENNAR GUINEA FOWL, *nḫ*.



Principally distinguished from G1 and G4 by the presence of crests and a wattle. There is a good deal of variation. In earlier examples (Old Kingdom) the crest is more accurately single, and the tail is often shorter; sometimes the wattle becomes 𓎛, thus: 𓃹.

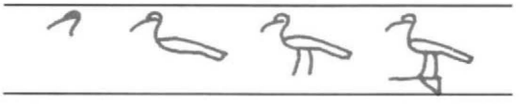
G22 HOOPOE, *ḏb.*

G23 LAPWING, *rḫyt.*

G24 LAPWING WITH WINGS TWISTED, *rḫyt.*

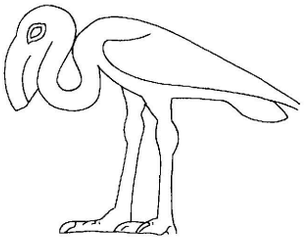
G25 CRESTED IBIS, *ꜣḫ.*

G26 SACRED IBIS, *Ḏḥwty.*



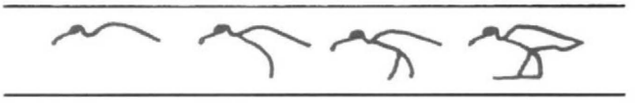
See Addenda below.

G27 FLAMINGO, *dšr.*



Earlier examples generally emphasize the large round head and curved beak, and the same is true of those dating to the Eighteenth Dynasty (*Hieroglyphs*, pl. 6 [79]; *Picture Writing*, pl. 4 [4]). The sign in Gardiner's font does not show these details satisfactorily, and the beak is too long.

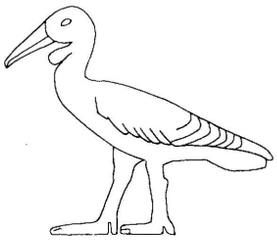
G28 BLACK IBIS, *gm(t).*



As Keimer remarks (*ASAE* 30 [1930] p. 23); the Gardiner form is replaced, in the New Kingdom, by one that shows the head bent down, as though "finding" (  , equivalent to Theinhardt font G46); but this development does not seem to have begun much before the end of the Eighteenth Dynasty (my example is from Calverley, *Temple of King Sethos I*, II, pl. 10). A further development of the new form, in the reign of Ramesses III, shows a fish in the bill of the ibis, like the Old Kingdom form of G51 (*Medinet Habu* I,

pls. 27 [15, 37], 28 [44], 46 [15, 21]; *Reliefs and Inscriptions at Karnak* I, pl. 42 [E-9]). This replacement seems only to have been sporadic, and did not eliminate the older form. See also Addenda.

## G30 THREE JABIRUS, *bꜣw.*



G29

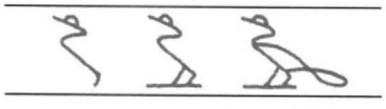
The heads may be lined up by drawing the beaks with a single stroke of the pen. The legs may likewise be simplified by drawing them continuously:  . Old Kingdom examples of the jabiru show the wattle just beneath the head (so also in the Middle Kingdom: *Beni Hasan* III, pl. 2 [3]).

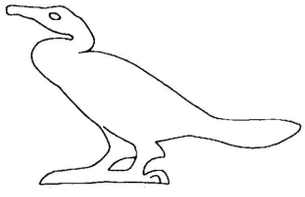
## G31 HERON, *bnw.*

## G32 HERON ON PERCH, *bꜥḥi.*

## G33 EGRET (?), *sdꜣ.*

## G35 CORMORANT, *ꜥḳ.*





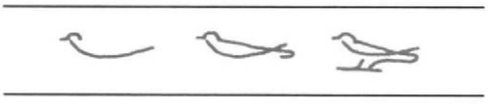
This fishing bird has a long serpentine neck and a very long tail, used for swimming under water. Note also that the head slopes upward.

## G36 SWALLOW, *wr.*

The wing may be drawn initially, along with the head, so as to guide all the rest. Since scale is frequently ignored, only the wide tail distinguishes this bird from the sparrow

(G37); and the ancient scribe did not always indicate the difference very clearly. Some Old Kingdom examples are relatively large, however; cf.  and  in *Saqqara Mastabas* I, pl. 1 (center): *rn nḏs*, *t-wr*. In this period the large tail was sometimes allowed to overlap an adjacent border: *MMJ* 12 (1977), p. 8, nn. 35, 36.

 G37 SPARROW, *nḏs*.



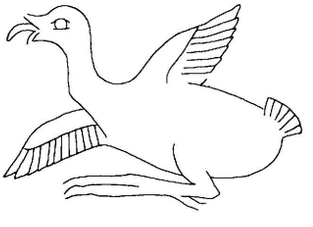
 G39 PINTAIL DUCK, *z³*

Scarcely distinguished from  (G38) except for the slightly different tail, which is only discernible in detailed examples. The neck was sometimes lengthened to goose-like proportions in the New Kingdom.

 G40 FLYING DUCK, *p³*.

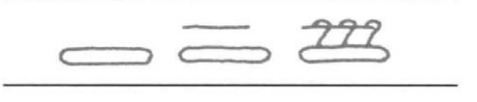
 G41 ALIGHTING DUCK, *ḫn(i)*.

 G47 DUCKLING, *ṯ³*.



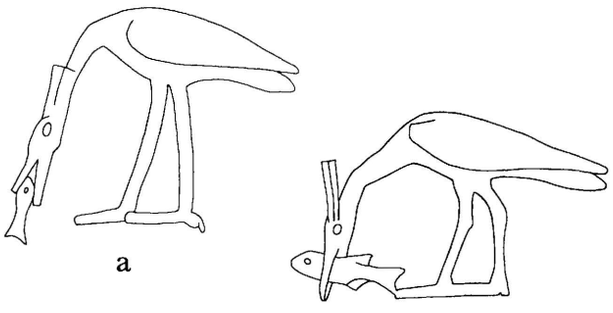
The Old Kingdom duckling is decidedly less vertical than Gardiner's G47, and that is equally true of most examples down through the early New Kingdom. My model is *Rekh-mi-Rēʿ*, pl. 15 (18, 19). Cf. also *Picture Writing*, pl. 4 (2), from the same tomb.

 G49 DUCKS IN POOL, *iwn*.



To be distinguished from  (G48), *zš*, as is pointed out by Montet, *Kêmi* 4 [1931] pp. 174–178.

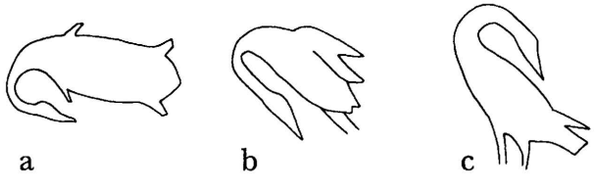
## G51 HERON ON FISH, *ḥ3m.*



a b

The Gardiner form is known from the late Old Kingdom (e.g. *Deir el Gebrâwi* I, pl. 3) and onward, but the Old Kingdom form more usually does not show the bird standing on the fish, and, to judge from Old Kingdom examples, the bird was originally a crested heron; since the crest was in line with the bent neck, it soon disappeared.

## G54 TRUSSED GOOSE, *snḏ.*



a b c

This form is usual in all periods, but examples from the Old Kingdom show some variations.

## H6 OSTRICH FEATHER, *šw(t).*

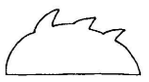
Not unlike 𓌙 (M17), but normally reversed (cf. *Kush* 10 [1962] p. 334). The top falls slightly backward under its own weight.

## I1 LIZARD, *ꜥš3.*

The New Kingdom examples (as in Gardiner's font) represent a gecko; cf. *Picture Writing*, p. 30 and pl. 5 (1).

## I3 CROCODILE, *mzḥ.*

I6 CROCODILE HIDE, *km.*



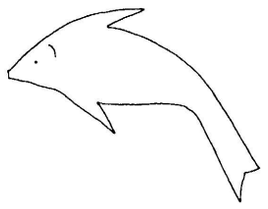
The Old Kingdom form is more rounded. The Gardiner version became usual in the Middle Kingdom: e.g. *Beni Hasan* III, pl. 6 (102, 103). But the Old Kingdom form is attested in the reign of Sesostris I: CG 20539 (I b, 11).

I8 TADPOLE, *ḥfn(r)*.

I13 ERECT COBRA.

K1 *BULTI*-FISH, *in(t)*.

K2 *BARBUS BYNNI*, *bwt*.



The Old Kingdom version shows the tail curved downward, as in the Mendesian nome emblem, Lower Egypt 16, which represents *Schilbe mystus* (Ingrid Gamer-Wallert, *Fische und Fischkulte*, p. 100); the tail became horizontal in the Middle Kingdom (Montet, *Kêmi* 3 [1930] p. 72 and pl. 7 [13, 19]).

K3 MULLET, *ḏ(w)*.

This fish characteristically slopes upward.

K4 OXYRHYNCHUS, *ḫ³(t)*.

As the Greek name indicates, the long snout is distinctive.

## K7 BLOWFISH, det. *špt*.

Puffs up when annoyed (*špt*), becoming a spiny balloon that is proof against the attack of carnivorous fish.

## L1 DUNG BEETLE, *ḫpr(r)*.

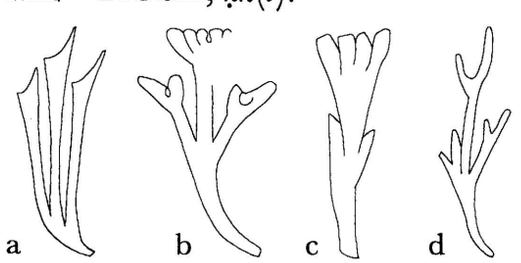
## L2 BEE, *bit*.

The thorax and abdomen must be drawn separately. The hind leg, under the abdomen, was often omitted.

## L7 SCORPION, *Srḳt*.

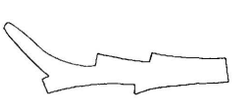
The stylization of this sign, omitting the tail and its venomous sting, is one of those modifications that derives from funerary texts in the burial chamber: Lacau, *ÄZ* 51 (1913) pp. 49, 57. See Addenda.

## M2 RUSH, *ḥn(i)*.




This form is found in all periods, but Old Kingdom examples show a great deal of variety.

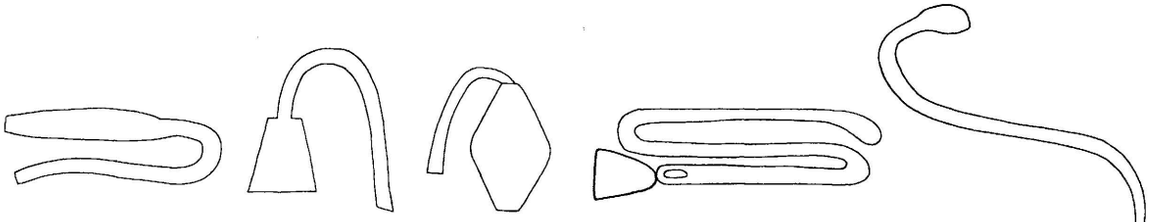
## M3 PIECE OF WOOD, *ḫt*.



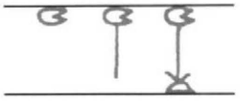
New Kingdom examples resemble a branch, and the sign is usually described thus, but earlier examples depict a trunk with all branches lopped except for the one at the very end.

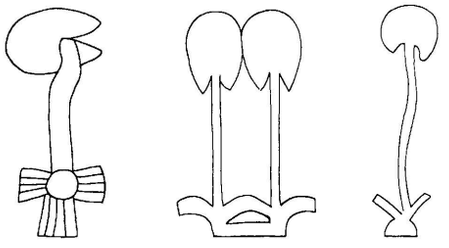
## M11 LOTUS ON LONG STALK, *wdn.*

The Old Kingdom forms vary considerably, sometimes showing the open flower, sometimes a bud; in one case the flower is replaced by the head of a goose (*Egyptian Studies* II, p. 129, note 423). A certain amount of variation is also found in examples of the Middle Kingdom.



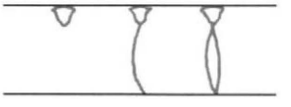

## M12 LEAF, STEM AND RHIZOME OF LOTUS, *ḫꜣ.*

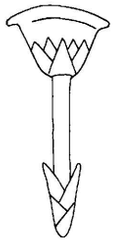





Archaic examples again show variation: in some the leaf is upright, in others it is turned forward, as though floating on the water, and in either case the signs may be joined at the base to form a plurality of thousands. Gardiner's form, with the leaf turned forward, was usual from the Old Kingdom onward, but the upright leaf reappeared sporadically (Figure c) and especially in numbers. Clusters of two or more signs are also known from the Old Kingdom (Figure b), although more rarely. See also Addenda.

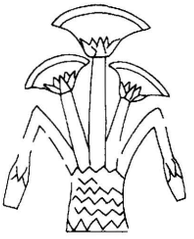
## M13 PAPYRUS STALK, *wꜣḏ.*





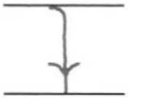
Archaic examples show projecting leaves at the base of the stalk, as do some dating to the Old Kingdom (illustrated here) and even later.

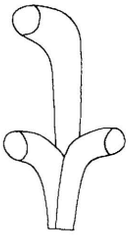
## M15 PAPYRUS THICKET, *ȝḫ, mḥ(w)*.



The base represents the water in which the papyrus is growing. Quite often, from the Old Kingdom onward, the form is simplified to (M16), which otherwise has the value *ḥȝ*.

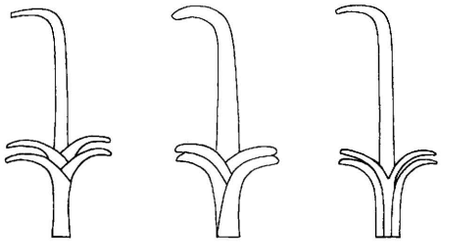
## M22 RUSH WITH SHOOTS, *nn*.





In earlier examples (Old Kingdom and Middle Kingdom) the top of the plant is distinctly shorter than it is in (M23), and that is sometimes true of examples dating to the early New Kingdom; compare, for example, *Menkheperrasonb*, pls. 10 (M22, M23) and 14 (M23), whereas forms like those used by Gardiner appear in Tylor and Griffith, *Paheri*, pl. 1; Petrie and Quibell, *Naqada and Ballas*, pl. 77, and often elsewhere. The group is regularly replaced by in inscriptions of the Heracleopolitan Period (nomes U.E. 4, 5, 6), and the occasional assimilation of to is also known from later periods. See also Addenda (M12).

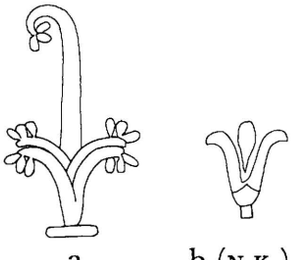
## M23 SEDGELIKE PLANT, *sw*.



a b c

In this sign, as in the next, the earliest Old Kingdom examples (a) show the leaves overlapped alternately. Fifth Dynasty forms (b) begin to depart from this arrangement; later (c) the leaves are often joined symmetrically. For details see Fischer, *Dendera*, p. 17, and *JNES* 18 (1959) pp. 269–271.

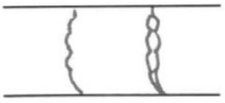
## M26 FLOWERING SEDGE (?), *šmˁ(w)*.



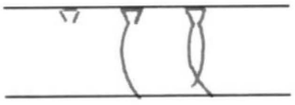
a b (N.K.)

In the New Kingdom the flowering end of this sign was stylized so that it resembles a *fleur de lis*, and examples such as the one in Figure b (emblematically representing Upper Egypt) are sometimes mistakenly identified as a lily or lotus.

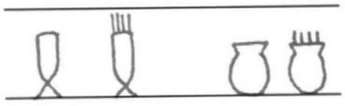
## M29 SEED POD, *ndm.*

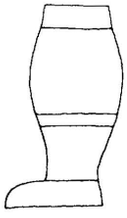


## M30 SWEET-TASTING ROOT (?), *bnr.*



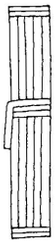

## M32, M31 STYLIZED RHIZOME OF LOTUS, *rd.*

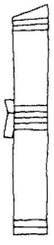




The forms are variable. In the Old Kingdom this sign resembles a leg; the sign  (D56) is, in fact, likewise read *rd*, but these two signs were consistently differentiated.

## M40 BUNDLE OF REEDS, *iz.*


a

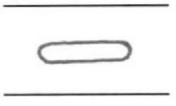

b


c

Old Kingdom examples show a considerable amount of variation (see also *ÄZ* 93 [1966] p. 58, fig. 3). This sign must be carefully distinguished from ,  (Aa28, 29).



## N18 BOLT OF CLOTH, *dˁiw.*

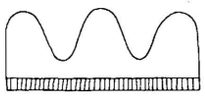


As a sign for cloth (listed after Gardiner's S26), this represents rolled up linen, and not "a garment" (*MMJ* 10 [1975] pp. 14–20).

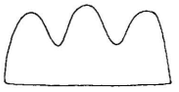
## N23 IRRIGATION CANAL.

In my *Dendera*, p. 90 (15), I note that the Old Kingdom determinatives ,  (N20–22, Aa12) became  (N36) in Dyn. VIII, and  late in Dyn. XI. But hieratic  occurred in the Old Kingdom, Berlin Pap. 8869 (Smither, *JEA* 28 [1942] p. 17, line 11), and hieroglyphic  in *Meir* V, pl. 26 (and cf. pl. 22); also *LD Text*, II, p. 60.

## N25, N26 MOUNTAINS, *ḫ³st*, *ḏw*.



a



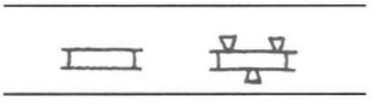
b

In Archaic examples the sides are sloping rather than vertical, and this feature persists to some extent in the Old Kingdom (b), and somewhat later.

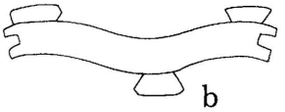
## N28 SUN RISING BEHIND HILL, *ḫꜥi*.

As may be seen from the detailed Old Kingdom example, the outer curve defines the rays of the sun.

## N31 ROAD BORDERED BY SHRUBS, *w³t*.



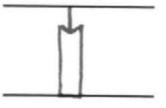
a

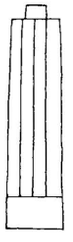


b

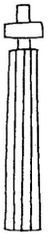
In the earlier Old Kingdom inscriptions this sign, as well as 𓊃 (N36), is apt to be curved (Petrie, *Medum*, pls. 9, 12). Thereafter it was usually straight, but the curved forms appeared occasionally, and even in much later periods. The curved example shown here is Dyn. V.

## O28 COLUMN, *iwn*.





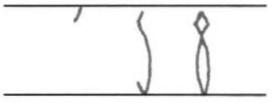
a

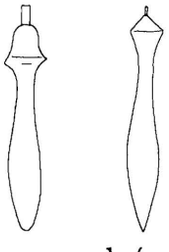


b

In Old Kingdom examples the column is sometimes fluted. The notched top began to appear in the Sixth Dynasty (Fischer, *Dendera*, p. 84). See also Addenda.

## O29 WOODEN COLUMN, *ꜥ*.





a



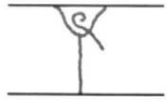
b (M.K.)

The capital of this column was usually simplified after the Old Kingdom, as shown in Figure b.

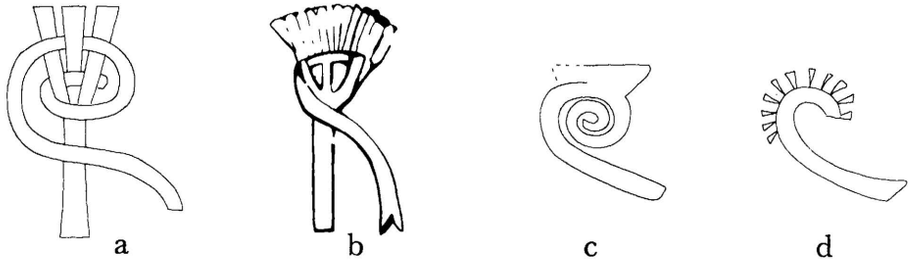
## O42, O43 FENCE, *šzp.*

For variations of the second sign, used in the Old Kingdom, see *JARCE* 2 (1963) pp. 25–26. New Kingdom examples of  are frequently reversed, either wholly or in part, and even in inscriptions that show the normal rightward orientation: *Rekh-mi-Rēʿ*, pls. 68, 92, 94; Caminos, *Buhen* I, pl. 62 (12); Brunner, *Die südlichen Räume*, pls. 63, 75. An early variant (Old-Middle Kingdom) shows the sign in an extended hand:  (*MMJ* 12 [1978], fig. 4f on p. 9 and n. 48, p. 10).

## O44 EMBLEM OF MIN TEMPLE, *ỉꜣt.*

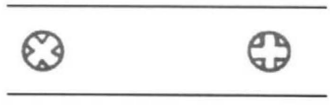


Used in all periods, but Old Kingdom examples show some striking variations.



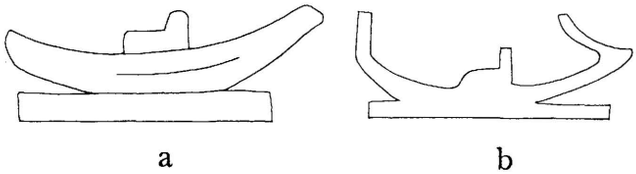
a b c d

## O49 CROSSROADS, *niwt.*



The second form is occasionally found in Old and Middle Kingdom inscriptions, and more frequently in those of the Heracleopolitan Period and Eleventh Dynasty: cf. Fischer, *Dendera*, pp. 78–79.

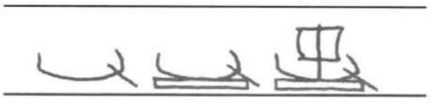
## P1 BOAT, *dpt, ḥʿw.*



a b

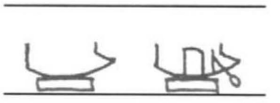
With seat and steering oar. Old Kingdom examples usually omit the oar (Figure a), and a boat with high prow and stern (Figure b) is preferred in titles of that period.

## P2 SHIP UNDER SAIL, det. *ḫnti*.



The ship should be moving forward. Gardiner's reversed form applies only to a few very special cases (*Egyptian Studies* II, §40).

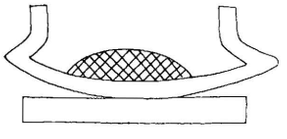
## P3 SACRED BARK, *wiꜣ*.



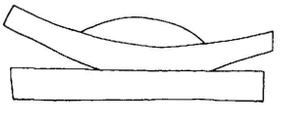
The forms vary. This one shows a high prow and stern, like the ships in Old Kingdom titles, and it carries a shrine containing the god's image. See Addenda.

## P4 FISHERMAN'S BOAT, *wḥꜥ*.

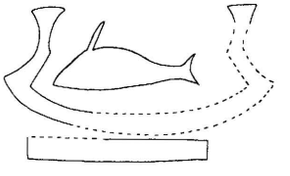
The Old Kingdom form usually has a high prow and stern (as also in the Middle Kingdom: *Beni Hasan* III, pl. 3 [23]), and the example illustrated here (a) also shows the pattern of the fisherman's net. The second Old Kingdom example (b) is a less common variant. Another example, from the Middle Kingdom (c), shows a catfish (*wḥꜥ*) in place of the net.



a

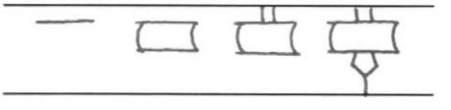


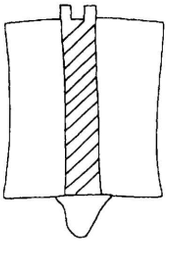
b



c (M.K.)

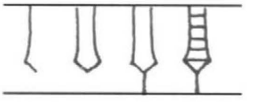
## P5 SAIL, *ṯꜣw*.

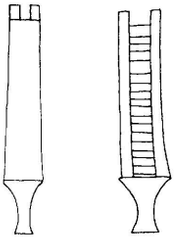




The Gardiner and Theinhardt fonts wrongly reverse the direction of the sail, which should move forward rather than backward (*Egyptian Studies* II, §39). Old Kingdom examples show no orientation in either direction, as illustrated here.

## P6 MAST, *ḫꜥ*.

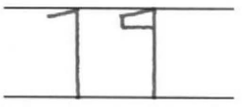


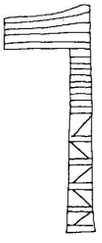


a b

Old Kingdom examples have a shorter stem at the base.

## R8 PENNANT, EMBLEMATIC OF DIVINITY, *nṯr*.



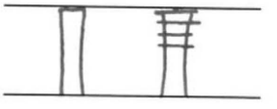


The top of the pennant is slanted; the bottom, in the Old Kingdom, was usually horizontal, but sometimes also slanted as in Gardiner's version. The pennant consists of strips of cloth, wound around the pole. In the Archaic Period it took the form  , which reappeared occasionally in the Old Kingdom (Fakhry, *Monuments of Sneferu at Dahshur* II, fig. 90; cf. Caminos and Fischer, *Epigraphy and Palaeography*, p. 48 and note 76).

## R10 Combination of R8, T28, N29, *ḥrt-nṯr*.

The Old Kingdom examples show many variations; see *MMJ* 12 (1977) p. 9, fig. 3 (a-i), and so too, to a lesser extent, the forms of later periods.

## R11 *ḎD*-COLUMN.



Normally the top is quadruple, rarely triple (for the latter see *Ancient Egypt in the Metropolitan Museum Journal* [New York, 1977] p. 160 and note 13).

## R15 FEATHER ON STANDARD, *ỉꜣbt*. See Addenda, below.

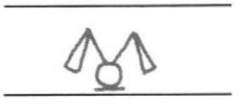
## R17, R18 THINITE NOME-EMBLEM, *Tꜣ-wr.*

The emblem of Upper Egyptian Nome 8 shows a good deal of variation; some Old Kingdom forms are displayed in *JAOS* 74 (1954) p. 34, and some later writings in *WZKM* 57 (1961) pp. 72–77.

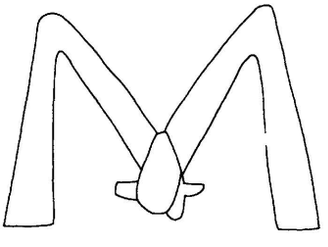
## S1 WHITE CROWN OF UPPER EGYPT, *ḥḏt.*

## S3 RED CROWN OF LOWER EGYPT, *n(t).*

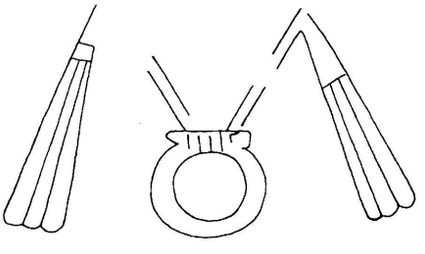
## S23 FLAGELLA AND *ŠN*-SIGN, *dmḏ.*



Originally represented a neckband from which an amulet was suspended, as shown in the Old Kingdom example; for the amulet see Margaret Murray, *Ancient Egypt* (London) 1917, pp. 50–53. The New Kingdom version misinterprets the old sign as a pair of flagella (S45) and the *šn*-sign (V9).

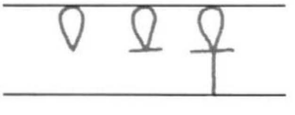


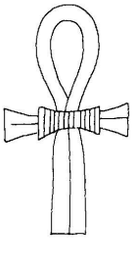
a



b (N.K.)

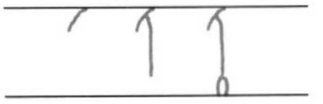
## S34 AMULETIC BOW, *ꜥnḫ.*





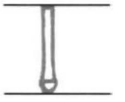
Originally resembled an elaborate bow, in which the lower part represents the two ends; in Archaic examples these two ends are sometimes widely separated: . For the difference between this sign and (V39) see *MMJ* 5 (1972) pp. 11–15. It does not seem possible to explain it as a sandal strap; cf. Jéquier, *BIFAO* 11 (1914) pp. 132–133.

## S40 *WꜢS*-SCEPTER.



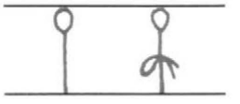
This seems originally to have been a herdsman's staff: see Fischer, "Notes on Sticks and Staves," §9.

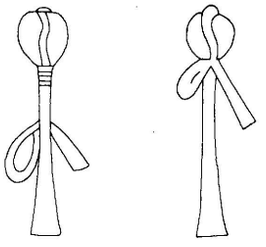
## S43 WALKING-STICK, *mdw*.



The orientation, with knobbed end downward, reflects the way the stick is carried in early representations down through the first two reigns of Dyn. IV: *Egyptian Studies* II, §45.

## T3, T4 PYRIFORM MACE, *ḥḏ*.

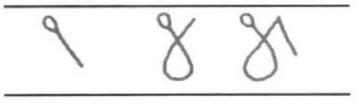




a b

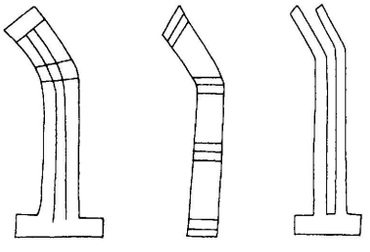
The second form is known from the Archaic Period and was used fairly frequently in the Old Kingdom and later. In most of the earlier cases the loop is near the top, as in Figure b, so that this can hardly be "a strap to pass round hand."

## T12 CORD, *rwḏ*.



See Addenda.

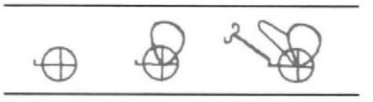
## T13 SHELTER (?), *rs*.



a b c

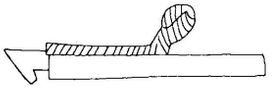
The Old Kingdom form often shows a base. The New Kingdom form is similar to that of the *pḏ-ꜥḥꜥ* implement, as attested in Pyr. 1245 (c, M), but it seems doubtful that the latter originally had any connection with the sign for *rs*; cf. Jéquier, *Frises d'objets*, p. 226. The looped tie may have been suggested by that of  (M36), which began to replace the simpler form  (M37) in Dyn. XII: Petrie *et al.*, *Lahun* II, pl. 29; *Meir* II, pls. 3, 4.

## T17 CHARIOT, *wrrt.*



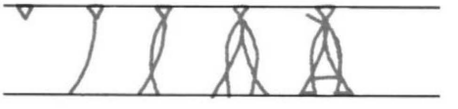
This shows the earlier New Kingdom type of chariot, with the wheel located beneath the center of gravity rather than (as in the Amarna Period and after) behind it. My model is *Picture Writing*, pl. 9 (6), also shown in *Ḳen-Amūn*, pl. 13.

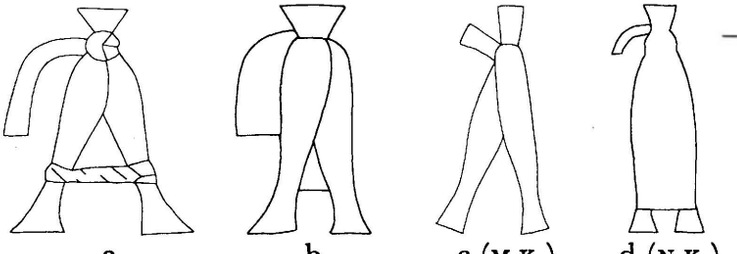
## T21 HARPOON, *wr*.



My own drawing is closer to the earlier examples. The Theinhardt form U37, with two barbs (←), began to be used in Dyn. XVIII, and at least as early as the reign of Tuthmosis III.

## T25 REED FLOAT, *ḏbꜣ*.



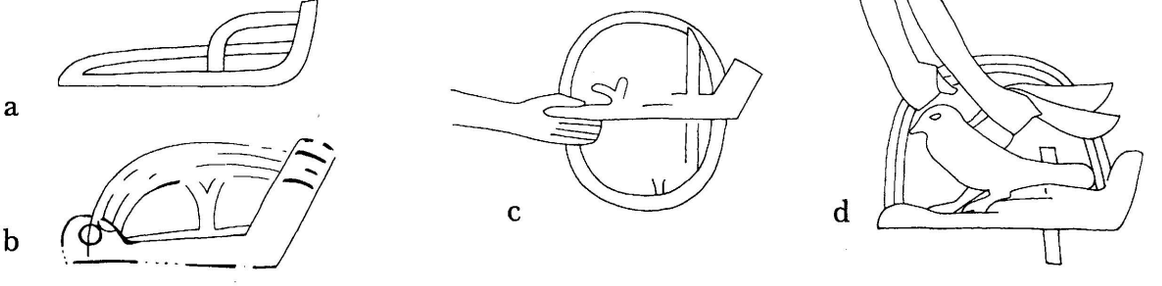


a b c (M.K.) d (N.K.)

Fig. d is an unusual example. The tie is normally in front, but there are many exceptions. See also Addenda.

## T26, T27 BIRD-TRAP, *sḫt*.

The Old Kingdom sometimes used the schematic form T27, which evidently shows the two overlapping halves of the trap, but often a more realistic representation was preferred (b). Figures c and d show the net opened and closed. For details see Vandier, *Manuel d'archéologie* V, pp. 307–313; also Addenda.

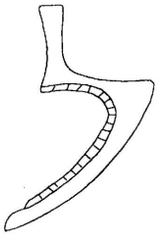


a b c d

## T28 CHOPPING BLOCK, *ḫr*.

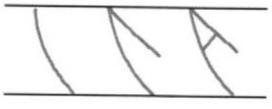
Some Old Kingdom variations are discussed in *Orientalia* 29 (1960) pp. 172–174. In the second half of Dyn. XVIII the bottom of this sign became rounded, evidently by assimilation to W11 or to the sun-disk in N7: *Ḳen-Amūn*, pl. 13; *Ramose*, pls. 11, 25, 39, 40. For the same feature in see *Ramose*, pls. 8, 11, 39; *Private Tombs* I, pl. 59. The latter (pl. 52) also shows , which subsequently became quite common (*MMJ* 12 [1978] p. 16, and note 142). See also Addenda, below.

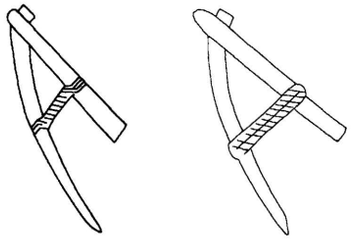
## U1 SICKLE, *mꜣ*.



The Old Kingdom hieroglyph shows the flint blades along the cutting edge. For an actual example see Petrie, *Kahun, Gurob and Hawara*, pl. 9 (22).

## U6 HOE, *mr*.

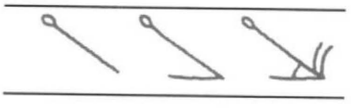


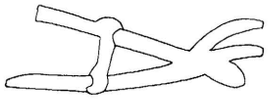


a b

May show either one or two crosspieces, as explained by the single or double rope in Old Kingdom hieroglyphs. For an actual example see Petrie, *Tools and Weapons*, pl. 68 (62).

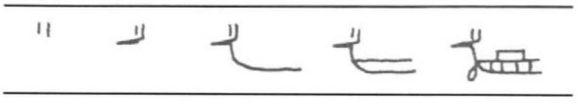
## U13 PLOUGH, *ḥb*, *skꜣ*.





Here the blade is directed forward rather than backward, as in the case of the hoe (U6).

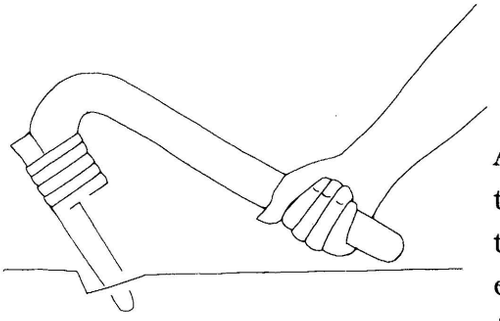
## U16 SLEDGE WITH HEAD OF JACKAL, *biꜣ*.



## U20 ADZE (OLD KINGDOM), *nw*.

Gardiner's "somewhat similar sign," used in the Old Kingdom as determinative of *ꜥnt* "nail," often shows the form illustrated here.

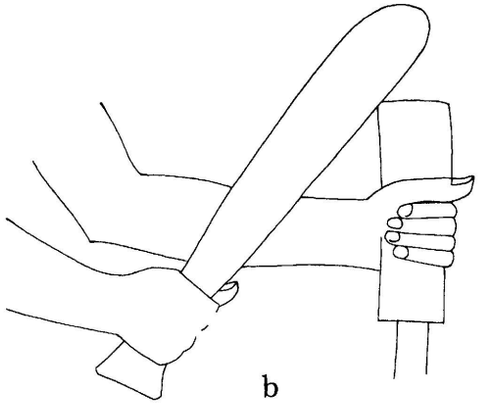
## U21 ADZE, *stp*.



A detail from an Old Kingdom scene shows the tool in action, the ancestor of the plane. Note how the metal blade is fastened to the handle. Actual examples may be seen in Petrie and Brunton, *Sedment* I, pl. 21 (5–6).

## U22 CHISEL, *mnḫ*.

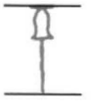
a

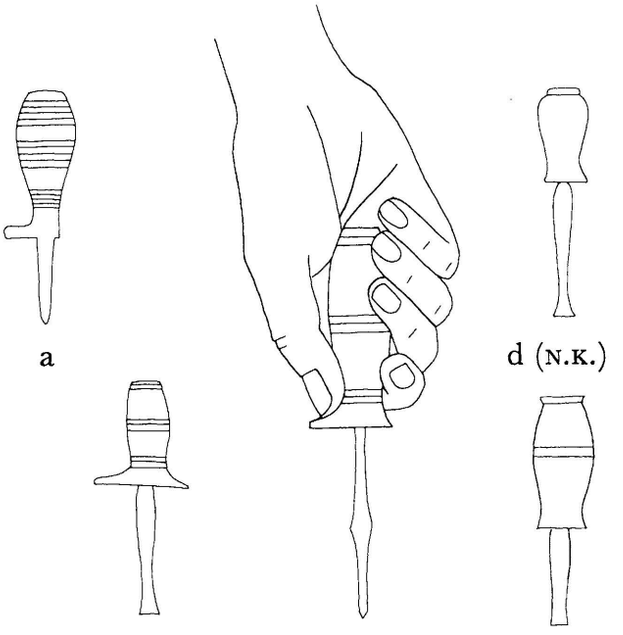


b

Used with a mallet, as shown in the detail from an Old Kingdom scene (Figure b). The Old Kingdom hieroglyph is taller than the New Kingdom version of Gardiner's font.

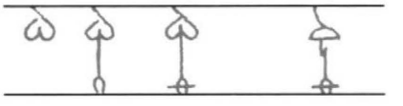
## U23 HAND CHISEL, *mr.*



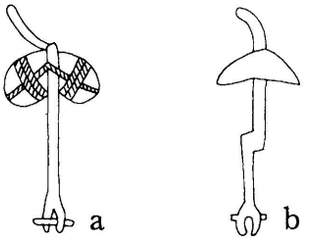


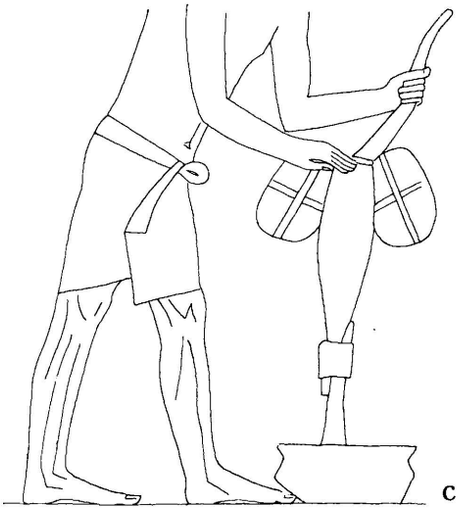

As Gardiner notes, the same sign is used for *ꜣb*. Old Kingdom examples normally show a projection at the front of the handle, and this was evidently provided to keep the thumb from slipping, as demonstrated by Figure c. The same feature is sometimes found in Middle Kingdom examples: *Hieroglyphs*, pl. 8 (107). In the Eighteenth Dynasty a slightly different form, with a narrow cap at the top (Figure d), became common from the reign of Tuthmosis III onward. An early example of this period (e) shows a wider cap.

## U25 (O.K.), U24 (N.K.) STONEWORKER'S DRILL, *ḫmt.*

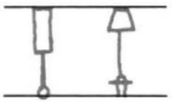


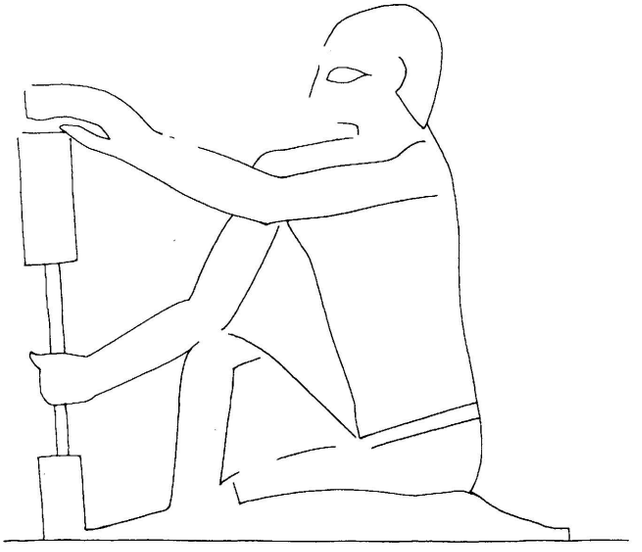
Weighted at the top with stones; a piece of flint or sandstone inserted in the fork at the bottom does the drilling (cf. Firth and Quibell, *Step Pyramid* II, pl. 93 [4]; Borchardt *Grabdenkmal Ne-user-reʿ*, fig. 124). The drawing in Figure c shows how the drill was operated, and also explains the jog in the stem (Figure b), which occurs in many examples including those of the New Kingdom (e.g. *Picture Writing*, pl. 8 [10]). Gardiner's U25 and 24 wrongly show the top slanting backward instead of forward; cf. *Rekh-mi-Rēʿ*, pl. 36; *Ḳen-Amūn*, pl. 13, and the orientation of this detail in Figure c. The second of the Old Kingdom examples has already begun to resemble Gardiner's New Kingdom form.



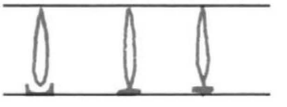
## U27 (O.K.), U26 (N.K.) DRILL FOR SMALL OBJECTS, *wbꜣ*.

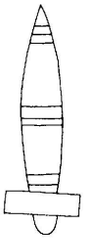




The figure shows a craftsman drilling a hole in a bead; Gardiner's U27 is probably taken from the caption of this scene.

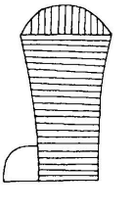
## U28 (N.K.), U29 (O.K.) FIRE-DRILL, *ḏꜣ*.



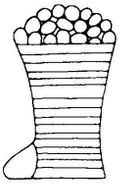


A variant often used in the late Old Kingdom, illustrated here, shows the drill penetrating the wood. For an actual example see Brunton and Engelbach, *Gurob*, pl. 46 (19).

## U30 POTTER'S KILN, *tꜣ*.



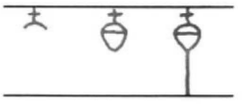
a



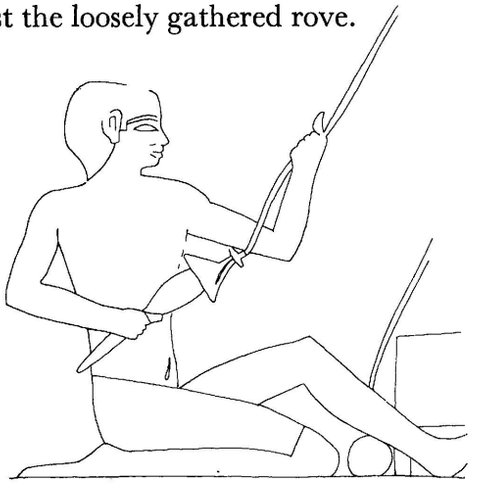
b

Old Kingdom examples often distinguish the brick walls of the kiln from the opening at the bottom and from vertical lines at the top, representing glowing heat. Occasionally the top is a rounded heap of glowing coals, as seen in the Old Kingdom example illustrated here (Figure b), as well as at least two examples from the New Kingdom. See Addenda.

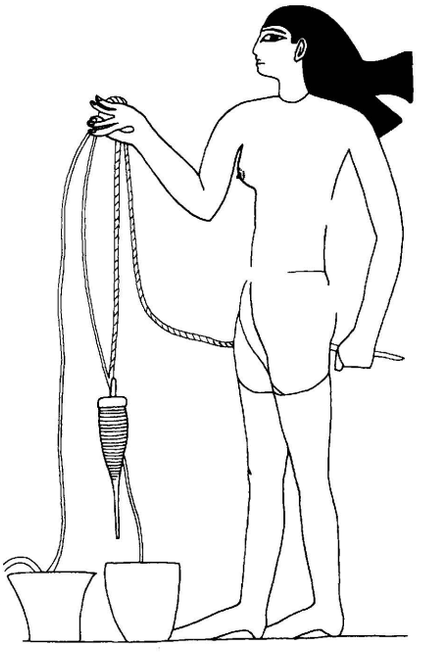
## U34 SPINDLE, *ḥsf.*



The Old Kingdom scene illustrated here (a) shows coarse fiber, probably papyrus, being twisted to make rope. In preparing flax thread for cloth (b) the spinner stood, and let the spindle twirl freely in the air to twist the loosely gathered rove.

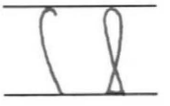


a



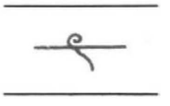
b (M.K.)

## U36 FULLER'S CLUB, *ḥm.*

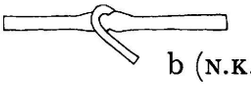


The earlier examples (Old and Middle Kingdom) are usually broader at the base, and are narrower above this point. Thus the recommended simplification is less inaccurate than it might appear.

## V2 BOLT AND STRING, *stꜣ.*



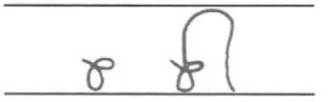
a

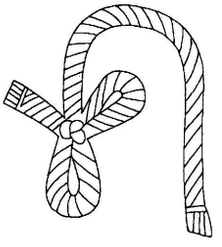


b (N.K.)

Figure b illustrates an additional New Kingdom example showing the protuberances of the bolt. The Old Kingdom form (a) evidently does not represent a bolt at all, but perhaps a yoke for oxen (Graefe, *MDIK* 27 [1971] pp. 149–150). See also Addenda.

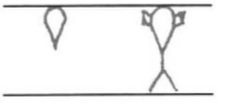
## V4 LASSO, *wꜣ*.



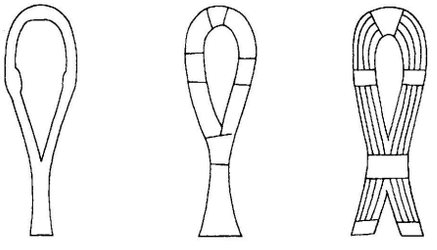


Easily drawn with a single line. The knot of the lasso is rarely indicated.

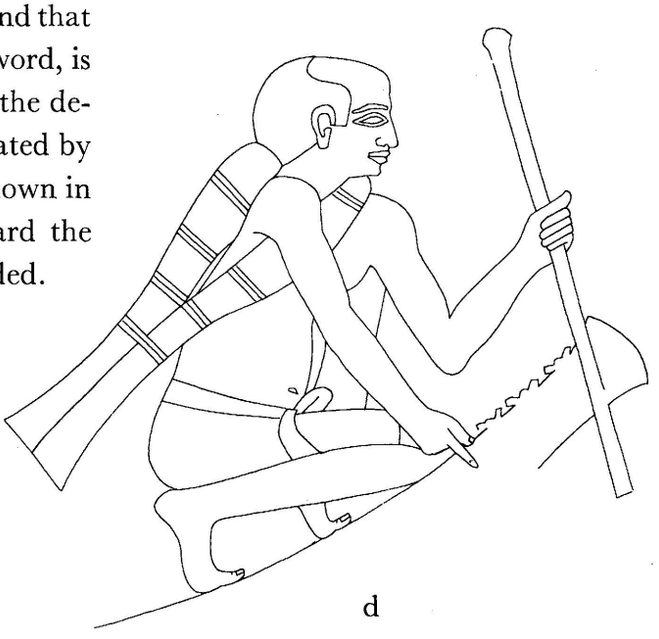
## V18, V17 LIFE PRESERVER, *zꜣ*.



If this sign represents the papyrus bandoleer worn by boatmen (Figure d), as is assumed by the authorities whom Gardiner cites, then it most probably is a life preserver, as proposed by Oric Bates in *Harvard African Studies* I (1917) pp. 231–232. It should be noted, however, that the bandoleer is evidently termed *ḳni* (Firth and Gunn, *Teti Pyramid Cemeteries*, pl. 52; Pyr. 2044a) and that V18, unlike the determinative of this word, is not divided at the bottom (a, b). But the determinative of *ḳni* is virtually reduplicated by the Middle Kingdom example of *zꜣ* shown in Figure c, and from this period onward the bottom of the *zꜣ*-sign was usually divided.

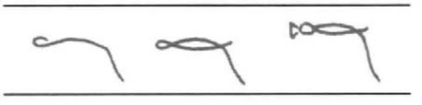


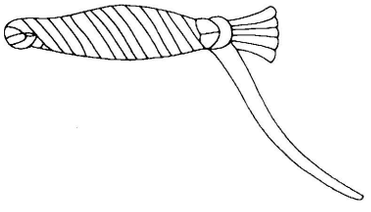
a b c (M.K.)



d

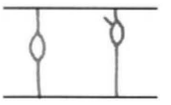
## V23 (O.K.), V22 (N.K.) WHIP, *mḥ*.

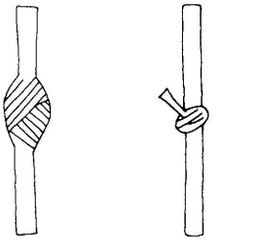




An Old Kingdom example clearly shows the structure.

## V24 (O.K.), V25 (later) CORD WOUND ON STICK, *wḏ*.

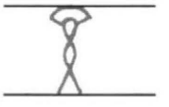




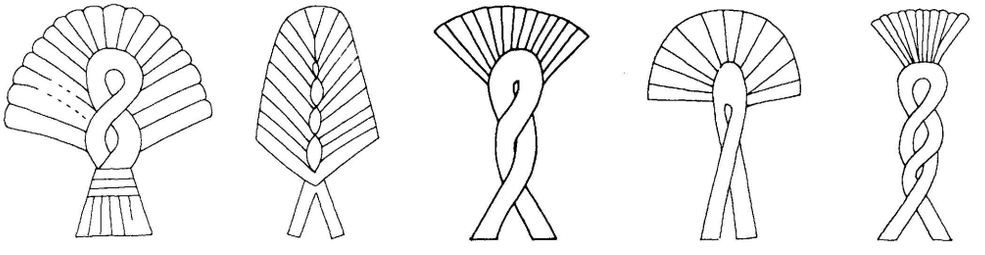
a b (M.K.)

The cord is sometimes moved higher on the stick, in which case it may easily be confused with (T3). It is doubtless for this reason that the later form was devised; it first came into use toward the end of Dyn. XII (*JEA* 61 [1975] p. 246, note 6). One of the earlier examples of V25 (Figure b) still shows the cord at the center, however.

## V29 SWAB, *sk(i)*, *wꜣḥ*.

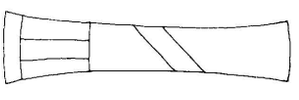


The Old Kingdom forms show a certain amount of variation. Figure c, resembling Gardiner's V29, soon became the most common of these, but it sometimes has three loops or (rarely) a single loop, instead of two. The three-looped form also occurred fairly frequently in the New Kingdom.



a b c d e

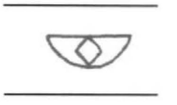
## W2, W1 SEALED OIL JAR.

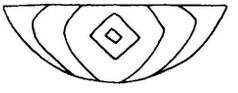


As in the case of and (Y2, Y1), the later form shows the ends of string beneath the seal. But Old Kingdom examples often omit the seal altogether, and they may also show the veining that is characteristic of alabaster. Although sometimes continued to appear in the name of Bastet after the Old Kingdom, this usage was by no means as regular as

Gardiner indicates. One example, dating to the early Middle Kingdom, has 𓏏 (Petrie, *Koptos*, pl. 10), while another of the same reign has 𓏏 (Lacau and Chevrier, *Une Chapelle*, pl. 42), and the name of the goddess usually shows 𓏏 in early New Kingdom writings (e.g. *MMJ* 9 [1974] p. 31; Moh. Aly *et al.*, *Temple d'Amada* IV, C24; Habachi, *Tell Basta*, fig. 26 and pl. 40; so also the example cited by Gardiner: Northampton, Spiegelberg, Newberry, *Theban Necropolis*, pl. 34 [2]); the same is true of the later New Kingdom.

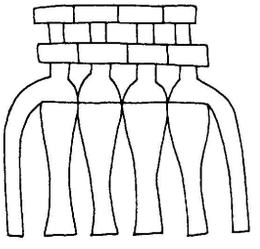
## W3 ALABASTER BOWL, *ḥb*.





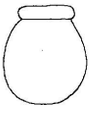
The lozenge at the center is a simplification of the variegated layers of the stone, which were exploited as decoration. This veining also appears in W2, above, and in Aa31, below.

## W17, W18 (O.K.) *Ḥz*-VASES IN A RACK, *ḫnt(i)*.



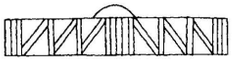
Begin with the caps of the vases. The form with four jars is more usual in the earlier Old Kingdom inscriptions, but examples with three jars were not uncommon in that period (Junker, *Gîza* IX, p. 149, note 1) as also in the first dynasties. In a very few cases the row of four jars is reduplicated, the tops of the second row rising behind the first. The simplified version of this sign was occasionally used from the Old Kingdom onward (e.g. *ibid.*, fig. 44), but usually assumed a form like 𓉐 (Clarence Fisher, *Minor Cemetery at Giza*, pl. 49 [3]; Petrie, *Gizeh and Rifeh*, pl. 7D); in the early New Kingdom simplified forms such as 𓉐 became quite common.

## W24 POT, *nw*.



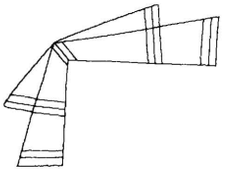
In Old Kingdom examples the rim is rounded, not everted, and so too in the Middle Kingdom (*Hieroglyphs*, pl. 8 [141]), as distinguished from Gardiner's New Kingdom form.

## Y2, Y1 PAPYRUS ROLL, *mḏ3t.*



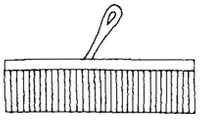
The first dated occurrence of the later form, showing the ends of the strings projecting from beneath the mud seal, belongs to the first reign of Dyn. XII. The variant showing a single string is most commonly attested from early Dyn. XII, the reigns of Sesostris I to Amenemhet II (Wolfgang Schenkel, *Frühmittelägyptische Studien*, §2), but occurred sporadically down through the Second Intermediate Period (*RdE* 24 [1972] p. 70, note 1).

## Aa5 *ḤPT*-IMPLEMENT.

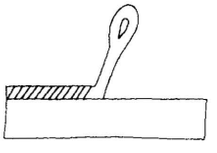


The Old Kingdom form is slightly different, and is differently oriented. It appears in the earlier writing of the prenomen of *Nb-ḥpt-Rʿ* Mentuhotep (Naville, *XIth Dynasty Temple at Deir el-Bahari* I, pls. 12 [E], 17 [E]), but was replaced by the later form in the Twelfth Dynasty: Blackman, *Meir* I, pl. 11 (=II, pl. 17 [66]); Hayes, *Seʾn-Wosret-ʿankh*, pl. 7 (391, 393).

## Aa17, Aa18 LID, *sꜣ.*



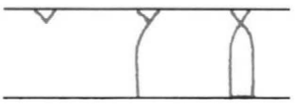
a

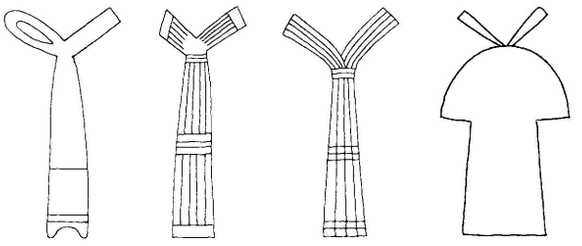


b

The second, later form is generally agreed to represent the cover of a quiver. It is known from the beginning of Dyn. XII onward: Hayes, *Seʾn-Wosret-ʿankh*, pls. 5 (306), 7 (384, 386), etc.; Newberry and Griffith, *Bersheh* I, pl. 18. The two Old Kingdom variations both occur repeatedly and both favor the interpretation as a "lid" (Iversen, *JEA* 42 [1956] pp. 54–57) rather than a "quiver" (Goedicke, *JEA* 45 [1959] pp. 99–100; the quiver he compares, in an unpublished relief from the Userkaf pyramid temple, is suspended from a sling tied at each end, and shows other differences). Often replaced by hieratic 𓏛 in early Middle Kingdom inscriptions (*ÄZ* 100 [1973] p. 19 [H]).

## Aa20 SIGN FOR *ꜥPR.*





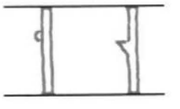
a b c d (M.K.)

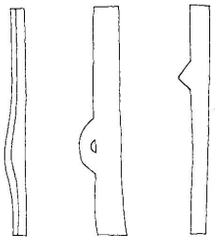
The first of the Old Kingdom forms shown here is anomalous, but it suggests that in that period this sign was understood as a kind of sack. An unusual Middle Kingdom variant (d) resembles a tunic.

## Aa27 SIGN FOR *NḎ.*

If the lower part of this sign is effaced, this may be (and sometimes has been) mistaken for  (F35).

## Aa29, Aa28 BRICKMAKER'S STRIKER, *ḳd.*

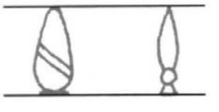




a b c

A variety of forms occur in Old Kingdom inscriptions. In general this sign is thinner than  (M40), which it tends to resemble, and in Old Kingdom examples the protuberance is usually near the upper or lower end. For the nature of the implement, see *Hieroglyphs*, p. 49, and Badawy, *JNES* 15 (1956) pp. 177–179; for further Old Kingdom examples see *ÄZ* 93 (1966) p. 58, fig. 3 (aa-jj).

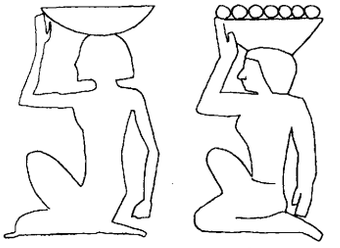
## Aa31 JAR, Aa30 *CHEVAL DE FRISE, ḫkr.*



The Old Kingdom form represents an inverted alabaster jar, as Griffith has already noted in *Ptahhetep* I, p. 37.

# Addenda

A9—The form of the basket is somewhat variable in the earlier Old Kingdom examples; it may be very shallow, as in Fig. a (from Junker, *Gîza* I, pl. 23 [early Dyn. IV, reversed]; cf. L*D* II, 64a [late Dyn. V]), and may, in addition, bear a single pellet (Junker, *Gîza* II, figs. 11, 33 [both early Dyn. V]). In one case, dating to the beginning of Dyn. IV, the basket is deeper but shows a series of pellets (Fig. b, from André Vigneau, *Encyclopédie photographique de l'art* I: *Le Musée du Louvre* [Paris 1935], pl. 8 [reversed]). In another case it is quite deep and has a single pellet; Cairo CG 1790 (seen from the original).



a b

A25—This was used occasionally as the equivalent of (A47) in the Middle Kingdom, and more often (along with [A24]) throughout the New Kingdom; see *Egyptian Studies* III.

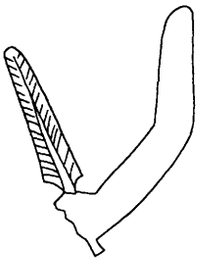
A33—There was little or no use of this sign as the equivalent of older (A47) before the end of the Eighteenth Dynasty (temp Ay), although an example is known as early as the Twelfth Dynasty: see *Egyptian Studies* III.

A48—A clear Old Kingdom example of this variant of is shown in *Ptahhetep* I, pl. 4 (10). For the context see R. F. E. Paget and A. A. Pirie, *Tomb of Ptah-hetep* (London, 1898) pl. 31 (top), where a *ḫrp-mniw* supervises herdsmen. Conversely could be used as the determinative of *iry* in the New Kingdom (*Ramose*, pl. 42).

B1—Although the group is normally of equal height, Old Kingdom inscriptions frequently show the woman slightly smaller than the man: e.g. Junker *Gîza* III, fig. 16 (but not fig. 27); Hassan, *Gîza* II, fig. 206, III, figs. 104, 156; V, fig. 101; Borchardt, *Grabdenkmal Śaśḥu-re* II, pl. 20 (but not pl. 19); Bissing, *Re-Heiligtum* III, pl. 11; Tomb of *Mṯn* (*MDIK* 21 [1966], pls. 3, 5, 6); *Egyptian Studies* I, fig. 14, p. 47; James and Apted, *Khentika*, pls. 5–6 (B16, but not B13; D3, D6, but not D10).

D (not in Gardiner font)—Herman de Meulenaere (*BIFAO* 81 supplément [1981], 87–89) confirms that the reading of this term for "repast" is to be distinguished from *ỉrw-r* "breakfast" and read *ꜥb-r* or (to my mind less probably) simply *ꜥb*; cf. Pyr. 60a (and 110e–f), in which it is introduced by a paronomastic statement: *ỉrb n.k sỉ r r.k* "unite it (the *wḏȝt*-eye) to thy mouth."

D41—For the Old Kingdom form as the dual of (D36) see *Egyptian Studies* III.



D45—Possibly the New Kingdom reinterpretation goes back to an Old Kingdom example such as the one shown here, from Dunham and Simpson, *Mersyankh III*, fig. 6 (reversed). In this particular case, however, the object is not green but white, with red detail (Smith, *History of Egyptian Sculpture and Painting in the Old Kingdom*, p. 375).

D54—The form (with kilt) is also to be seen in Old Kingdom hieratic: Paule Posener-Kriéger and Jean-Louis de Cenival, *Hieratic Papyri in the British Museum*, Fifth Series, *The Abu Sir Papyri* (London, 1968), Pal. pl. 3. This detail probably explains the flat top of some early Middle Kingdom forms such as (Davies, *Antefoker*, pl. 8; K. Dyroff and B. Pörtner, *Aegyptische Grabsteine* II: *München* [Strassburg 1904], pl. 1 [1]) and (Metropolitan Museum of Art Neg. M7C 133), which shows the bottom edge of the kilt.

D60—It is generally assumed, and rightly so, that this composite sign goes back to the Pyramid Texts of the Old Kingdom, but note that (1) there the two signs are not united; (2) they appear together in the writing of *wꜥb* as ; and (3) other writings of the same word show variations such as and (the last including the biconsonantal *ꜥb*-sign in the composite F17). All three variations occur, for example, in Pyr. 127 a, b. The use of in inscriptions aboveground is first attested on Eleventh Dynasty stelae: e.g. J. J. Clère and J. Vandier, *Textes de la Première Période Intermédiaire et de la XIème Dynastie* (Brussels, 1948) §§14, 20 (B), 22, 23; in these cases the two elements are still slightly separated, but soon they were more often fused: *ibid.*, §§27 (τ), 32 (14), 33 (4). The separation often persisted in Dyn. XII: *Meir* III, pls. 14, 24; Newberry and Griffith, *Bersheh* I, pls. 13, 15; Petrie, *Antaeopolis* (London, 1930), pls. 4, 24; but also joined, pls. 26, 27.

E8—Contrary to Gardiner, *JEA* 17 (1931) p. 246, this form was, on occasion, replaced by (E8*) as early as the mid-Eighteenth Dynasty: *Rekh-mi-Rēꜥ*, pl. 86 (right, col. 9). And in Dyn. XIX might also be assimilated to the lively movement of the latter (Clère, *RdE* 11 [1957], 26).

E31—*Lahun* II, pl. 30 (58), cited in the first edition, errs in omitting the seal, as may be seen from the original inscription, now in the Oriental Institute, Chicago; see *JEA* 68 (1982), 46. The Beni Hasan reference, added in the second edition, is corroborated by L*D* II, pl. 130.

F12—Occasionally assumed the form in the Middle Kingdom; see *Egyptian Studies* III.

F35—Fairman (*ÄZ* 91 [1964] p. 8), cites Ptolemaic examples of meaning "throat," "gullet"; this favors the interpretation of the sign as the esophagus, and provides the origin of the phonetic value *nfr*.

G7—Although Kaplony gives abundant evidence for this sign as a logogram for *nṯr* "god" in the Archaic Period (*Chronique d'Egypte* 41 [1966] p. 90), this usage is more common in Old Kingdom inscriptions than he indicates: a striking example appears in the phrase *nb imꜣḫ ḫr nṯr.f* "possessor of reverence with his god" in Hassan, *Gîza* III, fig. 104:

For other evidence see Abdel-Moneim Abu Bakr, *Excavations at Giza 1949–1950* (Cairo, 1953), fig. 47, in *dwꜣ nṯr* "praise god" (thank); also *MMJ* 11 (1976), 73, fig. 13 and 74, n. 72, where Old Kingdom examples are cited of the title  "he who is privy to the secret of the god's words (scil. hieroglyphs)" and  *ḫrt-nṯr* "necropolis," for which see also *MMJ* 12 (1977), 9, fig. 3 a–c. The writing of the title occasionally took the same form in the Middle Kingdom: *Beni Hasan* I, pl. 17; Montet, *Kêmi* 3 (1930), 74 (*Siut* I, 334).

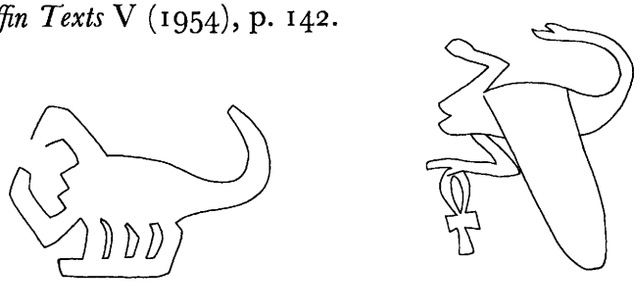
G20—Although this composite form did not become usual until Dyn. XVIII, an example occurs on a stela that may well be as early as Dyn. XIII, and in any case is earlier than the New Kingdom (*Hieroglyphic Texts from Egyptian Stelae &c. in the British Museum* III [1912], pl. 6 [BM 334]; cf. comments on R15 below). An even earlier example is given in *Urk.* VII, p. 12 (17), but this is less complete in the publication from which it is taken (*Beni Hasan* I, pl. 44, line 8) and the surrounding area is evidently damaged; the horizontal line, interpreted as an arm, is probably accidental.

G26—In examples of the Old Kingdom and later the perch shows distinctive peculiarities. These details are discussed in *Egyptian Studies* III, as well as the origin of the writing  (X2), in place of the entire sign, which is known from the end of the Heracleopolitan Period.

G28—The bill seems occasionally to have been elongated downwards to ground-level in some earlier examples, one as early as Dyn. XII (Amenemhet II: Balcz and Bittel, *MDIK* 3 [1932], fig. 13, facing p. 28), another dated to the beginning of Dyn. XVIII (Tuthmosis I: J. de Morgan et al., *Catalogue des monuments* I [Vienna 1894], p. 85 [13]).

L7—The abbreviated form appears aboveground in at least one Old Kingdom chapel: Hassan, *Gîza* II, figs. 17, 22, 25, 27. The much more complete Old Kingdom examples shown here are (a) traced from the Hildesheim chapel of *Wḥm-kꜣ* (cf. Hans Kayser, *Die Mastaba des Uhemka* [Hannover, 1964] pp. 37, 70) and (b) after Drioton, *ASAE* 43 (1943) p. 500, fig. 67 (both reversed). As Jean Philippe Lauer has reminded me, this form is also to be found in the reliefs of Djoser (e.g. Firth and Quibell, *Step Pyramid*, pl. 41). Later the legs were placed on

both sides of the body: e.g. *Beni Hasan* I, pl. 7. But the form shown in Fig. a reappears in Adriaan de Buck, *Egyptian Coffin Texts* V (1954), p. 142.



a b

𓎛, 𓎜 M12, M22—These two signs were very occasionally assimilated in the Old and Middle Kingdom, as will be shown in *Egyptian Studies* III.

𓉐 O22—The word *ḥb* "festival" was originally written with this sign, and evidently down through the reign of Djoser; thus, prior to the Fourth Dynasty, only the context distinguished it from *zḥ* "pavilion"; this usage survived to some extent as late as the Middle Kingdom. See *Egyptian Studies* III.

𓉔 O28—Jean-Philippe Lauer has called my attention to the fact that such columns, in the Djoser pyramid enclosure, were painted red, apparently in imitation of wood. This observation also agrees with the color data for O28 given by Wm. S. Smith in *History of Egyptian Sculpture and Painting*, pp. 367, 379.

𓄟, 𓅓 P1, P3—The Old Kingdom ship with high prow and stern, used in titles, cannot be proven to have the value *ḥrw*, but it is evidently a masc. word, and *ḥrw* does have such a determinative in a Middle Kingdom inscription (Abdel Moneim Sayed, *RdE* 29 [1977], pl. 16 (b) lines 3, 7). One Old Kingdom title precedes the determinative by phonetic *kz* (Junker, *Gîza* V, figs. 5 a, 29 a), but this term is not known elsewhere, and, equally exceptionally, it is written in the plural. As in the Middle Kingdom inscription just mentioned, the context of the Old Kingdom titles in question refers, for the most part, to commercial expeditions (mining and trade); cf. Fakhry, *ASAE* 38 (1938), 40–41; Fischer, *Coptite Nome*, p. 33. The ship with high prow and stern also, very occasionally, appears as the determinative of words such as *sḏ* "travel" (*Urk.* I, p. 182 [3]), *sḳdwt* "sailing" (*ibid.*, p. 183 (9), *ḫnti* "sail upstream" (*ibid.*, p. 214 [13]). Similar hieroglyphs were also, of course, applied to sacred barks in the Old Kingdom, and hence are the equivalent of New Kingdom 𓅓 (P3); one such example serves as the determinative of *dpt-nṯr* "divine boat" (Hassan, *Gîza* I, fig. 13). For these and other hieroglyphic forms of sacred barks see Anthes, *ÄZ* 82 (1958), 82–83; Fischer, *Dendera*, pp. 124–125; also *ÄZ* 86 (1961), 24, where the form resembles 𓅔 (P4, *wḥr*). Conversely, the high-prowed form of P1 is employed for *wḥr* in Edel and Wenig, *Jahreszeitenreliefs*, pls. A and 12 (as opposed to pl. 18).

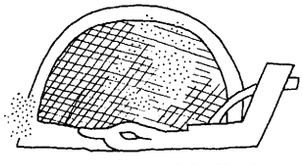
R5—H. Brunner's study of this sign and its successors (*Nachrichten Göttingen* 1965, No. 3, 79–96) should be noted, although he mistakenly interprets the curved projection as a handle in those Old Kingdom examples where the sign is reversed, rather than a stream of smoke (p. 83)—an error that Gardiner avoids. For the reversal of Old Kingdom (R6) both rightward and leftward (*Ti* III, pl. 172) cf. *Egyptian Studies* II, § 38 and *Lexikon der Ägyptologie* V, col. 189, fig. 2.

R15—Gardiner adopts Sethe's interpretation of this emblem as a "spear decked out as standard," but Sethe's evidence actually indicates that the standard bears a feather, viewed from the front; cf. *JNES* 18 (1959) pp. 270–71, fig. 26 (l). A much more detailed discussion of this question is scheduled to appear in *Egyptian Studies* III. The confusion of with began somewhat earlier than Dyn. XVIII, as pointed out by Hayes, *JEA* 33 (1947) p. 8 (p), where the Dyn. XIII example he deals with ( ) evidently combines and . A similar form combines and as , which occurs on a stela that may be equally early (BM 334; see comments on G20 above); this also appears on monuments from Theban Tomb 15, dating to the very beginning of Dyn. XVIII (Earl of Carnarvon and Howard Carter, *Five Years Exploration at Thebes*, pl. 12; Sauneron and Vérité, *Kêmi* 19 [1969], pl. 17).

T12—James K. Hoffmeier argues convincingly against the identification of this sign as a bow-string: *Newsletter, The Society for the Study of Egyptian Antiquities*, Toronto, 6/3 (May, 1976), 6–11.

T25—A curious Old Kingdom variant is known from Giza and Abusir: or . For details see *Egyptian Studies* III.

T26—A particularly detailed hieroglyph is to be found in the tomb of *Kȝ.i-gm.n.i* at Saqqara. The adjacent drawing is from a photograph made by Alexander Badawy; cf. the very inexact version in Pierre Montet, *Scènes de la vie privée* (Strasbourg, 1925), p. 53, fig. 12a. The duck's head reappears in an ivory model of such a trap (MMA 30.8.221): N. E. Scott, *BMMA* 35 (1940) pp. 163–4, and Wm. C. Hayes, *Scepter of Egypt* II (New York, 1959), p. 215. Cf. the detachable decoy in the early N.K. trap shown by Carnarvon and Carter, *op. cit.*, pl. 64 (with p. 70).

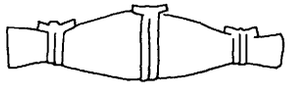


T28—The round-bottomed form also occurs very sporadically (along with the normal form) in the earlier Eighteenth Dynasty: Tylor, *Tomb of Renni*, pl. 5 (in the name *Rʿ-n-ḫrw.f*); *Rekh-mi-Rēʿ*, pls. 86, 89; *Private Tombs* I, pls. 4, 6. Also *Abydos* I, pls. 62, 63 (fragments from the temple of Amenophis I). And at least one Middle Kingdom occurrence may be cited: Munich Gl. W.A.F. 35 (K. Dyroff and B. Pörtner, *op. cit.*, pl. 2).

U30—Some examples of Dyns. IV–V at Giza show the form , with a single pellet on the top: L*D* II, pl. 33; Hassan, *Gîza* II, figs. 213–214, 218, 219; IV, figs. 119, 124; VI/3, fig. 26. This detail may be compared with the single pellet on the basket of ; see the comments on A9 above.

V2—An odd Middle Kingdom variant on Louvre stela C3, line 5 (Wm. K. Simpson, *Terrace of the Great God at Abydos* [New Haven, 1974], pl. 15) assimilates the horizontal element to the arrow of (F29); cf. the writings of *st*/*st* quoted by Raymond Faulkner, *Concise Dictionary of Middle Egyptian* (Oxford, 1962), pl 255.

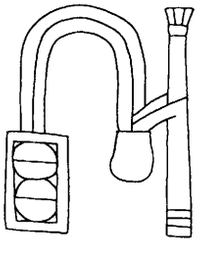
V32—It is not quite accurate to say, as Gardiner does, that the ties are omitted in examples earlier than Dyn. XVIII. The ties appear in a Dyn. III example (*Ḥzy-Rʿ*: Cairo GG 1426), and at least two other Old Kingdom examples are known, one shown here (from Wild, *Ti* II, pl. 124), the other in Firth and Gunn, *Teti Pyramid Cemeteries*, pl. 56. Similar examples are also known from the early Middle Kingdom (Lacau and Chevrier, *Une Chapelle*, terminal pl. XIX; Fischer, *Egyptian Studies* II, fig. 21 [GG 20539]), both from the reign of Sesostris I. But the ties are lacking in line i, b8, of the latter, as Gardiner points out, and also in another inscription of the same reign, quoted by Clère, *RdE* 22 [1970], 46; so too in Petrie, *Abydos* II, pl. 25, dating to the end of Dyn. XI, and perhaps in Newberry and Griffith, *Bersheh* I, pl. 17, for which see *BiOr* 36 [1979], 24). The gradually more frequent addition of this detail was probably reinforced by the pattern set by (W1) and (Y1) in the Middle Kingdom.



V37—Middle Kingdom forms are discussed by Wm. Ward, *The Four Egyptian Homographic Roots B-3* (Rome, 1978), pp. 166–169; these and older forms are discussed by Edel in *Studies Presented to Hans Jakob Polotsky* (East Gloucester, Mass., 1981), pp. 378–389. For a further example of Old Kingdom see *Egyptian Studies* III.

W4—The addition of to (see O22 above) dates from the beginning of the Fourth Dynasty, and the two signs only gradually became fused after the Old Kingdom. During the Middle Kingdom the forms and were occasionally interchanged. See *Egyptian Studies* III.

Y3—In the earliest detailed examples, such as the one shown on the title page of this volume, the thin case for the reed pens has a plain cap at either end. But the top of the case soon, as early as the reign of Cheops in Dyn. IV, began to show vertical striations (the example shown here is from Simpson, *Kawab, Khafkhufu I and II*, fig. 27 [reversed]). In later examples these striations tend to become more everted, finally curling outward on either side. Further details will be given in *Egyptian Studies* III.



# Sources of figures and supplementary references

An asterisk (*) indicates that a hieroglyph has been reversed in the figure.

A47 *Ti*, pl. 124.*

For the goad cf. also Junker, *Gîza* I, pl. 23, and Jéquier, *BIFAO* 19 (1922) 74. In a semi-cursive Dyn. XXVI example (MMA 28.3.48) belonging to the title  *iry-ꜥt* "doorkeeper," the figure carries a broom, as is represented more distinctly in a representation of the same doorkeeper on a fragment of his coffin: H. E. Winlock, *BMMA*, Dec. 1928, Sect. II, p. 23 and fig. 27; *Excavations at Deir el Bahri 1911–1931* (New York, 1942) p. 164. But even though Winlock may be right in considering the broom as the doorkeeper's "badge of office," it is not possible to follow him in concluding that: "It always appears in the hand of the hieroglyphic sign for 'doorkeeper' but usually so small as to be unrecognizable" (*loc. cit.*). In the first place, there is no hieroglyphic sign for "doorkeeper," *iry-ꜥt* being only one of the several titles in which *iry* is used; and, secondly, the sign in question does not appear in the *iry*-titles until after the Sixth Dynasty. Other Dyn. XXVI exx. of *zꜣ* and *iry* like the one illustrated, but showing two projections rather than three, may be seen in M. Bietak and E. Reiser-Haslauer, *Das Grab des ꜥAnch-hor* (Vienna, 1978) Plans 22, 26 (figs. 42, 52).

A49 Jéquier, *Monument funéraire de Pepi II*, III, pl. 13.*

A55 *Ti*, pl. 153.

Some Old Kingdom exx. that are more similar to Gardiner's version: W. M. F. Petrie, *Deshasheh* (London, 1898) pl. 7 (identical to A55 and certainly a mummy in this case, since it is the determinative of a circumlocution for "die," *zbi n kꜣ*); Edel and Wenig, *Jahreszeitenreliefs*, pl. 11 (determinative of *sḏr*, but perhaps again a mummy; the head is not distinguishable); Hassan, *Gîza* V, fig. 101; *Meir* IV, pl. 4 (left, col. 1); cf. Smith, *History of Egyptian Sculpture and Painting in the Old Kingdom*, pp. 308–309 and fig. 167.

D21 *Ti*, pl. 153.

D33 a *Ti*, pl. 111.*
b *Ptahhetep* I, pl. 5.

D36 a *Ptahhetep* I, pl. 5.
b *Beni Hasan* III, pl. 4.*

For the later form (b), showing a slightly cupped hand, see also *RdE* 30 (1978) p. 89 and n. 17.

D45 a Simpson, *Kawab, Khafkhufu I and II*, fig. 24.*
b *Private Tombs* IV, pl. 1 (and cf. pl. 4).

For a Dyn. XII occurrence of the type shown in Figure a, see Petrie *et al.*, *Lahun* II, pl. 19. For a more detailed example like Figure b, see L. Keimer, *Die Gartenpflanzen im alten Ägypten* (Berlin, 1924) p. 167 (26), from Davis, *Tomb of Siphtah*; also *Menkheperrasonb*, pl. 3; Calverley, *Temple of King Sethos I*, III, pl. 9. The identification as lettuce is borne out by the fact that the same plant is, from the New Kingdom onward, held in the hands of block statues (Vandier, *Manuel d'archéologie* III, pp. 452 [n. 8], 455 [nn. 6, 8], 457 [n. 11], there termed "épi"). At all events it seems likely that, in such cases, the head of lettuce refers to  "holy"; cf. N. de G. Davies, *Tombs of Two Officials of Tuthmosis the Fourth* (London, 1923) p. 9, n. 6, referring to pl. 14.

D54 James, *Hieroglyphic Texts* I², pl. 21 (1).*

D61 a From photograph: Goedicke, *MDIK* 21 (1966) pl. 5.*
b Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pl. 13.

E9 *Egyptian Studies* II, fig. 84.

Similar exx.: Junker, *Gîza* V, fig. 6, p. 41; Abu Bakr, *Giza*, fig. 38; Dunham and Simpson, *Mersyankh III*, fig. 4; Keimer, *ASAE* 42 (1942) pp. 258 f., figs. 39, 40.

E17 *Ptahhetep* I, pl. 6.

E21 Dunham and Simpson, *Mersyankh III*, fig. 7.*

E31 a Hassan, *Excavations at Saqqara 1937–38* II, pl. 70B (and cf. fig. 29).
b James and Apted, *Khentika*, pl. 6 (c[10]).

Other exx. (without horns): A. Labrousse *et al.*, *Le Temple . . . du roi Ounas* (Cairo, 1977) figs. 56, 121; *Mereruka*, pl. 213 (B); Firth and Gunn, *Teti Pyramid Cemeteries*, pl. 66 (7); so too probably Hassan, *Gîza* VII, fig. 67. With nascent horns: Junker, *Gîza* XI, fig. 107. With long horns: Cairo CG 1435 (cols. 5, 14, etc.); *Egyptian Studies* II, fig. 58. Another Middle Kingdom example without horns, reign of Sesostris III: Berlin 15801, *Aegyptische Inschriften* I (Leipzig, 1913) pp. 138, 268 (badly drawn, but this detail is correctly noted); also CG 20026, reign of Sesostris I (seen from a photograph).

F29 *Ti*, pl. 154.*

F30 a Smith, *History of Egyptian Sculpture and Painting in the Old Kingdom*, pl. 34 (b) (cf. Petrie, *Medum*, frontispiece and pl. 11).*
b *Ti*, pl. 163.

F32 Smith, *History of Egyptian Sculpture and Painting in the Old Kingdom*, fig. 48.

F34 a *Ti*, pl. 129.
b After Cottevieille-Giraudet, *Médamoud (1931): Les Monuments du Moyen Empire*, fig. 27, p. 49.
c *Ti*, pl. 163.

Other exx. of c: *Ti*, pl. 14 (as opposed to 𓄡 in the same context, *ibid.*, pl. 179); B. van de Walle, *Chapelle de Neferirtenef* (Brussels, 1978) p. 58; *Saqqara Mastabas* I, pl. 11 (as opposed to 𓄡 on pl. 21); Hassan, *Excavations at Saqqara 1937–38* I, fig. 4. For archaic forms see Godron, *ASAE* 54 (1956) pp. 198–205.

F35 *Ti*, pl. 173.

For the striation of the tracheal cartilage after the Old Kingdom see D. Arnold, *Der Tempel des Königs Mentuhotep von Deir el-Bahari* II, pl. 16; Lacau and Chevrier, *Une Chapelle*, épigraphie pl. 8; Cottevieille-Giraudet, *Médamoud (1931)*: *Les Monuments du Moyen Empire*, pl. 29; *Hieroglyphs*, pls. 9 (164, M.K.), 4 (49, N.K.).

F36 *Ti*, pl. 111.

G1 a *JNES* 18 (1959) fig. 26, p. 270.*
b From a photograph.

Old Kingdom examples occasionally show the feathers projecting more separately from the back of the head, as in *Ti*, pls. 99–101, and again in James, *Hieroglyphic Texts* I², pl. 17; Junker, *Gîza* III, fig. 15. More rarely, in the Sixth Dynasty and later, the back of the head may be rounded, as in *Ti*, pl. 101, James and Apted, *Khentika*, pl. 5 (but less rounded in pl. 6); see also Fischer, *Dendera*, p. 82 (7).

G27 — *Ti*, pl. 128.*

G30 (G29) — *Ti*, pl. 106.

G35 — Bissing, *Re-Heiligtum* II, pl. 5.*

G47 — *Ptahhetep* I, pl. 7.

G51
a Fakhry, *Monuments of Sneferu at Dahshur* II, fig. 15 (corrected from a photograph).*
b Leiden mastaba of *Ḥtp-ḥr-ỉḥty* (from a photograph; cf. J. Capart, *Memphis* [Brussels, 1930] fig. 261).*

Other Old Kingdom exx. like b: A. Vigneau, *Encyclopédie photographique de l'art: Le Musée du Louvre* I (Paris, 1935) pl. 23; A. Moussa and H. Altenmüller, *Das Grab des Nianchchnum und Chnumhotep* (Mainz/Rhein, 1977) pl. 32 and fig. 12 (left); also LD II, pl. 70, as noted by Griffith in *Hieroglyphs*, p. 22. The crest reappears in an example from the Late Period (Dyn. XXV–XXVI): B. V. Bothmer *et al.*, *Egyptian Sculpture of the Late Period* (Brooklyn, 1960) pl. 14, fig. 34.

G54
a Firth and Gunn, *Teti Pyramid Cemeteries*, pl. 59.
b Alexander Badawy, *Tomb of Nyhetep-Ptah at Giza and Tomb of ʿAnkhmʿahor at Saqqara* (Berkeley, 1978) fig. 23.*
c James and Apted, *Khentika*, pl. 5 (B9).*

Another example of b: J. Capart, *Une rue de tombeaux à Saqqarah* (Brussels, 1947), pl. 11.

I6 — *Meir* V, pl. 6.

K2 — *Ti*, pl. 11.

Other exx. with pendant tail: Alexander Badawy, *Tomb of Nyhetep-Ptah at Giza and Tomb of ʿAnkhmʿahor at Saqqara*, fig. 23; James and Apted, *Khentika*, pl. 5 (B5); cf. also a Dyn. IX ex.: Petrie, *Dendereh*, pl. 8C (bottom right).

M2
a *Meir* V, pl. 27.*
b *Ti*, pl. 155.
c *Ti*, pl. 181.*
d *Saqqara Mastabas* I, pl. 40.*

M3 — *Ti*, pl. 174.*

M11
a From a photograph: Alexandre Piankoff, *Pyramid of Unas* (Princeton, 1968) pl. 29 (408).*
b *Meir* V, pl. 31.*
c Junker, *Gîza* X, fig. 64.*
d Petrie, *Antaeopolis* (London, 1930) pl. 24.
e *Beni Hasan* I, pl. 24.

Also 𓏏: Hassan, *Gîza* IV, fig. 122.

M12
a *Saqqara Mastabas* I, pl. 40.
b Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pl. 4.
c *Meir* II, pl. 12.

Other clusters of two leaves as in b: Junker, *Gîza* V, fig. 19; Bissing, *Re-Heiligtum* III, pl. 30. Leaves like b and c, but in other contexts (Old Kingdom names): Junker, *Gîza* II, fig. 20 (*Grgt-'Iśḥśḥ*); *Gîza* V, fig. 8 (*N-śḥ.t*). The same in a New Kingdom place name, *Ḫr*: W. M. F. Petrie and E. Mackay, *Heliopolis, Kafr Ammar and Shurafa* (London, 1915) pl. 7.

M13
From photograph: Reisner, *History of the Giza Necropolis* I, pl. 20 (b).

Other exx. like the one illustrated: Junker, *Gîza* V, fig. 15; Jéquier, *Monument funéraire de Pepi II*, II, pls. 38, 109. Dyn. XII exx. in Newberry and Griffith, *Bersheh* II, pl. 5; *Urk.* VII, pp. 10 (16), 59 (1); Montet, *Kêmi* 6 (1936) p. 133 (10). Dyn. XVIII exx.: A. J. Gayet, *Stèles de la XIIe Dynastie* (Paris, 1886) pl. 22; N. de G. Davies, *Studies Presented to F. Ll. Griffith* (London, 1932) pl. 39 (17); *Tombs of Two Officials of Tuthmosis the Fourth*, pl. 26.

M15
*Ti*, pl. 114.

For Old Kingdom examples of  (M16) see Junker, *Gîza* I, pl. 23; II, fig. 34; Hassan, *Gîza* VI/3, fig. 190; Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pls. 19, 23 (but not pls. 30, 70), etc.

M17
a *Ti*, pl. 111.
b Fischer, *Dendera*, fig. 37, p. 193.*

For another Old Kingdom example like Fig. b see Hassan, *Gîza* V, fig. 119. For Middle Kingdom exx. see R. Mond and O. H. Myers, *Temples of Armant*, pl. 97; *Beni Hasan* I, pl. 28; Firth and Gunn, *Teti Pyramid Cemeteries*, pl. 54; Petrie *et al.*, *Lahun* II, pl. 16; Lacau and Chevrier, *Une Chapelle*, épigraphie pl. 15; Cottevieille-Giraudet, *Médamoud (1931): Les Monuments du Moyen Empire*, pl. 34. A remarkably detailed New Kingdom example appears in *Ramose*, pl. 42.

M22
*Ti*, pl. 182.*

For the group  in the Heracleopolitan Period, see Fischer, *Coptite Nome*, p. 55, and for later exx. of  for  (Second Intermediate Period onward) see J. J. Tylor, *Tomb of Sebeknekht* (London, 1896) pls. 1, 5, 11; *Tomb of Renni* (London, 1900) pl. 9; Ch. Kuentz, *La Face sud du massif est du pylone de Ramses II à Louxor* (Cairo, 1971) pls. 5, 8. Also Dyn. XXVI: Clère, *RdE* 24 (1972), 51. *Wb.* II, 303, observes only that there are examples from the Ptolemaic Period.

M23
a Petrie, *Medum*, pl. 12.*
b Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pl. 29.*
c Jéquier, *Monument funéraire de Pepi II*, II, pl. 108.

Middle Kingdom exx. of a and b: Lacau and Chevrier, *Une Chapelle*, pls. 14–15. Middle Kingdom exx. of c: Cottevieille-Giraudet, *Médamoud (1931): Les Monuments du Moyen Empire*, pl. 34.

M26
a Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pl. 29.*
b H. Carter and P. E. Newberry, *Tomb of Thoutmôsis IV* (Westminster, 1904) pl. 1.

In an early Old Kingdom example, Junker, *Gîza* I, pl. 23, the land-sign is detached from the bottom.

In the Ramesside period the lower part of this sign is assimilated to the papyrus in  (M24*+M13); e.g. Calverley, *Temple of King Sethos I*, IV, pl. 17. This is wrongly identified as "tige de lotus" by G. Lefebvre, *Grammaire de l'égyptien classique* (2nd ed., Cairo, 1955) p. 403 (24a).

M31 Junker, *Gîza* III, fig. 27.*

Other exx.: Jéquier, *Monument funéraire de Pepi II*, II, pls. 32, 33 (symmetrical, unlike the following); Borchardt, *Grabdenkmal Ne-user-re'*, fig. 17; Hassan, *Gîza* VI/3, fig. 117; Fakhry, *Monuments of Sneferu at Dahshur* II, figs. 63, 67; Edel and Wenig, *Jahreszeitenreliefs*, pl. 8.

M40
a Petrie, *Medum*, pl. 9.*
b From a photograph: J. Capart, *Une Rue de tombeaux à Saqqarah* II (Brussels, 1907) pl. 105.*
c Reisner, *History of the Giza Necropolis* I, fig. 257.

N25
a *Saqqara Mastabas* I, pl. 3.
b Junker, *Gîza* III, fig. 27.

N28 Fakhry, *Monuments of Sneferu at Dahshur* II, fig. 235.

N31
a *Saqqara Mastabas* I, pl. 39.
b Bissing, *Re-Heiligtum* II, pl. 18.

Other exx. like b: Fakhry, *Monuments of Sneferu at Dahshur* II, figs. 17, 55, 56; *Saqqara Mastabas* I, pl. 18; James, *Hieroglyphic Texts* I², pl. 21 (1); and for post-Old Kingdom exx. see Fischer, *Dendera*, p. 86; *Beni Hasan* I, pl. 46; *Meir* III, pls. 19, 27; N. de G. Davies, *Studies Presented to F. Ll. Griffith*, pl. 44.

N37 *Saqqara Mastabas* I, pl. 40.*

For semi-cursive exx. of the Theinhardt form, dating to the end of the Old Kingdom and later, see H. F. Lutz, *Egyptian Tomb Steles and Offering Stones* (Leipzig, 1927) pl. 14 (26); Jozef Janssen, *Jaarbericht, "Ex Oriente Lux"* (Leiden) 12 (1951–52) pl. 31 (N 110); W. M. F. Petrie, *Athribis* (London, 1908) pl. 7. Good hieratic exx. in E. Edel, *Die Felsengräber der Qubbet el-Hawa bei Assuan* II/1/1 (Wiesbaden, 1967) pls. 6, 7, 97–100.

O4 *Ti*, pl. 112.*

O28
a Junker, *Gîza* I, fig. 31 and pl. 27.
b Simpson, *Kawab, Khafkhufu* I and II, fig. 27.

O29
a *Ptahhetep* I, pl. 12.
b *Hieroglyphs*, pl. 8 (116).

O34
a *Ti*, pl. 124.
b *Saqqara Mastabas* I, pl. 6.
c Detail of Hildesheim 1540 (from a photograph); cf. Junker, *Gîza* III, fig. 34.

O44
a From a photograph: Capart, *Memphis*, fig. 259 (cf. Junker, *Gîza* I, fig. 23).*
b Dunham and Simpson, *Mersyankh III*, fig. 4.
c *Meir* IV, pl. 4 (left, col. 1).*
d From a photograph: Petrie, *Dendereh*, pl. 6.*

Other exx. of a: *Urk.* I, p. 231 (9) (=Newberry, *ASAE* 28 [1928] p. 139); of c: A. Mariette, *Les Mastabas de l'Ancien Empire* (Paris, 1889) p. 420; *Deir el Gebrâwi* II, pl. 25 (19).

P1
a *Meir* IV, pl. 16.
b H. Petrie and M. Murray, *Seven Memphite Tomb Chapels* (London, 1952) pl. 2.*

The oar appears in some Old Kingdom scenes where it reflects an adjacent representation: Simpson, *Mastabas of Qar and Idu*, fig. 24 (and here the orientation likewise reflects the representation); *Meir* V, pl. 42. But some independent exx. likewise show the oar in Dyn. VI inscriptions: *Urk.* I, pp. 129 (15), 134 (15 and note c), 254 (3) (all confirmed); also Petrie, *Deshasheh*, pl. 15.

P4
a *Ti*, pl. 123 *(facing left, but retaining rightward orientation).
b *Mereruka*, pl. 41.
c Montet, *Kêmi* 3 (1930), p. 52 and pl. 10.

The last example is from Asyut, another like it is from Aswan: *Urk.* VII, p. 6 (7). The pattern of the netting reappears in the New Kingdom example shown by Nina Davies, *Picture Writing*, pl. 8 (4).

P5
From a photograph: T. G. H. James, *Corpus of Hieroglyphic Inscriptions in The Brooklyn Museum* I (Brooklyn, 1974) pl. 3 (42).

P6
a Bissing, *Re-Heiligtum* III, pl. 14 (246).
b G. T. Martin, *Tomb of Ḥetepka* (London, 1979) pl. 21.

Earlier exx. of this sign are sometimes even more slender than the one shown in Fig. a: C. M. Firth and J. E. Quibell, *Step Pyramid* II (Cairo, 1935) pl. 40; Fakhry, *Monuments of Sneferu at Dahshur* II, figs. 48–49 (same context).

Q3
Borchardt, *Grabdenkmal Śaśḥu-reʿ* II, pl. 30.

R8
*Saqqara Mastabas* I, pl. 40.*

S23
a *Ti*, pl. 20.
b *Ḳen-Amūn*, pl. 38.

Exx. like b (with Q inverted): *ibid.*, pl. 8 (18); *Rekh-mi-Rēʿ*, pl. 88; Davies, *JEA* 20 (1934) pl. 25; 32 (1946) pl. 6 (6, 32). For the detail of the flagella see also *Rekh-mi-Rēʿ*, pl. 27 (23); Calverley, *Temple of King Sethos I*, III, pls. 16, 36, 46.

S34
*Saqqara Mastabas* I, pl. 40.

T4
a Edel and Wenig, *Jahreszeitenreliefs*, pl. 11.
b *Ti*, pl. 27.

Other exx. like b: Abu Bakr, *Giza*, fig. 38; James, *Hieroglyphic Texts* I², pls. 8 (3, 4), 29 (1); Hassan, *Gîza* IV, fig. 56; VI/3, figs. 104, 106; Martin, *Tomb of Ḥetepka*, pl. 21; *Egyptian Studies* I, figs. 3–4; H. Petrie and M. Murray, *Seven Memphite Tomb Chapels*, pl. 9.

T13
a From a photograph: James, *Corpus of Hieroglyphic Inscriptions in The Brooklyn Museum* I, pl. 3 (42).*
b *Ti*, pl. 47.*
c Junker, *Gîza* IX, fig. 24.*

For Fig. c cf. Junker, *Gîza* IV, pls. 3, 4 (frontispiece), 5. Also  , on the pattern of  (M24, *rs*); this occurs on an unpublished block from Reisner's Giza tomb 2043, in the name *Kꜣ(.i)-rs*.
For simpler forms of Fig. a see James, *Corpus of Hieroglyphic Inscriptions in The Brooklyn Museum* I, pl. 3 (39); Hassan, *Gîza* II, fig. 20.

T21 *Ti*, pl. 120.

For the later form, with a double barb, see *Menkheperrasonb*, pl. 10; *Puyemrê*, pl. 68; *Ḳen-Amūn*, pl. 61; *Ramose*, pls. 28, 34; *Two Sculptors*, pl. 15.

T25
a *Ti*, pl. 170.
b *Ti*, pl. 5 (photograph).
c *BMMA* 28 (Nov. 1933, Pt. 2), 6, fig. 3; 29 (Nov. 1934, Pt. 2), 27, fig. 20 (same, reign of Sesostris I).
d Petrie, *Abydos* I, pl. 63 (reign of Amenophis I).

Fig. a faces left, while Fig. b faces right, with the tie behind; for other such exceptions, see *Saqqara Mastabas* I, pl. 12; *Ptahhetep* II, pl. 10 (but not vol. I, pl. 17 [391] facing right), Petrie, *Koptos*, pl. 9 (reign of Sesostris I). Also note that Gardiner's primary reference for the meaning of *ḏbꜣw* as "floats" should now be revised to *Mereruka*, pl. 13. For another example like Fig. b see *Ptahhetep* I, pl. 17 (391), and for other Middle Kingdom examples of Fig. c see E.L.B. Terrace, *Egypian Paintings in the Middle Kingdom* (New York, 1968), pls. 17, 25 (same) and Louvre C 34 (Wm. K. Simpson, *The Terrace of the Great God at Abydos* [New Haven, 1974], pl. 43; Old Kingdom examples occur sporadically in the Pyr. Texts: 157b (W), 270b (W), 744b (T), 1589b (N), 1612–1613 (N). For a Dyn. XIX example see Ricke, Hughes, Wente, *Beit el Wali* (Chicago, 1967), pl. 20.

T26, 27
a Petrie, *Medum*, pl. 10.*
b *Deir el Gebrâwi* II, pl. 15.
c Firth and Gunn, *Teti Pyramid Cemeteries*, p. 6.
d *Loc. cit.*

Other exx. of a: Edel and Wenig, *Jahreszeitenreliefs*, pls. A, 12, 18; W. K. Simpson, *Offering Chapel of Sekhem-ankh-Ptah* (Boston, 1976) pl. D; Herta Mohr, *Maṣṭaba of Hetep-her-akhti* (Leiden, 1943) fig. 25. Other exx. more similar to b: Dunham and Simpson, *Mersyankh III*, fig. 4; Borchardt, *Grabdenkmal Śaśḥu-reʿ* II, pl. 20; *Mereruka*, pl. 133; also, from the Middle Kingdom, *Beni Hasan* I, pl. 46, and from the New Kingdom, *Rekh-mi-Rēʿ*, pl. 105.

U1 *Ptahhetep* I, pl. 13.

U6
a *Loc. cit.**
b *Loc. cit.*

U13 *Ti*, pl. 112.*

U20 *Ti*, pl. 126.*

U21 *Ti*, pl. 129.

U22
a *Ti*, pl. 129.
b *Ti*, pl. 174.

U23
a Fakhry, *Monuments of Sneferu at Dahshur* II, fig. 234.*
b *Ptahhetep* I, pl. 13.*
c Reconstruction of use.
d Caminos, *Buhen* II, pl. 24 (*ꜣb*).
e Petrie, *Abydos* I, pl. 62 (reign of Amenophis I).

Another example like d for *ꜣb*: Moh. Aly *et al.*, *Temple d'Amada* IV, C29. For *mr*: R. A. Caminos and T. G. H. James, *Gebel es-Silsilah* I (London, 1963) pl. 36; Davies, *Tombs of Two Officials of Tuthmosis the Fourth*, pl. 13. The Gardiner form  appears in *Rekh-mi-Rēʿ*, pls. 15 (17, *ꜣb*), 24 (*mr*); *Puyemrê* II, pls. 46 (*ꜣb*), 68 (*mr*); Caminos and James, *Gebel es-Silsilah* I, pl. 62 (*mr*); *Ramose*, pl. 40 (*mr*); *Ḳen-Amūn*, pl. 13 (*ꜣb*, *mr*).

U25 a *Saqqara Mastabas* I, pl. 39.
b *Meir* V, pl. 17.*
c From a photograph: J. E. Quibell in *Le Musée Égyptien* III, fasc. 1 (1909) pl. 22.

The M.K. example of V25 dates to Sesostris III; another relatively early example, dating to the beginning of the following reign, again shows the cord at the center (Louvre C5, Simpson, *The Terrace of the Great God at Abydos* [New Haven, 1974], pl. 3).

U27 *Deir el Gebrâwi* I, pl. 13.

U29 *Mereruka*, pl. 52.

Other exx. like the one illustrated: James, *Hieroglyphic Texts* I², pl. 26 (2); James and Apted, *Khentika*, pl. 19 (C 1); Simpson, *Mastabas of Qar and Idu*, fig. 35 (top left).

U30 a *Saqqara Mastabas* I, pl. 40.*
b B. van de Walle, *Chapelle de Neferirtenef* (Brussels, 1978) pl. 7.

For a New Kingdom ex. of Figure b see *Picture Writing*, pl. 8 (3); similarly *Ramose*, pl. 42.

U34 a Firth and Gunn, *Teti Pyramid Cemeteries*, p. 36 (newly drawn from a photograph).
b Howard Carter in *Beni Hasan* IV, pl. 15.

U36 *Ti*, pl. 164.

V2 a *Ti*, pl. 174.*
b Caminos, *Buhen* II, pl. 35.

V4 *Ti*, pl. 168.*

V17, 18 a Borchardt, *Grabdenkmal Śaꜣḥu-reʿ* II, pl. 18.
b *Ptahhetep* I, pl. 16.
c Lacau and Chevrier, *Une Chapelle*, épigraphie pl. 19 (28).
d *Ti*, pl. 124.

Other exx. like a and b: John Garstang, *Mahâsna and Bêt Khallâf* (London, 1902) pl. 19; A. H. Gardiner, T. E. Peet and J. Černý, *Inscriptions of Sinai* I (London, 1952) pl. 4 (3); Mariette, *Mastabas de l'Ancien Empire*, p. 366; Drioton, *ASAE* 43 (1943) fig. 67, p. 500; Hassan, *Gîza* VI, Pt. 3, figs. 143–146; *Meir* V, pls. 16, 18, 19, 21, 33, 34 (all in names); a slightly different form in *JNES* 16 (1957) pl. 33 (G). Also at least one Middle Kingdom survival of this type: J. de Morgan, *Fouilles à Dahchour en 1894–1895* (Vienna, 1903) fig. 128, p. 85.

V23 *Ti*, pl. 114.*

V24, 25 a *Ti*, pl. 152.
b *Hieroglyphs*, pl. 9 (180).*

V28 Firth and Gunn, *Teti Pyramid Cemeteries*, fig. 37, p. 35.

For the term *ḥrt* "wick," see also *Lexikon der Ägyptologie* II, pp. 80 f., note 2 and figure.

V29
a From a photograph: Goedicke, *MDIK* 21 (1966) pl. 3.
b Hassan, *Gîza* I, fig. 173.
c *Ti*, pl. 174.
d Junker, *Gîza* V, fig. 26.
e *Egyptian Studies* II, fig. 67 (corrected from photograph).

Further exx. like e: from the Old Kingdom—Simpson, *Mastabas of Qar and Idu*, fig. 22 (a); from the Middle Kingdom—*Meir* II, pl. 8; from the New Kingdom—*Rekh-mi-Rēʿ*, pls. 22, 26 (8); *Menkheperrasonb*, pls. 24, 44; *Ramose*, pls. 17, 21; Brunner, *Die südlichen Räume*, pls. 156–157.

V31
a *Ti*, pl. 124.*
b Junker, *Gîza* III, fig. 16.*

Other Old Kingdom exx. like b: H. F. Lutz, *Egyptian Tomb Steles and Offering Stones* (Leipzig, 1927) pl. 1; James, *Hieroglyphic Texts* I², pl. 3 (3). This amount of detail is also shown in Middle Kingdom examples: Lacau and Chevrier, *Une Chapelle*, épigraphie pl. 19 (6); Cottevieille-Giraudet, *Médamoud (1931): Les Monuments du Moyen Empire*, pl. 40. New Kingdom examples could also be cited.

W2 *JNES* 18 (1959) p. 129 (= Borchardt, *Grabdenkmal Ne-user-reʿ*, pl. 14).

For other exx. see Balcz, *MDIK* 5 (1934) pp. 79–85.

W3 Junker, *Gîza* II, fig. 18.

In one Old Kingdom example (James, *Hieroglyphic Texts* I², pl. 26 [BM 658]) the shape of the bowl is different, having a shoulder and everted rim ().

W11 Adapted from J. E. Quibell, *El Kab* (London, 1898) pls. 11 (11), 12 (40, 45).

W18 *Saqqara Mastabas* I, pl. 39.

Other exx. of the double tier of jars: Jean Capart, *Recueil de monuments égyptiens* II (Brussels, 1905) pl. 54; Borchardt, *Grabdenkmal Śaśḥu-reʿ* II, pl 8; Martin, *Tomb of Ḥetepka*, pl. 19(9).

W24 *Ti*, pl. 120.

Y2 *Saqqara Mastabas* I, pl. 40.

Aa1 Early examples of the second form, with diagonal striations, are most apt to occur in semi-cursive writing: e.g. Scott, *BMMA* 31 (1973), 127, fig. 3 (acc. no. 28.9.5).

Aa5 *Ti*, pl. 169.*

Aa17
a Borchardt, *Grabdenkmal Śaśḥu-reʿ* II, pl. 1.
b Goedicke, *JEA* 45 (1959) p. 100 (= Hassan, *Excavations at Saqqara 1937–38* I, pl. 35B).

Other exx. like a: *Ti*, pls. 165, 166; R. Macramallah, *Fouilles à Saqqarah: Mastaba d'Idout* (Cairo, 1935) pl. 20. Other exx. like b: Jéquier, *Monument funéraire de Pepi II*, II, pl. 9; Simpson, *Mastabas of Qar and Idu*, fig. 33.

Aa20

a Borchardt, *Grabdenkmal Ne-user-reʿ*, fig. 49, p. 71 (context same as c below).
b From a photograph: Reisner, *History of the Giza Necropolis* I, pl. 31 (and cf. fig. 241).
c Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pl. 52.
d Hans Wolfgang Müller, *Die Felsengräber der Fürsten von Elephantine*, fig. 43.

For the last cf. Gardiner, *ÄZ* 45 (1908), pls. 6 (9), 7 (9). This is normalized in *Urk.* VII, p. 2 (16, 19).

Aa27

*Saqqara Mastabas* I, pl. 9.

Aa29

a From a photograph: J. E. Quibell, *Excavations at Saqqara (1911–12): Tomb of Hesy* (Cairo, 1913) pl. 32.*
b Borchardt, *Grabdenkmal Śaȝḥu-reʿ* II, pl. 54.
c Junker, *Gîza* VII, fig. 50.*

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