VISIBLE LANGUAGE

INVENTIONS OF WRITING IN THE ANCIENT MIDDLE EAST AND BEYOND

edited by

CHRISTOPHER WOODS

with the assistance of

GEOFF EMBERLING & EMILY TEETER

ORIENTAL INSTITUTE MUSEUM PUBLICATIONS • NUMBER 32 THE ORIENTAL INSTITUTE OF THE UNIVERSITY OF CHICAGO Library of Congress Control Number: 2010932119 ISBN-10: 1-885923-76-7 ISBN-13: 978-1-885923-76-9

©2010 by The University of Chicago. All rights reserved. Published 2010. Printed in the United States of America.

The Oriental Institute, Chicago

Oriental Institute Museum Publications No. 32

Series Editors • Leslie Schramer and Thomas G. Urban

Series Editors' Acknowledgments

Rebecca Cain, Thomas R. James, Plamena Pehlivanova, Foy Scalf, and Natalie Whiting assisted in the production of this volume. Dawn Brennan, at press time, provided much needed help.

This volume has been published in conjunction with the exhibition Visible Language: Inventions of Writing in the Ancient Middle East and Beyond.

Published by The Oriental Institute of the University of Chicago 1155 East 58th Street Chicago, Illinois 60637 USA oi.uchicago.edu

Front Cover Illustration: Perforated Tag (Catalog No. 41) and Inlay for Small Cosmetic Box (Catalog No. 72) on an Early Dynastic Lexical List (Catalog No. 56) and Cippus (Healing Statue) (Catalog No. 82); Back Cover: Arrowhead Inscribed in Proto-Caananite (Catalog No. 91)

Cover Design by Diane Hanau-Strain

Publication of this book was made possible by the generous support from The Women's Board of the University of Chicago

Printed by M&G Graphics, Chicago, Illinois

The paper used in this publication meets the minimum requirements of American National Standard for Information Service — Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984

10. PTOLEMAIC HIEROGLYPHS

FRANÇOIS GAUDARD

The designation "Ptolemaic hieroglyphs" is used by Egyptologists to refer to the script employed by the scribes of Egyptian temples after the conquest of Egypt by Alexander the Great until the end of the second century AD. Also called figurative or cryptographic hieroglyphs, they are not only synonymous with extreme complication, obscure puns, and strange puzzles, but also with intense challenge and excitement. Their figurative nature misled early scholars into regarding the hieroglyphic script as purely symbolic.

To a layman these signs would probably look like standard hieroglyphs, but to an uninitiated Egyptologist their interpretation is like exploring a terra incognita, and for good reason. Indeed, during the Middle Kingdom and the beginning of the New Kingdom, the number of signs commonly used by the scribes totaled about 760, but in the latest periods of Egyptian history many new signs were created and the corpus of hieroglyphs grew to several thousand signs (see, e.g., Daumas et al. 1988–1995). Concurrently, there was also a significant increase in the number of phonetic values that could be attributed to a single sign. A hieroglyph that in classical Egyptian was read in one or two ways could now have up to twenty or even thirty different readings, as in the case of the sign \bigcirc , usually identified as a pustule. Moreover, a single word could also be written in various and complicated ways, making the script all the more difficult to decipher.

However, if it is true that the use of cryptography reached its peak during the Greco-Roman period, it was not restricted to that era. Indeed, sportive writings are attested, although rarely, as early as the Old Kingdom. They were used during the Middle Kingdom and also occurred, for instance, in the royal funerary compositions of the New Kingdom inscribed in tombs such as those of Tutankhamun and Ramesses VI (see, e.g., Darnell 2004). It is in these early examples that the origins of the principles of cryptography in the Ptolemaic and Roman periods must be sought. As unpredictable as such a system may seem at first sight, it was nonetheless logical and followed precise rules. What makes the signs so difficult to interpret is in fact the innovative approach used by scribes to apply old principles. Some of the ways through which signs could acquire their values were:

- The "consonantal principle," by which multi-consonantal signs could retain only the value of their strongest consonant (e.g., the sign r, usually read *ib*, could stand for the letter *b*, its weak consonant, namely, *i*, being dropped).
- 2) The "acrophonic principle," by which multi-consonantal signs could retain only the value of their first consonant, regardless of whether it was strong or weak (e.g., the sign sign, usually read *wn*, could stand for the letter *w*).
- 3) The "rebus principle," by which a word could be written using a picture of something that had the same sound (e.g., the sign ∬ from the word mn(t) "thigh" could stand for the phonogram mn(t) in the word ∬ ∬ ∑ mnmnt "herd of cattle," the standard writing of which was □ ∑ ∑ ∑ []].
- 4) The "pars pro toto principle," by which part of a sign could stand for the entire sign (e.g., the sign of the pupil could stand for the whole eye <>>>, hence the writing of the verb m³? "to see" as ○○ instead of <>>, a more traditional writing being <>>>).

Other reasons, including direct representation, derivation from hieratic, or the combination of several of the above-mentioned principles, could also be at the origin of a sign's value, but such a study is beyond the scope of the present discussion.¹

One of the consequences of the application of these principles was a break with the traditional orthographic conventions, making the words much more difficult to recognize. For example, let us consider the word right right "joy," which could be written $\langle N \rangle$, with the gods Re ($\langle N \rangle$) and Shu ($\langle N \rangle$) standing respectively for the sounds *r* and *šw*, and the goddess Tefnut (\mathbb{N}) for the final *t*. Also noteworthy is the sign of the head \bigodot , which could stand for the number seven """ *sfh*, simply because the head has seven openings, namely, two eyes, two ears, two nostrils, and a mouth. It also worked the other way around, and for the same reason the number seven could stand for the word \Re *tp* "head." Of course, depending on the context, the sign \Re could be read as *tp* "head" and the group ¹¹¹¹ be read as *sfh* "seven," since traditional writings were used concurrently with new ones. As mentioned above, there was also a significant increase in the number of phonetic values that could be attributed to a single sign. As a matter of interest, the traditional readings of the vulture hieroglyph 💭 were *mt*, *mwt*, and sometimes *nr*, but in Ptolemaic hieroglyphs the same sign could be read as the phonograms m, n, nr, nh, š, št³, šty, qd, t, ty, tyw, t, d, or as the words wnm "right," mwt "mother," mki "to protect," niwt "city," nri "to fear," nrt "vulture," ntrt "goddess," rmt "man," and rnpt "year." The use of new signs and innovative combinations of signs were also frequent. For example, the vulture hieroglyph could be combined with the horns of an ∞ \bigcirc . As a result, the new sign 🐩 was read *wpt-rnpt* "New Year's Day" (lit., "the opening of the year"), with the horns standing here for the word *wpt* "opening," and the vulture for *rnpt* "year." Note that the traditional writings of *wpt-rnpt* were $\bigvee_{\square} \bigoplus_{\square}$ or \bigvee_{\square} . Another good example is the divine name Wnn-nfrw "Onnophris," a designation for Osiris that could display several new forms, including, among others: 1) 🖄 (a desert hare [wn] holding the sign of the heart and windpipe [nfr]; 2) (+) (a flower [wn] within a coiled lotus [nfr]); 3) (Try) (two lotus flowers [respectively wn and *nfr*] within a cartouche, with the variants B and B). Similarly, writings of the traditional title + *nsw*bity "King of Upper and Lower Egypt" were as various as X), R, R, R, R, M, or A. Sometimes a single sign could even stand for an entire phrase, as in the case of the sign \Re_{\sim} rendering the phrase di 'nh mi R' "given life like Re," traditionally written a solar disk (\mathbb{R}^{c}) on its head and giving (di) an ankh, symbol of life ('nh).²

egesis, the ancient priests realized that the system could be pushed one step further. Indeed, in addition to being used for their phonetic values, the signs themselves, by their very shape, could also recall ideas and theological concepts. A well-known example is the name of the Memphite creator god Ptah, whose traditional writing $\stackrel{\square}{\frown} \\ in Pth$ is also attested under the cryptographic form 🖉 consisting of the sign \square pt "sky" standing for \square p, the god Hh"Heh" for \S *h*, and the sign \bigcirc *t*? "earth" for \bigtriangleup *t*. Note that for symbolic reasons these three logograms appear as *pht*, but the correct phonetic order, namely, pth, was easy to restore for someone in the know. The ingenious selection and disposition of the signs in the group 🔛 depicting the god Heh with upraised arms, separating the earth from the sky, evoked the creation of the world performed by the god Ptah according to the Memphite theology. Thus, with a single group of signs, one could both read the name of Ptah (*Pth*) expressed in cryptographic form and be reminded of a major act of creation. This complicated process tended to be used in conjunction with a system by which the meaning of divine and geographical names, in particular, could be explained through sacred etymologies based on puns. By virtue of this principle of verbal analogy, the name of the god Amun () ^{annann} 'Imn, whose pronunciation was similar to that of the word imn "to be hidden," could also be written using the sign of the man hiding behind a wall 🖔 . On the basis of this etymology, the god could be referred to as "the hidden one." Another cryptogram of Amun, already known from earlier periods, was the graphic combination *example*, for which various interpretations have been proposed. One of the most convincing is the following (see Van Rinsveld 1993): the sign _____, used for the word *iw* "island," can also stand for the letter *i*. As for the sign _____, it is nothing but the standard writing of the letter *n*. In the group (m, n), note that m is in (m, i). Given that the preposition "in" corresponds to *m* in Egyptian, the phrase "*n* in *i*" was said *n m i*, which was also the name of Amun written backwards (nmi for *imn*). Therefore, the name of the chief god of Thebes was hidden twice, first in the cryptogram and again in the retrograde writing *nmi*, which perfectly fits the above-mentioned etymology of his name. As artificial and inaccurate as it may seem to modern

In a quest for virtuosity in their theological ex-

eyes, this method was nonetheless extremely popular during all periods of Egyptian history.

Depending on the nature of the texts, the Ptolemaic hieroglyphic script could exhibit greater or lesser degrees of complication. One can in fact distinguish between two types of scripts: the first type, which could be referred to as "common," includes a certain percentage of new signs and phonetic values, but once these are known, texts written in such a script can generally be read without major difficulties. However, the other type of script, where each sign has been carefully chosen, is extremely complicated and would even pose a challenge to an experienced Egyptologist (see Sauneron 1974, p. 46). Texts of this latter type are well represented by two famous hymns inscribed in the hall of the temple of Esna in the late first century AD, one of them being composed almost entirely with signs depicting a ram and the other with signs depicting a crocodile (see, e.g., Leitz 2001).

When confronted with such a profusion of subtleties, complications, and sophisticated signs, the reader may wonder about the motivations of the ancient scribes. While it might be tempting at first to see this system as a means of concealing sacred knowledge from the uninitiated, several indications seem to point in a different direction, making such an explanation rather unlikely. Indeed, due to their placement high on the walls, several of the texts inscribed in temples remained illegible to the visitor and were obviously not meant to be read (see Sauneron 1982, p. 51). For this reason, there was apparently no need to hide their content, since they "were effectively answerable in detail only to the gods" (Baines 2007, p. 47). Moreover, important theological texts could be composed in a perfectly accessible script, while inscriptions of lesser importance were sometimes written in a highly cryptographic one (see Sauneron 1982, p. 52). All of this suggests that the use of such a script should best be viewed as part of an intellectual game rather than as a deliberate attempt at hiding any secret lore.

Some scholars wrongly considered Ptolemaic hieroglyphs to be a degenerate product of a civilization in decline, whereas we are in fact dealing with the ultimate outcome of an age-old science, whose keepers' boundless ingenuity and deep knowledge command respect and admiration.

NOTES

¹ For further discussion, see, for example, Kurth 2007; compare also Fairman 1943 and 1945.

² On the process of creating new signs from older signs by assimilation or amalgam and on the influence of hieratic on the hieroglyphic script, see Meeks 2004, pp. x-xviii.

BIBLIOGRAPHY FOR EGYPTIAN ESSAYS

Allen, Thomas George

1960 The Egyptian Book of the Dead: Documents in the Oriental Institute Museum at the University of Chicago. Oriental Institute Publications 82. Chicago: University of Chicago Press.

Andrássy, Petra; Julia Budka; and Frank Kammerzell, editors

2009 Non-textual Marking Systems: Writing and Pseudoscript from Prehistory to Modern Times. Lingua Aegyptia, Series Monographica 8. Göttingen: Seminar für Ägyptologie und Koptologie.

Baines, John

- 1989 "Communication and Display: The Integration of Early Egyptian Art and Writing." *Antiquity* 63: 471–82.
- 1999 "Scrittura e società nel più antico Egitto." In Sesh: Lingue e scritture nell'antico Egitto — inediti dal Museo Archeologico di Milano, edited by Francesco Tiradritti, pp. 21–30. Milan: Electa.
- 2004 "The Earliest Egyptian Writing: Development, Context, Purpose." In *The First Writing: Script Invention as History and Process*, edited by Stephen Houston, pp. 150–89. Cambridge: Cambridge University Press.
- 2007 Visual and Written Culture in Ancient Egypt. New York: Oxford University Press.
- Boehmer, Rainer; Günter Dreyer; and Bernd Kromer
 - 1993 "Einige frühzeitliche 14C-Datierungen aus Abydos und Uruk." *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 49: 63–68.

Brewer, Douglas J., and Emily Teeter

1999 *Egypt and the Egyptians.* Cambridge: Cambridge University Press.

Breyer, Francis

2002 "Die Schriftzeugnisse des prädynastischen Königsgrabes U-j in Umm el-Qaab: Versuch einer Neuinterpretation." *Journal of Egyptian Archaeology* 88: 53–65.

de Buck, Adriaan

1961 *Egyptian Coffin Texts,* Volume 7: *Texts of Spells 787-1185.* Oriental Institute Publications 87. Chicago: University of Chicago Press.

Coppens, Filip

2007 The Wabet: Tradition and Innovation in Temples of the Ptolemaic and Roman Period. Prague: Czech Institute of Egyptology.

Damerow, Peter

2006 "The Origins of Writing as a Problem of Historical Epistemology." *Cuneiform Digital Library Journal* 1. [online publication]

Darnell, John C.

2004 The Enigmatic Netherworld Books of the Solar-Osirian Unity: Cryptographic Compositions in the Tombs of Tutankhamun, Ramesses VI and Ramesses IX. Orbis Biblicus et Orientalis 198. Fribourg: Academic Press; Göttingen: Vandenhoeck and Ruprecht.

Daumas, François, et al.

- 1988–95 Valeurs phonétiques des signes hiéroglyphiques d'époque gréco-romaine. Institut d'Égyptologie, Université Paul-Valéry. 4 volumes. Montpellier: Université de Montpellier.
- Davies, Nina
 - 1936 *Ancient Egyptian Paintings*, Volume 1. Chicago: University of Chicago Press.

Davies, W. V.

1987 *Egyptian Hieroglyphs.* Reading the Past 6. Berkeley: University of California Press.

Depauw, Mark

1997 *A Companion to Demotic Studies.* Papyrologica Bruxellensia 28. Brussels: Fondation Égyptologique Reine Élisabeth.

Dreyer, Günter

1987 "Ein Siegel der frühzeitlichen Königsnekropole von Abydos." *Mitteilungen des Deutschen archäologischen Instituts, Abteilung Kairo* 43: 33–43.

Dreyer, Günter; E.-M. Engle; Ulrich Hartung; Thomas Hikada; E. Christina Köhler; and Frauke Pumpenmeier

1996 "Umm el-Qaab: Nachuntersuchungen im frühzeitlichen Königsfriedhof 7./8. Vorbericht." *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 52: 11–81.

Dreyer, Günter; Ulrich Hartung; and Frauke Pumpenmeier

1998 Umm el-Qaab, Volume 1: Das prädynastische Königsgrab U-j und seine frühen Schriftzeugnisse. Archäologische Veröffentlichungen des Deutschen Archäologischen Instituts in Kairo 86. Mainz: Philipp von Zabern.

Dunham, Dows

1937 Naga-ed-Der Stelae of the First Intermediate Period. Boston: Museum of Fine Arts.

Emery, Walter B.

- 1939 *Hor-Aha.* Excavations at Saqqara 20. Cairo: Government Press.
- 1949 *Great Tombs of the First Dynasty at Saqqara I.* Excavations at Saqqara 22. Cairo: Government Press.

Fairman, Herbert W.

- 1943 "Notes on the Alphabetic Signs Employed in the Hieroglyphic Inscriptions of the Temple of Edfu, with an Appendix by Bernhard Grdseloff." Annales du Service des Antiquités de l'Égypte 43: 191–318.
- 1945 "An Introduction to the Study of Ptolemaic Signs and Their Values." Bulletin de l'Institut français d'archéologie orientale 43: 51–138.

Fischer, Henry

- 1977 *The Orientation of Hieroglyphs*. Egyptian Studies 2. New York: Metropolitan Museum of Art.
- 1986 L'écriture et l'art de l'Égypte ancienne: quatre leçons sur la paléographie et l'épigraphie pharaoniques. Paris: Presses universitaires de France.

Foreman, Werner, and Stephen Quirke

1996 *Hieroglyphs and the Afterlife.* Austin: University of Texas Press.

Frangipane, Marcella, editor

2007 Arslantepe — Cretulae: An Early Centralised Administrative System before Writing. Arslantepe 5. Rome: Università degli Studi La Sapienza.

Gallo, Paolo

1997 Ostraca demotici e ieratici dall'archivio bilinguale di Narmouthis, Volume 2: Nn. 34-99. Pisa: Edizioni ETS.

Gardiner, Alan H.

- 1930 A New Letter to the Dead." Journal of Egyptian Archaeology 16: 19–22.
- 1957 Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs. 3rd edition. Oxford: The Griffith Institute.

Gelb, Ignace J.

1963 A Study of Writing. Chicago: University of Chicago Press.

Goedicke, Hans

1988 Old Hieratic Palaeography. Baltimore: Halgo.

Graff, Gwenola

2009 Les peintures sur vases de Nagada I-Nagada II: nouvelle approche sémiologique de l'iconographie prédynastique. Egyptian Prehistory Monographs 6. Leuven: Leuven University Press.

Gratien, Brigitte, editor

2002 Le sceau et l'administration dans la vallée du Nil. Villeneuve d'Ascq 7-8 juillet 2000. Sociétés urbaines en Égypte et dans le Soudan; Cahiers de Recherches de l'Institut de Papyrologie et d'Égyptologie de Lille 22. Villeneuve d'Ascq: Université Charles-de-Gaulle - Lille 3.

Hall, Harry R.

1913 *Catalogue of Egyptian Scarabs, etc., in the British Museum, Volume 1: Royal Scarabs.* London: British Museum.

Hannig, Rainer

2006 Die Sprache der Pharaonen: Grosses Handwörterbuch Ägyptisch-Deutsch (2800–950 v. Chr.), Marburger Edition. Kulturgeschichte der Antiken Welt 64. Mainz: Philipp von Zabern.

Hartung, Ulrich

- 1998 "Prädynastische Siegelabrollungen aus dem Friedhof U in Abydos (Umm el-Qaab)." *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 54: 187–217.
- 2001 Umm el Qaab, Volume 2: Importkeramik aus dem Friedhof U in Abydos (Umm el-Qaab) und die Beziehungen Ägyptens zu Vorderasiens im 4. Jahrtausend v. Chr. Archäologische Veröffentlichungen des Deutschen Archäologischen Instituts in Kairo 92. Mainz: Philipp von Zabern.

Hasitzka, Monika

2004 *Koptisches Sammelbuch,* Volume 2. Mitteilungen aus der Papyrussammlung der Österreichischen Nationalbibliotek 23/2. Vienna: Hollinek.

Hassan, Fekri

- 1985 "Radiocarbon Chronology of Neolithic and Predynastic Sites in Upper Egypt and the Delta." *The African Archaeological Review* 3: 95–115.
- 184

Hawass, Zahi; Fekri Hassan; and Achilles Gautier

1988 "Chronology, Sediments, and Subsistence at Merimda Beni Salama." Journal of Egyptian Archaeology 74: 31–38.

Hendrickx, S.

2006 Predynastic – Early Dynastic Chronology." In Ancient Egyptian Chronology, edited by Erik Hornung, Rolf Krauss, and David A. Warburton, pp. 55–93. Handbuch der Orientalistik. Erste Abteilung, Nahe und der Mittlere Osten 83. Leiden: Brill.

Helck, Wolfgang

1987 Untersuchungen zur Thinitenzeit. Ägyptologische Abhandlungen 45. Wiesbaden: Harrassowitz.

Honore, Emmanuelle

2007 "Earliest Cylinder-seal Glyptic in Egypt." In Proceedings of the Internalional Conference in Naqada and Qus Region's Heritage, edited by H. Hanna, pp. 31–32. Alexandria: International Council of Museums.

Houston, Stephen

- 2004a The First Writing: Script Invention as History and Process. Cambridge: Cambridge University Press.
- 2004b "Writing in Early Mesoamerica." In *The First Writing: Script Invention as History and Process*, edited by S. Houston, pp. 274–312. Cambridge: Cambridge University Press.

Hughes, George R., and Richard Jasnow

1997 Oriental Institute Hawara Papyri: Demotic and Greek Texts from an Egyptian Family Archive in the Fayum (Fourth to Third Century B.C.). Oriental Institute Publications 113. Chicago: The Oriental Institute.

Janak, Jiri

2003 "Revealed but Undiscovered: A New Letter to the Dead." *Journal of Near Eastern Studies* 62: 275–77.

Janssen, Jac. J.

1987 "On Style in Egyptian Handwriting." *Journal of Egyptian Archaeology* 73: 161–67.

Jiménez-Serrano, Alejandro

2004 "Elephants Standing on Hills or the Oldest Name of Elephantine." In Egypt at Its Origins: Studies in Memory of Barbara Adams (Proceedings of the International Conference "Origin of the State. Predynastic and Early Dynastic Egypt," Krakow, 28th-1st September 2002), edited by S. Hendrickx et al., pp. 847–58. Orientalia Lovaniensia Analecta 138. Leuven: Peeters. 2007 "Principles of the Oldest Egyptian Writing." *Lin*gua Aegyptia 15: 47–66.

Joffe, Alexander

2000 "Egypt and Syro-Mesopotamia in the 4th Millennium: Implications of the New Chronology." *Current Anthropology* 41: 113–23.

Johnson, Janet H.

2001 Thus Wrote 'Onchsheshongy: An Introductory Grammer of Demotic. Studies in Ancient Oriental Civilizations 45. 3rd revised edition. Chicago: The Oriental Institute.

Jones, D.

2000 Index of Ancient Egyptian Titles, Epithets and Phrases of the Old Kingdom. British Archaeological Reports, International Series 866. Oxford: Archaeopress.

Kahl, Jochem

- 1994 Das System der ägyptischen Hieroglyphenschrift in der 0.-3. Dynastie. Göttinger Orientforschungen, IV. Reihe, Ägypten 29. Wiesbaden: Harrassowitz.
- 1995 "Zur Problematik der sogenannten Steuervermerke im Ägypten der 0.–1. Dynastie." In Divitiae Aegypti: Koptologische und verwandte Studien zu Ehren von Martin Krause, edited by Cäcilia Fluck, 168–76. Wiesbaden: L. Reichert.
- 2001 "Hieroglyphic Writing during the Fourth Millennium BC: An Analysis of Systems." *Archéo-Nil* 11: 101–34.
- 2002 Frühägyptisches Wörterbuch: Erste Lieferung. A-F. Wiesbaden: Harrassowitz.
- 2003 "Die frühen Schriftzeugnisse aus dem Grab U-j in Umm el-Qaab." *Chronique d'Egypte* 78: 112–35.

Kammerzell, Frank

2009 "Defining Non-textual Marking Systems, Writing, and Other Systems of Graphic Information Processing." In Non-textual Marking Systems, Writing and Pseudo-script from Prehistory to Modern Times, edited by Petra Andrássy, Julia Budka, and Frank Kammerzell, pp. 277–308. Lingua Aegyptia, Series Monographica 8. Göttingen: Seminar für Ägyptologie und Koptologie.

Kaplony, Peter

- 1963a Die Inschriften der ägyptischen Frühzeit, Volume 1. Ägyptologische Abhandlungen 8. Wiesbaden: Harrassowitz.
- 1963b *Die Inschriften der ägyptischen Frühzeit,* Volume 2. Ägyptologische Abhandlungen 8. Wiesbaden: Harrassowitz.

- 1963c *Die Inschriften der ägyptischen Frühzeit,* Volume 3. Ägyptologische Abhandlungen 8. Wiesbaden: Harrassowitz.
- Kemp, Barry J.
 - 2006 *Ancient Egypt: Anatomy of a Civilization.* 2nd edition. New York: Routledge.
- Klasens, Adolf
 - 1956 "Een grafsteen uit de eerste dynastie." Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheden te Leiden 37: 12–34.

Kuhlmann, K. P.

2008 "Prädynastischer Elfenbeinhandel entlang der Oasenroute? Anmerkungen zum Toponym 'Abydos.'" In Zeichen aus dem Sand: Streiflichter aus Ägyptens Geschichte zu Ehren von Günter Dreyer, edited by Eva-Maria Engel, Vera Müller, and Ulrich Hartung, pp. 421–26. Menes 5. Wiesbaden: Harrassowitz.

Kurth, Dieter

2007 Einführung ins Ptolemäische: Eine Grammatik mit Zeichenliste und Übungsstücken, Volume 1. Hützel: Backe-Verlag.

Legge, F.

1907 "The Tablets of Negadah and Abydos." *Proceedings of the Society of Biblical Archaeology* 29: 18–24, 70–73, 101–06, 150–54, 243–50.

Leitz, Christian

2001 "Die beiden kryptographischen Inschriften aus Esna mit den Widdern und Krokodilen." *Studien zur altägyptischen Kultur* 29: 251–76.

Loprieno, Antonio

2004 "Ancient Egyptian and Coptic." In *The Cambridge Encyclopedia of the World's Ancient Languages*, edited by Roger Woodward, pp. 160–216. Cambridge: Cambridge University Press.

McGovern, Patrick E.

2001 "The Origins of Tomb U-j Syro-Palestinian Type Jars as Determined by Neutron Activation Analysis." In Umm el-Qaab, Volume 1: Importkeramik aus dem Friedhof U in Abydos (Umm el-Qaab) und die Beziehungen Ägyptens zu Vorderasien im 4. Jahrtausend v. Chr., edited by U. Hartung, pp. 407–16. Archäologische Veröffentlichungen 92. Mainz: Philipp von Zabern.

Meeks, Dimitri

2004 *Les architraves du temple d'Esna: paléographie.* Paléographie hiéroglyphique 1. Cairo: Institut français d'archéologie orientale. De Meulenaere, Herman

1973 "Trois stèles inédites des Musées Royaux d'Art et d'Histoire." *Chronique d'Égypte* 48: 56–59.

Michalowksi, Piotr

1993. "On the Early Toponymy of Sumer: A Contribution to the Study of the Early Mesopotamian Writing." In *Kinattûtu sha dârâti: Raphael Kutscher Memorial Volume*, edited by Anson Rainey, pp. 119–35. Occasional Publications of the Institute of Archaeology of Tel Aviv University 1. Tel Aviv: Institute of Archaeology of Tel Aviv University.

Midant-Reynes, Béatrix

2000 The Prehistory of Egypt from the First Egyptians to the First Pharaohs. Translated by Ian Shaw. Oxford: Blackwell Publishers.

Möller, Georg

1909–12 Hieratische Paläographie: Die ägyptische Buchschrift in ihrer Entwicklung von der fünften Dynastie bis zur römischen Kaiserzeit. 3 volumes. Leipzig: J. C. Hinrichs.

Morenz, Ludwig

2004 Bild-Buchstaben und symbolische Zeichen: die Herausbildung der Schrift in der hohen Kultur Altägyptens. Orbis Biblicus et Orientalis 205. Fribourg: Academic Press; Göttingen: Vandenhoeck and Ruprecht.

de Morgan, Jacques

1897 Recherches sur les origines de l'Égypte: Ethnographie préhistorique et tombeau royal de Négadah. 2 volumes. Paris: E. Leroux.

Mosher, Malcolm, Jr.

1992 "Theban and Memphite Book of the Dead Traditions in the Late Period." *Journal of the American Research Center in Egypt 29:* 143–72.

Naville, Edouard

1914 The Cemeteries of Abydos, Volume 1: The Mixed Cemetery and Umm el-Ga'ab. London: Kegan Paul, Trench, Trubner.

Newberry, Percy E.

1912 "The Wooden and Ivory Labels of the First Dynasty." *Proceedings of the Society of Biblical Archae*ology 34: 278–89.

Niwinski, Andrzej

1989 Studies on the Illustrated Theban Funerary Papyri of the 11th and 10th Centuries B.C. Orbis Biblicus et Orientalis 86. Fribourg: Academic Press; Göttingen: Vandenhoeck and Ruprecht.

Pantalacci, Laure

- 1996 "Fonctionnaires et analphabètes: sur quelques pratiques administratives observées à Balat." Bulletin de l'Institut français d'archéologie orientale 96: 359–67.
- Parkinson, Richard
 - 1999 *Cracking Codes: The Rosetta Stone and Decipherment.* Berkeley: University of California Press.

Pätznick, Jean-Pierre

2005 Die Siegelabrollungen und Rollsiegel der Stadt Elephantine im 3. Jahrtausend v. Chr.: Spurensicherung eines archäologischen Artefaktes. British Archaeological Reports, International Series 1339. Oxford: Archaeopress.

Petrie, Wiliam M. F.

- 1900 Royal Tombs of the First Dynasty 1900, Part 1. Eighteenth Memoir of the Egypt Exploration Fund. London: Kegan Paul, Trench, Trubner.
- 1901 *Royal Tombs of the Earliest Dynasties, 1901,* Part 2. Twenty-first Memoir of the Egypt Exploration Fund. London: Kegan Paul, Trench, Trubner.
- 1902 *Abydos*, Volume 1. Twenty-second Memoir of the Egypt Exploration Fund. London: Egypt Exploration Fund.
- 1903 *Abydos,* Volume 2. Twenty-fourth Memoir of the Egypt Exploration Fund. London: Kegan Paul, Trench, Trubner.

Petrie, William M. F., and James E. Quibell

1896 Naqada and Ballas, 1895. British School of Archaeology in Egypt 1. London: B. Quaritch.

Porat, Naomi, and Yuval Goren

- 2002 "Petrography of the Naqada IIIa Canaanite Pottery from Tomb U-j in Abydos." In *Egypt and the Levant: Interrelations from the 4th through the Early 3rd Millennium BCE*, edited by Edwin C. M. van den Brink and Thomas E. Levy, pp. 252–70. London: Leicester University Press.
- Postgate, Nicholas; Taw Wang; and Toby A. H. Wilkinson
 - 1995 "The Evidence for Early Writing: Utilitarian or Ceremonial?" *Antiquity* 69: 459–80.

Quibell, James E.

1904–05 *Archaic Objects*, Volume 2. Catalogue général des antiquités égyptiennes du Musée du Caire 65. Cairo: Institut français d'archéologie orientale.

Regulski, Ilona

2008a "The Origin of Writing in Relation to the Emergence of the Egyptian State." In *Egypt at Its Origins*, Volume 2 (Proceedings of the International Conference Origin of the State: Predynastic and Early Dynastic Egypt, Toulouse, France, 5th–8th September 2005), edited by Béatrix Midant-Reynes and Yann Tristant, pp. 983–1008. Orientalia Lovaniensia Analecta 172. Leuven: Peeters.

- 2008b Online Database of Early Dynastic Inscriptions: http://www2.ivv1.uni-muenster.de/litw3/Aegyptologie/index06.htm
- 2009 "The Beginning of Hieratic Writing in Egypt." *Studien zur altägyptischen Kultur* 38: 259–74.
- 2010 A Palaeographic Study of Early Writing in Egypt. Orientalia Lovanensia Analecta 195. Leuven: Peeters.

Van Rinsveld, Bernard

1993 "Un cryptogramme d'Amon." In Individu, société et spiritualité dans l'Égypte pharaonique et copte: mélanges égyptologiques offerts au Professeur Aristide Théodoridès, edited by Christian Cannuyer and Jean-Marie Kruchten, pp. 263–68. Ath: Illustra.

Sauneron, Serge

- 1974 "L'écriture ptolémaïque." In Textes et langages de l'Égypte pharaonique: cent cinquante années de recherches, 1822-1972; hommage à Jean-François Champollion. Bibliothèque d'étude 64/1. Cairo: Institut français d'archéologie orientale.
- 1982 *L'écriture figurative dans les textes d'Esna.* Esna 8. Cairo: Institut français d'archéologie orientale.

Scharff, Alexander

1929 *Die Altertümer der Vor- und Frühzeit Ägyptens*, Volume 1. Ägyptischen Sammlung 4. Berlin: Verlag von Karl Curtius.

Schott, Erika

1969 "Die Sockelinschrift des Narmeraffen." *Revue* d'Égyptologie 21: 77–83.

Schweitzer, Simon D.

2005 *Schrift und Sprache der 4. Dynastie.* Menes: Studien zur Kultur und Sprache der ägyptischen Frühzeit und des Alten Reiches 3. Wiesbaden: Harrassowitz.

Seele, Keith

1947 "Oriental Institute Museum Notes: Horus on the Crocodiles." Journal of Near Eastern Studies 6/1: 43–52.

Senner, Wayne M.

1989 "Theories and Myths on the Origins of Writing."
In *The Origins of Writing*, edited by Wayne M.
Senner, pp. 1–26. Lincoln: University of Nebraska Press.

Shaw, Ian, editor

- 2000 *The Oxford Histrory of Ancient Egypt.* Oxford: Oxford Uiversity Press.
- Spencer, A. J.
 - 1980 *Early Dynastic Objects.* Catalogue of Egyptian Antiquities in the British Museum 5. London: The British Museum.
- Sternberg-El Hotabi, Heike
 - 1999 Untersuchungen zur Überlieferungsgeschichte der Horusstelen: Ein Beitrag zur Religionsgeschichte Ägyptens im 1. Jahrtausend v. Chr. Ägyptologische Abhandlungen 62. Wiesbaden: Harrassowitz.

Teeter, Emily

2003 Ancient Egypt: Treasures from the Collection of the Oriental Institute University of Chicago. Chicago: The Oriental Institute.

van den Brink, Edwin C. M.

- 1992 "Corpus and Numerical Evaluation of 'Thinite' Potmarks." In *The Followers of Horus: Studies Dedicated to Michael Allen Hoffman*, edited by Renée Friedman and Barbara Adams, pp. 265–96. Oxford: Oxbow Books.
- n.d. The International Potmark Workshop. Edwin C. M. van den Brink is moderator. http://www. potmark-egypt.com.

Vandier, Jacques

1952 Manuel d'archéologie égyptienne, Volume 1: Les époques de formation, Part 2: Les trois premières dynasties. Paris: A. et J. Picard.

Vernus, Pascal

- 1993 "La naissance de l'écriture dans l'Égypte ancienne." *Archéo-Nil* 3: 75–108.
- 2001 "Les premières attestations de l'écriture en Égypte pharaonique." *Aegyptus* 81: 13–35.

Vikentiev, Vladimir

1953–54 "Les monuments archaïques, Volume 6: La tablette en ivoire d'un haut fonctionnaire du roi de la 1^{re} dynastie Wenewty-Ouenephes." Bulletin de l'Institut d'Égypte 36/2: 293–315.

Watterson, Barbara

1984 The Gods of Ancient Egypt. New York: Facts on File.

Weill, Raymond

1961a Recherches sur la I^{re} dynastie et les temps prépharaoniques, Volume 1. Bibliothèque d'étude 38. Cairo: Institut français d'archéologie orientale. 1961b Recherches sur la I^{re} dynastie et les temps prépharaoniques, Volume 2. Bibliothèque d'étude 38. Cairo: Institut français d'archéologie orientale.

Wengrow, David

- 2006 The Archaeology of Early Egypt: Social Transformations in North-east Africa, 10,000 to 2650 B.C. Cambridge World Archaeology. Cambridge: Cambridge University Press.
- 2008 "Limits of Decipherment: Object Biographies and the Invention of Writing." In *Egypt at Its Origins*, Volume 2 (Proceedings of the International Conference Origin of the State: Predynastic and Early Dynastic Egypt, Toulouse, France, 5th–8th September 2005), edited by Béatrix Midant-Reynes and Yann Tristant, pp. 1021–32. Orientalia Lovaniensia Analecta 172. Leuven: Peeters.

Wente, Edward F.

- 1990 *Letters from Ancient Egypt.* Atlanta: Scholars Press.
- 1995 "The Scribes of Ancient Egypt." In *Civilizations of the Ancient Near East*, Volume 4, edited by Jack Sasson, pp. 2211–21. New York: Charles Scribner.

Wilfong, T. G.

- 1992 "Greek and Coptic Texts in the Oriental Institute Museum from the Exhibition 'Another Egypt.'" Bulletin of the American Society of Papyrologists 29: 85–95.
- 2003–04 "Two Coptic Tax Receipts from Jeme in the Kelsey Museum." Bulletin of the University of Michigan Museums of Art and Archaeology 15: 88–91.
- Wilkinson, Toby A. H.
 - 1999 *Early Dynastic Egypt.* New York: Routledge.

Williams, Ronald

- 1972 "Scribal Training in Ancient Egypt." Journal of the American Oriental Society 92/2: 214–21.
- Wilson, Penelope
 - 1997 A Ptolemaic Lexikon: A Lexicographical Study of the Texts in the Temple of Edfu. Orientalia Lovaniensia Analecta 78. Leuven: Peeters.

Winkler, Hans A.

1938 Rock-drawings of Southern Upper Egypt, Volume 1: Sir Robert Mond Desert Expedition, Season 1936– 1937, Preliminary Report. Archaeological Survey of Egypt 26. London: Egyptian Exploration Society.