

Innovative Scripts and Spellings in Roman Egypt:

Investigations into Script Conventions, Domains, Shift,
and Obsolescence as evidenced by
Hieroglyphic, Hieratic, Demotic, and Old Coptic Manuscripts

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Angelika, my LLW, you continue to inspire me.

Dedicated to Ma(mma)/Mum/Mutti (Love)

Neither of us knew I might make it this far,
but at least we didn't convince ourselves it wasn't worth a try!

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Abstract

Innovative Scripts and Spellings in Roman Egypt studies the hieroglyphic, hieratic, Demotic/demotic, and Old Coptic manuscripts which evidence the conventions governing script use, the domains of writing those scripts inhabited, and the shift of scripts and their domains, before the obsolescence of Egyptian writing during the Roman Period. Utilising macro-level frameworks from sociolinguistics, the textual culture from four case study sites of the 1st and 2nd centuries CE are contextualised within the communities of speech, script, and practice constituting the priesthoods that produced them. Utilising micro-level frameworks from linguistics, both the scripts of the Egyptian writing system written, and the way the orthographic methods fundamental to those scripts changed, are typologised. Additionally, this study treats the way in which logographic vs alphabetic orthographies are deciphered and understood by the reading brain, and the rationales behind (ortho)graphic shift, such as where conventional as opposed to innovative spellings sit along continua of orthographic depth. By analogy to language death in speech communities, current scholarship on script obsolescence in Mesoamerica, Mesopotamia, and Egypt is appraised, and by problematising generalised synoptic narratives of obsolescence, the phenomenon of domain-by-domain language and script shift is then compared directly to that of domain-by-domain obsolescence of the scripts of the Egyptian writing system. “Innovative scripts and spellings”

are analysed at Oxyrhynchus, Tebtunis, Soknopaiou Nesos, and Narmouthis, and a synthesis of the evidence these provide for script conventions, domains, shift, and obsolescence is undertaken. In doing so, this study draws conclusions on how the unprecedented pressures on priestly populations during the 2nd century CE are evidenced in, and a cause of, the (ortho)graphic innovations attested, and how this informs upon the domain-by-domain shift in conventions and scripts, and eventual tip of hieratic towards obsolescence during the 2nd century CE.

Abbreviations

Readers are directed to the Glossary for definitions of the terminology utilised throughout this study.

ČED: Černý, J., 1976, *Coptic Etymological Dictionary*, Cambridge.

CDD: Oriental Institute, University of Chicago, 2001, *The Demotic Dictionary of the Oriental Institute of the University of Chicago*, Chicago.

CCD: Crum, W. E., 1939, *A Coptic dictionary*, Oxford.

Dendara: Chassinat É., et al., *Le temple de Dendara*, Le Caire.

DWL: *Demotische Wortliste* (<https://www.dwl.aegyptologie.uni-muenchen.de/>)

EDG: Erichsen, W., 1954, *Demotisches Glossar*, Kopenhagen.

HPT: Osing, J., 1998, *Hieratische papyri aus Tebtunis I*, Copenhagen.

KZL: Kurth, D., 2008, *Einführung ins Ptolemäische: eine Grammatik mit Zeichenliste und Übungsstücken 2*, Hützel.

LGG: Leitz, C., Budde, D., Förster, F., von Recklinghausen, D., Ventker, B., 2002, *Lexikon der ägyptischen Götter und Götterbezeichnungen*, Leuven.

TM#¹: Trismegistos Number (<https://www.trismegistos.org/>)

TLA: *Thesaurus Linguae Aegyptiae* (<http://aaew.bbaw.de/tla/>)

Wb: Erman, A., Grapow, H., 1926-63, *Wörterbuch der ägyptischen Sprache*, Leipzig.

WPL: Wilson, P., 1997, *A Ptolemaic lexikon: a lexicographical study of the texts in the Temple of Edfu*, Leuven.

¹ Often given in lieu of comprehensive bibliographies of the cited manuscript.

Transliteration Conventions

Fortunately, as highlighted by Quack (2014a: 242), Demotists are already very accustomed to switching between systems. That said, the transliteration of “unetymological writing”, whether in hieroglyphs, hieratic or demotic, will utilise a system that illustrates the graphemes in each spelling², i.e. presenting an orthographic as opposed to linguistic transliteration, and where this leads to ambiguities, the lemma itself will be elucidated, e.g. s-nṯr-n-t-e-Kd (snṯr) “incense”. This is particularly crucial for lemmata which are obsolete in Demotic, and thus have no established orthography, e.g. ʕ-b-Kd (ʕb.w) “purity”.

The transliteration of lemmata written in conventional hieratic, i.e. pre-Demotic Egyptian, will follow the conventions of the *Thesaurus Linguae Aegyptiae* (TLA), while the transliteration of Demotic lemmata written in conventional demotic will follow the conventions of the *Chicago Demotic Dictionary* (CDD), with slight adaptations. Demotic determinatives are cited according to the abbreviations in the *Demotische Wortliste* (DWL).

As established in Linguistics, spellings/orthographies in modern alphabetically-written languages will be framed with <> brackets, e.g. the word “colour” has the orthography <colour> in British English and <color> in American English. Signs of Egyptian scripts, when cited on their own, will also be framed with <> brackets, e.g. <ḥ> for ḥ. As established in Linguistics, phonetic values of lexemes from modern languages will be framed with [] brackets, e.g. British [ˈkʌlə] <colour> and American [ˈkɒlər] <color> “colour”. Phonemes as conventionally transliterated from the Egyptian language, when cited on their own, will be

² I am sympathetic to Quack’s proposed system, deriving from Near Eastern studies (2014: 240), whereby historical-/root-groups can be distinguished typographically from consonantal signs and phonetic complements, e.g. ʕNH “to live” vs ʕNH (oath particle) and wr “Great one (m.)” vs WRry.t for wr.t “Great One (f.)”. Likewise, I appreciate that my use of hyphens transgresses one of Quack’s proposals that hyphens should only be used for lexical compounds (2014: 241). However, in defence of the latter convention, these transliterations are intended exclusively to illustrate the spelling of the word, while the hyphenation of signs also provides clarity in illustrating the demotic spellings of lemmata obsolete in Demotic, and therefore lacking any established conventional orthography in demotic. It is only Gardinerian convention which currently prevents me from utilising ʕ instead of ɔ̌ and ʕ instead of /t/, and a lack of familiarity which prevents me from utilising ṯ for t<d.

framed with // strokes, e.g. /ḥ/. In truth, /ḥ/ does not denote a phoneme in the way that [χ] denotes the voiceless velar fricative. However, within Egyptology /ḥ/ provides conventional reference to the phoneme rendered by the graphemes <ḥ>, i.e. hieroglyphic  as well as its hieratic and demotic derivatives, and .

Transcriptions of hieroglyphs and hieratic are rendered both right-to-left and left-to-right depending on the relevant context. When direct comparisons are made between demotic and hieratic or hieroglyphic spellings, the hieroglyphic transcript will be provided rendered right-to-left – consistent with demotic. When hieroglyphs are transcribed directly from textual sources in which they are written right-to-left, the hieroglyphic transcription will also be provided rendered right-to-left – consistent with that textual source. This is unless the hieratic is transcribed to allow direct comparison to be made with Old Coptic glosses, in which case the hieroglyphic transcript will be provided rendered left-to-right – consistent with Old Coptic. When hieroglyphic and hieratic spellings are not quoted from a textual source, but provided for reference, the hieroglyphic transcript will be provided rendered left-to-right – consistent with modern alphabetic writing. Consequently, the conventions utilised within this study change according to the relevant context of different chapters.

Translation Conventions

Passages cited in translation from their original language are given in inverted commas – ‘’ – as opposed to quotation marks – “”, which are used when the quotation is verbatim English.

“What’s interesting about the rules of language is that no one ever decided what they were.”

Steven Pinker³

³ “Steven Pinker on Language”, Word of Mouth, *BBC Radio 4*, 5th April 2016, <https://www.bbc.co.uk/programmes/b075pz7x>.

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1 Zenith and Nadir of the Egyptian Manuscript Tradition – Plurality and Obsolescence of Egyptian Writing in Roman Egypt

1.1 Research History, Development, and Aims

This study was catalysed by past research on Egyptian magical texts from Roman and Byzantine Egypt, and in particular those written in Old Coptic scripts, cf. Love 2016.

Old Coptic scripts are derived from the Greek alphabet, written in majuscule, augmented by a varying complement of demotic-derived graphemes to render the Egyptian phonemes which are absent from Greek. Dated sources exhibiting the use of these scripts – “Old Coptic sources” – are extant from the early 2nd to early 4th centuries CE. At the outset of this study, I sought to understand the “nature” of Old Coptic, i.e. its emergence, rationale behind its utilisation, role as a *supplement* to, rather than *substitute* for, other scripts of the Egyptian writing system, and relationship to the emergence of (Standard) Coptic, based on a collation, consultation, and (re-)edition of all published and unpublished Old Coptic sources.

I considered the received wisdom on Old Coptic contained within scholarly discourse on the phenomenon and sought to evaluate those conclusions – predominantly from outside Egyptology – within that comprehensive study of these Old Coptic sources.

Thus, this study began as an investigation into Old Coptic for its own sake and in relation to (Standard) Coptic, which emerged by the end of the 3rd century CE. However, the scope of this approach was soon deemed to be decontextualised, and thus unrepresentative. For those Old Coptic sources with a secure provenance, a contextualisation of their production and transmission during the Roman Period led to the realisation that they should not be studied in isolation, nor principally – let alone only – in relation to (Standard) Coptic, but in the context of the scripts of the Egyptian writing system that preceded and were contemporary with Old Coptic. Only then would it be possible to meaningfully explain the emergence, utilisation, transmission, and obsolescence of Old Coptic. The contextualisation of this “innovative” script alongside the “innovative” script of Bigraphic Coptic and the “innovative” spellings,

i.e. unconventional orthographic methods, utilised for writing hieroglyphic, hieratic, and demotic, led to the realisation that all conventional and innovative, i.e. unconventional, ways in which the Egyptian language could be written in the Roman Period were interrelated, utilised contemporaneously in different ways at different sites, and should thus be studied alongside one another.

By the Roman Period, the situation of language and script use had become the most complex of any period in Egyptian history, requiring of scribes the highest level of linguistic and philological specialisation. Literacy in scripts of the Egyptian writing system had become almost exclusively, in the case of demotic, and exclusively, in the case of hieratic and hieroglyphic, the preserve of temple priestly milieux. ‘Necessity is the mother of invention’, and from this outlook the question arose as to whether the rationale behind the emergence of innovative scripts and spellings in Roman Egypt was to *supplement* or *substitute* conventional Egyptian writing, and what the factors behind this ‘necessary’ change were. It became clear that two frameworks would be required for the description and analysis of the novel language- and script-based phenomena attested in Roman Egypt – at the macro-level of *which* languages were written and at the micro-level of *how* languages were written, as well as the factors that influenced these over time.

The “zenith” of Egyptian textual production attested during the Roman Period, spanning the 1st and 2nd centuries CE, was succeeded by a “nadir” in textual production by the early 3rd century CE from which it never recovered. Unlike previous periods of Egyptian history in which the volume of textual sources peaks and troughs according to the focus of archaeological fieldwork or accident of preservation, manuscript sources in the Egyptian language all but disappear by the middle of the 3rd century CE. Thus, this study could not investigate the innovative scripts and spellings of the Roman Period without engaging with the fact that this analytical temporal frame ended with the disappearance of manuscripts inscribed with texts written in scripts of the Egyptian writing system, and thus the broad obsolescence of

Egyptian writing. While, of course, there are textual sources in the Egyptian language dating to after the middle of the 3rd century CE, these are not upon the ephemeral medium of papyrus, and very few constitute substantial texts upon other manuscript media, e.g. ostraca. Therefore, while absence of evidence is not evidence of absence, and the chances of preservation severely impact the likelihood of the survival of manuscript, as opposed to monumental, e.g. epigraphic, sources, failing to acknowledge the sharp nadir in textual production at the four sites treated in this study as evidencing a significant change would be an analytical error.

Whether, and if so to what extent, innovative scripts and spellings inform upon the intergenerational transmission of functional literacy and factors leading to script obsolescence was therefore adopted into the investigation. Thus, the macro-level frameworks utilised comprise the analytical categories of the communities of language, script, and practice (2) alongside models of language and script obsolescence (3). Accordingly, the micro-level frameworks utilised comprise the phenomenon of orthographic depth, and its impact on written language learning and literacy, in addition to a novel typology of conventional demotic as well as unconventional hieratic and demotic orthography (4). This precedes the investigation of the script domains and textual culture production of four case study sites from Roman Egypt (1.2; 5-8), and a synthetic analysis of the implications of this study (9).

1.2 Case Studies of Priestly Populations

The four case study sites and their temple priestly milieux are introduced in this section (1.2.1), followed by a consideration of their population demographics and the pressures on them during the 2nd to 3rd centuries CE (1.2.2), as well as a treatment of the sources which inform upon priestly education, and thus literacy (1.2.3).

1.2.1 Particular Populations of Priests

Before each site and temple priestly milieu is introduced, because the temple priesthood as a community, and the textual culture each produced, are the superordinate categories of analysis in this study, it is important to summarise the structure of a temple, the functions of a priesthood, and the conceptions and practices behind the maintenance of a temple cult.

The tripartite nature of the Egyptian cosmos, that of the deities (ntr.w), transfigured spirits of the deceased (3h.w), and living/humans (rmt.w) relates to the duty of the living/humans to provide divine offerings (ḥtp-ntr) to the gods and offering loaves (p3w.t) for the transfigured spirits. In return, the divine will guarantee the Nile flood as opposed to drought, as well as order as opposed to chaos, ensuring that the inundation nourishes (sꜥnh) the living/humans, who – reciprocally and cyclically – can then carry out these offerings for the divine.

The nourishment, as well as clothing, cleansing, and housing of deities, who manifest in cult statues residing in temple sanctuaries, were the essential roles of each temple cult, and the subsistence of deities through the maintenance of these cults was essential to order in the cosmos, and thus natural cycles and societal serenity. Consequently, the temples can be understood as “function[ing] more as nuclear power plants than as churches or mosques” (Clarysse 2010: 274).

Although also the case in the Pharaonic and Ptolemaic Period, it was especially the case in the Roman Period that there could be much more to the role of a priest than a contribution towards the upkeep of the cult of a temple’s patron deity. While the inner court, sanctuary, and shrine within which the cult statue of the deity dwelt constituted a domain that was the preserve of priests, the outer court was an area in which the population could enter for their own ritual observances, as well as to consult priests on a multiplicity of issues: from remedies for their illnesses and injuries to consultations about their dreams (through interpreting handbooks or overnight incubations) and foreknowledge of their futures (through divinations, horoscopes, and omens), from the submission of oracle tickets and petitions to the practice of

magical rituals. Thus, serving a temple cult could have entailed performing various functions, from the mundane non-priestly roles of the lamp-lighters and door keepers (iri-ꜥ.w/παστοφόροι) to the priestly (wꜥb) roles of the (presumably) highly-educated and literate “scribes of the divine book” (shꜥ-mḏ.t-nṯr.w/πτεροφόροι) and “sacred scribes” (shꜥ-pr-ꜥnh.w/ιερογραμματεῖς), or the “god’s servants” (hm-nṯr.w/προφήται) and ‘dressers of the god’ (στολισταί) – the “small group of male initiates” who practiced the daily rituals in “hermetic isolation” (Clarysse 210: 277). These individuals comprised a temple priestly milieu, within which discernible communities were defined by their shared dimensions of experience in serving the cult of their patron deity (2.4).

1.2.1.1 Pemdje/Oxyrhynchus

Oxyrhynchus (Ὀξύρυγχος) is the Greek name of the Egyptian settlement “House of the Medjay/Medjat” (pr-mḏd/mḏ.t), Coptic ΠΕΜΧΕ/ΠΜΧΗ, modern el-Bahnasa¹. The site is situated on the west bank of the Bahr Yussef, an arm of the Nile which runs from the valley to the Birket el-Qarun in the Fayum, and is the most significant settlement on that route, with a desert road to the Bahariya Oasis also terminating at Oxyrhynchus (Grenfell and Hunt 2007: 346). Although the fame of Oxyrhynchus emanates from its status during the Graeco-Roman Period, the wealth and prestige of the site is already evidenced in the monumental family tombs of governors and priests of the Late Period², before the capital of the 19th Upper Egyptian Nome was moved to pr-mḏd/mḏ.t from spr-mrw (Mascort Roca 2016: 21; 25; 52). By association with the elephant-snout fish (Ὀξύρυγχος), Egyptian ḥꜥ.t, which was worshipped at Oxyrhynchus as a manifestation of Thoreris³, Egyptian tꜥ-wr.t, pr-mḏd/mḏ.t morphed from being the “House of the Medjat (i.e. Thoreris)” to the “City of the Sharp-Nosed

¹ For maps of the site, cf. Padró 2007: 131 figure 10.1; Subías Pascual 2008: 14 figure 1; Castellano i Solé 2009: 124 figure 1; Padró 2009: 14 figure 4; 18 figure 6; Padró and Hamza 2014: 18 figure 1. For Grenfell’s and Hunt’s revised site plan, cf. <https://tinyurl.com/G-HSitePlan>, and their draft site plan, cf. <https://tinyurl.com/G-HDraftPlan>. Recent investigations with modern technology and aerial surveying having begun to reveal the layout of the site, cf. Martínez García 2009; Subías 2011.

² For the Pharaonic history of the site, cf. Padró 2009: 7-10.

³ cf. Vleeming 2001: 248 #277; Inside Cover; Erroux-Morfin 2009: 129; Mascort Roca 2016: 27-28. This is a crucially-important clarification, because outside Egyptology it has been said that “there appears to be no reference to the cult of the oxyrhynchus [fish] in the Oxyrhynchite papyri” (Whitehorne 1995: 3078), because it is not understood that this fish is in fact a manifestation of Thoreris.

Fish (i.e. Thoeis)” (Ὁξυρρυγχιτῶν Πόλις). The growth of Oxyrhynchus to a bona fide metropolis and regional centre is – as with many factors relating to the site – attested in sources from the Roman Period.

Laying outside the cultivation, and lacking any modern settlement, Petrie had identified the site as archaeologically promising, and so Grenfell and Hunt, on behalf of the Egyptian Exploration Fund, undertook six seasons of excavation. The undisturbed rubbish mounds furthest from the modern settlement yielded papyri of the 1st to 4th century CE, those next furthest out of the Byzantine to early Islamic Period, while those nearest the modern village were of Medieval date, reflecting that the city reached its widest extent in the Roman Period, and had contracted ever since (Grenfell and Hunt 2007: 349). In 1896-1897, and again from 1903-1907, hundreds of thousands of papyrus fragments were extracted from the site – the vast majority in Greek, but also in Egyptian, Coptic, Latin, Hebrew, Syriac, and Arabic. With the damp layer of the mounds, below which papyri are not preserved, coinciding with the turn of 1st century BCE to 1st century CE, the search for Ptolemaic papyri was relatively fruitless – each mound usually yielded papyri dating to within a century or two of each other (Grenfell and Hunt 2007: 349; 351). Regrettably, these papyri lack an archaeological context, even with reference to the particular mound from which they were extracted, but given that “the Oxyrhynchus papyri were *discarded* documents, we would anyway have profited little from precise knowledge of where any particular papyrus was found” (Jones 1999: 4). Subsequent excavations were carried out at the site⁴, however, the Egyptian-language sources treated in this chapter are those held as part of the Oxyrhynchus Papyrus Collection in the Sackler Library of the University of Oxford, and therefore stem exclusively from the excavations by Grenfell and Hunt.

⁴ cf. Turner 1952: 80; Bowman, Coles, Gonis, Obbink and Parsons 2007: Chapters 5, 8, 9, and 10, as well as the fuller summary of the excavation history of the site, cf. Padró 2009: 12-15.

Figure 1.2.1.1a, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

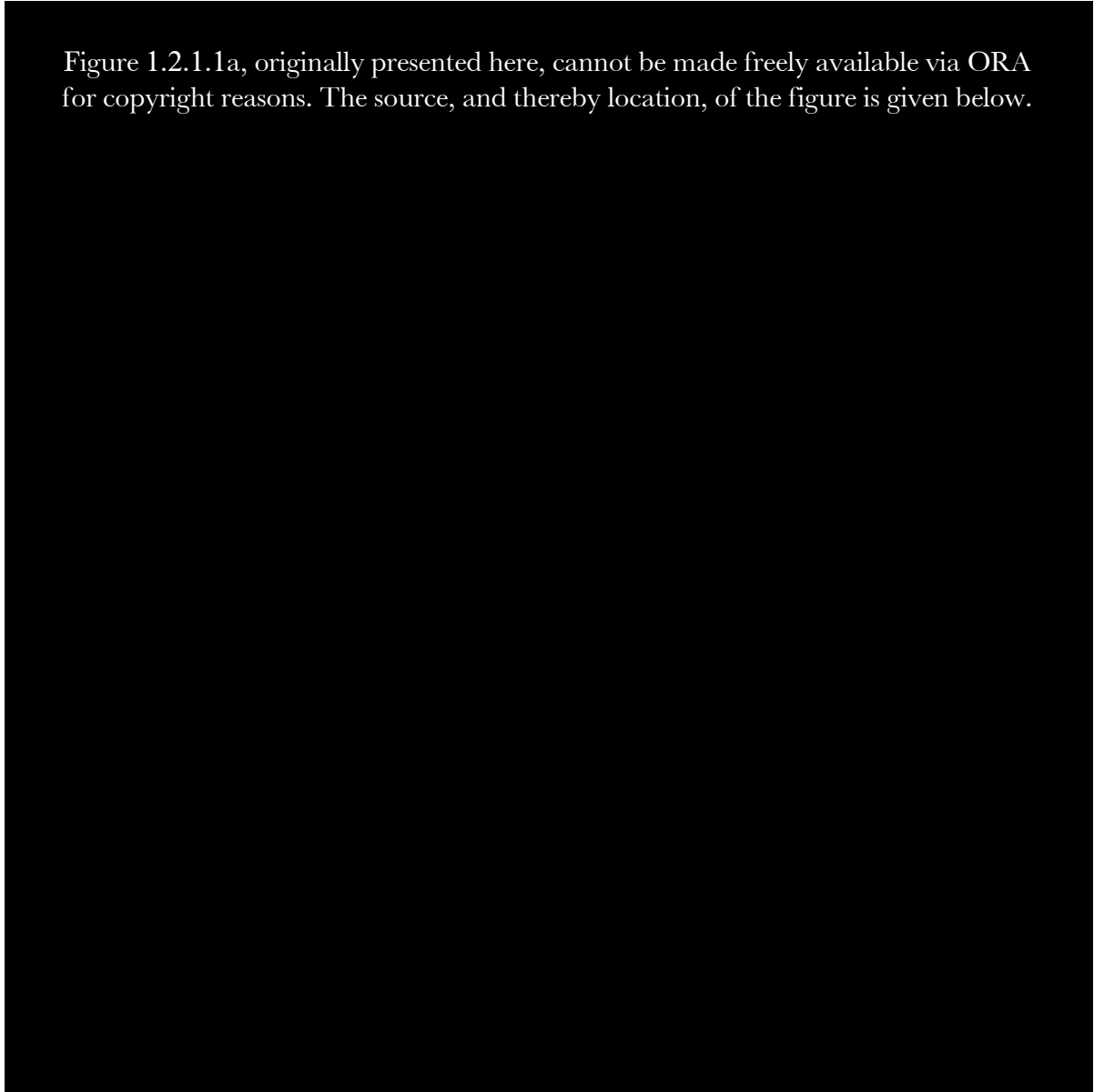


Figure 1.2.1.1a Grenfell's and Hunt's "revised site plan" indicating excavated mounds
(<https://tinyurl.com/G-HSitePlan>) © the Imaging Papyri Project, University of Oxford.

Figure 1.2.1.1b, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.1b Grenfell's and Hunt's "draft site plan" indicating the "Roman Mounds"
(<https://tinyurl.com/G-HDraftPlan>) © the Imaging Papyri Project, University of Oxford.

Figure 1.2.1.1c, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.1c Site Map of Oxyrhynchus (Padró and Hamza 2014: 17 figure 1.1).

From the more than 80 published volumes in *The Oxyrhynchus Papyri* series, including more than 5,000 individual manuscripts, the lost Roman Period city has sprung to life. By the turn of the 1st century CE, Oxyrhynchus was already an important municipal centre, and the capital of the Nome (Coles 2007: 3), but it was from the reign of Hadrian, who visited in 130/131 CE, that Oxyrhynchus was officially termed a *polis* “city” (Bowman 2007: 174). As had the Medjay more than a millennium before them, numerous Greek colonists of the Ptolemaic Period had, by the Roman Period, become established over the generations as local genealogies, and oftentimes dynasties. During the 2nd century CE it was the turn of a substantial Roman presence in the form of the Cohors III Ituraeorum, and veterans, to settle at the site⁵. Consequently, the Roman Period population of Oxyrhynchus was one not only descended from Egyptophones from the Nile valley and Fayum, and presumably a diversity of linguistic and ethnic groups from Lower Egypt, the western oases and desert, but also from individuals of Greek/Hellenic, Jewish, Near Eastern, and Roman ethnic, linguistic, and culture heritage.

Ascending perhaps to the status of Egypt’s Second City⁶ (Mascort Roca 2016: 41), the city’s peak population, in the 2nd century CE, has been suggested as 15,000-30,000⁷. During the 2nd to 3rd century CE, the settlement was enclosed by three miles of wall, with at least five gates – the Pharaonic monumental gate standing at the east (Padró 2009: 15; Mascort Roca 2016: 41). Colonnaded streets a mile long met in a central square. These two transverse arteries were the North Broad Street, which connected to the Serapis temple and the market, and the South Broad Street which connected the theatre with the Bahr Yussef, passing through the Tetrapylon⁸ of Thoeiris to the monumental eastern gate (Padró 2009: 17). The High

⁵ cf. Turner 1952: 86. For the possibility that Roman citizens and members of the Alexandrian elite also settled in the city, cf. Bowman 2007: 178, or that local elite families had obtained Alexandrian status and thus Roman citizenship, cf. Bowman 2001: 17; 2007: 179. Thomas (2007: 232-238) highlights, however, “that the number of Roman citizens resident on a permanent basis in Oxyrhynchus formed only a tiny fraction of the city population” (2007: 234).

⁶ For a reconstructed city plan, cf. Padró 2009: 16 figure 5.

⁷ cf. Bowman 2007: 171; 171 n.3; Epp (2007: 322), citing studies thereof in 2007: 322 n.1, settles with 20,000; Padró (2009: 15) states 30,000, without qualification. Consider also the references to various varied estimates in Blumell 2012: 2 n.9.

⁸ A monumental gate with four sides, built on a crossroads.

Street, running north to south, connected the Tetrastyle of Thoeris with the district of the hippodrome in the north (Padró 2009: 17). Not including the suburban area outside of the city walls⁹, the city covered around 3km² (2x1.5km)¹⁰ (Mascort Roca 2016: 42). The city's districts – numbering at least 20 in total – were named after their inhabitants (e.g. Cretan), their trades (e.g. of the artists of Dionysus), public buildings (e.g. of the North Quay) or temples (e.g. of Heracles) (Subías 2011: 101). The south-western side of the town featured the theatre, which could seat as many as 12,500 – “the third largest theatre in the Roman world” (Coles 2007: 10), while the eastern side of town, by the Bahr Yussef, featured two quays through which Oxyrhynchus acted as a “river port” (Subías 2011: 109), with the Treasury and Gymnasium nearby (Padró 2009: 15). Hadrianic/Antonine baths are also attested, connected to the Bahr Yussef by means of the Krios canal (Padró 2009: 15).

Unlike the other sites in this study, Oxyrhynchus was home to a plethora of temple institutions. Although the exact number of temples and associated cults can be difficult to discern from textual sources, given that there are a number of priests serving numerous temples, and temples that serve numerous deities¹¹, dozens can be identified. Historically, the deities worshipped in association with the 19th Upper Egyptian Nome are Seth¹², Nephthys, and Thoeris (Padró 2009: 10), with Late Period tombs also attesting priests serving cults to Neith, Khonsu the Child, Bastet, and Amun (Padró et al. 2007: 1444-1445; Amer 2009: 117-119). These Late Period sources, newly brought-to-light, provide crucial insights into the Pharaonic, and indeed Egyptian, institutional predecessors to the topography of temples known otherwise in principle only from Roman Period Greek-language sources.

⁹ The remains of a large Roman villa (Proasteion) are attested beyond the northern wall (Padró 2009: 17).

¹⁰ Earlier measurements, e.g. Turner 1952: 81; Coles 2007: 10; Grenfell and Hunt 2007: 346, and understandings of the layout of the site are outdated by the work of the University of Barcelona mission.

¹¹ e.g. P. Oxy. 12 1449 (213-217 CE) attests three different temples shared between Zeus/Amun, Hera/Isis, and the Syrian goddess Atargatis/Bethynnis, as well as Dionysus, Apollo, Neotera, and associated gods (Whitehorne 1995: 3062).

¹² Regarding the archaeological evidence of the site from the Late to Roman Period, Padró highlighted that there is no evidence for an enduring cult of Seth (2009: 22). However, P. Oxy. 12 1449 (213-217 CE) attests a Temple of Neotera, which also held a statue of Typhon (Whitehorne 1995: 3075-3076).

Figure 1.2.1.1d, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

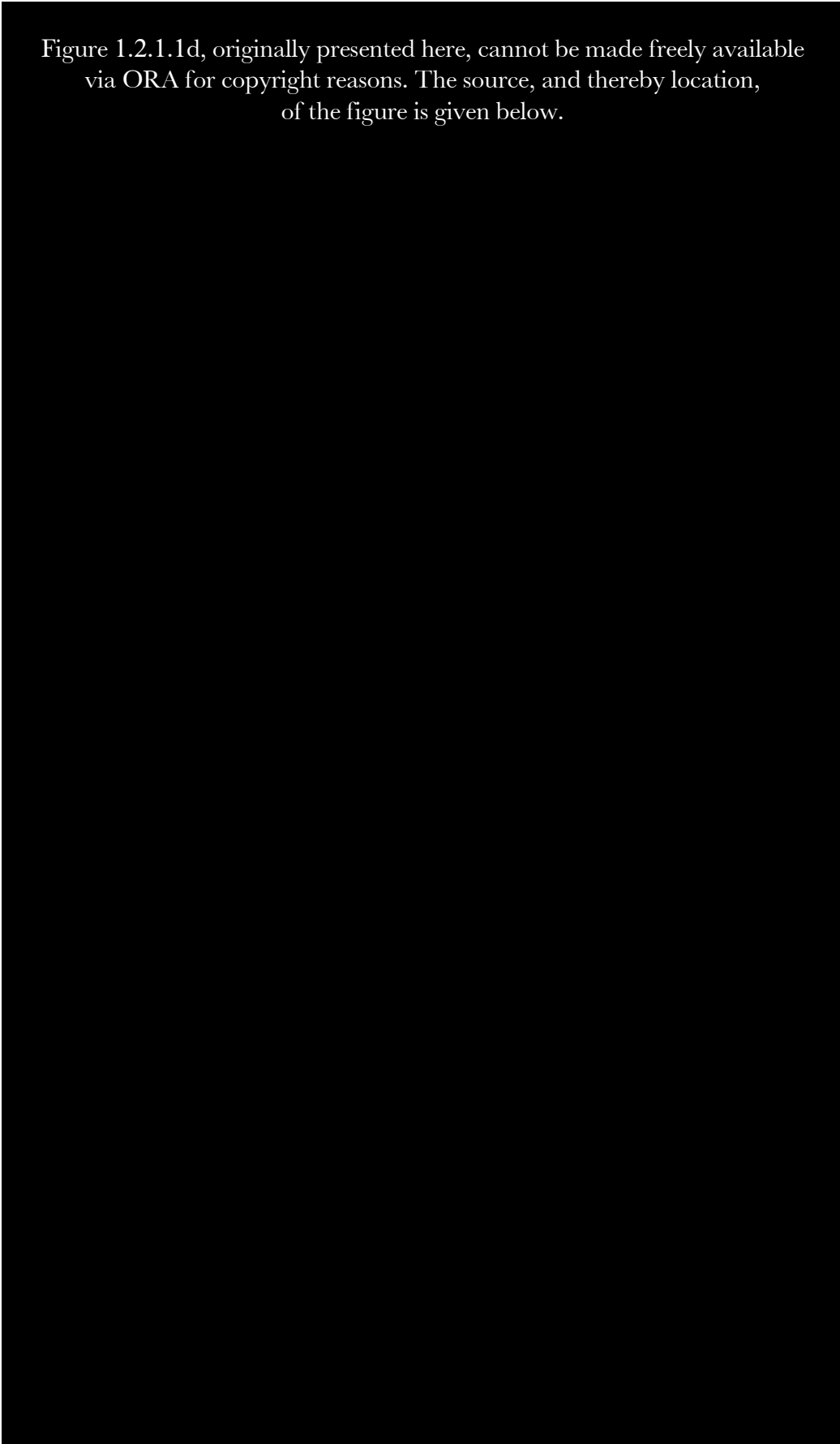


Figure 1.2.1.1d Reconstructed city plan (Padró 2009: 16 figure 5).

From Greek-language sources there is evidence for the continued worship of Amun from priests and temples in villages around Oxyrhynchus from the 1st to 3rd century (Whitehorne 1995: 3086), while the continued worship of Bastet is attested only through her cult paraphernalia in the early 3rd century (1995: 3064). Manifestations of Horus appear to have been worshipped in the Temple of Harpebekis in the early 1st (1995: 3068), and by priests of Thonis in the 1st and 2nd (1995: 3083), as Harpocrates in the early 3rd (1995: 3083), and as a falcon in the 1st and 3rd centuries CE (1995: 3067). An ibis cult is also attested in the 1st century BCE (Whitehorne 1995: 3067-3068). In addition to four references to the festival of Amesysia from the beginning of the 1st to mid-3rd century CE (Whitehorne 1995: 3086), one Iseum is attested in the early 2nd century, adjacent to the Temple of Serapis (1995: 3073).

There was a temple of Thoeiris, patron deity of Oxyrhynchus, at the site from at least the 20th Dynasty, and at least four separate cults – several Thoeria¹³ – broadly attested in Greek-language sources from the reign of Ptolemy III until a few years after the reign of Constantine the Great¹⁴ (Quaegebeur, Clarysse, and van Maele 1985: 225-228). Thoeiris in her manifestation as “the Medjat” attested in the pr-ḥf was also the wife of Osiris, who himself is nb – “Lord of the” – pr-ḥfyt (Töpfer 2015: 122), and the mother of Dedun – another Nubian deity¹⁵ (Mascort Roca 2016: 22; 346). The pr-ḥf at Oxyrhynchus¹⁶ is a temple which, from the earliest evidence of looted monumental blocks¹⁷, was suspected to be related to 1st and 2nd century attestations of the Osireion in Greek-language papyri¹⁸ (Mascort 2009: 77; Mascort Roca 2009: 78; Töpfer 2015: 127-129). The traditional pantheon of Oxyrhynchus, as attested

¹³ Referenced in P. Oxy. 7 1028 (86 CE) (Whitehorne 1985: 228).

¹⁴ P. Oxy. 14 1627 (12th August 342 CE) attests that the guardian of the Temple of Thoeiris is “apparently one of the regular public duties of the city-tribes” (Quaegebeur, Clarysse, and van Maele 1985: 225). In PSI 3 175 (462 CE), the Thoereion was “still being used as a banqueting hall” (Whitehorne 1995: 3080), but this does *not* mean that it was “therefore still functioning at that late time” (Quaegebeur, Clarysse, and van Maele 1985: 225).

¹⁵ For more on Dedun, cf. Töpfer 2015: 140-143 and Quack in Ryholt *fc. a.*

¹⁶ For the potential that the pr-ḥf was once a cult site of Seth, cf. Töpfer 2015: 123-124. The pr-ḥf(y).t was a cult site of Thoeiris, in her manifestation as a hippo equatable with Seth and her identification with Nut, mother of Seth, cf. Töpfer 2015: 124-125. The so-called Sothis Ritual is practiced at the turn of the year and features Thoeiris-Isis(-Hathor) as patron deity – ḥf(y).t – of the pr-ḥf(y).t, at once identifiable with Sothis, the Sun’s Eye and Uraeus (Töpfer 2015: 125-127). For the location of the pr-ḥf(y).t, cf. Töpfer 2015: 127-128.

¹⁷ cf. Mascort 2009: 77 n.5.

¹⁸ cf. Whitehorne 1995: 3076.

in those temple blocks¹⁹, is r^ct, gb, nwt, m³ct, hr-ibib, 3st, wsjr, wsjr ḥnty-imntjw, ʔ-wrt, ʔ-wrt mḡt²⁰, nt, and ddwn/ḏdwn (Padró 2009: 21). Blocks from the surface temple²¹ date to the reigns of Alexander IV, son of Alexander the Great, Ptolemy I Soter, and Ptolemy II Philadelphus – attesting to a comprehensive (re)endowment of the cult during the earliest decades of the Ptolemaic Period (Padró et al. 2007: 1443-1444; Padró 2009: 19).

The pr-ḥf was the temple in which the Mysteries of Osiris were practised during the month of Khoiak, and the excavators of the site have deduced that the pr-ḥf must have been founded at the latest in the Late Period (Amer 2009: 122; Castellano i Solé 2009: 132-133). 1.5km west of the Upper Necropolis, the University of Barcelona mission discovered the surface and subterranean temple of Osiris²², complete with catacombs of niches for the interment of Khentyimentiu figures – so-called Corn Mummies. The combination of surface and subterranean finds evidences a cult of Osiris, there the husband of Thoeris, from the Late Period to at least the mid-2nd century CE (Mascort 2009: 79; 2015a: 366; 370; 2015b: 370; 2016: 336-337).

In addition to traditional Egyptian cults, the ‘Greek’ cults – as typologised by Whitehorne – to Apollo, Agathos Daimon, and Neotera, Ares, Demeter, Dionysus, Kore, Hermes, Heron/Heros, Magna Mater, Nemesis, Neotera, and Zeus are also attested (1995: 3061-3062; 3065-3067; 3070; 3073; 3075-3076; 3084). As are the ‘Roman’ cults to Jupiter Capitolinus in the Capitolium, Mars²³, Hadrian, and the worship of the Emperor in the Caesareum, Sebasteion, and Hadrianeum (Turner 1952: 82; Whitehorne 1995: 3074; 3084).

However, when considering Egyptian or Greek or Roman cults, it is crucial to bear in mind the *interpretatio graeca* and *interpretatio romana*. Not least because the sources for these

¹⁹ For the pantheon attested in the so-called Sothis Ritual, cf. Töpfer 2015: 132-151.

²⁰ The depiction of Hathor-Isis is captioned Thoeris-Medjat with the epithet nb(.t) pr-ḥfyt “Lady of the pr-ḥf” – connecting both Thoeris with the pr-ḥf, and the pr-ḥf with Oxyrhynchus (Padró et al. 2007: 1448). Hathor-Isis is depicted as an Oxyrhynchus fish in the Saite to Ptolemaic Period, thus connecting Hathor-Isis with Oxyrhynchus, and Thoeris with Hathor-Isis (Erroux-Morfin 2009: 129).

²¹ cf. Martínez García 2009: 156 figure 3.

²² cf. Mascort Roca (2016), a fine synthesis and augmentation of the field reports and studies published elsewhere, cf. Mascort 2009; 2015a; 2015b; Mascort Roca 2009; 2012; Mascort Roca and Codina Reina 2017; Padró et al. 2007.

²³ Attested in P. Oxy. 6 984 (76-100 CE).

temples and their cults are in the Greek language and thus by linguistic default filtered through the *interpretatio graeca*, but also because certain sources betray the actual nature of some cults. For example, despite the Hellenic nature of Agathos Daimon and Neotera, P. Oxy. 49 3473 (161-169 CE) demonstrates through its list of temple paraphernalia that it is not Apollo but Horus who shares his cult with those two deities: “3 bronze statues of the hawk(sic)-shaped Apollo in 3 wooden shrines; three bronze hawks (sic)” – a cult which was also served by an “unmistakably Egyptian” Pastophorus (Whitehorne 1995: 3061). Thus, the temples, and associated cults, of Apollo could in fact have been to Horus, Ares to (Onuris-)Shu, Demeter to Isis, Dionysus to Osiris, Hermes to Thoth, Nemesis to Petbe, Zeus to Amun, while those of Jupiter could have been the same as those to Zeus/Amun, and Mars to Ares/(Onuris-)Shu. Transcending such boundaries, a temple to Serapis, although of limited archaeological evidence (Amer 2009: 118; Padró 2009: 18), is attested in textual sources from 3rd century BCE to 518 CE (Whitehorne 1995: 3076; 3078).

Beginning with the evidence of two Christian churches in 295 CE (Turner 1952: 83), by the 4th century CE Oxyrhynchus was the seat of a bishopric, and, according to the monk Rufinus in the *Historia Monachorum*²⁴, there were already 12 churches in the city by the early 5th century CE. In 535/536 CE²⁵, 40 were documented (Coles 2007: 14) – “many of them converted Egyptian temples” (Whitehorne 1995: 3053). Preceding this expansion of ecclesiastical institutions which came to rival the number of temple institutions of the 3rd century CE, fragments of the New Testament are preserved from the late 2nd or early 3rd century CE²⁶. Indeed, of the 47 earliest extant New Testament papyri, 57% of the oldest – those dated variously and contentiously to the 3rd or 4th century CE – are from Oxyrhynchus, while 41% of all extant New Testament manuscripts are from Oxyrhynchus²⁷ (Epp 2007:

²⁴ This text also cites “the outrageous figure of 10,000 monks and 20,000 nuns in the diocese of the bishop of Oxyrhynchus” (Clackson 2007: 336).

²⁵ By the late 14th or early 15th century CE, only one of the once reported 360 churches remained (Clackson 2007: 340).

²⁶ For references to Christian sources from Oxyrhynchus, cf. Blumell 2012: 8-12.

²⁷ Including 3rd and 4th century copies in Coptic, cf. Clackson 2007: 338; Feder 2015: 34-35.

318). Furthermore, P. Oxy. 54 3759 (2nd October 325 CE) is the earliest attestation of the Lord's Day and the Sunday Observance following the edict of Constantine in 321 CE, an edict which would not have taken effect in Egypt until after September 324 CE (Coles 2007: 13-14). Oxyrhynchus also provides evidence for certificates of pagan sacrifice²⁸, issued to those who satisfied the commissioners during the persecution of Christians under the emperor Decius (249-251 CE), as well as an order to arrest a Christian²⁹, corresponding to a period of Christian persecution instituted under Emperor Valerian in 257-258 CE. Thus, there must have been Christians in Oxyrhynchus by the first half of 3rd century CE. A final important part of this 3rd century CE melting-pot was the Synagogue³⁰, and thus a Jewish population.

Unlike the other sites in this study, Oxyrhynchus was not significantly depopulated, let alone abandoned, contemporary with the decline in Egyptian-language textual evidence at the turn, or by the middle, of the 3rd century CE. Indeed, vast quantities of textual sources continue to be attested throughout Roman to Islamic Period Oxyrhynchus, while sources in demotic, hieratic, and hieroglyphic are not. Thus, the study of the zenith and nadir of textual production at Oxyrhynchus must be understood within the context of the perseverance of numerous 'Egyptian', 'Greek', and 'Roman' cults, as well as the populations of Jews and Christians, in this diverse metropolis.

1.2.1.2 Totoun/Tebtunis

Tebtunis (Τεβτουνις) is the Greek name of the Egyptian settlement "The Lady of (Ta)Ten" (ἡ-nb.t(ἡ)-tn)³¹, Coptic TOTΩN/TOTOYN, modern Umm el-Baragat³². Situated in the southwestern corner of the Fayum, the archaeological site constitutes an area of 0.57km² – about one fifth the size of Oxyrhynchus³³. The history of the settlement itself spans three

²⁸ e.g. P. Oxy. 58 3929 (250 CE). Dozens of these are attested, and all date to 250 CE.

²⁹ P. Oxy. 42 3035 (28th February 256 CE).

³⁰ P. Oxy. 9 1205 (14th April 291 CE).

³¹ In the Roman Period, ἡ-nb.tn/bnt, later reinterpreted as ἡ-nb-(ἡ)-tn, predominates – before subsequently falling out of use (Cheshire 1986: 37-39). For a treatment of the Demotic and hieratic writings, cf. Cheshire 1986.

³² For maps of the site, cf. Gallazzi and Hadji-Minaglou 2000: 39-40 fig. 1-2; Rondot 2004: Plans 1.1-1.2; Hadji-Minaglou 2007: 4 fig. 1.

³³ 950x600m (Clarysse 2005: 20). For a history and bibliography of excavation, cf. Connor 2014: 29-33.

millennia, from the early second millennium BCE to the 13th century CE, although the predominant evidence from the site dates to the Graeco-Roman Period. Following interest from Grenfell and Hunt in 1900, the Italian excavations of 1931-1935 uncovered the temple of Soknebtunis “Sobek, Lord of Tebtunis”³⁴, its enclosure (temenos) and processional way (dromos)³⁵ – the most prominent cult site in a settlement which also saw the worship of the trinity Isis, Sarapis, and Harpocrates. It was during these excavations that the cache of papyri that has come to be known as the “Tebtunis Temple Library” was discovered. Since 1988, Franco-Italian excavations at the site have discovered thousands more papyri and ostraca.

The temple of Soknebtunis, a kiosk, and a paved dromos was built under Ptolemy I and his immediate successors (Connor 2014: 34). The dromos ran for 210m towards the pylon of the temple, embedded in the enclosure wall and featuring a stone vestibule carved in relief, which led into the outer court. A second pylon was embedded in a second mudbrick enclosure wall and led to an inner court, featuring a sacred grove and an altar for sacrificial offerings. Along the enclosure wall stood rows of rooms both for accommodating priests during their term of service, and for storage. The limestone temple stood within this second enclosure, including rooms for storing ritual paraphernalia and the papyri associated with the cult.

Tebtunis was, however, “a town full of gods”, with textual sources attesting that a second dromos ran westwards from the main dromos to a temple of Sobek – the Soucheion – while yet another led eastwards to a temple of Osiris/Min, at the corner of which stood a temple of Isis-Thermouthis, built in the Ptolemaic Period and rebuilt in the first half of the 1st century CE (Rathbone 2003: 8; Connor 2014: 34). Further textual sources attested the cults of Sobek Sokopichonsis, as well as Thoth – complete with ibis and falcon mummy cults, and the Greek deity of the gymnasium and athletic competition Heracles Kallinikos “Beautiful in Victory”.

³⁴ For the temple, cf. Connor 2014: 33-37.

³⁵ The temple’s enclosure wall extended for 113x63m, and stood at 3m thick and 11.3m high, while the temple itself covered 40x20m (Rathbone 2003: 6; 8).

Figure 1.2.1.2a, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.2a Site Map of Tebtunis (Rondot 2004: plan 1).

Figure 1.2.1.2b, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

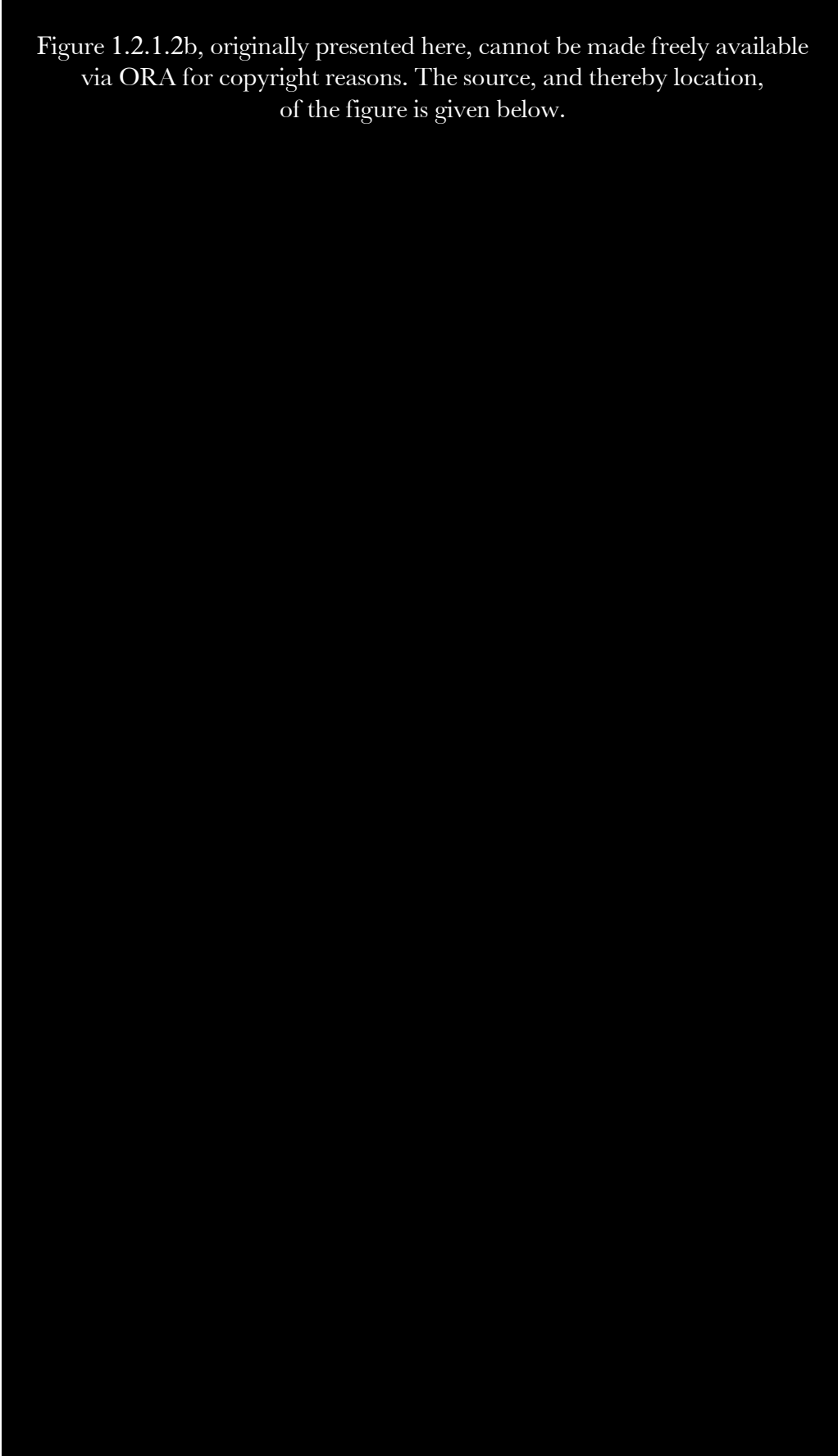


Figure 1.2.1.2b The Temenos at Tebtunis (Rondot 2004: plan 2).

The population is estimated to have been as many as 7,500 people. However, unlike for Soknopaiou Nesos, there is essentially no evidence for the total population of the village, although it stands to reason – despite their being fewer priests but given the importance of Tebtunis as “a major administrative center in the area” – that the village was larger than Soknopaiou Nesos³⁶ (Clarysse 2005: 22). In a recent doctoral thesis, Mangerud (2018) has studied the lists of priests (γραφαὶ ἱερέων) which evidence the priestly population at Tebtunis³⁷. In both P. Tebt. II 298 (108 CE) and P. Oslo inv. 1453 (146/147 CE) there were 50 tax-exempt priests (Mangerud 2018: 179). In the former case, however, it is important to stress that the temple of Soknebtunis had no *prophētēs* and only three *stolistai*, i.e. priests who undertook the rituals associated with the cult statue, and one *pterophoros* – so it can be deduced that “priestly job specialisation was not necessary for the cult to function” (Rathbone 2003: 10). While the total for a generation later in P. Tebt. Tait 48 (161-180 CE) is not preserved (Mangerud 2018: 154-163), “the number of higher officials was similar”, and thus “there is no reason to assume a decline” (Mangerud 2018: 180). In SB XVIII 13118 (177-189 CE) (Mangerud 2018: 16-179), however, “the number had dropped dramatically”, to 10 or 11 adult priests, with “probably a similar number in P. Tebt. Tait 49 (180/181 CE)” (Mangerud 2018: 180).

These sources also evidence the family of Isidora and Kronion, the former inheriting the *prophēteia* (προφητεία) of the temple of Soknebtunis bought by her father Pakebkis, son of Marsisouchos, in 146/147 CE (Mangerud 2018: 152), although it was her husband who undertook these duties as “deputy *prophētēs*” (διάδοχος προφητείας). Isidora and Kronion’s son Pakebkis, circumcised at seven in 189/190 (P. Tebt. II 292), inherited the προφητεία, undertaken by his father, from his mother (Mangerud 2018: 152-153). Isidora was born either

³⁶ Calculations based on the site’s surface area, estimations of the number of occupants per house, and the number of houses within that surface area, have produced considerably disparate estimations, from 1,320 to 11,400-14,250, cf. Connor 2014: 25-26.

³⁷ P. Tebt. II 298 (108 CE) (Mangerud 2018: 122-132); SB XII 11156 (130-150 CE) and P. Oslo inv. 1453 (146/147 CE) (Mangerud 2018: 132-137; 138-152); P. Tebt. Tait 49 (161-180 CE); P. Tebt. Tait 47 (180/181 CE) (Mangerud 2018: 163-169); P. Tebt. II 587 descr. (177-189) CE, most of which belong to “a dossier of documents relating to the priestly couple Kronion and Isidora and their ancestors” (Mangerud 2018: 122).

around the middle of the century or slightly later, Kronion was likely born before the middle of the century, while P. Tebt. II 301 records either the death of Kronion or Pakebkis in 190 CE (Mangerud 2018: 153). Isidora and Kronion were at “the height of their career” in the last quarter of the 2nd century CE, thus “despite the gradual decline in power of the Egyptian temple, their leadership still enjoyed a high social standing” (Mangerud 2018: 153). Nonetheless, the evidenced insight of these sources is that the generation of Isidora and Kronion was the last contemporary with a fully-fledged priesthood of 50 priests, with their son Pakebkis instead being born into a generation of a much-reduced priesthood of 10 or 11.

Contemporary with the decline in Egyptian-language textual evidence, Tebtunis all but disappears after 250 CE (Clarysse 2005: 26). The latest documentary evidence for Soknebtunis is dated to the late 2nd century CE, and for priests of the cult is dated to 211 CE, “although there may well be unpublished references of slightly later date” (Rathbone 2003: 24). Although there are references to the village in ostraca from a single archive dating to the 260s, during the 4th and 5th centuries CE there is no textual evidence for the village whatsoever – unsurprising, given that the extant textual evidence was produced by the temple’s script community, but nonetheless notable given that it is known from the archaeology of the site that it was not deserted (Clarysse 2005: 26). By the 5th century CE, Tebtunis had become a civic regional capital, and the settlement had been renamed Theodosiopolis (Rathbone 2003: 24). Four churches have been found at Tebtunis, the Church of St George having been built with re-used capitals from a Middle Kingdom temple, while another, perhaps part of a monastery, was built with re-used blocks “carefully dismantled” from “the temple of Soknebtunis, its gateways, vestibule, and kiosks” (Rathbone 2003: 25). Notable, then, is that between the apparent closure of the temple of Soknebtunis in the early-to-mid 3rd century CE and the construction of these churches, there was an absence of “any significant communal religious buildings” during the 4th century CE (Rathbone 2003: 26).

1.2.1.3 Timoui/Soknopaiou Nesos

Soknopaiou Nesos (Σοκνοπαίου Νῆσος “Soknopaios’ Island”) is the Greek name of the Egyptian settlement ṭ3-mȝy.t-n-sbk-nb-pay “The Island of Sobek Lord of Pai (i.e. The Island³⁸)”, modern Dime es-Seba, whose etymology can be reconstructed as *F**TIMOYI “The Island”. Historically, the site was first an island, then peninsula, before desertification left only a mound standing in a prominent position upon a limestone plateau 65m above, and 2.25km north, of the northern bank of the Birket el-Qarun (Stadler 2017a: 17). The settlement was founded in the mid-3rd century BCE³⁹ as part of a wider programme of land reclamation and settlement in the Fayum during the reign of Ptolemy I/II and his immediate successors. The archaeological site covers an area of 0.21km² (640x320m), about one third the size of Tebtunis and 5% the size of Oxyrhynchus. Just 5% of this area is occupied by the temenos⁴⁰, parts of whose enclosure wall still stand at 13m high (Davoli 2007: 97; 2014: 52). The paved dromos, c.3m high, 6.5m wide, and as much as 400m in length, bisected the southern area of the mound⁴¹ (Davoli 2010: 55; 2014: 51) – so much so that “to cross over from one side to the other, one had to use either stairs or tunnels” (Lippert 2015: 162-163).

The principal sources from Soknopaiou Nesos are the hundreds of Greek and Demotic documents⁴² found at the site which appeared on the antiquities market from 1887⁴³ – destroying the stratigraphy of the site whose architecture had already been quarried for limestone and *sebbakh* in pre-modern times (Boak 1935: 3). Other than an excavation by the University of Michigan led by Boak in 1930s, the site has only recently been archaeologically surveyed and partially excavated, beginning with the excavation of the main temple at the centre of the temenos by the Soknopaiou Nesos Project in 2003.

³⁸ If pay < p3 iw (Stadler 2017a: 18).

³⁹ For the evidence of potential earlier settlement of the site, cf. Davoli 2014: 51 n.7; Stadler 2017a: 19-21.

⁴⁰ For a survey of the *temenos* and its buildings, cf. Davoli 2007: 97-104, and the history of the construction, cf. Davoli 2015: 120-121.

⁴¹ For the *dromos*, cf. Davoli 2015: 141-142.

⁴² More than 1,100 in Greek and 1,800 in Demotic (Lippert 2010: 428-429). For a summary of the published Greek papyri from Dime, cf. Jördens 2005, for the Demotic texts, cf. the bibliography in Lippert and Schentuleit 2005: 71 n.1 and Davoli 2010: 53 n.5.

⁴³ For a summary, cf. Davoli 2007: 104; 104 n.25, with references.

Figure 1.2.1.3a, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

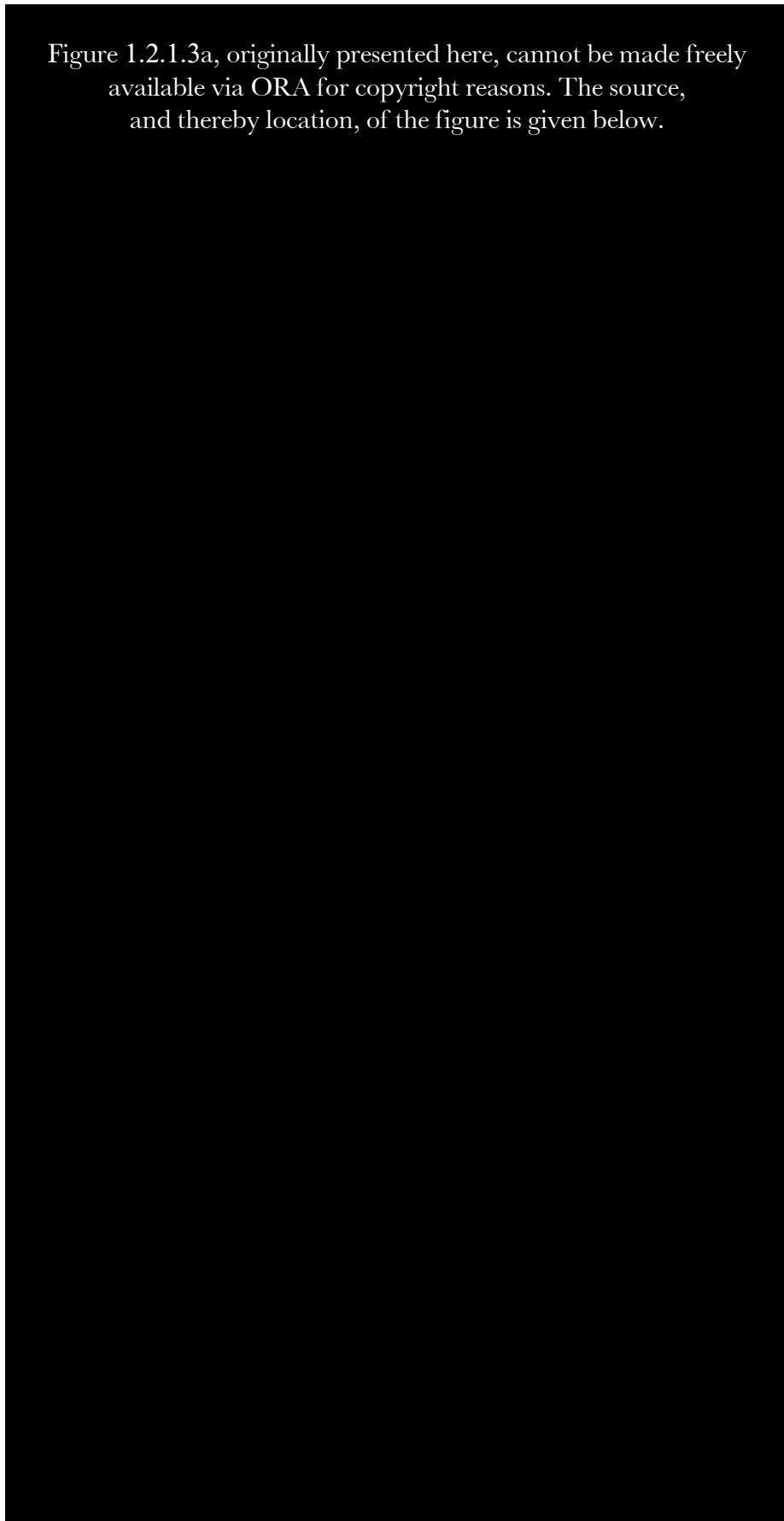


Figure 1.2.1.3a Site Map of Soknopaïou Nesos (Davoli 2014: 61 figure 1).

The population of Soknopaïou Nesos can be traced in a small number of sources.

Ostraca listing members of each phyle attest that there were more than 130 priests during the early Roman Period (Lippert 2010: 427-428; Lippert and Schentuleit 2006: 21-23). A poll-tax register from 151-224 CE records 244 adult males in September 178 CE, with the 100 tax-exempt individuals in this register almost certainly being priests (Clarysse 2005: 21-22).

By August 179 CE, however, the total population had been reduced to only 169 adult males⁴⁴, and while 160 of 220 adult males in 186/187 CE were still priests⁴⁵, only 100 were tax-exempt (Clarysse 2005: 21-22). By 207/209 CE, the number of tax-paying adult males had fallen again to only 135⁴⁶ (Clarysse 2005: 21-22). From this data, and utilising the common index of 3.1 to account for women and children, Clarysse concluded that the population of the village fell from c.756 inhabitants in August 178, to c.523 in September 179, whereas other estimates have projected populations as high as 900-1100 for the second half of the 2nd century CE (van Minnen 1995: 43), and as low as 413 by 207/209 CE⁴⁷ (Clarysse 2005: 22; 22 n.15).

West of the dromos and around the centre of the mound a mudbrick temple has been discovered (Davoli 2010: 60), but there is not yet evidence as to which deity it was dedicated. The first temple (ST18), probably built under Ptolemy I or II, complete with a second floor and terraced roof accessed by a staircase, was dedicated to Soknopaios, and likely also to Isis Nepherses (Davoli 2014: 53). This temple was subsequently “transformed into a monumental propylon” by cutting a door into the back wall of the naos (Davoli 2010: 67; 67 n.25-26) – extending the temple to the north. This newly-cut doorway led to a paved courtyard (C1), framed as a quadrangle by two auxiliary buildings, in front of a sandstone temple (ST20)⁴⁸, built during the late Ptolemaic and early Roman Period and restored during the 2nd century

⁴⁴ cf. P. Vindob. Gr. 24951+24556 (SB XVI 12816) (TM14676) (179 CE).

⁴⁵ PSI VIII 927 (186/187 CE) (van Minnen 1995: 43; 43 n.10).

⁴⁶ SPP XXII 76+167 (208/209 CE).

⁴⁷ By contrast, van Minnen (1995: 43) estimates 1,350 before 178/9CE and 900 after “the plague”, and Messeri Savorelli estimates 1000-1,100 in c.180 CE (1989: 13).

⁴⁸ This is the temple identified as belonging to Isis Sonona, Harpocrates, and Premarres by Grenfell and Hunt (1901: 5). Widmer (2005: 183) instead made the case for identifying this temple as that of Soknopiais. Davoli (2014: 54-55) interprets the construction as a coherent temple for Soknopaios, with “the other two members of the triad, Isis Nepherses and Soknopiais” instead being housed in “two major chapels” (G and O) within the newly-extended temple.

CE⁴⁹ (Davoli 2007: 109; 2010: 67-68; 2014: 53) – although never decorated completely (Davoli 2015: 133). This temple consisted of 17 rooms, two staircases – east and west of the main axis – leading to the upper floors, and four staircases within the walls which led to crypts (Davoli 2014: 52).

The Temple of Soknopaios was classified as a “first rank temple in the Roman Period” (P. Louvre I 2) (113 CE), while several other chapels and temples are also attested in textual sources: a chapel of Isis Nephremmis (2nd century BCE), a temple of Harpsenesis (Ptolemaic), for the triad Isis Sonona, Harpocrates, and Premarres (105 BCE), of Isis Esenchebis (68 BCE), of Thoth-Hermes (164 CE), of Pakysis (Roman), and of Sobek/Suchos (Roman)⁵⁰ (Davoli 2007: 106). In addition, Isis Nephremmis and Serapis⁵¹ were “probably part of the *synnaoi theoi*”, to which Ammonapis, Apis, Horus/Harpocrates and Amun⁵² have also been added given their attestation “in several Roman period oracular questions alone or together with Soknopiais” (Davoli 2014: 57; 57 n.38).

⁴⁹ For a detailed description of the temple and its decoration, cf. Davoli 2015: 121-133, for plans, cf. Davoli 2007: 112 figure 2; 113 figure 3.

⁵⁰ Although there is no in situ archaeological evidence for this temple’s deities, and while numerous other temples/chapels and altars are mentioned in such texts, “in many cases it is not clear where they were located, whether inside the temenos or even outside the settlement” (Davoli 2014: 57). Davoli (2014: 57) also considers P. Berlin 6848, which “raises the question about the location of two chapels which the inventory refers to, the chapel (ἡ shrine) of Isis and the side-chapel of the lionesses”. However, Lippert (2015: 161) has demonstrated that πρὸ τῆς μῆτρως “the chamber of the lion(esse)s” does not refer to Soknopaiou Nesos but the village of Dionysias on the southern shore of the lake.

⁵¹ For evidence of Serapis, cf. Davoli 2014: 59.

⁵² For evidence of Amun, and the oracular questions addressed to him or Amun-Soknopiais, cf. Davoli 2014: 58-59; 58 n.52; 59 n.53.

Figure 1.2.1.3b, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.3b The Temenos at Soknopaiou Nesos (Davoli 2010: 58 figure 2).

Located 14km from the eastern and 29km from the western shore of the Birket el-Qarun, and surrounded by “a barren waste” (Boak 1935: 1), this site is the most isolated of those under consideration⁵³. The limited and marginal agricultural lands near the site meant that the population of Soknopaiou Nesos had to develop economic opportunities which were “impervious to the Nile flood”: the economic activities of the priesthood – from leasing productive lands elsewhere to providing laundry services, the customs house for connected desert routes, and the shoreline’s marshy pasture (Hobson 1984: 102-103; 106). In addition to conclusions about the impact of the Antonine plague in Soknopaiou Nesos (van Minnen 1995: 43; Bagnall 2000: 290; Jördens 2005: 49), treated below (1.1.2.1), explanations for the decrease in population in the 2nd century CE have included “a decline or re-routing of the caravan trade”⁵⁴ as well as the declining productivity of marginal agricultural and pastoral lands (van Minnen 1995: 43-44). The worst effects of the droughts identified by Elliot (2016: 27-28), treated below (1.1.2.1), would have been felt in marginal lands, lands which the state had to incentivise in order to see cultivated. The 150s and 160s “brought poor flooding, lower temperatures, less sunlight and possibly a drought”, and under such adverse conditions, “it would have been nearly impossible for many farmers, especially those who were living on the margins of the local economy, to sustain their livelihood” (Elliot 2016: 28). Soknopaiou Nesos depended on the nearby villages of Apias and Herakleia⁵⁵, and anyone leasing those lands would simply find more viable plots (van Minnen 1995: 45; 1989). Indeed, “the absence of agricultural activity within Soknopaiou Nesos itself is not reflective of a thriving and diversified economy so much as it is an indicator of the approaching demise of the village” (Hobson 1984: 108).

⁵³ For the comparable layout of the temples at Tebtunis, Soknopaiou Nesos, and Narmouthis, cf. Davoli 2007: 104-105.

⁵⁴ This is because the series of datable custom receipts ends in 212/217 CE – if not instead “because of a change in the way these receipts were drawn up” (van Minnen 1995: 43).

⁵⁵ Indeed, “almost every single person attested as owning catoecic land in Heraklia in our available sources can be connected with Soknopaiou Nesos, and particularly with the priesthood” (Hobson 1985: 108).

The aforementioned marginality of land goes a long way to explaining why Soknopaiou Nesos, after its relative abandonment by the middle of 3rd century, was never resettled – unlike, for example, Karanis (Bagnall 1985: 296-298; 306). For those individuals with productive assets elsewhere, migration would have been a viable option (Bagnall 1985: 307). As stressed by Jördens (2005: 56), in the past state aid might have maintained such failing institutions⁵⁶, but in the early 3rd century CE no such support was to be expected.

In comparison to Tebtunis, where decline is attested between the third and fourth quarter of 2nd century, “the end of Soknopaiou Nesos arrives suddenly”, from the site being attested in 150 documents dating from 200 to 220 CE, to there being “complete silence” after 239 CE – consequently, “the village simply vanishes” (Clarysse 2005: 25-26). Thus, the site “appears to have been abandoned about the middle of the third century” (Boak 1935: v), contemporary with the disappearance of evidence for Egyptian textual production at the site.

Notable, then, is the post-history of the site, with rooms G, F, and L of temple ST20 yielding a late Roman amphora dating at the earliest to the end of 4th century and a fragment of a Coptic literary papyrus and three ostraca dating to the end of 6th century CE⁵⁷ (Davoli 2010: 59 figure 3; 69; 2015: 143). These artefacts may evidence sporadic settlement, but they could also suggest the conversion of ST20 into a church/monastery/hermitage during the 6th-7th centuries⁵⁸ (Davoli 2015: 121; 143; 143 n.67-68).

1.2.1.4 Narmoute/Narmouthis

Narmouthis (Ναρμουθις) “Town of Hermouthis” is the Greek name for the Egyptian settlement nw.t-rnn.t “Town of Renenutet”, also known as “*Dja*” (ḏj)⁵⁹ and “The Village” (p3 tmy), Coptic ΝΑΡΜΟΥΤΕ, modern Medinet Madi “City of the Past”⁶⁰. The site is situated

⁵⁶ For the *Syntaxis* and temple tax, cf. Lippert and Schentuleit 2005, with references.

⁵⁷ Some unprovenanced papyri and parchments supposedly found at Dime postdate the assumed abandonment, cf. bibliography in Davoli 2010: 53 n.6.

⁵⁸ Compare with earlier conclusions that there is “no evidences (sic) whatsoever of Christianity at Soknopaiou Nesos” (van Minnen 1995: 42).

⁵⁹ For the hieroglyphic texts featuring this toponym, cf. Donadoni 1947.

⁶⁰ For maps of the site, cf. Bresciani and Giammarusti 2010: 22-23; 2012: 28-29.

30km south-west of Medinet el-Fayum upon a small hill marking a strategic location at the entrance to the Fayum⁶¹. During the 2nd century CE Narmouthis had an area of 0.6km², about one fifth the size of Oxyrhynchus, the same size as Tebtunis, and three times bigger than Soknopaiou Nesos. During the first excavations of the site, the University of Milan led by Vogliano (1935-1939) discovered a temple to Renenutet, “Sobek of Shedet”, and Horus “He who resides in Shedet” (Temple A) that was founded by Amenemhat III and IV during a large-scale reclamation of agricultural lands around the Birket el-Qarun during the Middle Kingdom⁶² (Bresciani and Giammarusti 2010: 12-13). Restored in the 19th Dynasty⁶³, after seven/eight centuries of abandonment, and following Ptolemy II’s and his successors’ own programmes of land reclamation in the Fayum, Temple A was rediscovered, restored, and extended. To the south, a hypostyle hall, two courts, a vestibule, and further altar⁶⁴ were added, and to the north Temple B⁶⁵ was built and dedicated to Isis-Renenutet, complete with its own vestibule, three cult chapels, roof terrace, and crypt. Further south a porticoed court⁶⁶ was constructed, and to the east a chapel was built and dedicated to Isis-Thermouthis⁶⁷, while the entire complex was provided with an enclosure wall.

⁶¹ For an aerial photograph of the site during Vogliano’s time, a 3D reconstruction of the site, and a site map, cf. Bresciani and Giammarusti 2010: 17; 22-23; 2012: 28-29.

⁶² cf. Naumann 1939; Bresciani and Giammarusti 2010: 7-13; 37-40.

⁶³ Inside Temple A two statues of Amenemhat III and a large statue of Merneptah were discovered (Bresciani and Giammarusti 2010: 38).

⁶⁴ For Temple A, cf. Naumann 1939; Bresciani and Giammarusti 2010: 37-40; 2012: 59-105. For the Portal of Isis and other Ptolemaic Period expansions to Temple A, cf. Bresciani and Giammarusti 2012: 109-127.

⁶⁵ cf. Bresciani and Giammarusti 2010: 41-42; 2012: 159-167.

⁶⁶ cf. Bresciani and Giammarusti 2010: 42; 2012: 175-193.

⁶⁷ cf. Bresciani and Giammarusti 2010: 43; 2012: 167-172.

Figure 1.2.1.4a, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.4a Site Map of Narmouthis (Bresciani and Giammarusti 2012: 24).

Figure 1.2.1.4b, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.4b The Dromos at Narmouthis (Bresciani and Giammarusti 2012: 28-29).

Figure 1.2.1.4c, originally presented here, cannot be made freely available via ORA for copyright reasons. The source, and thereby location, of the figure is given below.

Figure 1.2.1.4c The Temenos at Narmouthis (Bresciani and Giammarusti 2012: 28-29).

The University of Pisa excavated nearby Kom Madi from 1978, where a temple to Anubis, chapel of Imhotep, and dynastic cult chapel, were discovered, and Medinet Madi from 1984 (Bresciani and Giammarusti 2010: 18). From 1995 to 1999, in collaboration with the University of Messina from 1997 to 2004, a mudbrick temple dedicated to the Two Sobeks

(Temple C) complete with a roof terrace, court, naos for two mummified crocodiles, vaulted crypt, and nursery for the rearing of crocodiles was discovered⁶⁸ (Bresciani and Giammarusti 2010: 19). The dromos⁶⁹, lined with tiered steps and lion and sphinx statues⁷⁰, runs for 220m on a south-north axis, connecting the southern altar and vestibule of Heracleodorus⁷¹ with two kiosks, and Temples A and B with the porticoed court and altar in the north.

The settlement and its temple institutions appear to have declined by the end of the 3rd century, with subsequent occupation being predominantly related to the “Castrum Narmoutheos”, discovered in 2007, a fortified camp of 2,500m² built in the Diocletian period (4th-5th centuries CE) in the eastern outskirts of the settlement⁷², garrisoned by the Cohors IV Numidarum (Bresciani and Giammarusti 2010: 14; 19). References to a settlement at Terenute, “a major center of Manichaeism”, may attest the occupation of the site during the Byzantine Period, with 10 Christian churches dating to 5th to 7th centuries having been discovered since 1984 to the south of the settlement (Bresciani and Giammarusti 2010: 15).

At some point in the 2nd century CE, Narmouthis had an adult male tax-paying population of 2,099⁷³. From this Connor estimated a population of c.2,400 males, i.e. including tax-exempt adult males, e.g. priests, and a total population of around 7,500, “and probably more”⁷⁴ (2014: 27), while Rathbone estimated “6,500(?)”⁷⁵ (1990: 134). Regrettably, there is

⁶⁸ For these, cf. Bresciani and Giammarusti 2010: 44-47; 2012: 199-219.

⁶⁹ Constructed in the 54th year of Ptolemy VIII (116 BCE), as attested by dedicatory inscriptions by Protarchus (Bresciani and Giammarusti 2010: 21). For the *dromos* and its kiosks, cf. Bresciani and Giammarusti 2009; 2012: 129-157.

⁷⁰ Inscribed with dedications in Demotic to Renenutet and Sobek by one Stotoes (stꜣ=w-ḥ-wḏ.t) (Bresciani and Giammarusti 2010: 30).

⁷¹ The entrance to this vestibule is inscribed with four hymns in Greek Homeric hexameter by an Egyptian named Isodorus. They exalt Isis-Renenutet and Amenemhat III as Sobek, describing that the edifice was built and dedicated to Renenutet/Hermouthis and Sobek-Hapy/Sokonopis under Ptolemy IX Soter II in 96 BCE by Heracleodorus, the son of Sostratus, and his wife Isidora, who also dedicated some lion statues (Bresciani and Giammarusti 2010: 31-32).

⁷² cf. Bresciani and Giammarusti 2012: 31-39.

⁷³ cf. P. Berlin. Inv. 16011, a now lost 2nd century CE census document which apparently recorded 2,099 men (Rathbone 1990: 132), a total which Rathbone remarks “seems high”. For references, cf. Connor 2014: 27 n.74.

⁷⁴ For other opinions, see those discussed by Connor (2014: 27; 27 footnotes).

⁷⁵ Notable is that in Rathbone’s estimations of total adult male population from tax-exempt male population at Karanis, he does not factor in priests, only – tellingly – Roman citizens (1990: 132). This may then also account for the lower estimate than Connor for Narmouthis.

insufficient evidence from which to gauge a specific priestly population, not least because a direct comparison of Soknopaiou Nesos and Tebtunis demonstrates that there is no correlation between the size of the adult male tax-paying population and the number of priests.

In addition, it must also be borne in mind that priests and manuscripts could be, and indeed were, traded between the temple institutions in the Fayum (Ryholt 2016: 15).

The principal source for the priesthood at Narmouthis are the caches of ostraca which evidence priestly activity from the 16th year of the reign of Trajan (112/113 CE) until the time of the Strategus Philoxenos (194-196 CE), and perhaps until year 7 of Septimius Severus (198/199 CE), during which the “subarchive” of Phatres was composed, cf. 198-206 CE (Vandorpe and Verreth 2012: 4), after which evidence for the priesthood, as well as Egyptian-language textual production, all but disappears.

1.2.2 Population Pressures in Roman Egypt

In *The Demography of Roman Egypt*, Bagnall and Frier (1994: 170) “tried to reconstruct the most probable demographic characteristics” that can be drawn from census and tax returns dating predominantly to the 2nd century CE (1994: 7 Table 1.1; 8 Table 1.2; 9 figure 1.1).

Although conceding that the most informative model which can be constructed from the extant sources is “a drastically simplified understanding of the demography of Roman Egypt” (Bagnall and Frier 1994: 178), general demographic trends across the population are discernible, e.g. life expectancy at birth was c.22-25 (Bagnall and Frier 1994: 103-104).

Despite the caveats expected when modelling from limited sources (1994: 106-109), it is important to consider this modelled age distribution of males when studying populations of priests: 34% under the age of 14, 44% under 19, 53% under 24, 61% under 29, 68.5% under 34, 75% under 39, c.86% under 49, c.93.5% under 59, and c.97.5% under 69 (1994: 104 Table 5.4).

The peak of fertility was between 17 and 30 years old (Bagnall and Frier 1994: 136; 137 figure 7.1-7.2), with the data suggesting that a 16 year-old had a yearly probability of giving birth of 0.1, a 20 year-old a probability of 0.25, with a peak in the mid-twenties of 0.275, a decline to 0.2 by the mid-thirties, and decline below 0.1 by the early forties⁷⁶ (1994: 143 Table 7.1).

This means that a generation of women would replace itself within 15 years, with the total fertility rate for children of both sexes being 5.98 births (Bagnall and Frier 1994: 139).

With this data offering limited yet evidenced insights into the compositions of populations, when considering the composition by age and reproduction rate of a traditionally hereditary priesthood, the implications for pressures on priestly populations in Roman Egypt, and the severity of these for the vitality of such populations over short timespans, are more informed.

1.2.2.1 Death or Depopulation? – 2nd Century CE Crises

The devastation and subsequent dissipation of priestly populations in the second half of the 2nd century CE as a result of ‘the Antonine plague’ was suggested by a reviewer to an earlier version of this study as an ultimate cause of the decline of the priesthoods. Received wisdom sees ‘the Antonine plague’ ravaging Egypt during the 160s to 170s CE, and decimating from one tenth to one third of the population in just a few years. In the words of Elliot (2016: 13), who has undertaken a revisionist study on the supposed Antonine plague, “a detailed review of the evidence here would be redundant and diversionary”⁷⁷. However, before summarising why the significance placed by past scholarship on this poorly-to-unevidenced “ultimate cause” is erroneous, and instead making the case – through Elliot’s work – as to why the “proximate causes” of “climate variation, crop failure and civil unrest” are the most likely explanations for the depopulations attested in documentary sources from the 2nd century CE (2016: 31), a summary of the received wisdom on ‘the Antonine plague’ must be considered.

⁷⁶ For the age distribution of the average number of children born in Egypt in 1947 and 1960, cf. Mabro 1974: 30 Table 2.3.

⁷⁷ For a bibliographical summary of treatments of the sources, cf. Elliot 2016: 8 n.16.

Although “no one knows for certain what disease spread through the Roman world from 165 C.E. onwards, regardless of much speculation on the matter”⁷⁸ (Bruun 2007: 201), the Antonine plague was supposedly introduced to Egypt in 166-167 “by army units returning from the Parthian war of Lucius Verus” (Rathbone 1990: 114). The most influential article on the Antonine plague is that of Duncan-Jones (1996), who concluded that his study “establishes enough corroboration from non-literary sources to suggest that the historians’ indications of a major widespread catastrophe are largely correct” (1996: 136), while also stressing that a ‘high impact’ model of its effects is the most representative of the trends in those documentary sources. Thus, one finds throughout scholarship on this topic derivations thereof that, while “the consequences of the Antonine plague should not be exaggerated”, they “were undoubtedly severe” because “as much as ten percent of the Roman Empire’s total population may have perished in this plague”⁷⁹ (Bagnall and Frier 1994: 174). Rathbone’s (1990: 119) “guess” that the Antonine plague “caused a drop in population of between 20% and 30%” has gained perhaps even more traction than other postulations, with statements such as “the population in the latter half of the second century AD declined by up to 50% due to the plague” (Mueller 2011: 131) becoming commonplace. As will be seen, however, such fractions and percentages are not only little more than complete guesses with absurd margins of error, they are based ultimately on little to no primary evidence of deaths from plague.

Depopulation should not presume death. Given that “ancient history stands or falls with its primary sources” (Bruun 2007: 209), the primary – i.e. documentary – sources that have been utilised to support the secondary – i.e. subsequent literary – evidence must be considered, in addition to the observation that, for those purporting a ravaging plague, arguments from absence of evidence are insufficient⁸⁰. In his revisionist article, Elliot (2016: 4) demonstrates

⁷⁸ For references to such speculation, cf. Bruun 2007: 201 n.2, and a literature review, cf. Bruun 2007: 202-204.

⁷⁹ For the “underlying pattern” supposedly “parsimonious[ly]” supporting the ‘high impact’ of the plague that was – exhibiting a classic case of confirmatory bias – explicitly sought out in their study of the demographic data, cf. Bagnall and Frier 1994: 175-177.

⁸⁰ For a refutation of absence of evidence, cf. Elliot 2016: 11. Indeed, “If a plague killed some 20 or 30 per cent of the population, one might expect to find more direct evidence than a report that some in an East Nile village died of ‘plague’, hearsay in a personal letter from the third century and the plagiarism of Calpurnianus.” (2016: 11).

that the received wisdom on the Antonine plague “is a classic ‘wigwam’ argument, with the evidence from Roman Egypt serving as the pole against which all the others rest”. That is to say, investigating scholars have demonstrated classic cases of confirmation bias, searching through traces of dispersed textual evidence for population decline in sparse and disparate sources in order to bolster a case for the impact of the Antonine plague that they have already decided happened⁸¹.

The primary sources utilised as evidence for the ravages of the Antonine plague are summarised with reference to Elliot’s close treatment of the texts themselves⁸². P. Thmouis 1 (172/173 CE) “confirms that an *unknown* disease killed an *unknown* number of people in the village of Kerkenouphis in the Mendesian nome a few years earlier (perhaps AD 168/9), but most of the population had already died in a raid or rebellion prior to the outbreak of the disease” (emphasis my own) (Elliot 2016: 10; 10 n.29). Notable is that this papyrus is “the *only direct evidence of plague* in all of mid second-century Egypt” (emphasis my own) (Elliot 2016: 13), and yet, “if the writer was indeed listing the causes of the depopulation in Kerkenouphis in chronological order – a safe possibility considering the narrative structure of the original Greek – then this passage is primarily about violence, not disease” (2016: 13-14). In short, P. Thmouis 1 attests that “men started going missing a decade or more before the mid 160s – a fact which *undermines* the link between depopulation and the Antonine plague” (emphasis my own) (Elliot 2016: 17; 17 n.63). P. Oxy. 14 1666 is a 3rd century CE letter reporting that a man had heard his brother’s village suffered an outbreak of plague – yet this testimony is far too late to be the Antonine Plague (Elliot 2016: 10). Given the wealth of primary sources dating to the Roman Period from Oxyrhynchus, it is notable that no other source has been utilised to so much as hint at a plague in which large proportions of the population supposedly perished. Indeed, these two primary sources “make up the *only* direct textual evidence for plague in Egypt among a relatively vast quantity of papyrological

⁸¹ cf. Bagnall 2013: 715.

⁸² For earlier revisionist studies, cf. Elliot 2016: 6.

evidence from the period” (emphasis my own) (Elliot 2016: 11), while the secondary literary source of Crepereius is the *only* one to suggest that the Antonine plague extended to Egypt⁸³ (Gilliam 1961: 214).

Further primary sources utilised as evidence of depopulation, for which death from plague is the argued or assumed cause, are those which attest “serious depopulation” at Karanis from 150 to the 170s CE, Soknopaiou Nesos in 178-179, as well as contemporaneously in “several villages of the Mendesian nome” (Rathbone 1990: 114). At Karanis, P. Ryl. IV 594 attests 1,000 adult taxpaying males in c.149/150 CE, while poll-tax registers of 171/174 CE “imply a maximum of 650 adult males” (Rathbone 1990: 132) – a reduction of c.35% in c.25 years. At Soknopaiou Nesos, P. Vindob. Gr. 24951+24556 attests an adult population of 244 males in September 178 CE dropped to 169 by August 179 CE, with 59 having died in January 179 CE, and 19 in February 179 CE (Rathbone 1990: 114; Clarysse 2005: 21-22). Thus, Rathbone (1990: 114) concludes that “the sudden death of almost a third of the population here is best explained by an attack of the plague, and makes it more plausible that the depopulation at nearby Karanis was due to the same cause”. In the Mendesian nome, depopulation is attested by a register drafted in 170/171 CE, where 12 of 20 villages were reportedly abandoned between 166/167 and 169/170 CE⁸⁴ (Rathbone 1990: 115-116).

While the outbreak of a highly-infectious disease could account for a large population decline within such a short timeframe, this does not have to have been a plague. Furthermore, a close reading of the tax register from the Mendesian nome reveals that, although “death” is explicitly cited, “flight” and “ruination” are “by far the most common causes listed by

⁸³ In *How to Write History* (165/166 CE), the rhetorician Lucian accuses the historian Crepereius Calpurnianus of “scandalously plagiarizing Thucydides in his description of a plague which travelled through Egypt on its way to Parthia”; Elliot stresses that “the date of this essay is crucial, as it makes it almost certain that Calpurnianus, who chronicled the Roman–Parthian war of AD 162–165, was speaking of an earlier pestilence and not the Antonine plague, which no scholar dates from before AD 165” (2016: 11; 11 n.31).

⁸⁴ In an example of deductive and cyclical reasoning exhibiting confirmation bias, Rathbone (1990: 117) then considers seven funerary inscriptions from Terenouthis in the Prosopite nome in the Delta which attest individuals who all died on the same day. If “plague was the cause”, as Rathbone wants to suggest, the year 20 referenced in the funerary inscriptions could well be Marcus Aurelius and therefore 8th November 179 CE – ‘coinciding’ with the plague!

officials”⁸⁵ – that is, they are simply missing, presumed dead⁸⁶ (Elliot 2016: 4 n.7). In short, “the existing epigraphic, papyrological and literary evidence is ambiguous at best” (Elliot 2016: 7) – a fact which has long been demonstrated (Gilliam 1961: 241-242). Where depopulation is attested, death cannot be assumed the cause, and where death is attested, plague cannot be assumed the cause. Such conjectures, together with further *potential* evidence for depopulation⁸⁷, constitute the conjectural “wigwam” argument highlighted by Elliot that is so susceptible to confirmation bias.

Subsequent to his revisionist approach to the primary, secondary, and scholarly sources utilised to argue for depopulation through plague, Elliot demonstrates that while disease is an ever-present threat in under-developed societies, the 2nd century CE crises were the ecological impacts of short-scale climatic change. Satisfyingly, “the debate is not a dead-end of someone’s judgement against another”, because data obtained by climatologists, geologists, and environmental archaeologists more recently “show that short-term ecological variation in the AD 150s and 160s could have encouraged changes in the agricultural economy of much of the province of Egypt, reduced economic stability for those who worked marginal land and, ultimately, created a shift in the distribution and productivity of agricultural land – particularly marginal, artificially irrigated land” (Elliot 2016: 17-18). There were sustained volcanic eruptions “on a global scale” during the 150s and 160s CE which emitted particulates into the atmosphere – causing global dimming, decreasing global temperatures, and reducing precipitation and runoff, leading to drought and crop failure (Elliot 2016: 19; 21 figure 1).

⁸⁵ Indeed, Elliot (2016: 14 n.46; 15) assess that 11 of the 19 Mendesian villages were depopulated due to “some kind of revolt in the Nile Delta in the late 160s and early 170s”; it is nothing other than speculation that the men were not “alive and well”, while “it is equally problematic to suggest that it was taxation alone which drove rural men into a nomadic existence or into groups of rebellious *Boukoloi*” (2016: 16).

⁸⁶ For a problematisation of the assumptions that these assumed ‘dead men’ were plague victims, cf. Elliot 2016: 5 n.8. It is alongside such supposed male ‘plague victims’ that women and children are calculated in, producing such ‘high impact models of plague mortality’, cf. Elliot 2016: 5 n.9.

⁸⁷ Coupling evidence that wages and prices rose in the late 2nd century CE with depopulations, and thus plague deaths, is insufficient because it is contentious whether such rises are indicative of the aftermath of such depopulations, let alone plague (Elliot 2016: 4 n.5). While Bagnall (2000: 291) argued that “the apparently concomitant rise in prices and wages, in particular, does not seem well justified by the aftermath of the plague”, van Minnen argued that a rise in wages and prices through the debasement of the currency is a viable explanation (2001: 177).

Qualitative studies in Ethiopia and quantitative studies of sediment cores from Lake Tana, the source of the Blue Nile, have also shown that “the highest frequency of droughts in recorded history was in the second century”⁸⁸ (Elliot 2016: 24; 24 n.79-80).

Notably, reports of inundated farmland in the Nile Delta and Valley constitute a high proportion (70%) of those during 163-164 CE⁸⁹, which corroborates the specific indications of crop failure in P. Thmouis 1 (Elliot 2016: 26-27). Such impacts are compounded by the economic pressure of an “inflexible poll tax” – with un(der)productive and marginal lands being abandoned, catalysing depopulation (Elliot 2016: 7), the poll tax attempted to harvest the same amount of tax “from a diminishing number of taxpayers” (Bagnall 2000: 292). Consequently, “this volatile mixture of a short-term agricultural crisis, tax burdens, and economic inequality (in terms of landholdings) may explain the surge in civil unrest and, ultimately, the demographic changes witnessed in papyrological evidence; changes which actually began sometime in the 150s before intensifying in the late 160s and early 170s” (Elliot 2016: 7) – and thus far too early to have anything to do with ‘the Antonine plague’.

On balance, even without definitive quantitative evidence for short-scale climatic change in the 150s and 160s CE, Elliot’s revisionist treatment of primary and secondary sources and the body of received wisdom, demonstrate that the scholarly consensus on the Antonine plague is erroneous. There is no direct evidence in primary sources for an outbreak of plague contemporary with when the Antonine plague, not attested in primary or secondary sources, supposedly ravaged Egypt. Thus, there is no reason to conclude, or even conjecture, that the Antonine plague was the ultimate cause for the depopulation evidenced in other primary sources. A disease, or diseases, could well have been a proximate cause, but instead as a consequence of reduced harvests and/or crop failure leading to malnutrition, compounded by

⁸⁸ For the studies of Nile flood levels from the mid-2nd to mid-3rd centuries CE, cf. Elliot 2016: 25 n.82, and during the Ptolemaic Period, cf. Manning et al. 2016. For an introduction to ice cores and climatic history, cf. Alley 2000.

⁸⁹ Reports of failed flooding in the Nile Delta were graphed by Elliot, cf. 2016: 27 figure 4.

higher food prices due to reduced supply, or depopulation leading to large movements of people – hotbeds of disease⁹⁰. Consider Mead’s assessment, cited by Mabro (1974: 38), regarding Egypt in the middle of 20th century, that it is not “major killer diseases” which are the greatest threat to the Egyptian population, but susceptibility to diseases as a result of poverty and malnutrition to which populations in developed countries are resilient – thus, at that time, bronchitis, gastroenteritis, and colitis “accounted for 50 per cent of all deaths in Egypt”. In short, while disease certainly affected the provinces in which a large number of deaths in a short period of time are attested, “it unquestionably did [so] for millennia before and afterwards” (Elliot 2016: 31).

1.2.3 Priestly Education

Following an introduction to the four case study sites, their population demographics, and the pressures on them during the 2nd century CE, an understanding must be presented of how the scripts of the Egyptian writing system and the language stages of Egyptian were, at least in idealised Egyptian conceptions, to be taught.

1.2.3.1 The Question of Literacy

The question of literacy in Ancient Egypt is as contentious as it is ambiguous⁹¹. For a supposedly “paper-ridden” civilisation with an “obsession with the written word” (Sauneron 1960: 118), Egyptologists are surprisingly uncertain about who was literate, to what level of functionality, and how literacy was acquired. Inductive reasoning such as “there is no evidence of scribes without an office in state or temple”, therefore “all state officials of a certain rank ... were able to read and write” (te Velde 1986: 253), are often found. Literacy in one script of the Egyptian writing system does not – with the exception of learning hieroglyphs via hieratic⁹²

⁹⁰ “If there was in fact a lengthy drought, widespread agricultural devastation, civil unrest and a continued collection of wheat-taxes in the province from the AD 150s onward, then we can expect that malnutrition would have almost certainly been rampant.” (Elliot 2016: 31).

⁹¹ For bibliographies on education, literacy, and schooling, cf. Baines 2007: 174-176; Lazaridis 2010: 9-13; Pinarello 2015: 1; 122. For education and literacy in Graeco-Roman Egypt, cf. Cribiore 1996; 2001; Youtie 1971; 1975a; 1975b.

⁹² As evidenced by the Tanis Sign Papyrus, cf. Griffith and Petrie 1889: 1-19; Plates I-VIII.

– predicate literacy in another script⁹³, and this became increasingly the case with the specialisations of scripts within particular domains from the Late Period onwards (2.2.1.2), and also the regionalisation of script communities in the Roman Period (2.2.1.3).

As highlighted below (2.1.2), literacy comprised both the ability to respond (read) and the ability to produce (write) – all at particular levels of functionality. Furthermore, it was possible to serve a temple cult without being a priest (1.1), and there is ambiguity as to which priestly ranks, and thus proportion of a priesthood, were literate.

Ultimately, regarding the infamous factoid that 1% of the population was literate in the Old Kingdom⁹⁴, an attempt to ‘calculate’ a ‘national average’ is not only futile, it is also unrepresentative and misleading⁹⁵. The proportion of literates would always have been significantly different along the Nile⁹⁶, corresponding strongly with certain institutions, e.g. the royal and regional courts and temples⁹⁷. Thus, the relative literacy of the Egyptian population is irrelevant for understanding the prerequisite of literacy within a temple institution. In addition, this study is about *literacy*, but not about *education* – and although a study of the latter is a boon in understanding the former, Egyptologists must await the conclusion of a research project by Luigi Prada into exercises and textbooks before such can be informed by any robust treatment of novel sources⁹⁸. In the meantime, however, four sources – consistently left out of scholarship on the topic thus far – will be treated in order to present the

⁹³ Contrary to the Demotic-less assertion by Baines that Egyptian scripts are “basically the same in all its forms” and therefore that such considerations are “tangential” to the question of literacy (2007: 32 n.1).

⁹⁴ cf. te Velde 1986: 254; Baines and Eyre 2007; Depauw 2012: 499; Pinarello 2015: 125. For a bibliography on studies of literacy rates, cf. Cole 2015: 215.

⁹⁵ Consider the actual classification of occupations during the Ptolemaic Period for two districts analysed by Clarysse and Thompson (2006: 189-191), whereby 33+ village scribes from a recorded total of 1,972, and a recorded and unrecorded total of 3,268, are noted, alongside 200 individuals with titles relating to cult duties, which would have required varying degrees of literacy – from none, to being a fully-functioning producer and responder.

⁹⁶ Consider the 1897 census of Egypt during the second decade of British military occupation highlighted by Quirke (2010: 282), where 5.9% of men in Upper Egypt, 8.4% of men in Lower Egypt, but 22.6% in Governorates, were literate – producing an unrepresentative average of 8.8%. Mabro (1974: 38 Table 2.4) cites data on illiteracy rates for males over the age of 10 at 87% in 1907 – but this appears to be a national average. Baines and Eyre (2007: 70) otherwise only note that their 1% implies one scribe per 20-30 adult males, i.e. two scribes per village.

⁹⁷ For the turn of the Late to Ptolemaic Period, Ray (1994b: 64-65) categorised 6.25% as readers of, but only 0.29% as “fully conversant” in, Demotic – demonstrating that proposed literacy rates also reflect what one wishes to ‘measure’ (Hoffmann and Quack 2007: 367 n.b).

⁹⁸ For the scope and potential of such research, cf. Prada 2018.

principal evidence currently available for understanding priestly education⁹⁹. By bringing these sources into the discussion of both temple priestly education and prerequisites of literacy within the temple priesthood and combining these with attestations of literacy in documentary sources (1.2.3.6), an understanding of functional literacy in Egyptian writing, and therefore access to and understanding of textual culture, can be proposed.

1.2.3.2 The Book of the Temple

The Book of the Temple, an idealised manual for the foundation, construction, staffing, and running of a temple, is arguably the most significant source extant from Ancient Egypt for understanding the – at least theoretical – education of literacy in temple institutions¹⁰⁰, and yet is barely known¹⁰¹. Copied in large quantities¹⁰² during the 1st and 2nd centuries, hundreds of fragments attest 40 hands¹⁰³ and at least 50 different manuscripts, transmitted from (a) Middle Egyptian Vorlage(n) written in hieratic and also translated into Demotic – with at least part translations into Greek also attested at Oxyrhynchus¹⁰⁴. Although it is questionable how far such an idealised text, intended to establish norms within every temple, can be taken as informative for the lived situation in temple institutions during the Roman Period, the Book of the Temple at least presents evidence for how the question of education within the temple was conceptualised, and how this conceptualisation was transmitted over generations.

Regarding the education of priests, four different sections have been discerned and summarised by Quack under the title “The Instructions for the Profession of Overseer of

⁹⁹ “the workings of temple schools and scriptoria remain largely (sic) unknown, as does the situation, for instance, of their staff (were there travelling scribes or teachers?)” (Widmer 2014: 135). Notable also is Parsons’ point regarding Greek-language textual production in Egypt: “‘Scriptoria’ often appear in the discussions, but so far as I know we have no direct evidence for such institutions until much later, and then very largely in the Latin West.” (2007: 266).

¹⁰⁰ cf. Quack 1997; 1999a; 2000; 2002a; 2003a; 2003b; 2005a; 2005b; 2005c; 2005d; 2007a; 2009b; 2016c.

¹⁰¹ Consider Engsheden’s statement that “Traditional Egyptian was passed on through teaching in the temple school”, “but almost nothing is known about instruction methods” (2016: 5). For a deconstruction of “Traditional” Egyptian, itself part of the problem of understanding how written Egyptian was or was not taught, cf. 2.1.1.

¹⁰² More than 20 manuscripts are extant from Tebtunis, at least 15 from Soknopaiou Nesos, as well as further copies from Elephantine.

¹⁰³ cf. Quack 2005a: 106–109; For a bibliography of the manuscripts currently published under different guises, cf. Quack 2002a: 159 n.2.

¹⁰⁴ cf. Quack 1997; 2005a: 106; 2016.

Teaching': 1) Education in the Egyptian writing system (mdw-ntr), the customs of Upper and Lower Egypt and those specific to particular nomes, i.e. the *res sacrae* and local myths contained within the nome-specific compendia (e.g. P. Jumilhac), as well as the regulations for the behaviour of priests when at the Royal Court; 2) Committing of festival rituals and cult practices as well as the 'Explanation of difficult textual passages' to memory; 3) Medical knowledge; 4) Eclipse omens, and texts of the Embalming House, among other poorly preserved sections.

The introduction begins: "Overseer of Learning (imi-r' sb.t/sb'y), four men, one each in his monthly service: He is the one who recites (šdj) the texts (shj.w) to the children of the god's servants (hm-ntr), lector priests (hry-hb), and high-ranking w^cb-priests (w^cb-ḥ), whereby he chooses from those among them the one who befits the position of his father in the temple." (17/10). From this section Quack argues, as Brunner identified for priests of the Late Period (1957: 30), that reference to the reading of texts suggests there was an examination. That is to say, in order to maintain the level of knowledge required – especially among high-ranking priests – it was not the case that any son could take over from his father, but instead that potential candidates were tested. Consequently, Quack argues that the Book of the Temple reaches a compromise between hereditary and meritocratic succession (2002a: 162).

Important to stress, however, is that the text does not refer explicitly to any sort of examination. Another consideration of interest is that Egyptologists usually consider lector priests to have been "distinguished by their ability to read" both temple and funerary rituals (Teeter 2011: 22), yet the education in textual culture and thereby literacy specified in the Book of the Temple extends to three priestly ranks. Important also to stress is an ambiguity in this first instruction, that the Overseer of Teaching does not state that the children of those three ranks are to learn how to write, but simply learn the texts (shj.w) recited (šdj) to them. This instead suggests an examination of a scribe's knowledge of textual content, rather than a written examination of literacy. Although such a consideration, admittedly, seems less likely than a straightforward education in literacy, such an ambiguity highlights an important

distinction between the oral learning of a responder and reproducer, and the literate learning of a producer, elaborated below (2.1.2).

Two further aspects of primary education are elaborated in this introduction. The first concerns ‘musical’ instruction; various techniques of singing and recitation were of significant practical importance to a priest who would recite texts in ritual practices¹⁰⁵. Regrettably, this section is hampered by lexical problems: a priest’s son “is the one who is caused to learn speaking (sd̩d̩ <stwt¹⁰⁶) praises (ḥknw), uttering (wš̩) praises (ḥs̩), (and) screeching (d̩i)” (17/11). Similarly, this section does not specify exactly what is to be learned, but that a particular content will be covered by learning those techniques. The second concerns the code of conduct within the temple, with phraseology that is reminiscent of, and in part corresponds to, “wisdom” texts: the priests’ sons are “caused to know all/every [rule(s)] of the temple, in standing and in sitting, in entering and in coming out, in all their activities in all their hours in the temple through every regulation for the practicing of rituals (jr̩ j̩h.t-n̩r)” (17/11-17/12). Notable here is that emphasis is placed on training as opposed to education; the text summarises what it takes to train the next generation of priests with practical duties, not simply priestly scribes – with the ‘syllabus’ all but absent. Accordingly, the only priestly role given specific reference is the correct practice of the “ritual spells” (r̩.w n.w j̩h.t-n̩r).

Notably, elsewhere in the Book of the Temple it is specified that the w^cb-³ practices the daily ritual (Quack 2002a: 164). Perhaps, then, a w^cb-³ begins as an apprentice.

As typologised by Quack, four stages of education are then elaborated. The first stage describes: “Regulations (tp-rd.w) administered to the Overseer of Learning for appointing (skm) the children (of) the God’s Servants (ḥm-n̩r) to cause that they enter into the God’s Words (mdw-n̩r) (i.e. learn script/writing) and to cause that they grasp (mḥ) (the) cu[s]toms]

¹⁰⁵ For recitation and repetition in learning, cf. Baines 2007: 45; 154-155.

¹⁰⁶ With respect to the orthography sd̩d̩ “to tremble”, Quack suggests a tremolo singing is possible (2002a: 163), but also notes that another manuscript writes instead stwt “to praise/tell”, which I agree is the most likely reading.

(n.t-^c.w) of Upper and Lower Egypt and all specifications (wp.t) of the respective nomes together with all customs (n.t-^c.w) of the Palace (pr-nsw.t) in the first instance.” (17/13-17/14). Notable among these specifications is to teach script/writing to the children of the god’s servants (ḥm-nṯr), but not others¹⁰⁷. The exact interpretation of this passage is restricted because, as highlighted below (2.3.1.1), the emic terminology utilised for scripts of the Egyptian writing system does not permit distinctions between hieroglyphs (cursive or otherwise), hieratic, and demotic. Thus, while it is unclear whether the mdw-nṯr constituted hieratic or demotic, or both, I would argue that this “normative” composition, argued to date from the Middle or early New Kingdom (Quack 2002a: 160), was simply not ‘lexically updated’ to include reference to Demotic because mdw-nṯr would have been unambiguous to a contemporary reader. It is unlikely to refer to hieroglyphs, however, despite the Egyptological tradition of translating mdw-nṯr as “hieroglyphs”, because a scribe would have learned hieroglyphs via hieratic¹⁰⁸. This therefore leaves the question of at what stage of education, and relevant rank, a priest would have learned hieroglyphs.

The second stage describes: “They are the ones who “receive the heart” (špy ib.t) as youths in his moment without allowing [change], preserving (mny) the festival texts (ḥbwy), strengthening (srwd) the customs (n.t-^c.w) which are their daily teaching (sbj), and interpreting the difficulties of all texts (wḥ^c jdnw n sbj.w -nb) in the second instance.” (17/14-17/15).

Quack (2002a: 166-167) suggests interpreting the phrase to “receive the heart” as an idiom meaning to “learn by heart”. This hypothesis seems reasonable given that only festival texts as well as the most important customs are specified. Reference to ‘interpreting the difficulties of all texts’ is very important for this study because it links manuscripts such as P. Carlsberg 2.1 (6.2.2.1), which exhibits this title and is one of the most significant sources for glossing and functional script-by-script, i.e. hieratic to demotic, obsolescence, to the very structure of

¹⁰⁷ After all, an axiom of Egyptology is that “education was an indispensable prerequisite for starting a career as a scribe in administration or as a priest in a temple cult” (Fischer-Elfert 2001: 439).

¹⁰⁸ As evidenced by the Tanis Sign Papyrus, cf. Griffith and Petrie 1889: 1-19; Plates I-VIII.

priestly education¹⁰⁹. Interpretation, in Egyptian conceptions (1.2.3.5) was thus both philological (in terms of accuracy) and interpretive (in terms of understanding).

The third stage is regrettably fragmentary, describing: “Every bookroll with medicaments (ḥrjt -nb.t m phrt) for [...] in the third [instance].” (17/15) – relating to medical knowledge and practice. With numerous examples thereof found at Tebtunis, it can be assumed that the texts studied in this section of the curriculum were primarily medical texts. However, given that Quack does not think the sons of god’s servants were medical specialists, he argues that only certain medical duties were covered here (2002a: 167-168).

The fourth stage describes: “With all eclipse omnia (shnw jbw.w -nb) and all texts in the embalming workshop (sh.w -nb.t m pr-nfr.w) and in the ‘in [his] day’ house(?) [...] with the priests of Sekhmet and scorpion charmers in [the fourth instance].” (17/16). Quack (2002a: 168) notes that evidence for the observation and divinatory use of eclipses is relatively rare. Nonetheless, astrology was intensively cultivated in temple institutions, as evidenced by manuals from the temple libraries of Tebtunis and Soknopaiou Nesos as well as astrological ostraca from Narmouthis. Thus, it is likely that different astrological practices were undertaken across different levels of temple priestly hierarchy (Winkler 2016: §11). Presumably the texts of the “fine house” (pr-nfr.w) are those concerning mummification. Evidently, this stage highlights the conceptualisation of astronomy, astrology, and mummification – among other lost practices – as the pinnacle of education in the temple, and thus priestly knowledge, with the priests of Sekhmet and scorpion charmers apparently constituting the scholarly elite of the priesthood.

These four stages suggest that the education reserved for the children of the god’s servants was an education in the fundamentals of Egyptian textual culture. Notable is that the pr-ḥnḫ –

¹⁰⁹ Consider also P. Carlsberg 7, a “hieroglyphic dictionary” exhibiting a similar title, cf. Iversen 1958; Müller 1962; Quack in Ryholt *fc. a.*

conventionally translated “House of Life”, “an almost mythical institution due to the lack of archaeological evidence” (Stadler 2015: 189) – is absent. The *pr-ḥnḥ* has long been asserted to be among the most important institutions of Egyptian science and tradition¹¹⁰, perhaps structured into departments “comparable to the faculties of a modern university” (Stadler 2015: 189). Yet, the *pr-ḥnḥ* evidently functioned independently of the areas treated in the section on education in the Book of the Temple. It is likely, therefore, that the areas of knowledge treated in the *pr-ḥnḥ* were not those intended to be part of the standard teaching of priests’ children (Quack 2002a: 171). Indeed, a number of important considerations regarding the root of the verb *ḥnḥ* as meaning “to bind” instead suggest that the *pr-ḥnḥ* is not at all to be understood as the “House of Life”, but “House of the bound/rolled (i.e. Bookrolls)”¹¹¹. Regardless, the overall focus in the Book of the Temple appears to have been on the practical applications of priestly training through ‘learning by heart’, and perhaps also ‘learning by rote’, relevant spheres of textual culture in order to practice rituals for the temple cult.

1.2.3.3 The Statutes of the Temple

Das Gesetz der Tempel, part of the Egyptian tradition of compositions which describe and regulate all aspects of the temple institution, also provides valuable insights into literacy and textual transmission. Wespi, who is editing this composition, describes the text as ‘a regulatory and normative text concerning the idealised operation of the temple with different rules for the priests and temple administration’ (2017: 283), which provides an insight into the formulation and preservation of the norms of the priestly community (2016: 194). With partial parallels to both the legal collection of Darius I and the Cambyses decree (Wespi 2016: 187-191), through historical linguistic criteria, the composition is argued to be centuries older than its extant 2nd century copy from the “Tebtunis Temple Library” (2016: 179-181; 187). Containing sections

¹¹⁰ cf. Sauneron 1960: 63; 136-137; Baines 2007: 45-46; Eyre 2013: 352-353, compared to Pinarello 2015: 122-123. For the *pr-ḥnḥ* as “House of Life”, cf. bibliography in Lazaridis 2010: 8-9 as well as Sauneron 1960: 135-139; Monkhouse 2008: 23-57; Eyre 2013: 311-315; Stadler 2017a: 35-46.

¹¹¹ Compare *S*, *F*, *M*, *L* *ḥnḥ*, *B* *ḥnḥ*, and *A* *ḥnḥ* “life” with *ΠΡΑΝΩ* (Nag Hammadi Codex VI 61/20) and *ΠΡΑΕΙΩ* (61/30; 62/15) from *pr-ḥnḥ*, i.e. the incompatibility of /h<ḥ/ and /š<ḥ/, cf. Vycichl 1972; Morenz 2001: 77-78; Breyer 2003: 194-195; Schenkel 2003: 22-23; Quack 2016/17: 227.

on the regulations, rates, and conditions for being appointed a priest, the election of counsel w^cb-priests (w^cb.w nty mnḳ md.t) and the *lesonis*, regulations on purity, including taboo acts and priestly oaths (Wespi 2016: 182-183), the section most relevant for this study is “the statute (hp) of the scribe of the god’s book (shḳ(-n)-mdy-ntr) and the w^cb-priest of Sekhmet”.

That statute informs upon how the papyri of the “House of Books” (pr-mdḳ.t) are to be copied¹¹². The House of Books was conceptualised, according to inscriptions at Edfu and Philae as well as the Book of the Temple, as not simply an archive or library, rather a place of ritual practices in which literate priests interacted with the bḳ.w of the gods, i.e. their manuscripts and thus their efficacy, by the manifestation of the bḳ.w in the bookrolls themselves (Wespi 2017: 271; 275; 283) – housing an inventory of 36 compositions (2017: 276-277). The statute describes that certain papyri ‘which have been brought out from the House of Books of the God NN (mn)’ are to be copied in the presence of a pair of scribes of the pr-ḥnḳ. Each copyist then has to swear an oath that he will copy the Vorlage word-for-word (shḳ r-ḥ.t pḳ mn n pḳ ḏm^c) without making any changes (šbḳ md.t), additions (wḳḥ), or omissions (šbt shḳ r pḳ nty shḳ). After copying, the text is to be collated (checked) – in a ‘discussion (of) the papyri’ (stny nḳ ḏm^c.w) – by the scribe of the god’s book, the counsel w^cb-priests, as well as the ‘usual scribes of the pr-ḥnḳ in the temple’. The papyri are then to be brought before the scribe of the god’s book and the counsel w^cb-priests in order to be sealed with the seal of the temple (Wespi 2017: 284).

Subsequent activities include that when the scribe of the god’s book requires ‘the sealed papyri of (the) pr-ḥnḳ in the House of Books’, i.e. a ritual bookroll with which to practice rituals in forecourt of the temple, he asks the counsel w^cb-priests for these manuscripts (Wespi 2017: 284). They are to be brought from the House of Books before the counsel w^cb-priests so that they – in the presence of a pair w^cb-priests selected by the counsel w^cb-priests – can be copied

¹¹² For the pr-mdḳ.t, cf. Wespi 2017 in contrast to Eyre 2013: 309-311.

by šf-priests/scribes of the forecourt in the “House of Silver” (pr-ḥḏ) (Wespi 2017: 284).

Before the copy is undertaken, an oath must be made, but in this case, it does not appear that a collation is undertaken. The copy of the papyrus is then placed in the House of Silver, with the scribe of the god’s book instead practicing the ritual with the Vorlage (Wespi 2017: 284). As highlighted by Wespi (2017: 284), such a practice is corroborated by an inscription at Edfu, which specifies that ‘Every ritual for the appearance of your majesty (i.e. Horus) during your festivals outside of your house will be copied at your place every day.

One (exemplar) thereof replaces the other, so that the ritual bookroll is enduring and the ritual constant, without ever not existing in your house’ (III 351/10-11). What remains open is ‘what is to be done with the Vorlage after the ritual is completed and when the new copy is to be brought into the House of Books, whence the Vorlage was originally taken’ (Wespi 2017: 285). What is clear, however, is that the House of Books serves as a storeroom of sealed “papyri of the pr-ḥḏ” (Wespi 2017: 285).

On balance, this statute reveals that the scribes of the god’s book, the counsel w^cb-priests, and the “usual scribes of the pr-ḥḏ in the temple” are those literate priests responsible for controlling the redaction of the textual culture contained in the House of Books (Wespi 2017: 276-277; 276 n.20). Thus, rituals of the pr-ḥḏ were stored in the House of Books, whence they were taken, copied, and practiced, with the Vorlage being utilised in the ritual practice, and the copy being placed as the unspoiled and sealed redaction in the House of Gold. This daily engagement by literate priests with the textual culture fundamental to the daily ritual practices of the priesthood explains not only why there are numerous copies of, for example, the Daily Ritual of Soknopaios (7.2.5), but also that even though the Book of the Temple specifies priests are to internalise many rituals, and thus be able to recite and practice them by heart, engagement with the text, and recourse to its textual authority, was – at least in idealised cases – fundamental to the practising of temple rituals.

1.2.3.4 The Ancient Egyptian Book of Thoth/The Ritual for Entering the Chamber of Darkness

Crucial also to understanding the conceptualisation of the education of certain ranks within the priesthood is the so-called Ancient Egyptian Book of Thoth¹¹³. This is the designation given by its editors Jasnow and Zauzich to “an extensive scholarly and theological composition” attested in 30 manuscripts – mostly from Tebtunis and Soknopaiou Nesos – dating from the 1st century BCE to the 2nd century CE¹¹⁴. Jasnow and Zauzich interpreted this composition as a dialogue between the master – Ḥsr.t, “He of Hseret,” or Ḥsr-rḥ, “He who praises knowledge”, whom they identified as Thoth – and the pupil – mr̥-rḥ ‘He who wishes to learn/loves knowledge’. The identification with Thoth as the teacher has been scrutinised through re-editing by Quack¹¹⁵, who has rebranded the composition as “Das Ritual zum Eintritt in die Kammer der Finsternis”¹¹⁶ (2009a: 160; 2016/17: 226). The composition begins: “[The word]s(?) which cause a youth (nḥn) to learn (sb̥) and a son of Wenima (Thoth according to Jasnow and Zauzich, Imhotep according to Quack) to question (ntnt-r’)” and apparently concludes with “the ritual ([tp]-rt) for entering into the Chamber of Darkness (i.e. crypt)” (1-4). The function of the composition has been analysed as that of an initiation which imparts scribal and scholarly knowledge on its students, being “copied, read, and discussed by a very small circle of priestly scribes, probably all of whom have been connected with the House of Life” (Jasnow and Zauzich 2014: 45). While Jasnow (2016: 326 n.64) notes that Quack sees the master as the imi-r’-sb̥ “Overseer of Learning” attested in section 286 and the Book of the Temple (2006d: 611), he stresses that the possibility of the master also being Thoth is “not mutually exclusive”, given that a priest may identify with a deity. Quack (2016/17: 228-229) has, however, demonstrated why ḥsr.t cannot be identified with

¹¹³ cf. Jasnow and Zauzich 1998; 2005; 2014; Quack 2006d; 2007b; 2009a: 172-181; 2016/17: Kockelmann 2008; Schneider 2008; Widmer 2011.

¹¹⁴ The majority are demotic, with one hieratic manuscript attested, although the language stage rendered includes Classical and Late Egyptian forms, cf. Quack 2006d: 614; 2007b: 260-261.

¹¹⁵ cf. 2006, esp. 611; 2007b; 2009a: 172-181; 2016/17: 228-230.

¹¹⁶ Despite being a title from within the composition itself, this is yet to be adopted by Kockelmann (2008: 178) and Jasnow and Zauzich (2014: 31).

Thoth, as well as that when Thoth is addressed elsewhere in the composition, this is exclusively in the third person.

Of the 12 sections of teaching contained within the dialogue, the most important for this study are the descriptions of the nature of: scribal knowledge, hieroglyphs, sacred texts, and the *pr-ꜥnh* and its duties (21-66); scribal training (285-403); entering the *pr-ꜥnh* (414-500); knowledge of sacred topography (501-519); certain animals and objects, and the 42 sacred places and the 42 vultures between them (610-643) – this “Vulture List” constitutes the 42 sacred books of the *pr-ꜥnh* as identified with the 42 sacred nomes of Egypt (644-688) (Jasnow and Zauzich 2014: 19-20).

In the first section referring to textual culture, the master explains that “the writings/texts are difficult (*nꜥ-nḥt*)” (51), while the study of the *bꜥ.w-rꜥ* – ritual texts as well as the Bas of the Sun-god – are described allegorically as the latter: “The scribe is a nest. The bookrolls are his nestlings.”¹¹⁷ (244). The pupil then states: “I desire to make an explanation/be a bird-netter/fisherman of the (hieroglyphic-)signs of Isten, and I will hunt his Bas.” (245). That is to say, he will study the textual culture of the *pr-ꜥnh*, where the allegorical pun is between *whꜥ* “to interpret”, *whꜥ* “to catch”, and the *bꜥ.w-rꜥ* as both birds and the textual culture of the *pr-ꜥnh*. Explicitly regarding teaching, the pupil asks: “Is a father the one who prepares his son or is it compulsion of the stick? Is the Overseer of Learning (*imi-rꜥ-sbꜥ*) the one who instructs?” (286). While Jasnow and Zauzich (2014: 86) interpret that it should not be the father nor the stick, but the Overseer of Teaching who educates, Quack (personal communication) suggests instead an opposition between “nature” and “nurture”, i.e. capability inherited from the father vs disciplined teaching.

¹¹⁷ Rereading courtesy of Quack (personal communication).

In the subsequent section referring to “the scribal equipment”¹¹⁸ (293), the course of study is described: “A collection of papyrus rolls, collected as a teaching, will make a treasury of the House of Books.” (305). Following this statement, Jasnow and Zauzich (2014: 90) understand this section as the master’s dialogue referring to the *b3.w-r^c* which “assist the scholar, who aspires to become a god’s servant or a craftsman” (309). Reference is also made to astrology: “May he learn the constellation of the heaven at night.” (333), as well as the monographs that should be studied (336-337). The “difficulties” of writing are also referenced, alluding directly to the sections of the Book of the Temple treated above, given the duty of the pupil that “he understands (*gm*) the difficult passages (*itn*), and he elucidates (*w3h*) the hieroglyphic signs (*tw3*)” (338) – considered below (1.2.3.5). The desired outcome of this section of teaching is to be able to resolve “all types of difficult passages (*itn.w tr=w*) which are varied (*šb.w*) in form (*smt*)” (386).

Subsequent to this, the pupil has to declare his knowledge of Egyptian writing in order to attain access to the Chamber of Darkness, specifying that he has studied for three years and has studied the *b3.w-r^c* (520-523). Perhaps, however, this “sailing”, i.e. training in textual culture, lasted for two decades (529). If so, learning could have been conceptualised as never ending, giving limited life expectancies (1.2.2), or beginning at a young age. The pupil perhaps then describes reaching the *pr-^cnḥ* (534) and that it was there he discovered people, sacred animals, birds, reptiles, and vegetation (535), i.e. learned about everything. To prove such knowledge, the pupil later reveals the names and natures of the 42 *b3.w-r^c* – the idealised number of nomes in Egypt and sacred books in the *pr-^cnḥ* (548-552; 634; 637-638; 646-688), also specifying that he has read hieroglyphs in the *pr-^cnḥ* (557).

With a mixture of tangible references to textual culture to be studied, and textual content (e.g. *b3.w-r^c*) to be mastered, in addition the Book of the Temple, the so-called Book of Thoth

¹¹⁸ This cannot be the title of a chapter, cf. Quack 2016/17: 221.

provides unprecedented and unparalleled insights into the conceptualisation of Egyptian writing and textual culture in priestly milieux. The question that cannot yet be answered without documentary sources regarding the education of priests, thus preventing the evaluation of the so-called Book of Thoth as a secondary source, is how far this idealised manual provides reliable information on the contemporary learning of Egyptian writing, and – consequentially – access to and understanding of that textual culture, and how it was regulated, taught¹¹⁹, and transmitted.

1.2.3.5 Interpreting the Difficulties

Egyptian wḥ^c , Demotic wḥ , “to interpret”, from the root “to loosen/untie”, has already been encountered in the context of education and literacy in both the Book of the Temple and the Book of Thoth. *Interpretation and Authority*, a doctoral thesis by Cole on this topic, has elucidated many of the emic conceptions behind the Egyptian idea of “interpreting/explaining” (2015: §3.2-3.5). “Interpretation” was not only the practice of intralingual translation, which began “due to the linguistic shift from written Middle Egyptian to Late Egyptian in the New Kingdom” (Cole 2015: 86), but also the practice of textual commentary¹²⁰ – “a persistent intellectual pursuit” of priestly scribes (2015: 74). Sources for the correction or discussion of written Egyptian include the aforementioned P. Carlsberg 2.1 (6.2.2.1) – the “Tebtunis onomasticon” – and P. Carlsberg 7 – a “hieroglyphic dictionary”. Both have titles relating to this scribal practice of “interpretation”, and both are repositories of morphological, orthographic, and lexical information. P. Carlsberg 2.1 is titled “the secret compendium(?) of interpreting/explaining difficulties” ($\text{p}^3 \text{ } \text{ḫ} \text{p} \text{d} \text{ } \text{š} \text{t}^3 \text{ } \text{n} \text{ } \text{wḥ}^c \text{ } \text{j} \text{d} \text{n}[\text{.w}]$) (A 1/1) while P. Carlsberg 7 is referred to as a manual concerning “sign(s)” (tj.t) which aids in

¹¹⁹ Jørgensen (2013: 195) notes that because the text is literary and not ritual, “perhaps we are dealing with some form of ‘Lesemysterium’ in which the initiation is effected by the initiand’s reading or copying the text”, cf. 2013: 195 n.781 for references. As suggested by von Lieven (2007: 296-297), “If each scribe was required to make his own copy of the text”, i.e. as part of their education and initiation, “this would account for the large number of manuscripts found” (Jørgensen 2013: 195).

¹²⁰ One example is the “Ritual for Repelling the Evil One”, which is titled such in P. Louvre N 3129 (TM#56940) (350-250 BCE) but in P. BM EA 10252 (TM#57226) (307-306 BCE) is titled “the interpretation(s) ($\text{wḥ}^c \text{.w}$) of the mystery of the Ritual for Repelling the Evil One” because it contains “two parallel versions”, “one in Middle Egyptian and an interlinear later Egyptian translation” (Cole 2015: 72). For a new edition, cf. Gill 2016.

“interpreting/explaining difficulties” (wḥ^c ksn.w) and “interpreting/explaining signs (wḥ^c jtn[.w])¹²¹. Such manuals also appear in a “catalogue of ritual handbooks” (P. Carlsberg 11.9), which lists a composition entitled wḥ jtn “Interpreting the Signs/Mysteries” (Ryholt 2019: 153).

For the majority of Egyptian history, as reflected in the majority of examples treated by Cole, intralingual translations were clearly differentiated from their Vorlagen, and thus not integrated – “the authoritative text is the original” (2015: 84). The interpolation of versions, or glosses, however, becomes more common in the Roman Period. Glossing is the process of adding transliterations, transcriptions, or explanations supralinear to, or in the margins of, an inscribed text in order to provide phonetic or semantic clarifications or variations to that text. Over generations of textual transmission, however, due to maximalist scribal practices as well as misunderstandings, glosses can also become interpolated into the linear text.

The reference to the interpretation of difficulties in the Book of Thoth, as well as within the second stage of education in the Book of the Temple, also suggest that dealing with difficulties of (phonetic and/or semantic) interpretation were a fundamental part of scribal training.

This is especially true in the Roman Period, given the plurality of signs in hieratic and hieroglyphs which would have to be learned subsequent to Demotic, with distinct language stages of Egyptian also distinguishing writing in the former two scripts as opposed to demotic.

Jørgensen (2013: 196) rightly stresses that “the term ‘difficulties’ does not seem to be concerned with difficult grammar, but appears to operate on the level of the lexeme or phrase”, however there is no doubt that such a resource for Egyptian writing as the “Tehtunis onomasticon” would have been a boon to any intralingual reader or translator (6.2.2.1).

This is, however, due to the subsequent addition of hundreds of supralinear glosses in demotic, hieratic, and Old Coptic, rather than because of the content of the linear text itself. Thus, the supralinear glossing of texts referenced in both the Book of the Temple and Book of Thoth,

¹²¹ cf. Quack in Ryholt *fc. a.*

supposedly elementary to the study of Egyptian writing and textual culture, suggests that a fundamental shift in interpreting those difficulties occurred in the Roman Period.

1.2.3.6 P. Tebtunis 2.291 and Attestations of Literacy

In *The priests of ancient Egypt*, the primary source utilised by Sauneron to inform upon the question of education and literacy as a prerequisite for admission to a priesthood is P. Tebtunis 2.291¹²² (162 CE). Elaborating that ‘P. Tebtunis 2.291 gives us some useful information on the precise conditions of access to the priesthood’, Sauneron interprets from this source that in addition to being circumcised and of priestly family, the candidate was also ‘subjected to a kind of examination, which consisted of reading a hieratic religious text’ (1962: 55).

Thus, Sauneron (1962: 56) concluded that ‘the only truly “professional” skill that was required of a candidate for the priesthood was to know how to read hieratic’.

In fact, a close reading of P. Tebtunis 2.291 does not connect Marsisouchos’ “demonstration” (ἀπόδειξις) of literacy in hieratic and demotic with his priestly descent, and thereby does not permit his admission to the priesthood on the basis of the former. Sauneron’s misunderstanding follows that of its editors¹²³, and has been maintained by subsequent scholars. The first column of this papyrus features an ordinary report of a judicial procedure culminating in the verbatim decision of the High Priest of Egypt, Serenianus: “You have proven yourself to be of priestly family” (36), while the second contains a letter which might have been written by the High Priest to one of his colleagues at Tebtunis referring to how Marsisouchos and Pakebkis/Zosimus had proven their priestly descent: “(40) Marsisouchos, son of Mar[sisouchos] and Thenkebkis, he having given a demonstration of knowledge of hieratic [and] demotic (‘Egyptian’) writing from a hieratic bookroll, which the sacred scribes

¹²² cf. TM#13454, likely to have been found in the temple area (Grenfell, Hunt, and Godspeed 1907: 54-58).

¹²³ Regarding the means through which the two named candidates for circumcision proved their priestly descent, Grenfell, Hunt, and Goodspeed arrived at the conclusion that the first “rested his claim on documentary evidence, while the other gave a practical demonstration of his qualifications by reading from a hieratic book (sic) which was placed before him” (1907: 56). Otto (1908: 237 n.2) also cites P. Tebtunis 2.291 as evidence of an “Amtsvorbedingung” for becoming a priest.

produced in accordance with the memorandum of the 12th of the month (45) Tubi of the present 2nd year, and Pakebkis, also called Zosimus, son of Pakebkis and Thaisas, on the strength of proofs that *they* produced (παρέθεντο) concerning parentage, *they* were shown (ἐφάνησαν) to be of priestly family”. That is to say, both candidates – “*they*”¹²⁴ – produced (παρέθεντο) *proofs* of their priestly descent, so that *they* were shown (ἐφάνησαν) to be of priestly descent¹²⁵. The comment referring to Marsisouchos’ demonstration of literacy does not relate directly to this fact¹²⁶. Although reference is made to an imperial memorandum, and Quack asserts that this is as an “alternativ[e] to the proof by descent” (2012a: 225), it is not clear what the exact nature of this memorandum is. Indeed, whatever the implications of the memorandum, it does not play any role in Marsisouchos and Pakebkis/Zosimus being admitted to the priesthood. P. Tebtunis 2.291 specifies that they are admitted because they both produced proofs of their priestly descent.

Other than this source, Sauneron (1962: 57) also references an inscription at Dendera which reads ‘Do not introduce anyone to the god who is not versed in sacred writings’. This does not, however, support or supplement his interpretation of P. Tebtunis 2.291, because the Dendera inscription states only that an illiterate individual is not permitted before the god, i.e. in the sanctuary. It does not prevent an illiterate individual from joining the priesthood.

Nonetheless, Sauneron concluded that ‘this text thus confirms the express condition given to the appointment of all new priests of the daily staff: to know the writing of sacred documents’ (1962: 57). Further stressing this point, extrapolating the interpretation of this single source – almost as late as any source documenting a functional priesthood could be – across all of Egyptian history, Sauneron even suggests that ‘this requirement was also absolute’ (1962: 57). Consequently, given that Sauneron quite literally ‘wrote the book’ on priests, this erroneous

¹²⁴ I am grateful to Luigi Prada for highlighting this crucial detail.

¹²⁵ Crucially, Quack (2005c: 101) translates “aufgrund der Nachweis der Abstammung, die *er* herbeibrachte” (emphasis my own) not “die sie herbeibrachten” – although the text reads παρέθεντο *not* παρέθετο, leading to the erroneous conclusion that “the candidate does not prove his priestly descent but shows his competence by being able to read the hieratic and the Egyptian script from a hieratic book fetched from the temple” (2012: 225).

¹²⁶ Rathbone (2003: 10) was rightly cautious in his own assessment, noting that while one priest gave hereditary proof, “another, instead(?), had demonstrated his knowledge of “priestly and Egyptian writing””.

deduction has since been cemented within Egyptological discourse¹²⁷, where it appears in the *Oxford Encyclopedia of Ancient Egypt*: “In Greco-Roman times, Hieratic [sic] was *still* a necessary qualification of temple priests” (emphasis my own) (Fischer-Elfert 2001: 493). This revisionist treatment of P. Tebtunis 2.291 aims to contextualise more appropriately the text in accordance with the first stage of education as described in the Book of the Temple, where the children of the god’s servants are to be instructed in the mdw-nṯr. This, I would argue, is a more viable understanding of the stages of educating literacy, given that it is less likely these children would be educated to such a high level before acquiring any priestly rank – not least because the Book of the Temple prescribes that they would have already learned to “speak praises”, “utter praises”, and ‘screech’, through which they practised the cult of their temple’s patron deity, before being instructed in the mdw-nṯr.

1.2.4 Pressures on Priestly Populations and Education during the 2nd century CE

Following the introduction of the four case study sites treated in this study, the preceding sections have brought together the sources that can inform upon the demographics of, and pressures on, the priestly populations at those sites during the 2nd century CE, as well as those which inform an understanding of the way in which education in literacy and textual culture can be understood as having progressed intergenerationally within those priesthoods.

Utilising the revisionist treatment of Elliot which demonstrates that ‘the Antonine plague’ lacks veracity as the conjectured ultimate cause of demographic shifts during the third quarter of the 2nd century CE, Elliot’s summary of short-scale climate change provides a plethora of viable proximate causes for pressures on settled populations during the second half of the 2nd century CE (1.2.2.1). Sustained volcanic eruptions on a global scale during the 150s and 160s CE emitted particulates into the atmosphere causing global dimming. Consequently, global temperatures decreased, as did precipitation and runoff – problematic for the Nile, fed by both

¹²⁷ cf. Sauneron 1960: 41; Clarysse 2010: 287; Teeter 2011: 30-31.

Lake Victoria and Lake Tana which in turn feed the White and Blue Nile – causing the highest frequency of droughts in recorded history to occur during the 2nd century CE. These in turn led to reduced harvests and crop failure, compounded by corresponding food price increases, and ultimately malnutrition. Depopulations, as evidenced in certain primary sources from specific sites between particular generations, would then follow, whether through insufficient inundation causing tenants to abandon marginal land, or the inflexible poll tax causing tenants to abandon unproductive land, as well as deaths due to the consequences of malnutrition, i.e. starvation, illness, and disease. Such population pressures must have been recurrent across the vast temporal and spatial frames of Ancient Egyptian history. However, the notable difference during the second half of the 2nd and early 3rd century CE is that this was not a time during which state aid could be relied upon in order to maintain the viability of institutions that were unable to sustain themselves, and thus the priestly communities serving their cults.

The impacts of such pressures on population demographics during the third quarter of the 2nd century CE must then be contextualised within male populations of priests whose families were responsible for reproducing, and who themselves were responsible for educating, hereditary successors (1.2.3.2). The viability of intergenerational transmission of education in literacy and textual culture would have been limited by demographics, especially when populations were under pressure. With a strong correspondence between age and level of education a robust assumption, the fact that the proportional size of male populations tapers off dramatically into the 50s is notable (1.2.2). For example, in a population of 50 priests at Tebtunis (1.2.1.2), assumed to be over the age of 14¹²⁸, demographic trends for males suggest that c.9 would be between the ages of 14 and 19, c.12 between 20 and 29, c.11 between 30 and 40, and c.8 between 40 and 50 – presumably viable for intergenerational transmission of literacy given that this priestly population subsisted during the first half of the 2nd century CE. However, in a population of 10 or 11 priests attested by the last quarter of the 2nd century CE, it would be

¹²⁸ Tax-paying age. 12 years-old is the traditional age of maturity in Ancient Egypt, cf. P. EA 10822 2/27.

problematic to propose that there existed a critical mass of individuals, or expertise, necessary in order to ensure the intergenerational viability of the priesthood – whether demographically or educationally.

The secondary sources for education and literacy have also suggested a complex situation in which, in idealised cases, certain priestly ranks were responsible for education, and the sons of other priestly ranks were those to be educated (1.2.3.2). This is in addition to the fact that only certain priestly ranks were those responsible for the copying of ritual texts within the temple institution (1.2.3.3). However, such sources must be contextualised within primary source realities, and, regarding Tebtunis, the priestly titles attested among the priesthood during the 2nd century CE suggest that specialisation was not necessary for maintaining a functional cult (1.2.1.2), and that literacy was not a prerequisite for admission to the priesthood (1.2.3.6). Thus, even though copies of the Book of Thoth suggest a long and complex educational journey for initiates (1.2.3.4), the notable shifts in the compositions for “interpreting the difficulties” (1.2.3.5) – part-and-parcel of priestly education for centuries, where lexical sources were augmented with glosses, suggest changes to intergenerational education during the Roman Period. As this study aims to understand, such shifts may well be most feasibly understood in the context of this contraction of priestly populations, and thus the reduction in the viability of intergenerational transmission of education in literacy and textual culture during the second half of the 2nd century CE.

2 Frameworks for studying Egyptian Priesthoods in Roman Egypt

This chapter presents the macro-level frameworks which inform the approaches utilised in this study. In order to explore the rationale behind the innovative scripts and spellings of the Roman Period, it is necessary both to survey the scripts and languages stages in which the Egyptian language is attested and to consider the related yet distinct nature of language and writing (2.1). As well as a consideration of the etic and emic conceptualisations of Egyptian writing, the domains of language and script use, the conventions that governed language and script use, and how these changed over time, must be considered (2.2.1). This will then allow a comparison of the contexts of use of spoken and written Egyptian language in language, speech, and script communities (2.1.2; 2.2.2).

The term “priesthood” does not constitute an unambiguous and homogenous category whose practices and members were consistent over temporal and spatial frames. Thus, four frameworks are utilised in this study to highlight the communities which constituted each “priesthood”: “language communities” were constituted and reified by their shared language(s) (2.1.2); “script communities” were constituted and reified by their shared literacy/literacies (2.1.2); “social networks” of individuals were bound together through familial, personal, and professional ties (2.3); “communities of practice” were constituted through mutual engagement in undertaking a joint enterprise and reified through their shared repertoire of cultural experience (2.4) – in the case of a “priesthood”, in the maintenance of a cult. These frameworks are meaningful in so far as they present ways of delineating the interrelated factors which make up a priesthood, while facilitating – over temporal and spatial frames – a contextualised study of language and script use, and the conventions which governed them, within the communities constituting the case studies treated in this study (1.2.1).

2.1 Spoken and Written Language, Domains, and the Language and Speech Community

All *homo sapiens* have “the language instinct”. Language develops spontaneously “without awareness of its underlying logic” and yet is “qualitatively the same in every individual” (Pinker 1995: 4-5). While language is universal, language register is synthetic, as are the conventions that often govern spoken, but always govern written, language. Indeed, unlike the ability to speak, which resulted from “an evolutionary change in the brain” at least 100,000 years ago, the ability to write and read was a cultural, not biological, development (Rayner and Pollatsek 2012: 29). Thus, “although language is an instinct, written language is not” (Pinker 1995: 186).

Contrary to graphocentric attitudes, a language does not have to be written to be fully-fledged (Lüpke 2011: 320). Writing is a “technology”, which must have a “material basis”, two aspects which spoken language does not share (Powell 2009: 18). Thus, while writing is “material and lasting”, speech is “invisible and transitory” (Powell 2009: 52). Unlike writing, speech is not a phenomenon optional to a functional society, nor can it disappear.

Spoken language is inherent to *homo sapiens* who, other than through disability, learn to speak organically, without formal tuition, whereas being illiterate is “the natural human condition” (Houston 2008: 235).

Unlike languages which evolve through speakers as “unwitting agents of language evolution” (Mufwene 2001: 18), writing is “purposefully changed by human agents to achieve any number of specific goals” (Fischer 1999: 88). Yet, writing does not have to take any certain direction (Powell 2009: 4). Arguments to the contrary often stem from “the misconception of language as a cultural artefact”, when – in reality – “at all times, in all communities, language changes” (Pinker 1995: 249). Indeed, this is in part because – unlike a text written upon a tangible medium which can survive for years, decades, centuries, or millennia unchanged – “languages do not exist within a vacuum” (Ahland 2010: 17). Writing “is an artefact”, “a cultural achievement rather than a universal property” (Coulmas 1989: 3), which turns

language into a tangible and intransient artefact. This does not mean, however, that the rationale behind the origins, development, and use of writing was/is “to represent speech” (Powell 2009: 1). The written form of a language is – almost exclusively – distinct in multiple facets to the contemporary spoken form(s) of the same language, i.e. there is a “language of speech” and a “language of writing” (Powell 2009: 4). Indeed, although a writing system does not parallel a spoken language, it is constrained by it (Katz and Frost 1992: 68).

Thus, the varieties of spoken language can be understood as occurring in a “fluid” form that can only be analysed when constrained into “solid” states as standardised varieties of written language (Richter 2006: 311).

As well as there being typologies of spoken language varieties, and their dialects, the most salient factor regarding language use is domains. Domains are “an empirically determined niche within a speech community with typical participants, location[s], topics and preference[s] for language variety” (Spolsky 2011: 147-148) – they describe the sociolinguistic context of language use. While spoken language varieties inhabit language domains, written language varieties inhabit script domains. The interrelationship between a language’s domains, i.e. its social (e.g. familial, intra-group, and inter-group), cultural (e.g. ritual), economic (e.g. administrative and commercial), and political contexts (e.g. judicial and in governance), constitutes its language ecology¹. Such script domains in the context of Egyptian writing are considered below (2.1.1; 2.2.1.2).

Language engenders community and individual identity, through which one community or individual can most easily distinguish itself from another (Batibo 2005: 32-36).

Thus, language can be divisive, utilised as a form of social control through stratification, by which speakers of a certain language, or literates of a certain written language, can exclude

¹ By analogy to ecology, which studies “interdependence within a system” (Mackey 2001: 67), “language ecology” – also known as psycholinguistics, ethnolinguistics, linguistic anthropology, sociolinguistics and the sociology of language – studies the interrelations between languages, their speakers, and their contemporary and historical contexts (Haugen 2001: 57; Grenoble 2011: 30).

others from certain roles in society and the economy. While intra-group languages are “horizontal”, stressing “solidarity and social equality”, certain inter-group languages are “vertical” languages, stressing “divergence and inequality” (Batibo 2005: 47-48).

Consequently, in scribal societies such as Ancient Egypt, solidarity and social equality is expressed horizontally among literates, while the distinction between literates and illiterates constitutes a vertical relationship of divergence and inequality.

When it comes to the study of dead languages, given that these once spoken languages can only be accessed as written languages via their extant textual culture, “language” or “speech” in absolute terms cannot be discerned. Indeed, unlike in speech, language choice in written language “is never instinctive or unintentional” (Richter 2009: 401), but the result of domain-specific conventions. Thus, in studying any written language, the domains inhabited by written language and – where applicable – its scripts, as well as the ecology of interrelationships that engendered these domains and conventions which governed them must be considered as distinct from those affecting the spoken varieties of that same language.

2.1.1 Spoken Egyptian, Egyptian Writing, and Domains of Writing

The stages of the Egyptian language as termed within Egyptology are exclusively the written manifestations of a language that was, throughout its history, spoken in parallel. During all periods of Egyptian history, the written language was distinct from the spoken language to a lesser or greater extent, manifesting broadly as a diglossia of spoken and written².

The diachronic “stages” of the development of the written Egyptian language – as understood from synchronic, randomly-preserved, textual sources – are conventionally typologised as First Phase Old and Middle Egyptian³ followed by Second Phase Late Egyptian, Demotic,

² A situation in which in a high-form; “learned formally and utilized in a range of more formal contexts” and a low-form; “learned naturally and used in a range of less formal contexts” of the language were distinguished by the conventions governing each domain (Matthews 2007: 105). For formative studies within Egyptology for diglossia in writing, cf. Jansen-Winkeln 1995; Loprieno 1996; Vernus 1996.

³ Old Egyptian refers to “a dialect as well as a historical stage” of the Egyptian language evidenced from the 4th Dynasty as *the* written stage until the First Intermediate Period (Allen 2015: 1) with “specific features that differ from Middle Egyptian” (Vernus 2016: 8) – albeit most of these differences would not have been resistant to pure orthographic change, cf. Quack 2010a: 79; 2013a: 44, with references.

and Coptic. First Phase Egyptian remained the idiom in which many genres of texts were written long after it had ceased being the contemporary written idiom, and in such contexts this idiom is conventionally typologised as “Classical” Egyptian. Other terms, such as “Ptolemaic”⁴ or “Egyptian of Tradition”⁵, have been shown to be intensely problematic. In the latter case, this is whether referring to: an etic designation both of any particular grammatical features⁶ or any particular text⁷; an emic conceptualisation of an idiom of written

⁴ “Ptolemaic” is methodologically problematic because it encompasses all First and Second Phase or First-Second Phase Egyptian texts so long as they were written in hieroglyphs on Graeco-Roman Period temple walls (Quack 2010a: 73-74; 78; 83). This excludes all contemporary hieratic and Demotic/demotic textual culture and does consider the centuries of textual transmission preceding their inscription upon temple walls (2010a: 81-83). ‘Ptolemaic’ as a designation is also principally a matter of orthography, rather than grammar, and yet ‘Ptolemaic’ orthography is also not unique (Quack 2010a: 74-75; 79).

⁵ Vernus’ “égyptien de tradition” is constructed as distinct from Middle Egyptian by being “linguistically antiquated”, a “linguistic practice” comprising grammatical features that are “linguistically obsolete with respect to the time of the text’s writing”, aimed at “the more or less comprehensive imitation” of First Phase, i.e. Old/Middle, Egyptian. This is while containing elements of Second Phase Egyptian, i.e. Late Egyptian and Demotic – particularly from the Late Period onwards (Vernus 2016: 2; 5). Thus, “Egyptian of Tradition” has essentially become a ‘catch all’ term for any text written after the Middle Kingdom which exhibits any First Phase Egyptian grammar.

⁶ In listing examples of grammatical features found in hieroglyphic texts of the Graeco-Roman Period written in what Vernus considers “Egyptian of Tradition” (2017: 495-496), not so dissimilar to Kurth’s 29 points of ‘Ptolemaic’ grammatical features (2011: 72-74) – already deconstructed by Quack (2009d: 275; 2010a: 51-52), Vernus, like Kurth, simply lists ordinary Second Phase Egyptian influences on First Phase Egyptian. When Second Phase Egyptian is exhibited within a predominantly First Phase Egyptian text, Vernus does not explain this as “stage switching”, where a new text is written in Second because it could not, or there was no motivation for it to, be written in First Phase Egyptian, but explains it away conveniently as “register switching”, where passages referring to a “current issue” were *chosen* to be written in Second Phase Egyptian (2017: 498-499). This is particularly problematic given that Vernus rejects von Lieven’s thesis on “historical linguistic dating” by stating that “the mastering of ancient stages of Egyptian was kept and implemented until even the Roman Period” (2017: 494), while at the same time being unable to show a purely First Phase Egyptian text produced in this temporal frame (Quack 2018c: 301). Notably, this was itself one of the principal reasons for von Lieven’s consideration that there was no such teaching, learning, and thus ‘mastery’, cf. 2007: 247.

⁷ e.g. the Apis Embalming Ritual is described by Vernus as written in “a kind of early Late Egyptian idiom” which “may be received as reflecting in the closest possible manner the primordial language by opposition to the contemporary language of Demotic” (2017: 493), despite the fact that the text is actually predominantly in Demotic (Quack 2018c: 302), unsurprising given it was (re)composed in the Late Period, cf. 4.2.2.

Egyptian⁸; a written idiom actively taught and learnt⁹; or any emic conceptualisation of Egyptian textual culture¹⁰.

Consequently, the imperfect term “Classical Egyptian” will be utilised in this study where such a designation is necessary¹¹. While in most cases “Classical Egyptian” texts are more or less uniform (Quack 2010a: 89), perhaps oscillating between First Phase – Middle – and Second Phase – Late – Egyptian only by nature of the utilisation of the definite article, some texts are complex compilations in consequently mixed idioms, incorporating a ‘pan-Egyptian’ of Middle and Late Egyptian, as well as Demotic. Thus, texts termed “Classical Egyptian” can be those exhibiting everything from relatively conventional First Phase Egyptian to a First-Second, i.e. First-and-Second, Phase Egyptian. While it is not possible within the scope of this study to engage with the grammar of each text described as “Classical Egyptian”, and thus draw out whether each text exhibits a relatively conventional First or mixed First-Second Phase Egyptian grammar, the fact that such an approach is rarely undertaken raises important

⁸ As Quack rightly criticises (2018c: 301), Vernus’ incorporation of Late Egyptian into his definition of “Egyptian of Tradition” (2017: 479) begs the question why Late Egyptian was not utilised as commonly as Classical Egyptian. Indeed, if value was truly placed on “a language conceived as being as close as possible to the language of the primordial times” (Vernus 2017: 479), then Late Egyptian would simply not be expected. Indeed, Vernus (2017: 493) moves the goalposts enough that “Egyptian of Tradition” can be “any language that seems as if it mirrors the primordial language”, and given that “the primordial language” is fundamentally an etic construct, anything can be made to fit within this category, cf. “the notion of past language attractor is somewhat relative, and the distance between the target stage of language and the contemporary language may fluctuate according to the models implemented” (2017: 494).

⁹ The reification of Classical Egyptian as an “Egyptian of Tradition” or “Ptolemaic” is based on the assumption, which has not only been inadequately addressed but is also practically unevidenced (Quack 2010a: 91; 2013: 49-50; von Lieven 2013: 161-162), that First Phase Egyptian was explicitly taught and learnt after the New Kingdom as a written idiom distinct in its grammar. Indeed, Vernus himself had to concede that many of the Second Phase interpolations into his “Egyptian of Tradition” – termed “punctual modifications” – “exemplify failures in producing new sacralized texts in an older stage of language” as well as “failures in reproducing ancient ones” (2017: 496).

¹⁰ Vernus’ nebulous category is delineated into those texts which attest “Reproductive Egyptian of Tradition”, comprising “the continued reuse of ancient texts at a time when the language in which they were written had long become obsolete”, i.e. the copying of ancient texts “with more or less consequential editorial changes”, and “Productive Egyptian of Tradition”, comprising “newly composed texts with a linguistic inspiration derived through the indirect and/or partial reuse of ancient texts”, i.e. those written in Old/Middle/Classical Egyptian (2016: 4-5). Following this typology, presumably every text with an attested Vorlage is “reproductive”, whereas every text without is “productive”, and when a Vorlage to a “productive” text is identified, it must thereby be typologised as “reproductive”. Vernus’ (2017: 495) explaining away of this discrepancy with reference to ‘historical’ inscriptions, which – it must be stressed – almost exclusively record events only known from the inscriptions themselves, as evidently “productive” because they describe contemporary events does not engage with the fact that they too could draw heavily from Vorlagen. Indeed, while Vernus (2017: 495) says that the Bilingual/Trilingual decrees are clear historical evidence of such “mastery” of composing in “Egyptian of Tradition”, and are evidence against von Lieven’s thesis, the simple fact is that these decrees were not composed in ‘sacralized’ First Phase Egyptian but in a mixed First-Second Phase Egyptian (Quack 2010a: 90).

¹¹ Needless to say, designations such as “Spätmittelägyptisch” or “Neomittelägyptisch” are also avoided.

questions for the idea of “reproductive” vs “productive” textual production – especially in the Graeco-Roman Period – and has clearly influenced the rather dismissive attitudes towards von Lieven’s thesis on “historical linguistic dating”¹².

Although the reality is much more complex than broad models allowed for¹³, diglossia also existed within written Egyptian, whether in the New Kingdom through documentary texts written in Late Egyptian and ritual texts principally but not exclusively written in Middle Egyptian¹⁴, or in the Graeco-Roman Period through documentary texts written in Demotic and ritual texts written principally, albeit even less exclusively, in Middle/Classical Egyptian. The diglossia of “spoken Egyptian”, the agraphic – unwritten – Egyptian spoken contemporaneously with the temporal frame under discussion, and “written Egyptian” will therefore be marked throughout this study.

The triglossia of spoken Egyptian, Egyptian written in the administrative domain, e.g. state and private documentary and legal texts, and Egyptian written in ritual domain, e.g. afterlife, magical, and temple ritual texts, during the Roman Period will also be highlighted in this study. Indeed, as a product of a language contact situation between Egyptian and Greek (3.1.1), if Roman Period spoken Egyptian were compared to Early Modern English (1500-1750 CE), the successor of Middle English which was itself the product of a language contact situation between Old English and Anglo-Norman French, written

¹² Contrary to the position of von Lieven regarding the “historic linguistic dating” of texts (2007: 223-250, esp. 247-248; 2013), Vernus (2016: 3), citing further contradictions, suggests that if it were not possible to compose texts in earlier stages of the Egyptian language then “Sematauytefnakht’s autobiographical inscription, which dates to the Persian domination in Egypt, should be dated back to the second millennium BCE”, cf. also Engsheden 2016: 2-3; Vernus 2017: 494 n.116. The problem here is that Vernus does not engage with the fact that autobiographical inscriptions could draw heavily upon Vorlagen, nor whether the entirety of that text is really in a conventional First Phase Egyptian that does not exhibit any influences of Second Phase Egyptian. Ultimately, a text-by-text study is required to establish the exact grammar of each text, only after which such conclusions can be drawn.

¹³ For the justifications for scepticism towards a binary structure of spoken and written Egyptian, especially during the Graeco-Roman Period, due to the diversity of language stages attested in mixed written idioms, cf. Quack 2010a; 2013a, esp. 45.

¹⁴ For an instance of Late Egyptian already in use in afterlife ritual texts in the 19th Dynasty, i.e. BD166 Pleyte – with comparanda in both temple and magical ritual texts, cf. Quack 2016d.

Egyptian in the administrative domain during the Roman Period, i.e. Demotic¹⁵, would be comparable to a written form of Old English that predated Middle English (i.e. before 1066 CE). By this same measure, written Egyptian in the ritual domain would then be comparable to the West Germanic predecessor of Old English that was spoken – but not written – at the time of the Roman conquests of Britain (i.e. 1st century CE). Thus, the extraordinary changes to the English language evident in such a comparison serve to highlight that the “language stages” of Egyptian were not necessarily mutually comprehensible.

The extant corpus of Egyptian textual culture only provides the synchronic data which is analysed within Egyptology to explain the diachronic process of language change in written Egyptian. The Egyptian language is attested for c.25 centuries during the Pharaonic Period, which extends to c.33 with the Graeco-Roman Period, and c.40 with the Roman, Byzantine and Islamic Periods. The “linguistic reality” as well as the “historic reality” of the Egyptian language “are available only within the confines of a large textual corpus”, and the limitation of this corpus is not only that it cannot evidence spoken Egyptian, but that it also does not evidence the “dynamic process” of language change – only “the linguistic diversity of attested texts from different periods” (Richter 2009: 402-403). Furthermore, dialectal differences in spoken language varieties – resplendent in vocally-written Coptic – can rarely be distinguished in stages of the Egyptian language written in hieroglyphs, hieratic or demotic. This is partly because those three scripts are consonantal in their structure, and partly because of the aforementioned language and script conventions which governed written Egyptian. The predominance of language and script conventions is evidenced by a particular administration imposing its own dialect¹⁶, e.g. a Lower Egyptian regional language variety, Demotic, written in demotic, or its own graphic form and orthographic conventions,

¹⁵ Demotic “does not reflect the true level of lexical borrowing that must have been attained in spoken Egyptian” from Greek (Richter 2009: 406).

¹⁶ Compare this with the attempts to ascribe Old, Middle, and Late Egyptian to particular regions of Egypt, which has led to each being ascribed to Lower, Middle, and Upper Egypt when different features were treated (Cole 2015: 66 n.171).

e.g. Lower Egyptian demotic on Upper Egyptian Abnormal Hieratic¹⁷, which could then remain unchanged for centuries – masking both the diversity of dialects being spoken at the time of implementation, as well as subsequent change. In the way that Standard English is in fact a regional language variety, i.e. dialect, from the south-east of England, which has – through political, economic, and socio-cultural factors – come to be the superordinate form of English written, Demotic, a regional language variety from Lower Egypt, became the standard language variety of Egyptian throughout Egypt at the beginning of the Late Period.

In addition, the conventions governing which scripts could be used to write which stage of the Egyptian language and in which domain also differed between scripts, and changed over time. Thus, the linguistic diversity attested in the extant corpora of Egyptian textual culture is also bound to the register of language appropriate to each sphere of textual culture, and the language and script conventions which governed language and script domains.

These dichotomies, of spoken and written, and trichotomies, of spoken and distinct varieties of written, language highlight the phenomena of “language convention(s)”, which governed the linguistic options and applications in domains of spoken and written language, and “script convention(s)”, which governed script-related and orthographic options and applications in domains of written language. However, “languages do not exist within a vacuum” (Ahland 2010: 17), but in communities of speakers, and it is these contexts of use that must next be considered.

2.1.2 The Language Community and Speech Community

Turning to the contexts in which languages exist, the defining criterion of a community is that “some significant dimension of experience has to be shared”¹⁸, and within a language or speech community this “shared dimension” relates to how community members “use, value or

¹⁷ For this and the generation in which it occurred, i.e. third quarter of the 6th century BCE, cf. Donker van Heel 1993.

¹⁸ Although it should be stressed that “it is not necessary for speakers to share a system in order to communicate with each other” (Mufwene 2001: 148).

interpret language” (Saville-Troike 2003: 15). A community can either be “hard-shelled”, exhibiting “strong boundaries which allow only minimal interaction between outsiders and members of the speech community, thus serving to preserve the norms of language and culture”¹⁹ or “soft-shelled”, exhibiting “weaker boundaries” which are “less likely to preserve existing language and cultural norms” (Mullany 2006: 86).

A “language community” is one sharing a lexicogrammatical code²⁰. Language communities exist from the macro-scale of “all speakers of a given language in the world” (Spolsky 2011: 147), such as the worldwide community of all Anglophones, to the micro-scale of a particular group of speakers in a particular context, such as a Latinophone community of monks living in an isolated monastery. Usually, a language community acquires its language osmotically, through intergenerational transmission by nature of its status as the quotidian vernacular (Sallabank 2013: 1.2.5).

A “speech community”, by comparison, is a sociolinguistic community²¹ (Grinevald and Bert 2011: 56), and thereby a more appropriate designation for a Latinophone community of monks living in an isolated monastery. This “socially-based unit of linguistic analysis” cuts across the interrelationships between contexts of language use (Patrick 2002: 577), serving as “a local social unit characterized for any individual by locality and interaction” (Spolsky 2011: 147). As language communities, which can be anything from international to intra-group, speech communities too are found “at all levels of social organization” (Grinevald and Bert 2011: 57). A speech community often comprises, or overlaps with, numerous speech communities, because “speech communities are commonly multilingual communities with complex language-contact situations, with well-established diglossic dynamics, and extensive

¹⁹ Resonant of a metaphor utilised by Ebers when remarking on Egyptian culture nearly a century and a half ago: ‘the Egyptians have ... like an oyster in a shell, consciously resisted contact with other peoples who seemed to them to be contemptible and odious merely by nature of their being foreign’ (1871: 9) – first brought to my attention by Richter (personal communication).

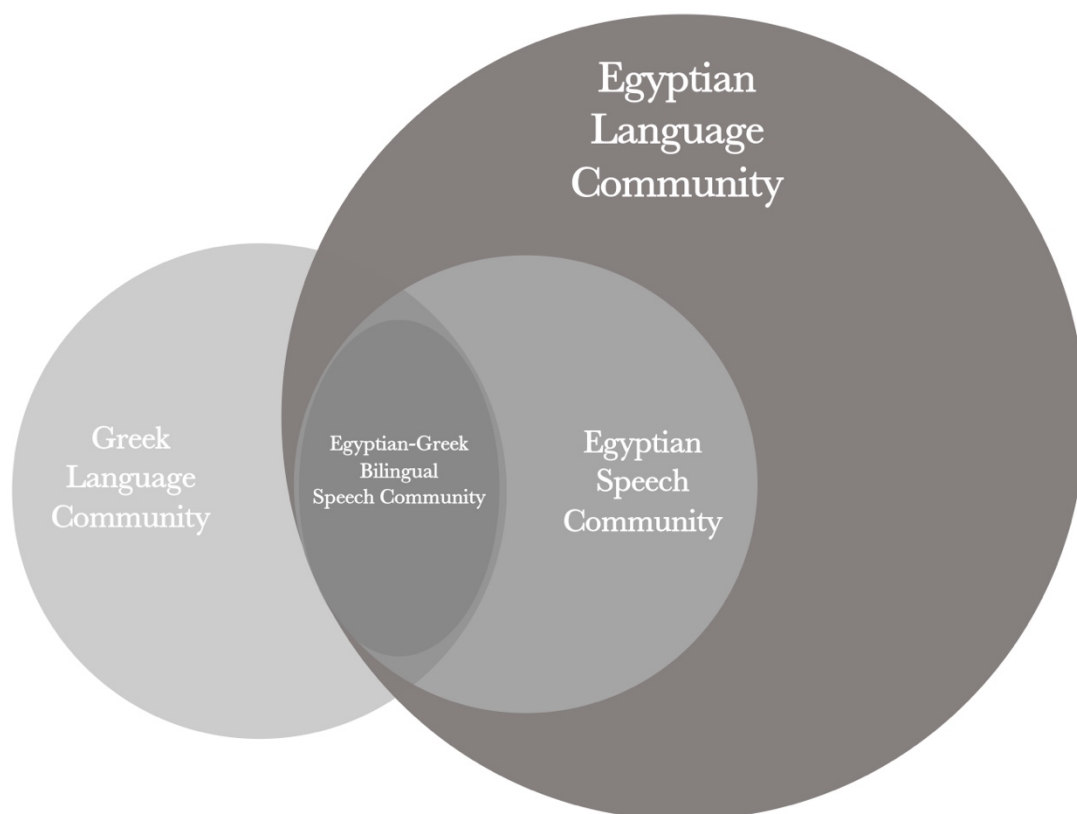
²⁰ Hence the definition is both purely descriptive and “guilty of circularity” (Mullany 2006: 84).

²¹ For a summary of the plurality of ways in which the term speech community is used – exhibiting “a general lack of analysis and synthesis” (Patrick 2002: 574), cf. references in Spolsky 2011: 147 and the survey of principal theorists in Patrick 2002: 577-588.

practices of code switching”, but can also be based on “ethnic and cultural identity without much trace of actual linguistic competence” (Grinevald and Bert 2011: 56-57). As with language communities, individuals can therefore have concurrent membership in more than one speech community.

2.1.2.1 Egyptian Language and Speech Communities

In this study, “language community” refers to a community constituted by the “shared dimension” of a shared language, while “speech community” refers to the immediate socio-cultural, spatial, and temporal context of a community constituted by a shared language. Thus, as visualised in figure 2.1.2.1, while Roman Egypt was home to, for example, Egyptian and Greek bilingual “language communities”, each priesthood contained Egyptophones who were members of an Egyptian “speech community”, and Egyptian-Greek bilinguals who were members of the Egyptian “speech community”, as well as the Greek “speech community”, by nature of being members of the Egyptian-Greek bilingual “speech community”.



2.2 Writing and the Script Community

“Literacy made it unnecessary to reinvent the wheel” by releasing *homo sapiens* from the limit of human memory (Wolf 2008: 216). Writing utilises a form of “symbolic representation” where objects are “symbolised by marks for the eye”, and was made possible because human brains are able to connect “basic visual regions to adjacent regions dedicated to more sophisticated visual and conceptual processing” (Wolf 2008: 28-29). Not only do writing systems “allow a permanence to human thought”, they also facilitate “a complexity and scope to human expression that seems barely possible without [them]” (Rayner and Pollatsek 2012: 30). Through writing, individuals can communicate with each other across temporal and spatial frames, and this materialisation of memory is “markedly different from many other ways in which material culture conveys meaning” – uniting two institutions which “distinguish human beings from other animals”, i.e. language and material culture (Baines 2008: 348).

Writing, to be writing, requires a system “with a conventional reference” – writing must comprise “conventional signs in a conventional system” (Powell 2009: 54; 83).

Coulmas (1989: 17) and Fisher (2003: 15) argued against a formal definition of writing, and in favour of an appreciation of three fundamental characteristics: artificial graphic marks on a durable surface, the intention of communicating meaning, and the communication of meaning by virtue of the marks’ conventional relation to language. Powell (2009: 36) proposed that it was the discovery of the “phonetic principle” that facilitated “lexigraphy”/“lexigraphic writing” – “writing with words”, distinct from its “older brother semasiography” – “writing with signs”, because lexigraphy is a system that is “always rooted in speech”²².

²² Regarding the historical stemma of development of writing systems: sematograms, which rendered things/people/places, became logograms, which rendered the words for those things/people/places, while – via the rebus – logograms became phonograms, which rendered sounds, cf. Powell 2009: 38; 181-183, following Gelb (1963: 141), but contrary to Fisher (2003: 29).

In logography, graphemes represent lexemes or morphemes and thus significant segments of speech – logograms are “meaningful in themselves”²³. In comparison, in phonography, graphemes represent sounds which are ordinarily less significant elements of speech – phonograms are “meaningless by themselves” (Powell 2009: 40; 51; 54). Within phonography there are two types of phonographic system: syllabography – syllabic writing, in which graphemes represent syllables – “the smallest apprehensible elements of speech”, and ‘alphabetography’ – alphabetic writing, in which graphemes represent “elements of speech smaller than syllables, although such sounds do not exist in nature” (Powell 2009: 51). The differences between logography and phonography reflect the distinctions between how the graphemes of a writing system relates to, and thus renders, the structure of the language it writes (Katz and Frost 1992: 68). Within all these systems, auxiliary devices such as semantic complements or classifiers – from capitalisation in the Latin script to classifiers/determinatives in hieroglyphs, hieratic, and demotic – are utilised to enable logographic and phonographic systems to extended and refine their applicability, thus reducing ambiguity (Fischer 2001: 39).

All writing systems are governed by orthographic conventions, and the term orthography is bivalent. When considered in sum, all orthographic conventions constitute an orthography, i.e. the relationship between a written language and its script (Katz and Frost 1992: 68). But an individual word also has an orthography, i.e. the way in which any particular word is spelled, whether with alphabetic, consonantal, syllabic, or logographic graphemes. Historically, the term “orthography” implies “correct spelling” (< ὀρθο-γραφία), and it is the intersubjective that there is ‘a correct way to spell’ every word that distinguishes “orthographies” from “spellings” – a distinction which, where possible, will be highlighted in this study.

For example, the orthographic conventions governing English in the USA can be considered to be different from in the UK. While the word “colour” has two spellings, the orthography in the UK is <colour>, but in the USA is <color>. In this case, the distinct spellings and

²³ Thus, in the case of logography, “there is no need to know the spoken language in order to decipher it” (Rayner and Pollatsek 2012: 25).

orthographies could be considered phonographic, compare British [ˈkʌlə] and American [ˈkɒlə], while for other words this is not the case, compare British <through> [θruː] and American <thru> [θruː].

The problem with phonographic systems is their tendency towards “polyphony”, in which “the same spelling yields many different pronunciations, hence different meanings, according to context”²⁴ (Powell 2009: 48). In comparison, the problem with logographic systems, especially regarding the deciphering of dead languages, is their tendency towards “semantic polyvalence”, in which a similar spelling can yield different words, and thus encode different sounds. As developed below (4.4), “shallow” orthography is where the spelling indicates principally the pronunciation of the word, e.g. American <thru> [θruː], while “deep” orthography is where the spelling principally indicates the morphemic structure of the word, e.g. British <through> [θruː]. This often produces distinct orthographies for homophones, e.g. site [saɪt] and sight [saɪt], but also homographs, e.g. tear [tɪə] and tear [tɛː] (Rayner and Pollatsek 2012: 44). Ultimately, orthographies, and thus the conventions which govern them, are the “horizontal borders” which serve as “the inevitable restrictions of any written language by standards” whose aim is to protect “a given linguistic state against the diversity of ever-shifting norms – the changeability of spoken language” (Richter 2009: 403).

Coulmas (1989: 12-14) summarises five functions of all types of writing system, the first three of which are fundamental: the “distancing function” allows the speaker/writer, listener/reader, and utterance/text to be “spatially and temporally separated from each other”; the “reification function” means that texts become “interpretable as detached from, and independent of, its conceiver”, giving them “depersonalized authority in their own right” – “textual authority”²⁵; this produces the “social control function”, correlating with the socio-

²⁴ Indeed, due to “polyphony” in phonographic systems some orthographies became “virtual logograms” (Powell 2009: 48).

²⁵ For the thesis of “textual authority”, cf. Love *fc.* b; c.

cultural factor that throughout most human history only elites have been literate; the “interactional function” is a consequence of “liberating linguistic communication from the constraints of speech”; while the “aesthetic function” relates to the “diverse modes of display” within which writing can be utilised.

Although the “functions” of writing can be typologised in such a way, the “functionality” of writing is different in nature because “systems of writing serve different purposes for different peoples at different times” (Powell 2009: 14). Indeed, the history of writing is not a teleological narrative of systems with higher complexity and complicatedness developing into systems with less complexity and complicatedness, i.e. the supposed ‘logical’ evolution from logographic to syllabic or alphabetic writing. Rather, it is a history of the contexts of writing. After all, the distribution of written languages across the world is an index of political, religious, and cultural domination, not the complexity or complicatedness of any particular script.

Each writing system “will satisfy the needs placed upon it” (Powell 2009: 14), by being adapted to do so. If the history of writing does suggest “a clear evolutionary trend”, in the Darwinian sense of evolution by natural selection, “we have to remember that fitness is always defined in terms of the ecological niche of the organism (or culture)” (Rayner and Pollatsek 2012: 47). Using the biological metaphor of “(ecological) niches”²⁶, one theory is that each writing system has evolved to be the fittest in its own particular domain by outcompeting (an)other writing system(s) or by ecological change that made other writing systems unable to compete. However, an evolutionary biological metaphor for a human technology, influenced by political, religious, and socio-cultural factors such as writing is inappropriate. Thus, in this study, “domains” of written and spoken language will instead be referred to. Demotic did not ‘evolve’ and ‘outcompete’ Abnormal Hieratic. Abnormal Hieratic was simply replaced by the governing Lower Egyptian polity with Demotic once it had come to dominate

²⁶ Houston (2008: 240) first referred to “ecological niches” in the study of written language domains.

the Nile valley during the Late Period. A corresponding biological metaphor would not be one of habitat destruction and the loss of (an) ecological niche(s), but one in which humans replace one species with another in exactly the same ecological niche(s) without damaging, let alone destroying, the habitat itself – a phenomenon which is rare, if not non-existent, in reality.

Stating that a particular writing system is optimal for a domain is not, however, the same as stating that each writing system is optimal in representing a spoken language in that domain. Similar to a spoken language, a written language, or one of its scripts, may inhabit a domain alone, or it may share one. In a shared domain, this may be in a stable coordinate relationship of bigraphic and/or bilingual contact leading to an equilibrium, or an instable superordinate relationship of bigraphic and/or bilingual contact leading to script or language shift.

Once again similar to a spoken language, a written language, or one of its scripts, may no longer have the functionality required by a changing domain, leading to functional obsolescence in that domain or to domain shift. Such phenomena are elaborated below (3.1.1).

2.2.1 Writing Egyptian

The Egyptian writing system comprises phonetic and non-phonetic logograms, phonetic mono-/bi-/tri-consonantal graphemes, and non-phonetic semantic classifiers²⁷ –

²⁷ Throughout this study, the Gardinarian term “determinative”, ultimately coined by Champollion who borrowed it from Chinese, is supplanted by that of “classifier”. For the formative theses on classifiers, cf. Goldwasser 1999; 2002, and for a recent introduction, cf. Lincke and Kammerzell 2012: 63-67. For why “determinatives” are “classifiers” – and thus the debate is not a matter of terminology, cf. Goldwasser 2009: 20-21, with references. For robust justifications of the term, cf. Goldwasser 2006: 473-474; Kammerzell 2015: 1396-1399. The continued use of “determinative”, after all, results in “isolat[ing] Egyptological studies from other, theoretically more advanced disciplines” (Kammerzell 2015: 1399). Classifiers allow engagement in “archaeology of the mind” whereby the “intimate cognitive processes of the Egyptians” are illustrated (Goldwasser 1999: 49). In doing so, classifiers unveil “various categories in the ‘mind of the Egyptian culture’” (Goldwasser 2006: 474), revealing ultimately “the map of knowledge-organization of ancient Egyptian culture” (2002: 1) because the system of classifiers “demonstrates identical principles of conceptual organization” to modern literate and illiterate societies as understood by modern cognitive linguistics (2002: 6). Indeed, “every word in the Egyptian lexicon is represented in the script as woven into the network of world-order categorization” (Goldwasser 2009: 37). Classifiers comprise a “sign function” of hieroglyphs, as “bound morphemes – elementary linguistic units consisting of a form and a meaning” (Lincke and Kammerzell 2012: 55), within “a *rule-governed system*” (Goldwasser and Grinevald 2012: 19). They provide information of an “encyclopedic” nature, i.e. typology of types, “discourse-pragmatic” nature, i.e. scribes had choice, and “grammatical” nature, i.e. where a root or stem ends (2012: 21-22). For illustrations of the levels of classification, cf. Goldwasser 1999: 51. For examples of semantic categories informed by classifiers – e.g. taxonomic vs schematic, cf. Goldwasser 1999: 54-60; 57-90;

“determinatives”. For seemingly all of its history, this writing system was trigraphic²⁸, i.e. constituting three scripts; hieroglyphs²⁹, cursive hieroglyphs, and hieratic from the Old Kingdom to the Third Intermediate Period, and hieroglyphs, hieratic, and demotic from the Late Period onwards. As introduced above, the domain inhabited by each script was governed by script conventions – resulting in digraphia and trigraphia – as the domain inhabited by each language stage was governed by language conventions – resulting in diglossia and triglossia. The terms “digraphia” and “trigraphia” indicate that the Egyptian language was not simply written in ‘more than one script’, which would be more aptly termed bigraphia or multigraphia by analogy to bilingualism and multilingualism, but that there was a hierarchy of “separated functional relationships between written codes” (Lüpke 2011: 316). Before the nature of the Egyptian writing system is summarised (2.2.1.2-2.2.1.3), however, the emic conceptualisation of that writing system must be considered in order to establish the appropriateness of the etic designation “triscrit system”.

2.2.1.1 Egyptian Writing in Primary and Secondary Sources

The delineation of the Egyptian writing system as digraphic is found in several sources. In the commonly cited Book 2 of Herodotus’ *Histories* (5th century BCE), it is written that the Egyptians “use two kinds of writing; one is called sacred (ἱερός), the other common (δημοτικός)” (2,36). In Diodorus’ *Historical Library* (1st century BCE), it is written that “in the education of their sons the priests teach them two kinds of writing, that called sacred (ἱερός) and that of a more common (κοινός) knowledge” (1,81.1). This distinction is again referred to in the context of a discussion of ‘Ethiopian writing’, i.e. Meroitic cursive as opposed to Meroitic hieroglyphs, which are conventionally understood to have derived from Demotic and Egyptian hieroglyphs³⁰, respectively: “the two kinds of writing which the Egyptians have,

111-131; Kammerzell 2015, esp. 1402-1410, and for an elaboration of the roles of classifiers, cf. Goldwasser 2009: 21-36. For classifier languages vs classifier scripts, cf. Goldwasser 2002: 2-3; 2006; 2009.

²⁸ For digraphia, and thereby trigraphia, with reference to diglossia, cf. Lüpke 2011: 316.

²⁹ For a revisionist introduction to the principles of hieroglyphic writing, cf. Goldwasser 2002: 7-24.

³⁰ In a personal communication, Quack has expressed the opinion that Meroitic instead developed from Abnormal Hieratic, which he intends to elaborate in detail in future.

that which is referred to as popular (δημώδης) is learned by everyone, while that which is called sacred (ιερός) is understood only by the priests of the Egyptians” (3,3.5-6).

This description of digraphia persisted in Heliodorus’ *The Ethiopian Story* (3rd/4th century CE), where reference is made to popular (δημοτικός) and royal (βασιλικός) writing in ‘Ethiopia’, “similar to those the Egyptians called priestly” (ιερατικός) (4,8).

It is not until the 2nd century CE, in Clement of Alexandria’s *Patchwork*, that the Egyptian writing system is described as trigraphic, i.e. holy (ιερογλυφικός), priestly (ιερατικός), and epistolary (ἐπιστολογραφικός): “Now those instructed among the Egyptians learned firstly that style of the Egyptian letters which is called Epistolographic, secondly the Hieratic which the sacred scribes practice, and finally the Hieroglyphic, of which one kind is literal (Kyriologic), and the other symbolic” (5, 4, 20-21). Clement of Alexandria’s understanding of Egyptian writing in part as figurative or allegorical is echoed by later writers, such as in Porphyry’s *The Life of Pythagoras* (3rd century CE), where reference is also made to epistolary (ἐπιστολογραφικός), holy (ιερογλυφικός), and symbolic/figurative (συμβολικός) characters (12).

These secondary, literary source descriptions by Greek authors³¹ can be compared with descriptions of written Egyptian from the direct primary evidence of Egyptian-language sources. In particular, the bilingual (Demotic and Greek) and trilingual decrees (Classical Egyptian in hieroglyphs, Demotic, and Greek) of the Ptolemaic Period. The Canopus Decree (238 BCE) refers to the scripts in which it was to be written: “the script of the pr-^cnh³²”, “the document script”³³, and “the script of the Aegean islanders (i.e. Greeks)”³⁴ (286)³⁵.

The Rosetta Decree (196 BCE) refers to: “the script of the divine words”³⁶, “the document

³¹ For a treatment of the ‘Greek’ conceptualisation of the Egyptian writing system, cf. Assmann and Assmann 2003, esp. 16-21.

³² Hieroglyphic: shj n pr-^cnh; demotic: shj (n) pr-^cnh; Greek: ἱερός.

³³ Hieroglyphic: shj n š^c.t; demotic: shj (n) š^c(.t), Greek: Αἰγύπτιος.

³⁴ Hieroglyphic: shj n h3.w-nb.wt; demotic: shj (n) wynn; Greek: ἑλληνικοῖς.

³⁵ Partly paralleled in the 162 CE P. gr. Tebt. II 291 (Depauw 1997: 20).

³⁶ Hieroglyphic: shj mdw-ntr; demotic: shj mt(.t)-ntr; Greek: ἱερός.

script”³⁷, and “the script of the Aegean islanders (i.e. Greeks)”³⁸ or “the Greek script”³⁹ (32).

A notable observation informing upon the contemporary emic conceptualisation of Egyptian scripts was made by Quack, who noted that the hieroglyphic orthography of “script” in “script of the Aegean islanders” upon the Rosetta stone is not the morphemic orthography , or similar, but the determined monoconsonantal – essentially ‘alphabetic’ – spelling  (2017: 31). Quack suggests this attests an understanding from the Egyptian perspective, and thus conceptualisation, of the Greek writing system as “a one-sound-one-sign equivalent”, and I would argue that it also suggests a motivation to demonstrate that Egyptian writing also had all the functionality of Greek, as well as much more besides.

Perhaps the most crucial observation with respect to the emic conceptualisation of Egyptian scripts, however, and which I am not aware has yet been made, is the fact that the Egyptian-language term for Demotic, i.e. *sh3 n šc.t* “document script”, does not appear to be attested before the Ptolemaic Period⁴⁰, i.e. before a time in which a translation for the Greek

γράμματα ἐγχώρια/δημοτικά was required. Similarly, Clement’s reference to “epistolographic” (ἐπιστολογραφικός) writing must then have derived from this exonym, where previously the terms “indigenous” (ἐγχώριος) and “popular” (δημοτικός), i.e. etic terms which would not have been used by Egyptophones, were used.

Notably, Ray (1994a: 251) stated in plain terms from this etic Greek rendering that “the demotic script records, and is *intended* to record, everyday business, and *by extension the daily idiom* of the population in general” (emphasis my own). Although the latter half of this statement is conjecture, the first half can be properly scrutinised. It could be that when the first Grecophones arrived in Egypt those of them curious enough to ask about the Egyptian writing system may have been told that Demotic was called, in the Egyptian language, the *sh3 n šc.t*. However, we simply do not know this, and with no evidence for the term *sh3 n šc.t* predating

³⁷ Hieroglyphic: *sh3 n šcy*; demotic: *sh3 (n) šc.t*; Greek: ἐγχώριος.

³⁸ Hieroglyphic: *sh3y n h3.w-nb.w*.

³⁹ Demotic: *sh3 (n) wynn*.

⁴⁰ As far as the TLA attests. There, the term “document script” is attested in hieroglyphs only on the Alexandria, Canopus, and Rosetta decrees, and in Demotic on the Demotic Chronicle (P. Bib. Nat. 215 Verso c/14).

the Ptolemaic Period, there is no evidence to argue for this. Despite the apparent aversion of the Egyptians throughout their history to derive emic terminology for most of the ‘meta’ phenomena in their culture⁴¹, e.g. religion, art, science, in some cases the absence of such ‘meta’ terms could be because an emic description of a phenomenon is not required until there is an etic perspective. The arrival of populations of Grecophones and Greek literates provided this perspective. Notable, then, is that of the emic terms known, hieroglyphs and hieratic were not distinguished, even though – as has been seen – they were distinguished in the etic perspectives of Greek authors – suggesting instead that Greek authors made distinctions where Egyptians would not themselves have made them. Nonetheless, it was not until Clement in the 2nd century CE that Greek authors referred to trigraphic, as opposed to only bigraphic, Egyptian writing.

On balance, not only are the terms utilised to refer to the trigraphic Egyptian writing system exonyms because they cannot be mapped to emic terminology, they are also etic in their conceptualisation. This is because at no point in Egyptian history is there evidence of emic Egyptian terms for the scripts of the Egyptian writing system that shares this conceptualisation before the introduction of an etic perspective, and thus etic conceptualisations.

While hieroglyphic, cursive hieroglyphic, and hieratic were – in all periods of Egyptian history – apparently not distinguished by either contemporary Egyptians or by the majority of Greek authors who wrote about them before the 2nd century CE, the distinct functionality of, and thus the domains inhabited by, demotic and Demotic meant that it could well have been conceptualised as part of a separate tradition not just by Greek observers, but also contemporary Egyptians. After all, unlike hieratic, demotic was utilised in monumental inscriptions such as the bilingual/trilingual decrees, rather than being – as hieratic – transcribed into hieroglyphs. Finally, the apparent unity of hieroglyphic, cursive hieroglyphic, and hieratic writing in emic Egyptian terminology or – indeed – lack of distinction in emic

⁴¹ For the absence of “mid-level abstractions/metalanguage” in Egyptian, cf. Baines 2007: 15.

terminology throughout Egyptian history begs the question as to whether the term *sh3-n-md.w-ntr* “writing of the divine words” should mean, and consequently be translated as, “script”.

2.2.1.2 Egyptian Writing in the Pharaonic and Ptolemaic Period

The pattern of evidence is thus that it appears as if Egyptian writing came “from nowhere”, and consequently “Occam’s razor requires that its inventor understood the precedent principles of Mesopotamian logography”⁴² (Powell 2009: 108). The trigraphic nature of the writing system seems to have developed rapidly, with the different domains of use governed by script conventions, e.g. hieroglyphs in the monumental domain (on temples and tombs), cursive hieroglyphs in the ritual domain (afterlife, magical, and temple texts⁴³), and hieratic in the administrative domain (whether state or private documentary and legal texts), already established by the time the written record begins. This standardised writing system “served the needs of political power”, unifying the dialectal speech and language communities in the Nile valley (Powell 2009: 205), and – during periods of political centralisation – maintaining the language, script, and orthographic conventions that governed written Egyptian. From the Middle, and by the New, Kingdom there was a substantial shift in the ritual domain – hieratic supplanted cursive hieroglyphs – which, however, did not disappear – in the production of temple, afterlife, and magical texts. The New Kingdom also saw a discontinuity in registers of written Egyptian, with the distinction of Middle and Late Egyptian evidencing the shift from First Phase to Second Phase Egyptian (Vernus 2016: 2).

After centuries of political decentralisation following the New Kingdom, the dominance of the Lower Egyptian polity throughout Egypt, which ushered in the Late Period, led to Demotic

⁴² For a summary of the literature on the origins of writing in Egypt, cf. Pinarello 2015: 146-148, and for a discussion thereof, cf. Baines 2007: 36-42.

⁴³ As before, cf. Love *fc.* a, I treat the differentiation between ritual practices as one primarily of function and not of form: a ritual practiced for the benefit of a deity/deities and/or thereby the king/Pharaoh is a temple ritual; a ritual practiced for the benefit of a deceased individual is a funerary ritual; a ritual practiced for the benefit of a living individual to bring about a desired outcome in the lived experience of that individual is a magical ritual.

supplanting its predecessors in the administrative domain. In the preceding generations and perhaps centuries, Demotic had developed in Lower Egypt from similar palaeographic and orthographic roots to Abnormal Hieratic which developed in Upper Egypt – with which there was still overlap. Within a few generations, Demotic – atypical for an Egyptian script (Depauw 2012: 493) – eliminated the distinct form of Abnormal Hieratic in Upper Egypt by the institution of Demotic as the “official administrative and legal script” during the reign of Amasis (570-526 BCE) (Depauw 1997: 22). Although exhibiting grammatical and lexical differences to Late Egyptian, Demotic, considered a “language stage” of Egyptian, was really a regional language variety of Egyptian⁴⁴ which had been standardised in the administrative and literary domains in Lower Egypt during the Third Intermediate Period⁴⁵. This is comparable to the situation in Britain during the Middle English Period, when the regional language variety of the south-east of England came to dominate as the standard written idiom – thus appearing discontinuous in writing compared to Old English which had been based on West Saxon dialects (Horobin 2013: 83). The elimination of one regional language variety by another therefore rather begs the question of the robustness of treating such phenomena diachronically as “language stages” – not least because in Pharaonic and Graeco-Roman Egypt “it is unlikely that there existed a clear understanding of the historical evolution of Egyptian” (Engsheden 2016: 5).

Other than a small number of ritual texts in Demotic extant from the Saite Period⁴⁶ (664-525 BCE) (Quack 2010b: 315), hieratic continued to dominate in the ritual domain until the late Ptolemaic and Roman Period. A cognitive shift particular to the Late Period, changing the nature of the triscript system beyond recognition, was the fact that the palaeographies and orthographies of demotic became so distinct from their hieratic palaeographic predecessors

⁴⁴ Statements such as “When demotic became Egypt’s everyday script, it was probably seen as an advance in terms of the language” (Houston, Baines, and Cooper 2003: 443) obscure the fact that Demotic was in fact a regional language variety.

⁴⁵ The former by the third quarter of the 6th century BCE, the latter by the 4th century BCE.

⁴⁶ This could have more to do with the chances of papyrus finds in the Delta than the utilisation of Demotic in the ritual domain.

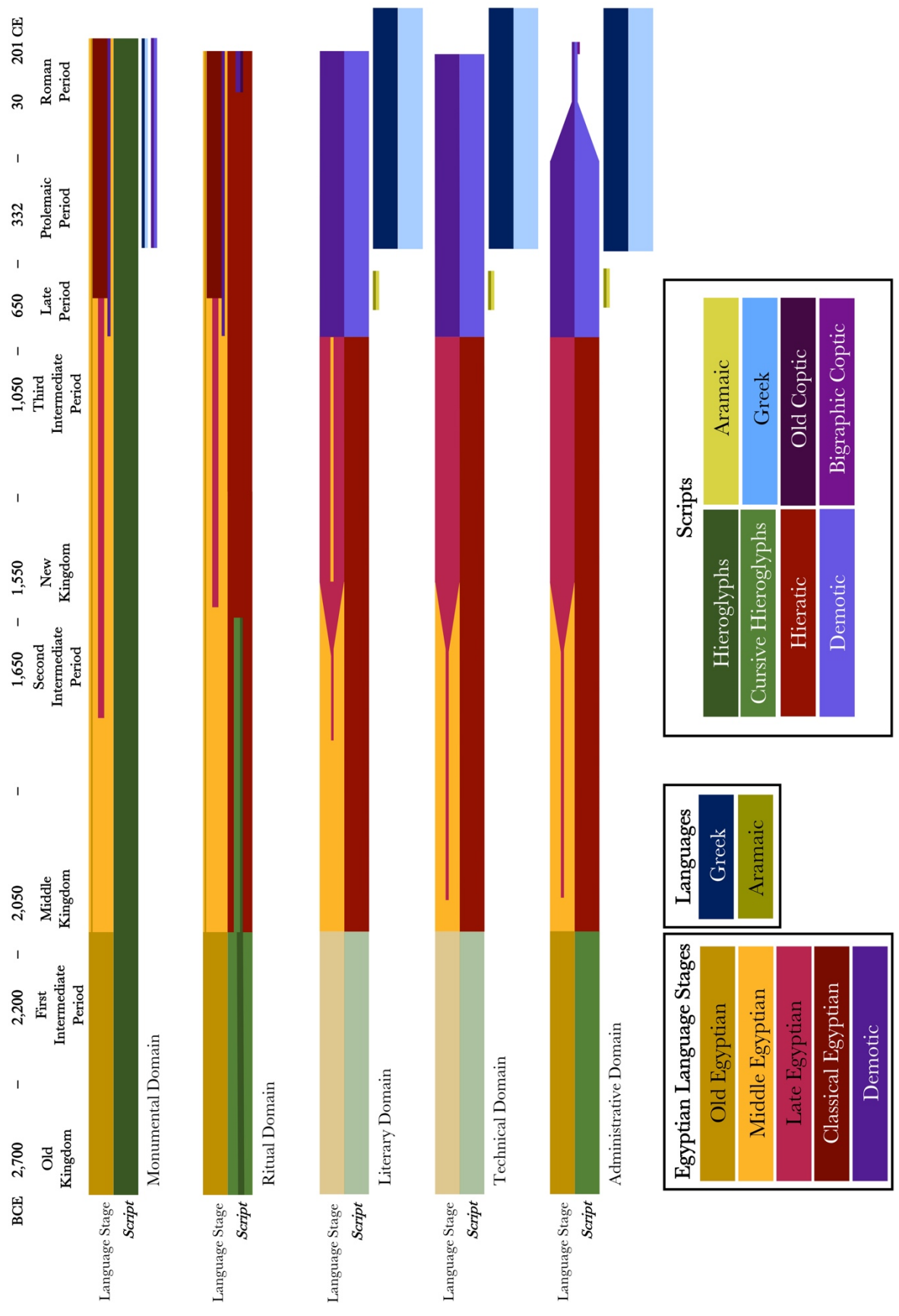
that they were no longer mutually comprehensible. These differences, compounded by the fact that hieroglyphs, hieratic, and demotic usually inhabited different domains, meant that the constituent scripts of the triscript system continued to diverge from one another.

With the introduction of Greek in the administrative domain, and the subsequent superordinate language contact situation (3.1.1), Demotic became more closely interrelated in its domains of use with Greek than with other Egyptian scripts.

Summarising the considerations in this section⁴⁷, figure 2.2.1.2 illustrates the language and script domain shifts across Egyptian history⁴⁸, utilising the conventional typology of “stages” of the written Egyptian language – discussed above (2.1.1), and a necessarily broad, and thereby imperfect, typology of domains of writing: the monumental domain of texts conventionally inscribed upon the walls of temples and tombs; ritual domain of afterlife, magical, and temple ritual texts; literary domain of poetry, historical narratives, tales, prophetic and wisdom texts; technical domain of astrological, astronomical, divinatory, educational, mathematical, and medical texts; administrative domain of state and private documentary and legal texts.

⁴⁷ In doing so, I channel the aphorism, conventionally attributed to statistician George Box, that “all models are wrong but some are useful” (1979: 202).

⁴⁸ Intended partly as a development and refinement of the model in Baines 2007: 47.



2.2.1.3 Egyptian Writing in the Roman Period

During the Roman Period, Demotic followed hieroglyphic and hieratic by becoming the preserve of script communities within temple priesthods⁴⁹. Offering “progressively fewer career opportunities” due to being supplanted by Greek in the administrative domain, “Demotic education was confined to the temple” (Depauw 1997: 24). Although Demotic continued to inhabit the inward administrative domain within temple priesthods, the evidence suggests that – with few exceptions – this was not the case outside of temple institutions⁵⁰, with the pattern of evidence suggesting that absolute obsolescence occurred in the second quarter of the 3rd century CE⁵¹. Indeed, after rising to prominence in the Ptolemaic Period, the predominance of Greek in the administrative domain appears to have been ensured by the Roman administration⁵² (Capponi 2005: 25). Consequently, under the Roman administration “professional Demotic documentary scribes ceased to exist”, meaning that “only the priests in the temples had any incentive to continue the use of the native scripts” (Tait 1992: 306). From the middle of the 1st century CE Greek tax receipts took precedence over Demotic, and private letters in Demotic essentially ceased to be written⁵³ (Depauw 2012: 494). Consequently, the absence of subsequent evidence suggests that the “obsolescence of Egyptian as an administrative and legal language was probably the result of a deliberate Roman policy favouring Greek” (Depauw 2012: 494).

Demotic being forced out of the administrative domain consequently “accelerated the marginalization of ancient Egyptian to religious contexts”, meaning that temple institutions

⁴⁹ For a formative survey of the domains of Demotic in, and their contraction during, the Roman Period, cf. Zauzich 1983.

⁵⁰ For studies of Demotic documentary text types obsolescing in the administrative domain, cf. Lewis 1993; Depauw 2003: 89-97; 104-105; Muhs 2005. For examples of an apparent equilibrium in the Ptolemaic Period, cf. Vierros 2008.

⁵¹ Previously considered the latest Demotic ostrakon (Hess 1904: 144; Zauzich 1983: 78; Lewis 1993: 276), O. BM EA 20300 (TM#52198) does not date to 232/233 CE, but the 2nd century CE (Richter 2012: 289). The latest documentary text in Demotic, however limited, is O. Zürich 54 (TM#50858), dating to 223/234 CE (Bagnall 1978: 149). P. dem. Lectone 7 (TM#109234), supposedly featuring at least the name of Philippus Arabs (224-249 CE) written in Demotic is both unpublished and untraceable (Grenier 1989: 80).

⁵² Although Bagnall (1993: 236) stated that in the 1st century BCE there is evidence that “Egyptians increasingly preferred to use Greek for practical purposes”, *prefer* rather implies choice.

⁵³ Although more than 10 notable exceptions from within priestly communities are datable to the 2nd century CE – including two in hieratic describing that they were translated from Greek, cf. Quack *fc. a.*

became “the last strongholds” of the Egyptian writing system (Depauw 2012: 501; 495). Although bilingual documentary texts are attested until the 2nd century CE, their bilingual nature demonstrates that Demotic was not part of a coordinate language contact situation resulting in language maintenance through equilibrium, but a superordinate language contact situation in which language shift occurred from the minority language of Egyptian to the dominant language of Greek⁵⁴ (3.1.1). An important point to stress, however, is that the socio-economic and political power, as well as prestige, behind Greek writing was much more consequential for this outcome than the oft-iterated opinion that Greek, by nature of being written alphabetically, is ‘easier to learn’ and thus was a ‘natural, logical replacement’ for Demotic⁵⁵.

In short, the historical developments in spoken and written language and their scripts treated in the preceding sections culminated during the Roman Period in a triglossia of spoken, First, and Second Phase Egyptian, a trigraphia of hieroglyphs, hieratic, and demotic, and Egyptian-Greek bilingualism and biliteracy.

Despite the contraction of the domains in which Egyptian scripts, and thus the Egyptian language, were used for writing, there was nonetheless a plethora of production of textual culture in the scripts of the Egyptian writing system during the Roman Period.

However, a curious situation of exographia existed in other domains, whereby writing in certain domains took place exclusively in another language to the first language of its speakers and writers (Lüpke 2011: 318). This situation was famously described by Bagnall as one in which “no form of written Egyptian was in everyday use” (1993: 235). That is to say, Egyptophones would not have been able to write to one another in their own language, because spoken Egyptian was agraphic⁵⁶ and written Egyptian had obsolesced outside of

⁵⁴ An illustrative example is that from 146 BCE “contracts written in Demotic lost most of their legal force, unless they showed a Greek note of registration” (Depauw 1997: 240).

⁵⁵ Found throughout literature from outside Egyptology, cf. Jensen 1925: 187; Kasser 1962: 13; Youtie 1975a: 203; McBride 1989: 96; Bagnall 1993: 235-240.

⁵⁶ Noted contemporaneously by Bagnall (1993: 237) and Clarysse (1993: 201).

temple institutions. Richter (2009: 415) summarised that “from about 100 CE until the emergence of Coptic, it was nearly impossible to correspond in the Egyptian vernacular” (Richter 2009: 415), with Bagnall arguing much the same for two generations earlier⁵⁷. Important to stress, however, is that the absence of correspondence in the Egyptian language does not mean it was “impossible” to do so, but that Egyptophones did not correspond in written Egyptian. In the way that Egyptophones in Upper Egypt during the Late Period had to correspond in someone else’s regional language variety, i.e. Demotic, Egyptophones during the Roman Period had to correspond in someone else’s language, i.e. Greek⁵⁸. This was the consequence of the contraction and eventual obsolescence of Abnormal Hieratic and Demotic in the administrative domain, respectively. As will be seen (8.2.2), at Narmouthis literate Egyptophones did correspond with each other in Bigraphic Coptic, which rendered an idiom closer to contemporary spoken Egyptian than any other written form of Egyptian. However, this was only within the inward administrative domain⁵⁹, and the only evidence for Bigraphic Coptic is from Narmouthis.

With literacy in Egyptian confined to temple priesthods, the regionalisation of language and script conventions within separate communities of temple priesthods produced discontinuities in the orthographic conventions of Roman Demotic⁶⁰. This is comparable to how the replacement of Middle English with Anglo-Norman French in particular domains of writing and thus spheres of textual production during the Middle English Period had a “dramatic effect on the spelling of English”. Consequently, Middle English was “no longer used to

⁵⁷ “after about A.D. 50 there was for most Egyptians only one means of recording things in writing: Greek” (1993: 237). However, here Bagnall conflates the administrative domain with writing proper.

⁵⁸ Fournet (2009: 431) conflates domain obsolescence with absolute obsolescence, stating that “the Egyptians thus found themselves without a script for communication among themselves and were obliged, if they could, to use Greek”.

⁵⁹ As appears the evidence for Demotic letters from Soknopaiou Nesos, cf. Lippert and Schentuleit 2010b.

⁶⁰ It has been stated that Demotic developed “principally by exclusion” (Houston, Baines, and Cooper 2003: 443): “As the spoken language was increasingly affected by Greek, demotic would increasingly have defined itself by what it rejected, rather than by what it took on board.” (Ray 1994a: 258). This has been argued to be a conscious act by the “elite guardians of indigenous tradition” who “deliberately excluded Greek from written Egyptian, even in everyday uses, presumably safeguarding its “pristine” character” (Houston, Baines, and Cooper 2003: 443). However, where Demotic in the administrative domain required the utilisation of loanwords, such is attested, whereas the vast majority of Egyptian textual culture did not require the inclusion of contemporary grammatical or lexical features.

communicate on a national level”, and thus could be spelled in ways that reflected more closely “local spoken systems” (Horobin 2013: 77). The decentralisation and regionalisation of Egyptian script communities during the Roman Period resulted in a comparable phenomenon. With Greek being the language of administrative domains outside of temple institutions, central government “no longer provide[d] high-prestige models for writing in Egyptian scripts” (Quack 2018a: 209). Analogous to how linguistic unities become linguistic pluralities following the breakdown of superordinate structures, e.g. Latin to the Romance languages after the collapse of the Roman Empire, script and orthographic conventions can also pluralise. Consequently, “the palaeography of Roman period Egyptian hands is a rather local affair with strong regional variation” (Quack 2016: 106). The regionalisation of priestly communities would also have meant that it became increasingly difficult for members of one script community to decipher the palaeographic and orthographic conventions of other script communities, reducing mutual intelligibility and further compounding regionalisation.

2.2.2 The Script Community

By analogy to language and speech communities, there are also “written language” and “script” communities. The former constitutes all Egyptian literates, while the latter constitutes a community whose “shared dimension” is their ability to read and write a particular script of the Egyptian writing system. The term “script community” was developed by Houston as an extension of Stock’s concept of a “text community” (2008: 231). In a text community, not all members needed to be literates – literates also act as interpreters. The “shared dimension” is instead “the content of texts”, because textual culture could be transmitted orally – without recourse to the technology of writing. For Houston (2008: 232), the script community “exists in relation to a writing system; it survives because the system is used and transmitted across generations”. Thus, a “script community” is analogous to a “speech community” by nature of the fact the latter survives because the (written) language is used and transmitted across generations.

Members of a script community can exhibit diverse skill sets in writing because literacy comprises two distinct components: “the ability to produce a text and the faculty of responding to it”, i.e. writing (production) and reading (response), which manifest in writers (producers) and readers (responders) (Houston 2008: 232). For example, a priestly scribe whose principal role was copying texts would be low in response but high in production, whereas a priestly scribe learned in Egyptian textual culture would be high in response while likely also being, but without needing to be, high in production⁶¹. In the following micro-level consideration of textual sources in this study, it will be crucial to bear in mind that different roles in the priesthood required different standards of literates in terms of production (writing/copying) or response (reading). The resilience of a script community, then, constitutes the relationship between the variables of “those who cannot respond”, “those who respond passively”, “those who produce and respond”, and “those who produce and respond with high skill” as well as the proportion belonging to each category (Houston 2008: 235).

Over time, the writers/copyists (producers) and readers (responders) within a script community participate in a “script tradition”. This is particularly meaningful in the context of Roman Egypt, where different scripts constitute the writing system, and different spheres of textual culture are written in different scripts. The textual culture of all of these scripts constitute a “written tradition”, analogous to how in a spoken language the speakers/orators (producers) listeners (responders) can participate in an “oral tradition”⁶².

However, “individual centres of response and production” can also “form separate script communities with distinct histories” (Houston 2008: 236). Thereby, both oral and written traditions can become regionalised.

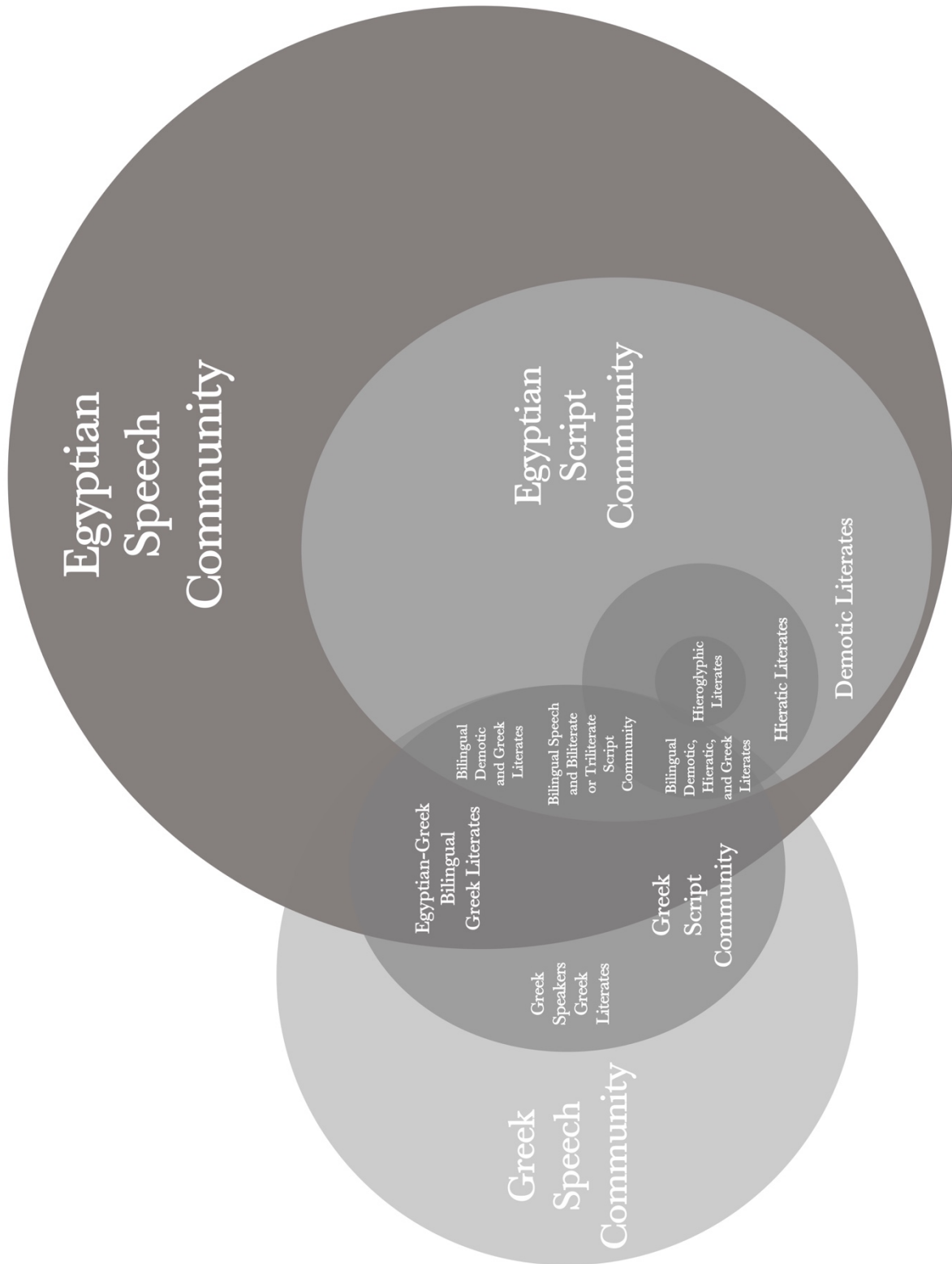
While a language or speech community requires more than one producer and responder to function, a script community – at least in theory – does not (Houston, Baines, and Cooper

⁶¹ Being low in production would instead signal that they were less competent at copying.

⁶² This is although language ≠ speech, given that “speaking and understanding are distinct linguistic skills” (Schmidt 1985: 23).

2003: 433). Yet, in reality, script communities were particularly valued in societies supporting a scribal class, i.e. where writing and reading were the professional occupations and preserve of an elite socio-economic stratum. A ruling regime would invest in maintaining a scribal class “either because they were directly or indirectly integrated with the culture and appreciated its values, or because they saw such expenditure as necessary to legitimations and processes of rule” (Houston, Baines, and Cooper 2003: 450). Consequently, the marked condition of literacy “always carr[ied] a higher perception of value and prestige than the unmarked condition of non-literacy” (Houston 2008: 235). In a self-perpetuating cycle, this secured the elite status of the scribal class by nature of the fact that literacy was both of high prestige and value, and exclusively the preserve of that elite scribal class. The Roman Period was, then, the temporal frame during which this self-perpetuating cycle, in which priestly scribal elites both defined which skills were prestigious and controlled access to those skills, broke down.

Drawing together the frameworks introduced thus far, figure 2.2.2 visualises the relationships between the different speech and script communities within or constituting Egyptian priesthoods during the Roman Period.



2.3 Social Networks of Speakers

In addition to being part of the Egyptian language community, and containing speech and script communities, Egyptian priesthoods during the Roman Period also contained at least one social network – an “aggregate of relationships contracted with others”, of “differing structures and properties” (Milroy 2002: 549; Milroy and Gordon 2003: 117-118).

Indeed, it is because the intra-community ties within, and inter-community ties between, speech and script communities can change that an analysis of change in a social network which fostered, or constituted, particular speech communities “can illuminate the phenomenon of linguistic change” (Milroy 2002: 549). By analogy, I would argue that the change in ties within and between script communities elucidates changes in scribal practice. Serving as an analytical framework that “focuses on the social ties that specific speakers have with each other, and examines how these ties affect speakers’ linguistic usage”, social networks are an analytical, rather than descriptive, framework (Mullany 2006: 87).

The social network(s) that constitute(s) (a) speech community/communities can therefore be measured through its/their ties – classified as “dense” or “loose”, “uniplex” or “multiplex”, and strong/weak “first-order” or “second-order”. A dense social network is one in which individuals interact with each other – the opposite is true of a loose social network. The ties in a social network are multiplex if individuals engage with each other in more than one way – otherwise the ties are uniplex. First-order ties are an individual’s direct contacts: strong first-order ties are to family or friends; weak first-order ties are to acquaintances and colleagues. Second-order ties are an individual’s indirect contacts, e.g. through which information, goods, and services are accessed. With respect to linguistic considerations, dense social networks made up of multiplex ties support localised linguistic norms, thereby resisting the pressure of external linguistic norms (Milroy 2002: 550; 558). Language shift (3.1.1), the succumbing to pressure of external linguistic norms, is more likely to occur in loose social networks made up of uniplex ties, as well as in networks in which the majority of ties are second-, rather than first-, order (Milroy and Gordon 2003: 124; 129). By analogy, I would argue that dense social networks

made up of multiplex ties which constitute, or overlap with, script communities are more likely to resist external pressures from other scripts. A lack of norm reinforcement, due to loose social networks made up of uniplex ties, is much more likely to result in changed norms because these norms are not resilient to the pressure of external norms (Mullany 2006: 87). In addition to the consideration of ties within a social network, Wolfram (2002: 768) highlights that Andersen sought to distinguish further between open vs closed communities and endocentric vs exocentric ones (1988: 74-75): the former “refer[s] to levels of contact with the outside world”; the latter “refer[s] to the degree to which the community is focused on its own internal norms or is more outwardly focused”. On balance, by analogy, I would argue that as a spoken language “dies out because an enduring social network to which people sought to belong somehow ceases to be” (Nettle and Romaine 2000: 90), the disintegration of a social network which is contained within, constitutes, or overlaps with, a script community is likely to result in the disintegration of that script community.

Language and culture have “grown up together” (Whorf 1956: 156). Thus, they are inextricably interrelated⁶³ – constituting a body of intergenerationally transmitted learned behaviour and/or knowledge within a human group⁶⁴ (Michael 2011: 120; 124) – a social network. Particularly within endangered language communities (3.1.3), attitudes towards how “inextricable” the link between language and culture is often correlates strongly with whether an individual speaks the endangered language or not⁶⁵ (Crystal 2014: 159-160).

This highlights that social networks can contain, constitute, or overlap with speech

⁶³ Crystal (2014: 71-72 n.63) notes that while “the Sapir–Whorf hypothesis” combined the principles of “linguistic determinism (our language determines the way we think)” and “linguistic relativity (the distinctions encoded in one language are not found in any other)”, the deterministic form of this hypothesis is nonetheless problematic given that “it is perfectly possible, through translation, bilingual paraphrase, and other techniques, to comprehend at least some of the thought processes in speakers of other languages”. With respect to linguistic relativity, however, “differences between languages” should be recognised, but this does not mean that they should be “considered insurmountable”. For references to the key sides of the debate on the ‘essentialist’ and ‘deterministic’ theories about how our thinking, and thus cultural identity, are determined by the lexicon and syntax of our language, cf. Austin and Sallabank 2011: 17-19.

⁶⁴ i.e. behaviour which can be delineated from “human characteristics whose transmission can be attributed to genetic or other biological mechanics” (Michael 2011: 120).

⁶⁵ In cases where language is seen as “an integral part of identity”, “people who lose their language often speak of a deep sense of loss of self, of loss of identity” (Grenoble 2011: 35).

communities. Thus, the cultural considerations of language death, and – by analogy – script obsolescence, within a social network must be born in mind. This is even when, as in this study, it is not possible to undertake a social network analysis of a population; firstly, because that population is dead, and secondly, because it has not been comprehensively documented in primary sources that are themselves entirely extant⁶⁶.

2.4 Communities of Practice

A community of practice is “an aggregate of people who come together around mutual engagement in an endeavor”, whereby its membership and boundaries, “including whether an individual is a core or peripheral member”, are “defined on the basis of criteria that are subjectively salient to the members themselves”, with membership “reciprocally recognized” (Meyerhoff 2002: 527; 533).

As Wenger (1998: 7) so appropriately stressed at the genesis of this framework, although the term itself is novel, it articulates a familiar phenomenon⁶⁷ – a community of practice is a descriptive framework which can be used as “an analytical domain” (Meyerhoff 2002: 526). The concept of practice, by comparison, refers to ‘doing’. But not simply the act of ‘doing’, also the “historical and social context that gives structure and meaning” to – reifies – such ‘doing’ (Wenger 1998: 47). Thus, a community of practice encompasses all of what is understood when referring to an Egyptian priesthood, by nature of the rationale behind a priesthood being its practice of temple rituals in the maintenance of the cult of (a) particular deity/deities.

⁶⁶ Indeed, this issue relates to the wider question of how far history can be truly analytical, rather than simply descriptive.

⁶⁷ The further value of the community of practice is that its approach can transcend the biases of theories of social categorization which can overly stress structure, theories of situated experience which can ignore structure, theories of social practice which address only the production and reproduction of specific ways of engagement, theories of subjectivity which address the nature of individuality as an experience of agency, and theories of identity which address only the social or cultural person (Wenger 1998: 12-15).

A community of practice, therefore, refers to a community defined by undertaking certain practices which are negotiated, participated in, and reified as meaningful within that community. The negotiation of practices refers to continuous interaction with them, the participation in practices refers to membership of social communities and involvement in social enterprises, and the reification of practices refers to how individuals and communities project meaning onto those practices (Wenger 1998: 53-58). While participation makes up for the inherent limitations of reification, e.g. hiring judges to interpret laws, reification makes up for the inherent limitations of participation, e.g. creating monuments to remember the dead (Wenger 1998: 63-64). If participation prevails in so far as “most of what matters is left unreified”, the community lacks an anchor (Wenger 1998: 65). If reification prevails in so far as “everything is reified”, the opportunity for shared experience and interactive negotiation is weakened, resulting in a lack of participation that would “recover a coordinated, relevant, or generative meaning” (Wenger 1998: 65).

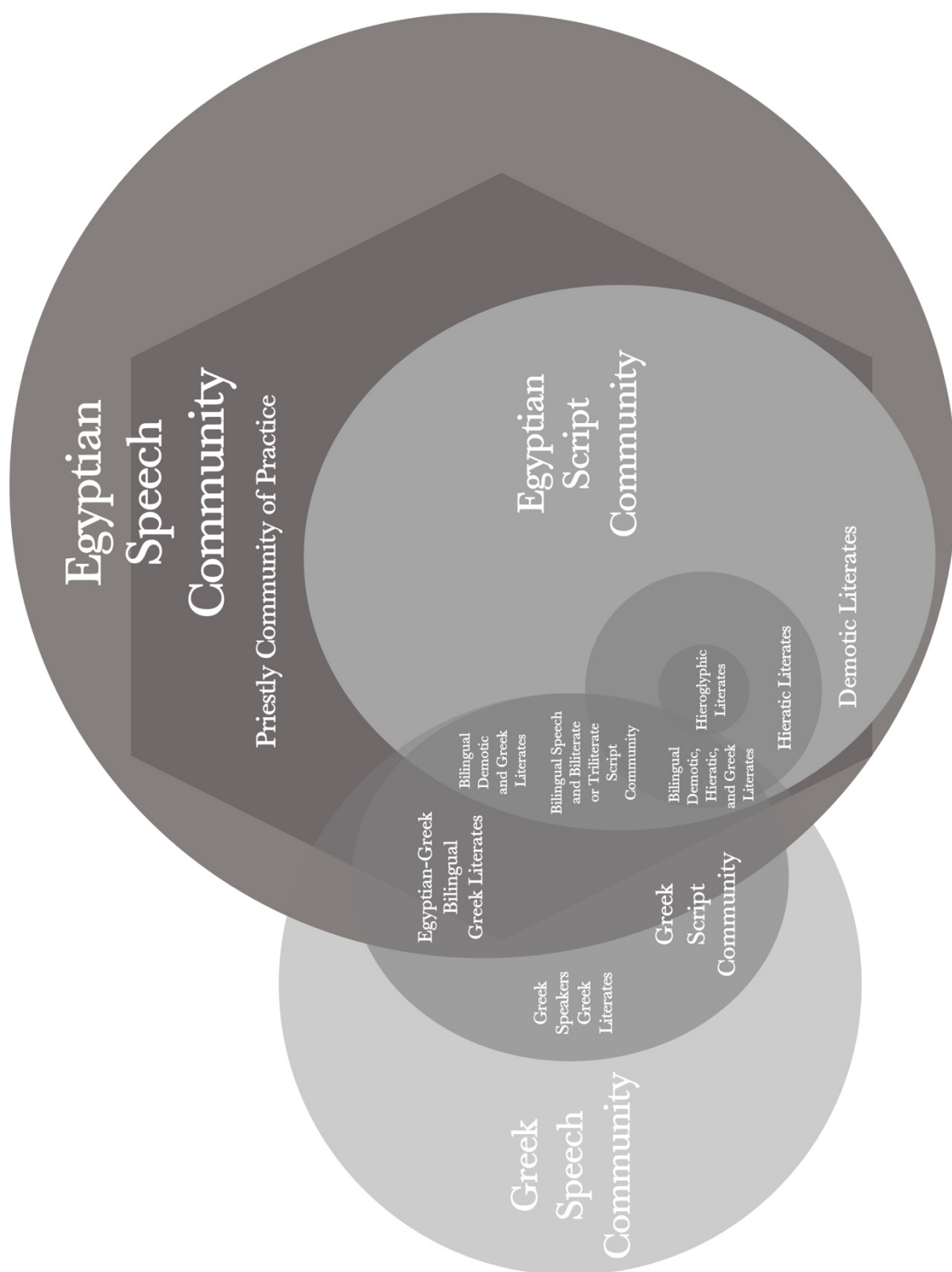
With respect to the communities of practice of Egyptian priesthoods during the Roman Period, neither participation nor reification prevailed long-term – certain outcomes of the practice were reified, but most were not. Shared experience and interactive negotiation weakened to the point that long-established cults ceased. On the other hand, reification prevailed to a certain extent due to the canonisation of much of the temple’s negotiation of meaning in temple textual culture. Yet, coordinated, relevant, or generative meaning was not recovered because priesthoods were left with reified meaning in texts that they could not read.

A community of practice is further characterised by mutual engagement, a joint enterprise, and a shared repertoire⁶⁸ (Wenger 1998: 72). Mutual engagement creates relationships because practice does not exist in the abstract – “people are engaged in actions whose meanings they negotiate with one another” (Wenger 1998: 73; 76). Joint enterprise constitutes “a collective

⁶⁸ For a summary of Wenger’s framework of indicators, cf. Mullany 2006: 88-89.

process of negotiation that reflects the full complexity of mutual engagement” which is not focused on the outcome, but the undertaking (Wenger 1998: 78). Shared repertoire combines both participation and reification in so far as a shared repertoire of practice at once reflects a history of mutual engagement with a shared point of reference, but without imposing meaning (Wenger 1998: 83). In short, the community of practice sees individuals “get together in order to engage in their shared practices”, which is “defined through their pursuit of it” and then characterised and defined by repertoire shared between these individuals – the membership of the community of practice (Meyerhoff 2002: 527-528).

In Roman Egypt, a particular priesthood of a particular temple constituted a community of practice, but so did all priesthoods of all temples which undertook, for example, the Daily Ritual. The situation was, after all, one in which priests who had never met, through mutual engagement, a joint enterprise, and a shared repertoire, concurrently practiced and reified the same ritual. On the Nilotic level, as has been seen with language vs speech communities, there is a “shared dimension” constituting a superordinate community, but on the site-by-site level, individual speech and script communities as well as communities of practice could be divergent due to preceding and contemporaneous regionalisation. Thus, an individual can, as with speech/script communities and social networks, belong to multiple communities of practice, with such memberships being “mutually constitutive” (Meyerhoff 2002: 531). Figure 2.4 visualises the potential interaction between speech and script communities and the community of practice constituting an Egyptian priesthood during the Roman Period.



The supplementary value of utilising the community of practice within the approach of this study is in order to aid the analysis of the different memberships that individuals within a priesthood exhibited. The descriptive frameworks of the speech and script community are useful in so far as they can incorporate and transcend social networks and communities of practice by ascribing individuals to a network which may not be bound by ties as a social network, or by mutual engagement, joint enterprises, and shared repertoires as a community of practice. Furthermore, the membership of a speech and script community is defined externally, by factors relating to language and script, whereas membership of a community of practice is constructed internally and is flexible, by factors relating to practice (Meyerhoff 2002: 533; Mullany 2006: 89).

By comparison, social networks do not require a shared language, script, or mutual engagement in joint enterprises undertaken with reference to, and facilitating the reification of, a shared repertoire⁶⁹. For example, while a community of practice could dissolve without any substantive impact on the social network(s) within it, or of which it was part, and a social network could undergo substantial demographic shifts without affecting the communities of speech, script or practice, the disintegration of a script community which sustained a community of practice could also lead to the latter's disintegration.

These frameworks therefore serve as distinguishable yet mutually complementary ways in which the different factors affecting the language, script, social, and cultural contexts of the communities that constituted Egyptian priesthoods during the Roman Period can be considered. By doing so, these factors inform upon the changes in language and script conventions that led to language and script shift, the domain-by-domain obsolescence of Egyptian writing, and – ultimately – the obsolescence of Egyptian priesthoods.

⁶⁹ For a summary of treatments comparing communities of practice with social networks, cf. Meyerhoff 2002: 531.

3 Modelling Language Death and Script Obsolescence

In order to elucidate the factors and processes behind the plurality and obsolescence of Egyptian writing during the Roman Period, this chapter introduces the macro-level modelling from sociolinguistics/linguistic anthropology through which a series of analogies between language death in speech communities (3.1) and script obsolescence in script communities (3.2) can be drawn.

3.1 Language Death in Language and Speech Communities

By considering the contributions that the study of living languages can make to the study of dead languages, this section identifies implications for the four frameworks introduced above, both to contribute to those frameworks of approach in this study, and to evaluate how the conclusions of this study may inform such approaches. The processes leading to language death which are analogous to script obsolescence are language contact, conflict, shift, tip, decline, and death within speech communities. Analysing the phenomenon of domain shift in speech/script communities (3.1.1), how this is affected by, and affects, attitudes towards the spoken/written language (3.1.2), how a multiplicity of factors converges to produce instances of endangerment, and how this cyclically affects the speech/script community itself (3.1.3), are all routes of enquiry viable for both language death and script obsolescence. In addition, understanding the phenomenon of language rememberers in the context of the afterlife of a spoken language (3.1.4) can also inform analogously on written language/script rememberers during the afterlife of a written language (3.1.5).

3.1.1 Language Contact and Conflict, Shift and Tip, Decline and Death

In the majority of language contact situations, a superordinate relationship is the outcome, in which one language becomes the “dominant” and the other the “minority” language in any number, or all, of their domains of use. Domains of use are the contexts in which a language is used, broadly typologised as social (e.g. familial, intra-group, and inter-group), cultural

(e.g. religious), economic (e.g. administrative and commercial), and political (e.g. judicial and governmental). Dominant languages are usually those which are “demographically superior”¹ and/or “socio-economically prestigious”² (Batibo 2005: 21). Minority languages, by comparison, are those forced out of inter-group, e.g. political/economic, domains, until they are restricted to intra-group exchange and thereby only limited instances of social and/or cultural expression (Batibo 2005: 27). In a language contact situation, a minority language is identified by looking horizontally at its weaker position with respect to (an)other language(s), and vertically at its lower status among language and speech communities (Batibo 2005: 51). Consequences of language contact are the socio-linguistic phenomena of “extensive code-switching³ and code-mixing⁴, massive borrowing from one language by another⁵, [and] language interference⁶” (Batibo 2005: 27). By focusing on language choice as predicated by socio-economic and cultural factors, and therefore behaviour, as well as language attitudes, it becomes clear that it is not languages themselves which disappear, but the domains and interrelationships between them – their ecologies – in which those languages were once functional (Grenoble 2011: 31).

¹ Minority languages are not simply those spoken by the minority: in Namibia, English is spoken by only 3% of the population, yet, as an ex-colonial language of international, political, and technical importance, it is the dominant language (Batibo 2005: 52).

² Individuals change their linguistic behaviours because of real/perceived/desired changes in their material circumstances (Harbert 2011: 404).

³ “The switching from one language, dialect or register to another in the course of discourse. Usually, code-switching is inter-sentential, whereas code-mixing is intra-sentential” (Batibo 2005: 29).

⁴ This is usually where “the grammar of the sentence is provided by the dominant language, the matrix code, while the vocabulary – particularly the technical terms – come from the ex-colonial language, the embedded code” (Batibo 2005: 28). However, this can also occur between a dominant and minority language, in which the minority language provides the matrix form, and the dominant language the embedded form.

⁵ Code-mixing should not to be confused with borrowing, which “involves the adoption of a word from another language and adapting it to the phonological and morphological modes of the target language” (Batibo 2005: 29).

⁶ Note the criticism of Wolfram that “although a number of researchers seem to hold the view that variability in language death is different from that found in ordinary language change, there is little empirical evidence to support this contention” – “the profusion of variation may simply be a product of the extent and rapidity of language change” (2002: 780-781).

With the exception of sudden/radical language death due to genocide, environmental degradation/catastrophe⁷, or institutionalised assimilation⁸, language contact catalyses language shift – resulting in the abandonment of a language by its language/speech community. Indeed, continuously over several generations, within a generation or two, or even in the space of a decade, “a healthy bilingualism within a family can slip into a self-conscious semilingualism, and thence into a monolingualism” (Crystal 2014: 104). This does not mean, however, that language shift always results in language death, that the same language dies in the same domains contemporaneously and uniformly⁹, or that the language is *consciously* left to die by its speakers¹⁰.

The model and terminology concerning language contact, shift, and death utilised in this study derives from the process-based perspective of the “marked bilingualism model” (MBM), proposed by Batibo from language surveys in Tanzania and Botswana (1992; 1997; 2005: 89). This model considers three factors: firstly, that language shift occurs due to language contact; secondly, that there must be a distinction between the prestige and status of the two languages – hence the term “marked”; thirdly, that the rate of language shift depends on the pressure from, or attraction of, the dominant language as well as the degree of resistance from the minority language. The model is then constituted of five “arbitrary points in a continuum from one end of the process to the other”: relative monolingualism¹¹; bilingualism with L₁

⁷ An example of this is “the volcanic eruption in 1815 on the island of Sumbawa in the Indonesian archipelago, which caused the death of all the speakers of the Tamboran language” (Nettle and Romaine 2000: 51).

⁸ By the mid-1960s, Laura Fish Somersal was the last Wappo speaker, using the language when her sister visited her weekly. She did not attend school, where exposure to English could have, as with other Wappo speakers, caused Wappo to become superfluous to her (Nettle and Romaine 2000: 52).

⁹ Bradley’s survey of regional variations of an endangered language in Thailand during the second half of the 20th century “gives an example in which the same language is simultaneously extinct, critically endangered and severely endangered in different places” and speech communities (2011: 75).

¹⁰ Perley (2011: 10) concluded regarding the Maliseet speech community that if “language life is based on a community of speakers using the language for everyday communication”, then the community he observed “is committing language suicide”. Perley’s (2011: 121) decision to refer to “*language suicide*” is defended by him as both a native and an anthropologist, treating the criticisms of Nettle and Romaine (2011: 140-146), by stating that although it “may seem to blame” the Maliseet speech community, “it is not a foregone conclusion the language will die due to outside pressures”, which could be termed “language murder”. Indeed, “it is the community that commits linguistic suicide” (2011: 123).

¹¹ The majority L₁ speakers are monolingual, and the majority thereof use L₁ in all/most domains.

(minority language) predominance¹²; bilingualism with L₂ (dominant language) predominance¹³; restricted use of/competence in L₁¹⁴; L₁ as a substratum¹⁵ (Batibo 2005: 91-92). Batibo's (2005: 92) MBM thus proposes two types of language contact and shift situations: "coordinate language contact" involving two languages of equal status that does not result in a dominant-minority diglossic relationship, i.e. "unmarked bilingualism"¹⁶ (2005: 103; figure 5) and "superordinate language contact" involving two languages with significantly different status and prestige resulting in a dominant-minority diglossic relationship, i.e. "marked bilingualism" (2005: 104 figure 6).

One of the most prominent factors among these processes is that "language maintenance is usually reinforced by a tradition of a written form", because this "raise[s] its social and symbolic status" (Batibo 2005: 107). Notable, then, is the distinction between Egyptian-Greek bilingualism which resulted in a "coordinate language contact" and limited Hellenisation, and Coptic-Arabic bilingualism which resulted in a "superordinate language contact" and comprehensive Arabisation. The perceived value of a language by its speech communities comprises the prestige and number of domains it occupies, as well as a particular domain's frequency of use, i.e. how functional that domain is (Harbert 2011: 404). For example, Coptic may remain to this day a highly prestigious language, but it occupies only one domain and that domain has low functionality.

¹² L₂ encroaches upon L₁, with L₂ serving as a lingua franca in certain (e.g. political and economic) domains, resulting in diglossia.

¹³ L₂ has become the primary language "because the L₁/ L₂ relationship is asymmetrical", i.e. unequal and unstable, forcing L₁ out of the majority of its domains, leading to extensive code-switching and borrowing *from* L₁.

¹⁴ L₁ is only used in specific instances of social and cultural expression, with speakers having lost the capacity to use L₁ in its original form, although members of the moribund speech community "might nevertheless assume that the language remains vibrant as part of their ethnic identity" (2005: 91).

¹⁵ L₁ is dead because it is no longer used in the community, although "the community may have kept its ethnonym and some of its traditions". Some of the linguistic features of L₁ are retained as residual features in L₂, such as "prosodic, phonetic, phonological, semantic or lexical elements" – although "L₁ may disappear without leaving any linguistic traces" (2005: 92).

¹⁶ In reality this model is only "theoretical", as one language will always "have an edge over the other in terms of numbers, prestige, status or dynamism of speakers" (2005: 102-103). There are, however, models of language maintenance, which Batibo summarises, cf. 2005: 105. Baker (1992: 137) contends that bilingualism itself can exist "as a language".

Language “tip” is when “a language which has been demographically highly stable for several centuries may experience a sudden “tip,” after which the demographic tide flows strongly in favor of some other language” (Dorian 1981: 51). Such a tip is usually the consequence of a breakdown of the age-based proficiency continuum as a result of the ceasing, via slowing, of the intergenerational transmission of a language. An illustrative example of this is Dyirbal, an Australian Aboriginal language spoken in north-eastern Queensland by members of the Dyirbal tribe. At the time of Schmidt’s publication (1985: 22; figure 3.1), no-one under the age of 15 spoke any form of Dyirbal (40% of the population), Young Dyirbal – a post-contact form – was spoken by 15-35 year-olds (32%), while only those over 35 (28%) spoke Traditional Dyirbal. Thus, following the slowing of intergenerational transmission, and thus the breakdown of the age-based proficiency continuum, leading to the altogether ceasing of intergenerational transmission, a rapid demographic contraction of the number of speakers occurred. This then snowballed into a situation in which within two generations there may be no-one capable of producing (speaking), responding to (understanding), and thus teaching pre-contact Traditional Dyirbal, and within three generations no-one capable of producing (speaking), responding to (understanding), and thus teaching post-contact Young Dyirbal.

Notably, the factor considered fundamental to language vitality by the UNESCO “Language Vitality and Endangerment” paper is intergenerational language transmission – a language is only truly “safe” not only when it is spoken by “all generations” but also when “intergenerational transmission of the language seems uninterrupted” (2003: 7-8). A study of age-based proficiency and use of French vs Breton by Dressler and Wodak-Leodolter is also particularly illustrative of the fact that members of a speech community may be responders (understanders) without being producers (speakers) of a language, or that they may be both, but choose not to be – facilitating the slowing, and ultimately the ceasing, of intergenerational transmission (1977: 34; Table 1). The choice not to use a language implies the choice to use another, and that choice erodes the functionality, and thus vitality, of the former language in its domain(s). Consequently, the analogy to the reciprocal relationship between use and

functionality of particular written languages, or scripts of a particular written language, is clear – whether in the publication of European academic discourse in the 19th century in Latin, or in the transcription of ritual texts from hieratic into demotic.

When a language is no longer being used it can be considered dead¹⁷ (Brenzinger and Dimmendaal 1992: 3; Sasse 1992a: 18). Dead languages, such as Coptic, however, may continue to be used as ritual languages, but do not develop further – indeed, “the only languages which do not change are dead ones” (Crystal 2014: 154-155). While “bottom-to-top/bottom-up” death is where “the repertoire of stylistic registers suffers attrition from the bottom up”, i.e. the language is first lost in intra-group domains, and only last in high prestige ritual domains (Campbell and Muntzel 1989: 185), “top-to-bottom/top-down” death is where “the language retreats from official institutions and public domains”, ultimately becoming “restricted to use in the home” (Nettle and Romaine 2000: 91). This dichotomy of formal vs informal domains of use is “vastly oversimplified”, as demonstrated by languages which “combine different registers in obsolescing varieties”, with the statement that “particular registers found in more formal settings of language may be retained selectively along with casual speech styles” applying to Egyptian in the Roman Period (Wolfram 2002: 776-777). Nonetheless, domain-by-domain obsolescence of Egyptian writing broadly follows top-down processes. The irony of the study of endangered languages is, then, that despite all the case studies that can be compiled and the modelling that can be produced, the demise of a language “can be predicted, it seems, only at the terminal stage, where it is obvious” (Hoenigswald 1989: 353).

The description of language contact and the factors that are both processes and products of language shift provided in this section is ultimately a consideration of the series of *proximate* causes that lead to language shift, e.g. the military and/or political circumstances of speakers,

¹⁷ For a problematising of the terminology regarding ‘language death’, cf. Sallabank 2013: 1.2.4.

before one of several *ultimate* causes, e.g. language “tip”, leads to language death.

This understanding should first be applied to the process of language shift that occurred in the Ptolemaic Period, whereby the administrative domain which was the preserve of spoken and written Egyptian for millennia before language contact with Assyrian, Persian, and subsequently Greek rulers, caused a language shift due to a top-down institutionalised implementation of the Greek language. Consequently, the Greek language began to gain ground in other domains in which the Egyptian language had always been unchallenged, e.g. the literary and technical domains. These phenomena are comparable to Batibo’s study of the impact of European languages on the African continent, both in the 20th century as languages of colonial administration, and in the 21st century as languages with extensive textual culture transcending administrative, literary, and technical domains (2005: 54). Ultimately, language contact between spoken Egyptian and Greek also caused centuries of code-switching, code-mixing, and borrowing – influencing written Egyptian to varying degrees. Consequently, when the “fluid” varieties of spoken Egyptian of the 3rd century CE – a contact language – were “solidified” as varieties of a new written language of Coptic, the idiom of Egyptian written was considerably different from the earlier written idioms of Egyptian which pre-dated that coordinate language contact situation.

3.1.2 Language Attitudes

There is an irony that while “patterns of language choice reflect language attitudes” (Brenzinger and Dimmendaal 1992: 4), “a language that has no place in daily business, administration and transactions, is likely to be linked with attitude ‘decline’” (Baker 1992: 110). Negative language attitudes catalyse a cycle of decline whereby individuals may ‘choose’ *not* to use a particular language even though their language attitude is a product of other factors – upon which they have had no influence – that have been detrimental to the status of that language, reducing its domains of use and consequently its functionality. Ranging from ambivalent to negative language loyalty, to indifference about intergenerational transmission

or the association of a language with low economic and social status, language attitudes often catalyse the snowball effect of language shift, tip, decline, and death.

Baker (1992: 20), in his study of attitudes towards modern Welsh by first-language English speakers, concluded that because “attitudes can be adequately defined, theoretically explained and reliably and validly measured”, there is a strong case for including language attitudes in the study of bilingualism. Thus, although we cannot survey, and therefore measure, the attitudes of Egyptophones on spoken vs written Egyptian, or on Greek, it is crucial to bear in mind that attitudes towards the Egyptian language would have impacted its perseverance or obsolescence as both a spoken and a written language.

Considering language attitudes is also important because the study of living populations permits the construction of models which analyse and explain aspects of variance in second language learning. Such a model is Gardner’s Socio-Educational Model¹⁸, constituting: firstly, the social and cultural context in which an individual grows up, and in which their beliefs about language and culture are transmitted; secondly, “individual differences” – including intelligence, language aptitude, motivation, and situational anxiety; and thirdly, the context in which the language is acquired (i.e. formal vs informal). These social and socio-cultural aspects of second language learning also apply broadly to the acquisition of literacy – and therefore such factors, although untraceable, must still have played, to a lesser or greater extent, a role in either the perseverance or obsolescence of written Egyptian.

Numerous 20th century case studies on language attitudes are available for consideration. Campbell and Muntzel noted that in their area of study in Central America the “most typical attitude” was one that was “quite negative toward indigenous languages”, while Spanish was “held in high esteem” (1989: 196). More broadly, indigenous languages in many contexts “are

¹⁸ Summarised in Baker 1992: 39-40, with references.

being viewed by their speakers as a sign of backwardness, or as a hindrance to making improvements in social standing” (Crystal 2014: 110). In smaller-scale case studies, such as Guernsey Norman French (Sallabank 2007: 136), it is notable that half of those surveyed did not disagree with the statement “Guernsey Norman French is irrelevant to the modern world”, yet more than three quarters said they disagreed either strongly or mildly with the statement “It doesn’t matter if Guernsey Norman French dies out”. Furthermore, while 59% agreed that “Speaking Guernsey Norman French is an important part of Guernsey identity”, only 16% thought it was not, and few seek to learn it. The desires of a community are often at odds with their intentions and behaviours, and this is often the case with the production of written forms of languages for indigenous communities. While it can be “among the strongest wishes of many endangered language communities” to have a written form of their language, “these positive attitudes towards literacy are not necessarily matched by actual literacy practices” (Lüpke 2011: 321).

Another aspect impacting language attitude, and which should also be considered with respect to written language, is that there is “considerable evidence that ability in a language and attitude to that language are linked” (Baker 1992: 44). That is to say, “the higher the achievement, proficiency, ability in a language, the more favourable the attitude”, and vice versa – although “attitudes and achievement may be both the cause and effect of each other” (Baker 1992: 44). Of most relevance to this study are questions as to whether favourable attitudes lead to higher attainment, e.g. “I think hieratic is a worthwhile course of study, so I am going to study it”, proficiency produces positive attitudes, e.g. “I am competent at hieratic, and so I find it worthwhile”, or flexible attitudes facilitate obsolescence, e.g. “I can transcribe into demotic what is written in hieratic, so why bother learning hieratic?”. However, not only aptitude, but also cultural background, impacts language attitude – particularly when a language is involved with (a) particular social and/or cultural practice(s). For example, in modern Wales “the eisteddfodic rituals ... the orders of green, blue, and white druids ... the ritual hymn singing at Cardiff Arms Park before international rugby matches

may each and all stimulate favourable attitudes to Welsh” (Baker 1992: 111).

Certainly, an analogy can be made here with the relevance of First Phase Middle/Classical Egyptian – whether written in demotic, hieratic, or hieroglyphs – as a course of study during the Roman Period, when such language was utilised less and less in magical and funerary ritual texts, i.e. the only ritual texts of relevance to individuals outside of the temple priestly milieu.

A final consideration is perhaps the most fascinating feature of language attitudes: although “attitude change is essentially a cognitive activity”, it is formulated “through social activity” (Baker 1992: 106). Socio-cultural activities can lead to nostalgia that “merge[s] into possessiveness” because speakers “associate language change with decline” (Sallabank 2013: 114), while “perceptions of ‘authenticity’ [are also] found to be linked to issues of language ‘ownership’ and transmission” (2013: 136). Thus, language attitudes can be specifically negative towards certain forms of the language, leading to the irony that “one of the factors which can hasten the death of a language is the conflicts generated from within the community by those who hold different attitudes towards it” (Crystal 2014: 151). Indeed, “an unyielding, condemnatory purism is the worst possible scenario for language survival” (Crystal 2014: 157). This is a crucial consideration to bear in mind for the changing traditionalism vs innovation in Egyptian writing during the Roman Period with which this study is concerned.

3.1.3 Language Endangerment and Endangered Language Communities

A language is endangered when it is no longer being learned by children as a first language (Austin and Sallabank 2011: 1), but an endangered language will not necessarily die out soon after. In the case of Manx, the actual death of the language, with the death of its terminal speaker, occurred 65-75 years after its tip (Broderick 1999: 170). Batibo (2005: 109) stresses, however, that once the language is only spoken by those beyond child-bearing age, the likelihood that a language will recover from its endangerment is essentially zero – such a language, lacking intergenerational transmission, is described as moribund. Thus, in the case of

Mesmes, the language was moribund for 30 years before there was only one terminal speaker (Ahland 2010: 20). Other factors leading to language endangerment are demographic shifts which may slow or cease intergenerational transmission – not simply due to the birth and death rates in a speech community, but also due to the mobility of that community¹⁹. An important nuance, however, is that a language can be endangered in a particular domain, rather than simply across all domains. In such cases, endangerment in a specific domain is not necessarily indicative of inevitable, or even likely, death in all domains²⁰.

An endangered language community is a speech community of “marked” bilingualism or multilingualism in a “superordinate language contact” situation of a hierarchical dominant-minority relationship. The outcome that can often be observed in modern contexts is that of the inexorable dissolution of the social networks of endangered language speakers – the loss of “a sense of community” whereby it is “not uncommon” for terminal speakers to find themselves “in total isolation” (Grinevald and Bert 2011: 58). Indeed, an endangered language community can still contain fluent speakers, but this does not mean that they use the language (Grinevald and Bert 2011: 49). An endangered language community can even consist of one fully-fluent terminal speaker, although if you are *the* terminal speaker, “your language – viewed as a tool of communication – is already dead” (Crystal 2014: 2). Other than fluent speakers, speakers of an endangered language are most commonly typologised as “former/rusty”, “semi-/imperfect”, “terminal”, “ghost”, and “latent” speakers, while lapsed speech communities may also contain “language rememberers”.

Former – also referred to as “rusty” (Sasse 1992b: 62) – speakers are individuals who grew up fluent in the language but have since lost functionality as a result of disuse²¹. In theory,

¹⁹ For example, while the revival of Catalan was strengthened by the immigration of Catalan speakers, Irish was weakened due to the emigration of Irish speakers to North America. “Remnant communities” are those left after the significant emigration of speakers (Harbert 2011: 416).

²⁰ “Dutch may not be threatened with extinction in the short or medium term, but it is in danger of losing domains. It could eventually become just a colloquial language.” (Crystal 2014: 29).

²¹ Elmendorf (1981: 36) typologies these individuals as “last” speakers, which could be easily confusable with “terminal” speakers, even though they are quite distinct.

this functionality can be recovered to fluency. Semi-speakers, by comparison, are those using a “reduced” form of the language²² (Dorian 1977: 24), who can consequently be considered “imperfect terminal speakers”²³ (1977: 31). Also known as “imperfect” speakers, semi-speakers have either had insufficient exposure to the language or have been more intensely exposed to another, meaning that their speech is “markedly different in form from the fluent-speaker norms” (Schmidt 1985: 41). This category contains all responders, who will also be producers to varying competencies/proficiencies (Grinevald and Bert 2011: 50). Thus, Sasse (1992a: 15) qualifies these individuals as “that speaker generation which results from the interruption of language transmission”. Semi-speakers are “the locus of language decay” (1992a: 17), for it is the replacement of semi-speakers of that language by another in all remaining domains that finally kills that language (Myers-Scotton 1992: 53).

Problematising such a typology, Dorian highlights that linguists will not necessarily know that they are dealing with a semi-speaker if they do not have an ‘absolute’/‘perfect’ knowledge or record of the language (1977: 28-29). This consideration highlights a fundamental problem with the source bases available to philologists, in so far as it is impossible to judge what the ‘pinnacle’ of scribal literacy was, not least given that an Egyptian philologist will often have a skillset and access to written resources uncommon to any Egyptian scribe. Then, it should be noted with respect to both spoken and written languages, however, that the reduction of linguistic structures “is not a necessary condition of death and dying”, for “even in cases of structural reduction, there is ample counterevidence to conclude that the order of recession is a mirror image of the hierarchical order of language acquisition”²⁴ (Wolfram 2002: 772).

²² i.e. a “reduction in their linguistic repertoires and range of usage vis-a-vis earlier speakers of the same language” (Elmendorf 1981: 42).

²³ Sallabank considers this term to be scientifically and pedagogically untenable, discredited, a negative value statement, and thus pejorative, preferring “remember”. However, in much of the literature on language death, “semi-speaker” and “remember” are not synonyms. Campbell and Muntzel (1989: 181) refer to “imperfect” speakers synonymously.

²⁴ For the structural levels of phonology, morphology, syntax, and lexicon in language death, cf. Wolfram 2002: 772-776.

Terminal speakers exhibit either limited acquisition, for example, from grandparents but not parents, or acquisition followed by advanced loss or attrition, and are placed at the end of the continuum of fluent and semi-speakers (Grinevald and Bert 2011: 48). Terminal speakers “with some passive knowledge of the language and very limited productive skills, sometimes reduced to frozen fixed expressions”, may become ghost speakers – individuals who, due to their language attitude and/or linguistic insecurity, may deny knowing the language (Grinevald and Bert 2011: 48-51). A lateral step from the terminal speaker is the latent speaker, an individual who was raised in a context in which the language was spoken, but who did not become competent, and thus an individual whose “receptive skills surpass productive skills” and therefore may not be a speaker at all²⁵ (Basham and Fathman 2008: 577; 581).

Language rememberers are individuals who never really learned the language itself, but may know a few words or phrases²⁶ (3.1.4). Grinevald and Bert (2011: 52) also typologise “last speakers” as individuals that do not belong “to a typology of speakers of endangered languages”, but to a realm of “social and political status, with a touch of myth”. In modern heritage communities whose languages are moribund, “last speaker” is usually given as an epithet – “assigned by a community to a specific individual, although it can also be self-attributed”, often constituting an “important public and social role” (Grinevald and Bert 2011: 52). By analogy, rememberers of a written language, such as Horapollo, are left to imagine how to fill the substantial gaps between their cursory understanding of aspects of the writing system, and how the writing system actually functioned in rendering a written language. Although the individual understood to be the last speaker “is generally considered to be a traditional old fluent speaker, especially by the community, linguists may consider him or her to be a young fluent speaker, or a semi-speaker, or a rememberer, or even, at the end of the process of language loss, as a very partial terminal speaker” (Grinevald and Bert 2011: 52).

²⁵ Nonetheless, a latent speaker can still be educated close to native fluency (2008: 592).

²⁶ Sallabank (2013: 12) also refers to rememberers as “all those who identify themselves ethnolinguistically with the language and what it means to them” in the context of a dead language, i.e. as descendants of speakers.

The resurrection of proficiency in a language can be seen in “neo-speakers”, who, in a modern context, are “learners of endangered languages in the context of revitalization programmes and activities” – often individuals who identify with their ancestral language community to the extent that they wish to learn the language (Grinevald and Bert 2011: 52; 58). This is a phenomenon to return to, not least because all Egyptian philologists are neo-literates and there are Coptologists/Coptacists who might also consider themselves neo-speakers, but also because historical Coptic-literates who read Old Coptic transliterations of earlier language stages of Egyptian could be conceptualised as neo-literates of pre-Coptic Egyptian.

On balance, the study of endangered languages is applicable to: the typology of endangered languages by domain, rather than by absolute status, e.g. Dutch vs Mesmes; the make-up of an endangered language community with reference to its demographics – whether through births and deaths or through immigration and emigration; and the typologisation of individual speakers who constitute the endangered language community. As one can analyse speech communities as comprising “fluent”, “former”, “semi-”, “terminal”, “ghost”, “latent” speakers, and “language rememberers”, one can analyse script communities as comprising “fluent”, “former”, “semi-”, “terminal”, “ghost”, and “latent” literates, as well as script “rememberers”. Certainly, within a script community the fluency of any functional literate is directly related to the domain of the script in which they are literate – thus fluency itself can be a broad spectrum. In the context of Egyptian priesthoods, such a spectrum could be understood from priests literate in Demotic and Greek for administrative purposes to priests literate in those scripts and also in hieratic and hieroglyphs. Former literates could apply to individuals educated in a certain script and its written language who since have not used their literacy – whether a priest who then specialised in other services or an Undergraduate in Egyptology who went on to study something else. Semi-literates, although not measurable in the corpora of this study nor likely accessible in any written record, could be considered as individuals populating the script community at a time when effective intergenerational transmission had slowed or ceased – that is, when the written language had become moribund.

These may well coincide with terminal literates, and ghost literates, who no longer trust their own ability to read or write any script of the Egyptian writing system in any specific domain.

3.1.4 Language Rememberers

As introduced above, rememberers are individuals who “were never competent speakers, but are characterized by having learned and remembered isolated words and fixed phrases of the language, which in many cases may otherwise be extinct” (Campbell and Muntzel 1989: 183). Although a language can be moribund, or dead, it is not necessarily forgotten. Consequently, language rememberers “may survive the active use of a language by several generations” (Nettle and Romaine 2000: 52). Referring to terminal speakers, Crystal describes how “when you are the only one left, your knowledge of your language is like a repository, or archive, of your people’s spoken linguistic past” (2014: 2), and it is language rememberers who sometimes retain some of the associated socio-cultural authority and prestige. Such a designation could also apply to how individuals in a lapsed speech community, which constituted a distinct speech community in a former generation, could conceptualise individuals within their community as still having enough knowledge to serve as a “living compendium” of the community’s linguistic and thus cultural heritage. Consequently, if the speakers of a language are “individual tradition bearers” (Dauenhauer and Dauenhauer 1998: 69), rememberers, as terminal speakers before them, have a monopoly on “tradition” – and thus socio-cultural authority and prestige in the lapsed speech community – so long as that speech community still values its heritage language²⁷.

Case studies of such remembers are numerous, and worth considering here alongside the following section’s construction of an approach towards the afterlife of a dead language, and how this may inform upon the perseverance of ritual practices and related cultural transmission through oral practices after the obsolescence of the Egyptian writing system.

²⁷ The term “heritage language” usually applies to “a language spoken in a community where that language is being replaced by a language of wider communication”, i.e. “from the perspective of the younger generation in this community, who no longer speak this language, it is their ‘heritage’” (Basham and Fathman 2003: 578).

From the outset, however, it must be stressed that one should be wary of lionising all rememberers. This is important given Campbell and Muntzel's observations that in some cases remembering "seems to have no greater function than entertainment or mild amusement, and implies very little for one's identity" (1989: 196). Furthermore, lionising rememberers would project the intention and aspiration of linguists working with endangered language communities upon the community itself – potentially falsifying the reality of community members or their lapsed speech community.

Where Scottish Gaelic, incomprehensible to most church-goers, is no longer used in services by the Reformed Churches, "this has left a large vacuum in Gaelic cultural and intellectual life locally" – consequently, even the most elderly speakers surveyed by Watson could not remember "more than a few scraps from prayers, hymns, or items of catechisms learned by heart in childhood" (1989: 52). Campbell (Campbell and Muntzel 1989: 185) noted a Chiapanec²⁸ speaker who "recalled a memorized Chiapanec religious text, called an *alabanza* ('hymn of praise')". This ritual had once been practiced publicly, but was no longer practicable because the ritual "required the interchange of two participants and the other fellow who had also memorized his part had recently died". Fascinating is that the Chiapanec speaker "did not know the meaning of the text in anything other than a very general way", and he "in fact spoke no other Chiapanec, save a handful of isolated, "remembered" words" (Campbell and Muntzel 1989: 185). Comparably, the speech community of south-eastern Tzeltal, speaking a language reported by Campbell and Muntzel to be "very nearly extinct" at the time of contact, consisted of "only a few older speakers in scattered villages" (1989: 185). These individuals, however, still knew "four prayers; one in particular, the *rezo tzeltal*, is quite important locally, since speakers of Tojolabal (a neighbouring, healthy Mayan language) require this [south-eastern] Tzeltal prayer in their own ceremonies and pilgrimages" – the prayer takes about 45 minutes to recite, and exhibits a "typical Mayan ritual structure".

²⁸ A presumably extinct indigenous Mexican language of the Oto-Manguean language family, whose terminal speakers lived in southern Chiapas, Mexico.

Their understanding of the content of these prayers was indicated by the fact that each of the four “reasonably good” semi-speakers “could recite the prayers, but they were unable to translate them in anything other than broad paraphrases”, “principally because the form of ritual language was no longer used by them” (Campbell and Muntzel 1989: 185-186). Thus, I would argue that these individuals were not only valued as “language remembers”, but also as “ritual rememberers”.

The authority and prestige of terminal speakers, whether conceptualised as such by their community or categorised as such by a structural linguist, can be substantial, but so can that of rememberers – not only for their linguistic and ritual knowledge, but also the socio-cultural authority and prestige with which they are imbued. Rememberers from Panchimalco, in El Salvador, and Comapa, in Guatemala, “were revered in their villages as “real” Indians who spoke the now-vanishing language” (Campbell and Muntzel 1989: 196). These elderly women – “held in esteem as a symbol of the Indian past” – also “attempted to fake or create words they did not know”, “presumably in order to maintain their local status, which each seemed to enjoy, and perhaps to save face” (Campbell and Muntzel 1989: 196). Furthermore, consider the status with which Vycichl, as a Coptologist/Coptist, held the – highly-contentious – alleged speakers of Coptic from the village of “Pi-Solsel” during the 1930s. Vycichl (1936: 169-170) stated that they must have ‘heard real, living Coptic during their childhoods’, while citing only certain items of vocabulary and ‘short sentences’, which they spoke as if Bohairic, yet lionising their ‘tenacity’ in maintaining ‘their language’ against all odds.

Furthermore, in two separate instances Campbell and Muntzel (1989: 196) even encountered “faking rememberers posing as full-fledged speakers”, not because they were trying to save face or preserve their prestige in the community, but because they were “apparently interested in payments” that linguists would provide. Notably, the faked/created lexemes “did not violate Spanish phonetics”, but did exhibit “glottalized consonants, apparently learned from growing up around Indian speakers without ever having learned more than a handful of real

words” (Campbell and Muntzel 1989: 196). Thus, the faking rememberer had an understanding of what he thought the language should sound like, and what might convince an outsider.

These lived examples of language rememberers, then, provide insightful analogies for the consideration of written language remembers as “heritage tradition bearers” and “ritual rememberers” among the Egyptian priesthoods and their script community/communities. The analogies that can be drawn, I would argue, are quite clear, whether to the socio-cultural authority and prestige imbued in priests who appeared to their Egyptophone communities and clientele to be literates, or to the priests who appeared to their Grecophone clientele to be knowledgeable in archaic (sounding) stages of the Egyptian language.

3.1.5 The Afterlife of a Dead Language

The obsolescence of the scripts of the Egyptian writing system marked an irreversible shift in the ability of no longer functionally literate Egyptians to access, understand, and thus reify their own (textual) culture. The death of a spoken language does not prevent it from having an ‘afterlife’, however. The shift from moribundity to death, by analogy to the study of endangered languages, is that from speakers being “tradition bearers” within a “heritage community” to non-speakers being “language remembers” and perhaps also “ritual remembers”, harking back to an ‘ancestral heritage community’ of which those individuals are descendants²⁹.

Both from a cross-cultural and historical perspective, “the contraction or cessation of use of a language often poses an ideological predicament for group identity” (Michael 2011: 138), resulting in the breakdown of “socio-cultural or even ethnic independence” within a speech community (Sasse 1992a: 7). Dorian (1998: 20) notes, for example, that when asking Scottish

²⁹ For my thesis on 4th century CE magical practitioners who were genealogically related to Egyptian priests, without necessarily having been trained as priests themselves, cf. Love 2016: 7.3; 7.5.3-7.5.4; 7.7.

Gaelic speakers “whether a knowledge of Gaelic was necessary to being a ‘true Highlander’”, they said it was, but when asking non-speakers of Highland birth and ancestry, they said it was not. The abandonment of Scottish Gaelic in Reformed Churches services, due to being incomprehensible to many church-goers, meant that a register of language already obsolete in many domains became obsolete in another – dissolving another connection between the language itself and Highland cultural identity.

Dauenhauer and Dauenhauer (1998: 75-76) reported hearing an “extreme” language attitude, where an elder “condemn[ed] as not being genuinely Tlingit all those young people who don’t speak Tlingit”. The irony of this situation was that the woman’s children, grandchildren, and great-grandchildren could not speak Tlingit. Consequently, “without thinking, this woman is essentially disavowing her own family for an aspect of their ethnic identity she is responsible in part for creating”. Yet this is not always the case, for it is even possible for speakers to – either consciously or unconsciously – disavow their own language. Brenzinger, Heine, and Somner (1991: 36) described the behaviour of several Serer men from Senegal who had replaced their language with Wolof, noting that these “ardent adherents of Serer culture and ethnic identity ... described Wolof culture as being ‘inferior’ to their own in almost all respects, insisting that they would do everything possible in order to defend Serer culture against Wolof domination” – “the fact that none of them was able to speak the Serer language was for them quite irrelevant”. It is not fanciful to consider how the necessity for Egyptophones to learn Greek as the language of all economically-beneficial domains of writing outside of temple institutions, while lamenting the predominance of this foreign language, may have lent itself to comparable cultural paradoxes.

For a first-language Anglophone in the modern world, it is impossible to understand the implications of language loss without any point of reference for the psychological, sociological, and cultural experiences which endangered language communities encounter. Crystal (2014: 55) attempts to describe how it might ‘feel’ with reference to Old English: “walk round a

museum displaying Anglo-Saxon remains, and there is an artefactual continuity with the present-day which we can recognize; but encounter an Anglo-Saxon manuscript, and the language barrier is almost total”. By analogy, I would argue that such an image is of value for understanding the situation of priesthoods during the 3rd century CE, who would have passed a point of no return after which they may have been able to recognise, conceptualise, and also reify “an artefactual continuity”, but never overcome the “almost total” language barrier that would exist following their loss of functional literacy. If this occurred domain-by-domain, script-by-script, as seems likely across the varied temporal and spatial frames under study, the loss of functional literacy in hieroglyphs would have rendered temple walls mute, the loss of functional literacy in hieratic would have rendered temple textual culture unintelligible, and the loss of functional literacy in demotic would have rendered afterlife and magical texts unpracticable – except for from memory. As Diamond (2013: 370) summarises, “each language is the vehicle for a unique way of thinking and talking, a unique literature, and a unique view of the world”, without that medium – “vehicle” – that exact perspective will never be retained nor regained.

The cultural consequences of language death include instances such as those suffered by the Tofa people of Siberia, who “no longer remember the creation myth they once believed” (Harrison 2007: 17). Nettle and Romaine (2000: 53) similarly reported “younger speakers in rural Papua New Guinea who knew no traditional stories”. The analogy to members of a priestly community of practice who derive purpose in their everyday lives and meaning in their cultural experience from the practice of rituals timelessly preserved in the textual culture of their temple suddenly being unable to access this codified culture is clear. By analogy to “geolinguistic shift”, after which “descendants no longer use the language of their ancestors” (Mackey 2001: 68), I propose “geo(ortho)graphic shift”, after which descendants are unable to engage with the textual culture of their ancestors. Thus, members of priesthoods lost not only their connection to aspects of their heritage culture but also their prestige and authority by proxy of their social status as tradition bearers and ritual practitioners, and eventually

rememberers. Consequently, the study of language death, and the afterlives of dead languages, is an informative and stimulating framework in which to consider the cultural and religious traditions which may or may not have been transmitted through the exclusively oral Egyptian tradition that was the successor to Egyptian textual culture following the obsolescence of the scripts of the Egyptian writing system.

3.2 Script Obsolescence in Script Communities

The study of the obsolescence of writing systems is compelling, not least because the ubiquity of writing systems all over the modern world makes it seem inconceivable that any writing systems in the developed world could obsolesce, but also because it relates directly to questions about ‘the collapse of civilisation’. For example, the ‘last’ graffiti in hieroglyphic and demotic at Philae during the Byzantine Period are often described in the romantic terms of the ‘last flicker of the candle’ of more than three millennia of Egyptian civilisation³⁰. However, the study of the obsolescence of writing systems is also frustrating; in the numerous different case studies known, the factors leading to obsolescence are either not well attested, not unambiguously understood, or – even where established – are simply different from one another. Indeed, other than broad implications such as the external elimination of a script due to the civilisation shift of political collapse, e.g. conquest, there are few close similarities to be drawn between the different case studies of script obsolescence.

³⁰ cf. Stadler 2008: 174. For a discussion of this flagship case study for the preservation or perseverance of traditional Egyptian religion, cf. Love 2016: 7.5.3.

The dissolution of centralised institutions that privileged a certain writing system led to their obsolescence on Crete³¹, in Anatolia³², Nubia³³, and China³⁴, as well as after the collapse of the Achaemenid empire³⁵ and the Kuṣāṇa empire³⁶. Other macro-explanations include cultural appropriation coupled with, or stemming from, socio-economic and political pressure³⁷,

³¹ Unlike its predecessor Linear A, which underwent an internal elimination due to cultural differentiation following a political collapse (Bennet 2008: 22), Linear B “seems to have disappeared in just a few years” (Baines 2008: 353). Unless a mass killing is envisaged, it was not that the script community perished overnight, but that the dissolution of the centralised institutions which supported them meant they no longer served any function.

³² Along with the destruction of the Hittite empire went the dissolution of its administration, and thus the writing system associated with it – Hittite cuneiform (Hawkins 2008: 34).

³³ Under the Napatan kingdom, Meroitic, consisting of both a hieroglyphic and cursive script (an (alpha)syllabary) (Rilly 2008: 183-186), was the written language, monopolised by the priesthood (2008: 189). The dissolution of the centralised administration of this kingdom in Meroe, due to conflict with the Noba tribes and Aksumite empire, “resulted in an economic and cultural collapse” in the 4th century CE (2008: 190). Consequently, “Old Nubian superseded Meroitic as the dominant spoken language and Greek became the main vehicle of literacy” (2008: 191). Both hieroglyphic and cursive Meroitic, however, were written up until the 5th century CE in other centres such as Kalabsha and Qasr Ibrim (2008: 191-196) – evidencing a decentralisation and regionalisation of Meroitic literacy and thus literates. Yet by the middle of the 5th century CE, a “King of the Noubades and of all the Ethiopians” commissioned an inscription upon Kalabsha temple not in Meroitic, but in Greek (2008: 196). Thus, barely a generation after the latest Meroitic inscription at Kalabsha, “this choice show[s] that Meroitic had lost its prestige once and for all” – “superseded by the language of Byzantium” (2008: 196-197).

³⁴ The Manchus “arose more as a political than an ethnic unit”, and with the collapse of the Manchu dynasty, which imposed the Manchu language, the Manchu writing system all but disappeared from the vast Chinese empire with extraordinary speed – surviving only in remote villages in Manchuria where it may be spoken, but never written (Stary 2008: 311). Given that “the creation of the Manchu script was an essential step in the building of the Manchu Empire”, it is unsurprising that its dissolution led to the complete abandonment of that administrative language (2008: 318), which had served as a “*scriptura et lingua franca* for reciprocal understanding between the many ethnic minorities of the Chinese Empire” (2008: 319).

³⁵ Old Persian cuneiform obsolesced with the demise of the political institution which created it (Baines 2008: 354).

³⁶ The written language of the Kuṣāṇa empire was Kharoṣṭhī, a vocally modified syllabary (*abugida*). This written language is attested across eastern and northern Afghanistan, Uzbekistan, Tajikistan, and the modern Xinjiang-Uighur Autonomous Region of China, as well as in Luoyang and Changan, in documentary texts, dedicatory and ritual inscriptions, as well as Buddhist literature and coin legends (Salomon 2008: 140-142). In use from the 5th/4th century BCE, following the conquest of the Kuṣāṇa empire’s heartlands by the Sassanids in the first half of the 3rd century CE, Kharoṣṭhī persisted only in the hinterlands until the 4th century CE due to their isolation, regionalisation, and conservatism (2008: 149). Salomon’s ‘conquest narrative’ has been challenged by Strauch, who highlighted that Bactrian was the preferred administrative language of the Kuṣāṇa empire, and that it was the “sanskritization” of the “cultural environment” inhabited by Kharoṣṭhī that led to its obsolescence (2012: 163-164). Where Gāndhārī persisted as an administrative or literary language, Kharoṣṭhī continued to be used, but language shift to Sanskrit also led to script shift from Kharoṣṭhī to Brāhmī. Although “neither the political elites nor the Buddhist institutions resisted” language shift from Gāndhārī to Sanskrit, Buddhists did undertake “a certain attempt to sacralise the Kharoṣṭhī script by ascribing the Arapacana alphabet a magic and ritual power”, but this did not elevate Kharoṣṭhī to sufficient a status – or number of domains – to prevent shift (Strauch 2012: 163). Due to the value of oral tradition in Indian tradition, while textual culture could be revered, it was perceived as secondary. Consequently, the Kharoṣṭhī script was not “a prominent object of cultural identity among the people of the northwest” and thus the shift away from this writing system was not “a ‘civilization’ change”, “but merely an adjustment” (Salomon 2008: 150).

³⁷ The pre-Roman writing systems of the Italian peninsula preceding the so-called Romanisation of Italy in the 4th-3rd centuries BCE, and their obsolescence has been treated by Lomas (2008). This was not due to a collapse, suppression, or supplanting of indigenous cultures, but a change in elite culture (2008: 109; 112; 126-130). The result was a transition in the north between the early 1st century BCE, in which Etruscan language and script dominates, and the early 1st century CE in which Latin dominates (2008: 116-117). Those languages were more resilient than their scripts, with Latin being utilised as “a vehicle for non-Latin inscriptions” and local scripts obsolescing abruptly or slowly in a transition via bilingual or biliterate inscriptions (2008: 126). By comparison, in the south Greek dominated, and the script was surprisingly more resilient than those of the north, being used to write Latin “because it was regarded as a high-status language by the Roman elite” (2008: 128).

Thus, the pattern of the north of “script disappearance, followed by language change” appears to be reversed (2008: 124). On balance, script shift was a “question of prestige” (2008: 128).

and the consequence of marginalisation³⁸. Even though each case is unique, the obsolescence of writing systems can be understood as the reversal of the factors that led to the emergence of writing systems. Thus, “reciprocal insights” can be drawn from looking at both ‘origins’ and ‘collapse’ (Houston, Baines, and Cooper 2003: 431).

In an influential article on script obsolescence, Houston, Baines, and Cooper (2003: 434) presented three predominant factors: firstly, the sociolinguistic explanation of “a correlation between the decay and disappearance of writing and a loss of prestige”; secondly, the “sphere of exchange” model, “in which writing, like money, can be general purpose or restricted to certain kinds of transactions”; thirdly, “a “demographic” explanation, in which the smaller the number of writers and readers, the smaller the chances of cross-generational transmission”. Black (2008: 64) also argued – in the context of the obsolescence of cuneiform in Elam – that the factor of simplifications – loss of complexity or reductions – and defectiveness in the expressiveness of the communicative system can also lead to obsolescence. However, as has been seen above for spoken languages, such loss of complexity does not necessarily reflect language death³⁹ – it can also reflect an irreversible decline in the competencies of speakers. This is whereby the decline that follows appears as if it were a consequence of that loss of complexity, when that loss of complexity is only a *proximate* cause whose *ultimate* cause is an already irrevocable process. The issue that diachronic written sources – preserved at random – are unable to evidence the process of script obsolescence as it occurred over generations,

³⁸ In Elam, roughly the south-west of modern Iran, Mesopotamian Cuneiform, which wrote various phases and dialects of the Akkadian language, Elamite, which wrote Elamite, and Old Persian, which wrote “an entirely independent alphasyllabic writing system specifically devised for the dynastic language of the time”, were used (Black 2008: 54). The largest body of administrative documents in Elamite are from Persepolis – the latest dating to the first half of the 5th century BCE (2008: 62), at which time it is “difficult to establish whether Elamite was still a living language” (2008: 63). By the middle of the 4th century BCE, no cuneiform was written in Iran, having been replaced by Aramaic and Greek (2008: 64), i.e. neither the written Elamite nor Iranian languages survived the demise of the Achaemenid empire. Firstly, “the geographical horizon of the politico-cultural unit to which Elamite writing belonged”, i.e. the Achaemenid empire, increased – exposing Elam and the small script community to competition, with the result that “Elamite became marginalized” (2008: 65). Secondly, the growth of a competitor language, i.e. Aramaic, meant that a superordinate language contact situation ensued. Thirdly, Elamite cuneiform exhibited a “gradual reduction” in the registers, and therefore domains, in which it was used, losing functionality in literature, then administration, before becoming exclusively “a mode of display” (2008: 65).

³⁹ Wolfram (2002: 772) stressed that reduction of linguistic structures “is not a necessary condition of death and dying”.

as exhibited by Black's conclusions regarding loss of complexity compared to those by linguists of living languages, serves as one example of how the isolated study of script obsolescence is limited. Consequently, while the "sphere of exchange" 'model' proposed by Houston, Baines, and Cooper essentially mirrors domain-by-domain analysis, sociolinguistic explanations group together many factors disentangled in the study of language death, and therefore this study's treatment of script obsolescence instead draws more directly upon an analogy to spoken language death, and the typologies through which language death has been analysed (3.1).

3.2.1 Domain vs Absolute Script Obsolescence

The obsolescence of a certain function or domain of use of a writing system is not synonymous with, or even an index of, the absolute obsolescence of that writing system. For example, the final functional obsolescence of Demotic in the administrative domain occurred at least two centuries before the functional obsolescence of Demotic in epigraphic texts.

Furthermore, functional obsolescence within one domain does not necessarily have any impact on the robustness of a script in another, for domains are not necessarily mutually-dependent. For example, the obsolescence of Latin in the academic domain did not impact the vitality of Latin in the liturgical domain.

As a result of functional obsolescence following script shift in a domain, writing systems undergo a reduction in their functions, and therefore what is rendered in writing, ultimately resulting in a reduction of what *can* be rendered in writing. As has been seen with language, although decreasing functionality or utilisation of scripts can put them in danger of becoming moribund, scripts which are in subordinate contact situations can still be valued in certain domains. An important factor relating analogously to the study of endangered language communities (3.1.3) is that the retention of the use of a script does not imply the retention of faultless knowledge of that script, its writing system, or the content of the texts it writes.

Black (2008: 65) highlights that "languages and writing systems can continue to be used for display even when they are no longer widely understood", and that this retention may be an

active process due to “ideological (symbolic) reasons” or passive due to “inertia caused by the weight of tradition”. This observation is crucial to a meaningful investigation of the multiple script *obsolescences* that occurred in different domains of use and registers of the written Egyptian language among different script communities across broad temporal and spatial frames during the Roman and Byzantine Period.

3.2.2 Terminal Script Communities

A “terminal script community” is analogous to a terminal language community in so far as it precedes the obsolescence of a script’s last domain(s)⁴⁰. The members of this community, comparable to those of an endangered language community⁴¹, can exhibit a broad spectrum of functional literacy. This is because, unlike spoken fluency, following script shift⁴², functional literacy can tip “within a single lifetime”, where a scribe declines “from competence to increasing disuse and deficient recall” (Houston, Baines, and Cooper 2003: 434).

Thus, within one generation, a single producer or community of producers can become (a) responder(s). Likewise, there is an important distinction between the attrition of knowledge of how to respond (read) and produce (write) a particular writing system within a script community, and the ability of one member of that script community to acquire proficiency in that writing system. Consequently, as high production gives way to low production, and then high response gives way to low response, producers (writers) who write a script with broad functionality are replaced by those who write with limited functionality, before producers (writers) are replaced by responders (readers), and then responders (readers) by rememberers. The final considerations relating to script obsolescence treated here, then, are the cross-cultural and historical case studies of terminal script communities, the shift in the domains of their scripts, and their scribes’ professional domains.

⁴⁰ Houston, Baines, and Cooper refer to “ecological niches” and shifts from a traditional to a “target script”.

⁴¹ Familiar from 3.1, Houston, Baines, and Cooper refer to a spectrum from “strong writers and readers, imperfect or semi-literates, and, in extremis, “rememberers” who may recall some written signs or the fact that earlier generations employed a script” (2003: 434).

⁴² Fundamental to Houston, Baines, and Cooper’s “sphere-of-exchange” ‘model’ is the idea that script shift is when “a script with general functions tends to displace a script with specific ones” (2003: 467). However, as has been summarised above (3.1.1), the shift from one language to another is not really a matter of the ‘general’ vs ‘specific’ functions of a language because language shift is not about numbers or functionality, but power.

3.2.2.1 Terminal Script Communities in Mesoamerica

The regionalisation of script communities and its relationship to functional obsolescence in different domains, and at different sites and times, is clearly demonstrated in the case of Mayan writing. ‘The Maya(n) Collapse’ occurred twice: once at the end of the Preclassic Period (c. 200 CE), and again in the Terminal Classic Period (c. 800-900 CE) – “for reasons that remain obscure and multifarious” (Houston 2008: 240). In his treatment of the obsolescence of Mayan glyphs, Houston (2008: 238-239) identifies a typology of settlements populated by literates as “(1) those with a small number of masters who were likely to have been trained at (2) communities with better-organized centres of pedagogy and more extensive, many-authored cycles of production”. Textual sources suggest that this central reliance appears to have led to obsolescence – a ‘radical’ “breakdown in production and response”, “low-level production but in relatively large numbers”, and a “gradually attenuating low-level production but sustained high-level production to the end”.

In fact, the heterogeneous nature of many text styles at different sites from the Classical period (c. 250-800 CE) suggests the presence of several tips into obsolescence while “other sites present evidence not of gradual decline but of radical or complete and abrupt obsolescence” (Houston, Baines, and Cooper 2003: 461). When networks of script communities fragment and the number of their “terminal writers” declines, the “sum of glyphic knowledge” and “the mutual supervision that judges and encourages standards”, i.e. language and script conventions, “wither, dropping to a danger level below which the script will disappear” (Houston, Baines, and Cooper 2003: 461). Indeed, this process is not dissimilar from spoken language contraction. Given that most Preclassic texts cannot be read, a “rupture in pedagogy” and perhaps “high levels of production” are “perceptible” (Houston 2008: 240).

In the context of the Terminal Classic Period, “for reasons of general social collapse, the script communities simply could not reproduce themselves” because the destruction and/or disintegration of the “court culture” of the Classic Period led to the disintegration of the

domain for which scribal culture existed (Houston, Baines, and Cooper 2003: 461).

Yet, the script communities of the Terminal Classic Period experienced two patterns of obsolescence, either “an abrupt extinction” or “simplification and reduction or defectiveness” – compounded by the fact that, by this time, the elite language was dead (Houston 2008: 248).

Presumably, extensive investment had been required “to preserve knowledge of speech that had disappeared from most mouths” and thus with the destruction and disintegration of “court culture”, “that investment would no longer be possible” (Houston 2008: 248).

The regionalisation of this decline is testament to this very decentralisation of script culture⁴³, with relatively isolated instances of survival having “more a feel of “rememberers” than full-fledged users of a writing system” (Houston, Baines, and Cooper 2003: 464).

Thus, even though Maya writing ‘survived’ for another seven centuries, Houston’s contention towards such a statement is that “this supra-regional perspective misses the many small deaths of Maya writing at the time of their collapse” (Houston 2008: 248). That is to say, domain-by-domain obsolescences occurred at different sites and times.

3.2.2.2 Terminal Script Communities in Mesopotamia

In Mesopotamia before the Persian conquest, although the administrative domain was inhabited by Aramaic, which had become the lingua franca across the Near East by the late 8th century BCE, the Assyrian Empire fostered cuneiform (Hawkins 2008: 40).

Although substantial cuneiform script communities produced documentary texts in Akkadian under the Achaemenid Empire (539-334/331 BCE), “it is unclear what proportion were Akkadian native-speakers, or indeed whether the majority already spoke Aramaic at home” (Houston, Baines, and Cooper 2003: 451). The Achaemenid royal administration utilised the Late Ancient Aramaic of Babylonia as its administrative language from around 500 BCE (Black 2008: 59). By the time of Alexander’s conquest of Mesopotamia, knowledge of

⁴³ For case studies, cf. Houston 2008: 242-244.

Akkadian, as had long been the case with Sumerian, was confined to script communities who were learning cuneiform in order to transmit ancient textual culture at a time when Akkadian and Sumerian were dead languages. Indeed, “nearly all aspects of life were documented in alphabetic scripts” (Cooper 2008: 103). In the Macedonian/Greek Period (334/331-143 BCE), written Akkadian was under pressure in its domain not only from Aramaic, but also from Greek. Nonetheless, “cuneiform’s very exclusivity, and perhaps even its difficulty, were positive advantages, at least so far as the scribal guilds that made their living out of it were concerned” (Brown 2008: 79). That is to say, the cuneiform script communities of scribes, administrators, and priesthoods, inhabited a professional domain which benefitted in socio-economic terms from the prestige ascribed to cuneiform (Houston, Baines, and Cooper 2003: 451). However, by the 2nd century BCE, legal documents in cuneiform are no longer attested at Babylon, and by the Parthian conquest of 126 BCE, “cuneiform is used exclusively in the temple communities and their schools” (Houston, Baines, and Cooper 2003: 453).

Brown (2008: 74-76) produced a “macro-economic explanation” relating to the redistribution of populations in Mesopotamia during the Parthian Period which resulted in the marginalisation of many traditional Babylonian centres. Importantly, “no particular pressure that was put on the existence of the temples by Persian, Greek, or Parthian rulers” can account for the obsolescence of cuneiform, while “the co-existence of alphabetic and logo-syllabic scripts” since c.1700 BCE suggests that “alphabetic scripts played little or no role in the demise of cuneiform” (Brown 2008: 78). Another macro-scale explanation presented by Brown is that the obsolescence of cuneiform was tied to the redundancy of Akkadian and, before it, Sumerian (2008: 80). Even if it was dead at that time, however, cuneiform “had always previously been adapted to write new languages”, and thus the death of Akkadian does not necessarily explain the obsolescence of cuneiform. In fact, as far as can be established from the extant sources, cuneiform texts written in the vernacular Late Babylonian (LB) end before those written in Standard Babylonian (SB) – “a purely literary dialect” (Brown 2008: 80). Brown (2008: 80) concludes, therefore, that the reason cuneiform was utilised in earlier

periods to render other languages was “because of the high regard in which Assyro-Babylonian culture was held, and because the alternative scribal infrastructures were not sufficiently well embedded to resist change”. Following the Assyrian revival in the 9th century BCE, Aramaic had a script infrastructure which ensured its survival alongside that of cuneiform – a coordinate script contact situation, while the subsequent Greek hegemony in Babylonia meant that “cuneiform could no longer threaten the Greek scribal tradition” (Brown 2008: 81).

Of the c.2200 cuneiform tablets extant following Alexander’s conquest, over half of which are astronomical, a large proportion are from Uruk and Babylon. If the pattern of evidence can be relied upon, cuneiform’s loss of domains, and thus the decreasing functionality of cuneiform, can firstly be traced through the decline in the production of legal and administrative texts – by 108 BCE in Uruk and 90 BCE in Babylon, and then letters – until 171 BCE and 87 BCE, respectively. Subsequently, at Uruk, SB and LB seem to obsolesce at the same time – suddenly – with both still attested to high levels of functionality, while LB is outlived by SB and Sumerian at Babylon (Brown 2008: 90). The latest LB texts come from the archives of individuals and families who are associated with the temples – although “it is hard to understand these astronomical-astrological texts as serving some direct cultic purpose within the temples ... it is much easier to imagine that they provided a private income for the scholars who wrote them” (Brown 2008: 89). The latest almanac dates to 74/75 CE, and thus Brown argues that non-astronomical SB texts should be dated before 1 CE (2008: 90; 92), with absolute obsolescence to be seen as having occurred by or during the 2nd century CE.

Ultimately, the script community could not reproduce itself because it did not have the need, let alone the means. The earliest known horoscope in Greek is for a birth in 72 BCE, and in Demotic is for a birth in 38 BCE. Where drawing up Greek-style horoscopes only requires astronomical tables and a little knowledge, Babylonian horoscopes “were originally drawn on the basis of predicted locations determined by constant recourse to the records of actual

observations” (Brown 2008: 92). These observational records were “the work of an institution”, and thus “once the need for such records had been dispensed with, any sufficiently well-informed scribe could write horoscopes, and the role of the temple as preserver or creator of a database that made horoscopy possible became redundant” (Brown 2008: 92). That is to say, the professional domain of the script community dissolved. Thus, for Brown, the tip was when astronomical skills and astrological notions were “widely translated into cursive scripts”, although by nature of being transliterated and translated, “some of those same methods and ideas avoided obsolescence altogether” (2008: 94). The temples themselves “learned to do without cuneiform and survived for some centuries longer, either by transliterating Akkadian and Sumerian into a cursive script (probably Greek) on perishable materials, or by translating the texts necessary for the practice of the cult into a living language (probably Aramaic)” (Brown 2008: 94). The retention of cuneiform into the 1st century CE was, for Brown, “not because of its association with the temples, but because some who worked there could still exploit a shrinking market for old-fashioned Babylonian astrology in cuneiform” (2008: 94).

A refinement that Cooper (2008: 103) added to Brown’s conclusion is that by the mid-1st century BCE – the century in which Babylonian astronomical and horoscopic methods are first attested in Greek and Demotic, “demonstrating that these methods had spread beyond the cuneiform community” – “the institutional support of cuneiform study and learning”, i.e. cuneiform schooling, ceased. It is in this change that Cooper sees the tip towards obsolescence. This is because terminal script communities would have manifest “a couple of generations” after this point, with sufficient functional literacy being retained only “to perform their one narrow task” of astrology and astronomy (Cooper 2008: 103-104) – hampering intergenerational transmission. On balance, if the learning of Sumerian and Akkadian was abandoned by the 1st century BCE because of “the successful transmission of Babylonian astronomical and astrological techniques to vernacular languages”, it should be expected that the temples and their cults, which persisted into the 3rd century CE, “must have also been

using the vernacular by the first century BC[E], and probably somewhat earlier” (Cooper 2008: 104). Thus, the income that sustained the script community, Cooper argues, was not simply from the production of astronomical and astrological texts, but also from the temples to which they were attached – temples which were still active, but which lacked access to their traditional textual culture (2008: 105). It was therefore cuneiform’s loss of exclusivity in the astrological and astronomical domains that led to its obsolescence, with the dissolution of its script community occurring generations before that of the priestly communities of practice.

A notable comparandum between the cuneiform script community at Babylon at the turn of the 1st millennium CE and the script communities embedded within the priesthoods of Roman Egypt treated in this study is that the former utilised the Greek script to transliterate Akkadian and Sumerian cuneiform, while the latter utilised Old Coptic to transliterate hieratic and demotic. The so-called Graeco-Babyloniaca comprise a corpus of c.18 tablets⁴⁴, in more fragments, whose provenance – when known – is Babylon⁴⁵ (Geller 1999: 378). 16 of these tablets exhibit an Akkadian or Sumerian text in cuneiform on the obverse, with a transliteration into Greek of the text on the reverse, while two exhibit only a Greek transliteration (Clancier 2011: 768). The dating of this corpus is particularly contentious⁴⁶, not least because the later they are dated, the later cuneiform textual culture can be argued to have persevered, but also because the palaeography of the Greek hands is “of somewhat questionable reliability”⁴⁷ (Westenholz 2007: 274). However, in short, given that “we have no similar texts from outside of Babylon” and Babylon itself provides the last evidence of cuneiform writing, the latest datable cuneiform text concerning astronomical events of 74/75

⁴⁴ This corpus was edited by Geller, cf. 1997: 68-85, and augmented by Westenholz, cf. 2007: 263-273.

⁴⁵ The Graeco-Babyloniaca were found alongside literary and school tablets dating to the 2nd century and beginning of the 1st century BCE (Westenholz 2007: 274) – the later tablets perhaps coming from private houses in the south of the city (Oelsner 2014: 161-162).

⁴⁶ Given the parallel finds, Sayce (1902: 120) first suggested the 2nd century BCE, while Geller proposed as late as the 2nd or even into the 3rd century CE (1999: 378). For a summary of the range of dates suggested, cf. Oelsner 2014: 150 with references. Certainly, dating any of these tablets later than the latest datable cuneiform tablet based exclusively on the palaeography of the Greek is methodologically intensely problematic.

⁴⁷ For the problems with dating the Greek hands, not least given the lack of dated Greek comparanda from Babylon, cf. Westenholz 2007: 274.

CE, a robust dating of the corpus is from c.50 BCE to c.50 CE⁴⁸ – although “the actual time span covered” was “likely to have been much shorter” (Westenholz 2007: 274; 294).

The textual content of the tablets ranges from lexical lists and topographical texts to hymns, prayers, and incantations (Boiy 2004: 41) – “the choice of texts and their arrangement on the clay tablets correspond[ing] exactly with the traditional cuneiform school texts of the new and late Babylonian era”⁴⁹ (Maul 2019). Importantly, all but one of the Greek transcriptions were written while the clay was still soft, “show[ing] that the Greek transcriptions were added immediately after the cuneiform had been written”, evidencing “a well-established practice” of the contemporary inscription of bigraphic manuscripts (Westenholz 2007: 277).

As summarised by Clancier, while there is general consensus among scholars of cuneiform that the tablets were produced and utilised by students of Akkadian and Sumerian cuneiform⁵⁰, the debate concerns the identity of those students, and the extent to which these tablets can, or could, evidence other shifts in scribal tradition and thus textual culture production (2011: 768). Clancier also summarises conveniently the three principal hypotheses for the rationale behind the production of the Graeco-Babyloniaca⁵¹: (i) students were Greeks interested in learning Akkadian and/or Sumerian cuneiform⁵²; (ii) students were taught how to transliterate Akkadian and Sumerian cuneiform into Greek on tablets because they were also taught how to transpose Akkadian and Sumerian transliterated into Greek onto leather with pen and ink⁵³;

⁴⁸ Such a span was initially shared by Geller (1997: 85).

⁴⁹ Although, “contrary to normal use”, the tablets turn on their vertical axis – like a book (Sollberger 1962: 63).

⁵⁰ As texts utilised in education, “most of them were presumably recycled” (Westenholz 2007: 274).

⁵¹ A conjecture from outside of cuneiform studies is that by Martin (2007: 253-257), who conjectures the Graeco-Babyloniaca and Old Coptic as evidencing the transmission of “non-referential language”, i.e. language without semantic value, for ritual purposes, stating: “the possibility that a reader may well have desired to reproduce in a given context the sounds of late Babylonian without necessarily apprehending the sense of the text they were reading cannot be discounted” (Martin 2007: 257). That may be, but, as with his treatment of Old Coptic (2007: 257-259), Martin does not exhibit any familiarity with either corpus, nor the scholarship thereon, leaving his conjecture poorly evidenced, and consequently unconvincing.

⁵² Argued with most conviction by Sollberger (1962: 63), while Pinches referred casually to “the Greek transcriber” (1902: 110). For other scholars who either “hesitatingly” or “non-committally” agreed with Sollberger, cf. Westenholz 2007: 275.

⁵³ Argued with most conviction by Geller (1999: 380): ‘the budding scribes of the temples had ... to learn how to inscribe Akkadian texts in transliteration upon leather’.

(iii) Babylonian students utilised the Greek script as an aid for learning how to vocalise, and thus decipher, Akkadian and Sumerian cuneiform⁵⁴.

The hypothesis that Greeks were interested in learning cuneiform, let alone provided with the opportunity to learn it, is problematic for three principal reasons: (i) the evident disconnectedness between the “Babylonian urban notability” and the Greek citizens of Babylon⁵⁵; (ii) “not a single Greek is attested in any scholarly pursuit amongst the tablets from Babylon and Uruk”⁵⁶; (iii) the Akkadian of the Graeco-Babyloniaca exhibits Aramaic dialect as well as a vowel representation which is “best explained by parallels in Arabic” – evidencing that the scribes “were native speakers of a Semitic language”⁵⁷ (Clancier 2011: 769).

The idea that the Graeco-Babyloniaca are an index for the otherwise almost unattested scribal practice of transposing Akkadian and Sumerian transliterated into Greek onto perishable media such as parchment and leather has proven more popular⁵⁸. Geller (1997; 1999) argued with most conviction for this shift in scribal practice⁵⁹. However, this thesis is ultimately an extrapolation of a single colophon to an Akkadian cuneiform tablet, which references an Akkadian omen text written on a scroll (Oelsner 1986: 244; Geller 1997: 48).

Thus, “the musings of some scholars about significant quantities of Sumerian and Akkadian texts written on scrolls in Greek script seems improbable”⁶⁰ (Houston, Baines, and Cooper 2003: 455-456). This is not least because “there is no persuasive reason” to deduce from that

⁵⁴ Principally Westenholz (2007).

⁵⁵ Clancier (2011: 768-769) notes the foundation of Babylon as a Greek *polis*, cf. Boiy 2004: 109.

⁵⁶ Presumably because literacy in cuneiform would only have been a prerequisite for work relating to astronomy, astrology, and liturgy as part of the traditional temple cult, cf. Westenholz 2007: 275.

⁵⁷ A conclusion drawn by Knudsen (1995: 136).

⁵⁸ Yet consider two practical problems with this thesis: cuneiform written with pen and ink on perishable media is attested, cf. Clancier 2011: 769 with references; there is no obvious practical reason why a more expensive and less durable medium would have been utilised at the expense of clay tablets, cf. Westenholz 2007: 279 n.19, unless wider circulation is argued to be the rationale – but this would constitute circular reasoning.

⁵⁹ For references to those who have cited Geller “approvingly” or “uncritically”, cf. Westenholz 2007: 295 n.45.

⁶⁰ cf. Geller 1997: 48; 1999: 379-380; Maul 1995: 14-15; Oelsner 1986: 224; 242-244; 2014: 164. For example, while Geller conjectures that many leather documents referenced in documentary sources were Akkadian transliterations into Greek, the royal proclamations he sees as part of this corpus would not have been in Akkadian, but Imperial Aramaic (Westenholz 2007: 278-279) – contrary also to Oelsner (2014: 159), and those cited therein.

colophon that such texts were “not simply written on their leather scrolls in Aramaic”, i.e. rather than Greek, script⁶¹ (Clancier 2011: 769).

Nevertheless, Oelsner (2014: 161) opined that the third hypothesis, that of transliteration into Greek serving as an aid to education, is ‘too little’ a reason to explain the existence of the Graeco-Babyloniaca. Instead, despite an almost complete lack of evidence, Oelsner conjectured that it is ‘very likely’ that the transmission of Babylonian textual culture in Greek transliteration on perishable media accounts for the dissemination of Babylonian learning throughout the Hellenistic world (2014: 163). In doing so, Oelsner drew heavily on a comparison with (Old) Coptic⁶² (2002: 30-31). However, as highlighted by Westenholz (2007: 280 n.20), this overlooks that while Egyptian was the contemporary spoken language of the majority of the population⁶³, Akkadian was a dead language. In addition, it does not take into account that the Greek script of the Graeco-Babyloniaca was never augmented to suit a Semitic language in the way that Greek was augmented to suit Egyptian⁶⁴. Oelsner is not aware that transliterating into Old Coptic did not actually lead to the further transmission of Egyptian textual culture previously preserved and transmitted exclusively in hieratic and demotic. Thus, his comparison of Old Coptic and the Graeco-Babyloniaca in fact undermines his own thesis that the Graeco-Babyloniaca could evidence a catalysing of transmission of Akkadian and Sumerian textual culture in Greek transliteration. Indeed, as will be seen, Old Coptic was utilised exclusively as a *supplement to*, rather than *substitute for*, the scripts of the Egyptian writing system, and thus an analogy to Old Coptic does not provide supporting evidence that transliterations into Greek of Akkadian and Sumerian would have supplanted

⁶¹ There is also one clay tablet with Aramaic not written in an alphabetic script, but in cuneiform – “so, in the end, anything is possible” (Clancier 2011: 769 with references).

⁶² In making a direct analogy between the Graeco-Babyloniaca and Old Coptic, Oelsner (2014: 164) relies upon an erroneous teleological paradigm deconstructed below (4.6.2).

⁶³ Oelsner (2014: 160) opined that ‘transliterations also come from the needs of society’, but this is a rather vague contradiction of Westenholz’s point.

⁶⁴ Important to bear in mind is that although the Greek script was able to render vowel quality and quantity, the Aramaic script was “far better than the Greek” at distinguishing between the consonantal phonemes of Akkadian (Westenholz 2007: 277). Perhaps a hybrid exographic alphabetic script derived from Aramaic and Greek, and thus comparable to Old Coptic, would have proven to have the highest utility in transliterating Akkadian and Sumerian.

cuneiform and catalysed further transmission. After all, following the obsolescence of the temples it is quite unclear what function such texts would have had (Westenholz 2007: 299-309). Ultimately, Old Coptic did not inhabit the script domains or transliterate the spheres of textual culture of later (Standard) Coptic, and it is in the conflation of Old Coptic scripts as *the* predecessor script, rather than as sibling scripts (8.3), of the Coptic script that further undermines Oelsner's thesis.

Returning to the context of Babylon at the turn of the 1st millennium CE, Westenholz (2007: 280) eruditely argues "the general rule" is that "a cultural tradition is intimately linked to its accustomed written medium and orthography, and that normally one is not discarded without the other". Geller's thesis of 'transposition' is also embedded within a further thesis that cuneiform textual culture did not obsolesce alongside cuneiform's loss of exclusivity in the astrological and astronomical domains, considered above, but continued to be transmitted into the 2nd and 3rd centuries CE⁶⁵. Westenholz (2007: 294-299), however, has summarised and deconstructed the secondary, literary sources brought together by Geller for such a late dating, while also providing explicit primary evidence against Geller's assumptions from those sources (2007: 299-309).

Therefore, the most robust hypothesis is the interpretation of the Graeco-Babyloniaca as an aid for students in learning Akkadian and Sumerian cuneiform through providing the contemporary phonetic realisation of those texts. This is, after all, paralleled in modern contexts such as in China, where alphabets are utilised to aid students in learning to vocalise and decipher Chinese logographic writing – discussed below (4.6.1). Familiar from the context of the priesthoods of Roman Egypt, the students of the Graeco-Babyloniaca would have been "native Babylonians, many of them no doubt the sons and relatives of the temple staff"⁶⁶ (Westenholz 2007: 276). Westenholz (2007: 276-277) typologises the extant corpus of

⁶⁵ Maul (1995) even suggests from further secondary, literary sources that Akkadian and Sumerian texts in Greek transliteration were still in circulation during the 5th and 6th centuries CE.

⁶⁶ Shared by Maul (1991: 95).

Graeco-Babyloniaca within a convincing schema of how Akkadian and Sumerian cuneiform was learned with the aid of the Greek transliterations, before the transliterations were dispensed with in favour of exclusively cuneiform tablets⁶⁷. Oelsner's (2014: 158) challenge as to why such transliterations were suddenly necessary at the turn of the 1st millennium CE, given that there had always been an oral component to learning cuneiform and that the Greek script had been known in Mesopotamia for centuries, has already been answered by the considerations above. The contraction and dissolution of the domains of cuneiform, alongside the contraction of the institutions whose preserve it was to teach cuneiform, led to a slowing and ceasing of intergenerational transmission and thus functional obsolescences preceding the absolute obsolescence of cuneiform in Mesopotamia.

On balance, the case study most closely comparable to the situation in Roman Egypt is that of Mesopotamia. Mesopotamia is a context in which both language and script communities became marginalised and thus regionalised following numerous political changes. Subsequently, a superordinate language contact situation resulted in a contraction of the domains that cuneiform could inhabit, reducing its functionality over time, and contracting the professional domains of scribes, in turn reducing their functional literacy. It was because cuneiform persisted due to the socio-economic reliance on that script by temple institutions that the increasing redundancy of those institutions slowed and eventually ceased the teaching and learning of cuneiform, while even the augmenting of cuneiform texts with Greek transliterations was insufficient in stemming this slowing and ceasing of intergenerational transmission. After all, the production of the Graeco-Babyloniaca obsolesced contemporaneously with the obsolescence of cuneiform, just as, as will be seen, the production

⁶⁷ Despite seeing this hypothesis as 'too little' a reason for the existence of the Graeco-Babyloniaca (2014: 161), Oelsner (2014: 148; 162) also highlights parallels between the corpus of Graeco-Babyloniaca and the 'Late Babylonian school curriculum'. While Maul (1995: 11) opined that the hands of the obverse were 'correct and beautiful', and therefore written by teachers, but the hands of the reverse were 'incompetent', and therefore written by students, Westenholz makes the case that "transcription was an integral part of the learning process" (2007: 277).

of texts in Old Coptic obsolesced contemporaneously with the obsolescence of hieratic and demotic.

3.2.2.3 Terminal Script Communities in Egypt

The preceding two case studies illustrate two of the most important factors for the study of script communities in Roman Egypt – institutionalisation and regionalisation. Literacies in Mesoamerica and Mesopotamia were restricted to institutions, and those institutions became decentralised, and thus regionalised. As those institutions obsolesced, intergenerational transmission of literacy that was the preserve of those institutions slowed and eventually ceased.

Egyptian priesthoods were distributed throughout Egypt, but the sparse extant evidence nucleated at certain sites means that it is impossible to describe a historical absolute obsolescence – thus conveniently avoiding the synoptic fallacy. Instead, the *obsolescences* of different scripts in different domains and at different sites, often across different temporal frames, can be treated. Thus, a study on a site-by-site – regionalised – basis is essential, grounded in the institutionalised context of the script communities within priestly communities of practice. Studying the script *communities* within each priesthood also ensures that each script and its corresponding script community is treated separately. Literacy in one script did not predicate literacy in another, with the exception that hieroglyphs were learned via hieratic, and demotic was the first script to be learned. Furthermore, instances of ‘defective’ writings and ‘incorrect’ copying cannot be assumed – even in this ‘late’ period – to be evidence of a decline in the proficiency of Egyptian writing. This is not least because such can be found throughout Egyptian history⁶⁸, but also because it has been seen that contraction cannot be maintained as an index of decline in spoken languages. In addition to the institutionalised and regionalised contexts, temporal frames must be considered, given that domain-by-domain

⁶⁸ cf. Houston, Baines, and Cooper 2003: 445; 449; Stadler 2008: 162-163.

obsolescence may have occurred within a generation at certain sites or within certain institutions, while taking centuries at others⁶⁹, and that terminal speakers and thus – by analogy – terminal writers could outlive their speech/script communities by decades. Consequently, past conclusions regarding the obsolescence of the Egyptian writing system must be reconsidered⁷⁰.

Before undertaking this novel study, certain considerations raised in previous discussions of the obsolescence of the Egyptian writing system must be treated. Stating that “there is no reason to think that most [priests] were literate”, and thus that there were “perhaps a few hundred priests (at a very optimistic assessment)” who could write Egyptian in the Roman Period (1993: 237), Bagnall at once raises an important point regarding the assumption ‘priest = literate’, while also attempting to write history on a ‘global’ – Nilotic – level, without delineating the scripts of the Egyptian writing system nor the domains inhabited by written Egyptian. Bagnall’s point is important, not least given two untenable assumptions maintained by Bull (2018: 227 n.90): the first that a priestly individual is a literate individual⁷¹; the second that any evidence of literacy – however limited – in one Egyptian script is indicative of

⁶⁹ At Esna, the decline becomes evident a couple of generations before the latest extant scenes inscribed with Decius’ name, i.e. c. 249-251 CE (Houston, Baines, and Cooper 2003: 445), cf. Sauneron 1975: v.

⁷⁰ Houston, Baines, and Cooper (2003: 449) presented a three-stage model of obsolescence, although one which draws little upon extant sources, or a comparison of the loss of different domains and functional obsolescences of the scripts of the Egyptian writing system. Furthermore, as raised by Stadler (2008: 158-159), the politico-economic model does not treat the closing of temples adequately, because it fails to appreciate the scale to which temples could have received local support or become self-sufficient.

⁷¹ Contrary to Bull (2018: 215), it is a conjectural leap from the testimony of an individual called Anatolius, in his 4th century CE correspondence, who calls himself the Chief Prophet of Hermes Trismegistus to Bull’s conclusion that these letters “assure us that the *traditional* cult of Thoth was still active in the early fourth century” (emphasis my own), and thus – one century later than the latest manuscripts written in any Egyptian script – that it constitutes evidence of a priesthood literate in Egyptian scripts. Likewise, the late 3rd to 4th century CE archive of Ammon Scholasticus attests “an elite family possessing the high priesthood of the first rank temple of Panopolis’s tutelary god Min” (2018: 216), but it does not attest a priesthood, literacy in any Egyptian scripts, nor what particular cult practices were undertaken. As for Zosimus, the third ‘priest’ which Bull argues attests the perseverance of priesthoods into the 4th century, the earliest manuscripts preserving his writings are from the 10th century CE (Grimes 2006: 20-22), and there are no contemporary sources attesting this individual. Compare Bull’s conclusions regarding the cult of Min at Panopolis to Frankfurter’s conclusions regarding the cult of Isis at Philae, the latter of which I have problematised (Love 2016: 7.5.3), as has Dijkstra – a reference to a priest “does not necessarily say anything about the functioning of the temple” (2011: 405), and Smith – “if a club has only two members, the chances are high that one of them will be president and the other vice-president” (2017: 458). Consider also the titles of Imhotep, who served the cult of Amenhotep Son of Hapu at Thebes during the last quarter of the 2nd century BCE; he was *hm-ntr*, *wꜥb*, *Pastophorus*, Bearer(?) (*gwt*), Astronomer (*imi-wnw.wt*), as well as fulfilling “all offices” (*ḳw.w(t) -nb(.t)*) and “every requirement” (*shn -nb*) of his duties “of the aforementioned temple” (*irp*) (P. Turin Botti 2) (TM#45078). As Quack and Hoffmann conclude, such shrines – “temples” – were such small institutions that their functioning was a ‘one man operation’ (2014: 144-145).

functional literacy in all scripts of the Egyptian writing system⁷². A notable example appropriate to this study is that there are numerous sources attesting priests of certain cults at Oxyrhynchus which date to the second half of the 3rd century⁷³, and yet there is essentially no evidence for textual production in the Egyptian language during the 3rd century, following plentiful sources from 2nd century (5.1). Therefore, even though I would not argue that such cults simply ended contemporaneously with the copying of their last manuscript, they must have been considerably changed by this break from their textual culture (5.3).

Two further considerations are that a critical mass of literate priests was required to ensure viable intergenerational transmission⁷⁴ and that increasing “grapho-phonetical and intellectual complexity” during the Roman Period could complicate intergenerational transmission (Stadler 2008: 166-167). In addressing these two considerations, this study has considered both priestly demographics and the pressures upon priestly populations (1.2.2), and will next treat the corpus of texts exhibiting the innovative scripts and spellings utilised in glossing, transcribing, and transliterating Egyptian textual culture, in order to elucidate the approaches utilised in response to such increasing complexity on the micro-scale. On the macro-scale, these considerations will inform on whether the shift from relying principally on living compendia of knowledge to augmenting texts to serve as written compendia of knowledge was a short-term sign of sudden crisis or the culmination of (a) long-term process(es).

Thus, the cumulative considerations in this study, from the reconstruction of Egyptian script communities at different sites, and how they utilised the scripts of the Egyptian writing system for different spheres of textual culture in different domains, to how this changed over time,

⁷² I highlight for the second time in print that, contrary to Bull’s contradiction of this point (2018: 227 n.90), the latest Buchis stela (340 CE), inscribed in four columns and seven lines of formulaic hieroglyphs, is in no way sufficient evidence to conclude “that there were people in the Thebes-area still competent in Egyptian *scripts*” (emphasis my own). On an earlier occasion, I have argued much the same point regarding the evidence of Egyptian-language graffiti from Philae, cf. Love 2016: 7.5.3, and while Bull (2018: 227 n.90) contradicts my conclusion there (2016: 268), he does not treat any of the evidence I presented, nor provide any novel evidence of Egyptian-language literacy.

⁷³ cf. Quaegebeur, Clarysse and van Maele 1985.

⁷⁴ cf. Houston, Baines, and Cooper 2003: 432–3; Stadler 2008: 173.

is absolutely essential for understanding the mechanisms through which a slowing and ceasing of intergenerational transmission led to functional literacy being lost, and how script shift, by analogy to spoken language death, led to domain-by-domain obsolescence, a tip towards moribundity, and ultimately the obsolescence of the scripts of the Egyptian writing system during the Roman Period.

4 Typologising Innovative Scripts and Spellings in Roman Egypt

In order to establish the innovations – simply put, the introduction of novelties – to scripts and spellings in Roman Egypt, it must first be established what it meant for scripts and spellings to be conventional. To that effect, this chapter introduces the micro-level modelling of writing systems and scripts applied to the textual corpora treated in this study, through a typology of writing systems (4.1), a study of the novel situation of which language stages and scripts were used in which domains during the Roman Period (4.2), how the brain reads (4.3), and how reading is impacted by “orthographic depth” (4.4). Following these considerations, the unconventional – innovative – ways in which scripts of the Egyptian writing system were used will be summarised (4.5), utilising a new typology of demotic orthography (4.5.3), before the novel scripts used for writing the Egyptian language are also treated (4.6).

4.1 Writing Systems and Scripts – Morphemic and Phonographic, Endographic and Exographic

As treated above (2.1), writing comprises graphemes which render language with reference to a conventional system. Lexigraphy consists of logography, in which graphemes render predominantly lexemes and morphemes, and phonography, in which graphemes render phonemes. Consequently, logograms are meaningful in themselves, while phonograms are meaningless by themselves: in a logographic script a grapheme can render a single morpheme; in a phonographic script a grapheme can only render a syllable, consonant or vowel.

In order to render language with reference to a conventional system, all writing systems are governed by orthographic conventions: in logographic systems, orthographic conventions define and govern the order of graphemes which encoded phonetic and semantic information; in phonographic systems, orthographic conventions define and govern the range of phonemes that can be rendered and the way in which they can be encoded, i.e. by combining graphemes.

One difficulty with logographic systems, especially regarding those that wrote dead languages, is their tendency towards homographs with semantic polyvalence, in which a similar or the same orthography may in fact write a different word, e.g. 𐎗𐎍 renders both 𐎗𐎍 “to live” and 𐎗𐎍 “life”. By comparison, one difficulty with phonographic systems is their tendency towards homographs with polyphony, in which the same spelling yields different pronunciations and different meanings according to context, e.g. <tear> [tɪə] and <tear> [tɛə].

Principally these tendencies manifest in logographic systems as homographs which are not homophones, e.g. 𐎗𐎍 “to live” and “life”, and in phonographic systems as homophones which are deliberately not rendered as homographs, e.g. <there> [ðeə], <their> [ðeə], and <they’re> [ðeə]. Such tendencies are indicative of the fact that there are two principal types of orthographies: a “shallow” orthography in which a spelling indicates more closely the pronunciation of the word, e.g. American English <thru> [θru:] vs British English <through> [θru:], and an “deep” orthography in which a spelling indicates more closely the morphemic structure of the word, e.g. <electricity> [ɪlɛkˈtrɪsɪti] from <electric> [ɪˈlɛktrɪk], where <c> in the former reads /s/, and in the latter /k/.

The “orthographic depth continuum”, and how this framework of analysis from linguistics and neuroscience can be applied to the conventional and unconventional spellings and scripts of the Egyptian writing system, will be introduced below (4.4).

Frameworks and terminology from outside of Egyptology can be utilised to elucidate typological issues for phenomena that are found in, and often have already been studied for, other writing systems. Thus, this study aims not only to integrate the Egyptological discourse with that of other fields investigating script obsolescence and writing systems, but also to refine the arbitrary terminology utilised within Egyptology with reference to terminology with salience in other disciplines.

As introduced above (2.2.1), digraphia can be utilised by analogy to diglossia, “a situation in which two or more language varieties which are used by the same community but are employed in separate contexts and functions, usually considered to be in a hierarchical relationship and hence labelled H (for ‘high’) and L (for ‘low’)” (Lüpke 2011: 316).

The application of this term is either to refer to “multigraphic writing traditions in contexts where one of the traditions is the dominant one, either synchronically or diachronically” or to refer to “the use of two different scripts, writing systems or orthographies for the same language” (Lüpke 2011: 316). I concur with Lüpke that the term digraphia is most informative when used to apply to “hierarchical separated functional relationships between written codes”, and that the terms bigraphia and multigraphia should instead refer, as bilingualism and multilingualism, to “the simple coexistence of two or more written codes for a language or variety” (2011: 316). As argued by Cole (2015: 69-70), while the divergence of hieroglyphic and hieratic, and subsequently hieratic and demotic, produced “concurrent digraphia”, “consecutive digraphia” was the consequence of the dichotomy between demotic and Greek – where Demotic was in a superordinate language contact situation (3.1.1).

Trigraphia existed throughout Egyptian history, but with the introduction of foreign languages to certain domains of writing that trigraphia was subsumed within another digraphic structure. Most notably, this manifested under Persian rule with the introduction of Aramaic¹, and under the Ptolemies with the introduction of Greek, in the administrative domain. This led to a situation which can be termed exographia, in which writing in certain domains is exclusively in a language which is not that of the wider language/speech community, e.g. the administrative domain of Egypt became dominated by Greek, even though a fraction of the population was Grecophone. Lüpke (2011: 318) introduced the term exographia to describe a situation in which an endangered language community has no

¹ Although, notably, “there seems to have been no enduring impact of Aramaic writing on Egyptian writing” (Quack 2017: 29). For a short-lived impact on Egyptian writing, cf. Quack 1992. Consider also Cole’s summary of Colburn on evidence for Demotic-Aramaic tags and sealings as evidence for bilingualism, cf. 2015: 234; 234 n.540.

recourse to a writing system of their own, and therefore adopts one from a neighbouring or dominant script community. Despite the obvious distinctions between contexts, I would argue that this term is also a meaningful way to describe the situation in Graeco-Roman Egypt. In modern nation states, such exographic writing systems are often those of the official language, i.e. the language imposed by a central government, and for many (endangered) language communities this is the former colonial lingua franca. An important distinction, however, is that Lüpke (2011: 318) defines exographic writing as the “fate” of an endangered language which has no recourse to endographic writing. In Egypt – a civilisation with a longer written tradition than any other in human history – the exographic tradition both forces out the endographic tradition from the majority of its domains while also being incorporated into the endographic tradition through the production of hybrid scripts (4.2.2; 4.2.4).

4.2 Unconventional and Inhomogeneous – Scripts and their Language Stages in Egyptian Writing of the Graeco-Roman Period

In order to consider what is innovative – unconventional – about the scripts and spellings utilised during the Roman Period, the question of what is conventional must be treated. Thus, the supposed conventionality of certain scripts writing certain language stages of Egyptian, and conversely that certain language stages are only to be found written in certain scripts, must be considered. The following typology has benefited considerably from Quack’s (2010b) study of the “homogeneity” and “inhomogeneity” of scripts utilised, and language stages rendered, in Egyptian texts from the Late to Roman Period.

4.2.1 Endographic Writing of Egyptian – Interscript Transcription and Intralingual Translation

There are numerous attestations of language stages of Egyptian being written in scripts that are not the scripts conventionally utilised to write that language stage. Even though it is

comparably rare to find demotic in the monumental domain², Demotic is attested transcribed into hieroglyphs³ as well as hieratic⁴. Similarly, First Phase, i.e. Old⁵/Middle⁶/Classical, Egyptian⁷ – as delineated, or not, above (2.2.1), is also evidenced transcribed into demotic. Attested from the Ptolemaic, and especially-well attested in the Roman, Period, the rationale behind transcribing language stages of Egyptian which are older than Demotic into demotic was that demotic was the first script learned. Old, Middle, and Classical Egyptian texts transcribed into demotic were therefore readable by a larger proportion of literates than if they had they been transmitted in hieratic or hieroglyphs (Hoffmann 2002: 228; Quack 2009a: 2). This contravened the script conventions previously governing certain domains of Egyptian writing, but not the language conventions. That is to say, while an interscript transcription into demotic constituted a(n) (ortho)graphic update – apparently not transgressing script conventions, an intralingual translation into Demotic constituted a linguistic update – transgressing previous language conventions of which types of texts may be written in which stages of the Egyptian language.

Attested from the 22nd Dynasty (Cole 2015: 149), intralingual translation “offered a solution to interpreting and annotating texts that were written in a language phase that was becoming increasingly difficult for many to understand”. Attested from the 2nd century BCE⁸, interscript transcription not only facilitated wider readability⁹, but also allowed compositions in Demotic to be added into compilations of texts comprised of sections in Old/Middle/Classical Egyptian while maintaining a coherent graphic matrix, leaving the

² cf. Quack 1995; Cole 2015: 235 n.546.

³ e.g. Instructions for the Production of the Khoiak Figures of Osiris at Dendera, the first five books of which are written in late Middle Egyptian, the sixth in Late Egyptian, and the seventh in Demotic (Quack 2010a: 86; 2010b: 328), cf. Quack 1998; 2010b: 327-329. For further examples, cf. von Lieven 2013: 163-165.

⁴ e.g. The “Great Decree to the Silent Land” of P. MMA 35.9.21 (332-151 BCE) contains sections that are linguistically Demotic, cf. Quack 2010: 316.

⁵ cf. Smith 2014.

⁶ e.g. Ptolemaic BM EA 711, cf. Vleeming 1990; 2004; Smith 2009a: 665-668 #60; Scalf 2014: 256-258 – argued by Smith to be Middle, not Old, Egyptian. cf. also 7.2.2-7.2.5.

⁷ e.g. Ostrakon Corteggiani D1 (150-30 BCE), cf. Quack 2001; 2010b: 318.

⁸ The earliest attestation currently known is O. Hor 18, dating to 10th July 171 BCE (TM#48985), cf. Quack 2014b.

⁹ von Lieven (2005: 69) has highlighted that while interscript transcriptions ensure correct pronunciation for ritual efficacy, intralingual translations ensure semantic clarity.

“original ritual language”, i.e. in First Phase Egyptian, “undisturbed” (Cole 2015: 146-147).

That is to say, instead of compiling a text partly in Old/Middle/Classical Egyptian rendered in hieratic and partly in Demotic rendered in demotic, a First and Second Phase Egyptian composition could be compiled within the homogenous graphic matrix of demotic.

On balance, the interface between language stage and script is, therefore, more fluid and thus more productive during the Roman Period than at any other point in Egyptian history.

This was catalysed by, and accelerated cyclically, the breakdown of the conventions that governed which stages of the Egyptian language and which scripts of the Egyptian writing system could be utilised within which domains, and for which spheres of Egyptian textual culture.

4.2.2 Hybrid Endographic Writing of Egyptian

During the Late Period, hieratic still dominated in the ritual domain, whereas demotic inhabited the administrative and literary domains¹⁰. Hybrid endographic writing of Egyptian, i.e. the mixing of signs or groups of signs from hieroglyphic, hieratic or demotic within one graphic matrix, began in the late Ptolemaic Period when interscript transcription of ritual texts into demotic not only produced a coherent demotic graphic matrix, but also a hybrid hierato-demotic graphic matrix¹¹.

The most commonly cited example is the Apis Embalming Ritual of P. Vienna 3873 from Saqqara, conventionally dated to the second half of the Ptolemaic Period¹², a hieratic text with some Middle and Late Egyptian as well as Demotic passages, in addition to mostly demotic

¹⁰ Indeed, Quack (2010b: 324) maintains that the only regular appearance of purely linguistically Demotic texts is among texts produced within domains that Demotic occupied during the advent of Demotic during the Late Period – with essentially all subsequent derivations exhibiting some linguistic or graphic archaisms.

¹¹ This is Quack’s *semidemotisch* (2004a; 2010b: 318-319).

¹² Notably, the rediscovered first column of this manuscript – P. Zagreb 597-2 – dates the archetype to the middle of the 4th century BCE, cf. Meyrat 2014: 300-301, which has considerable implications for the dating of both the composition and P. Vienna 3873 that require further attention.

sections¹³, where the scribe at times utilised a varying complement of hieratic and demotic signs in hybrid orthographies. Comparable texts from Soknopaiou Nesos are P. Vienna D 6257 (151-200 CE), a medical manual which is linguistically Demotic and Middle Egyptian, and P. Vienna D 6321 (Roman), a handbook for dying textiles which is predominantly Demotic but also features Classical Egyptian passages, both of which are rendered in demotic orthographies with the utilisation of hieratic signs (Quack 2010b: 320-321). An informative example of the distinct script conventions that existed between two script communities are Quack's unpublished Demotic manuscripts of the Book of the Temple: those from Soknopaiou Nesos are almost entirely in demotic, with hieratic signs exhibited rarely, while those from Tebtunis exhibit a higher proportion of hieratic signs (2010b: 319) – reflecting the dominance of Demotic/demotic in all domains at Soknopaiou Nesos (7.1), and hieratic in most domains at Tebtunis (6.1).

This phenomenon is also encountered in the so-called Demotic magical papyri¹⁴, dating to the second half of the 2nd and early 3rd century¹⁵ – comprising the latest substantial manuscript evidence in the Egyptian language. P. London-Leiden¹⁶ contains two versions of the same invocations within a vessel divination in order to see the Barque of Pre (10/20-30; 27/1-12). In the latter copy, Quack identified that hieratic and hierato-demotic spellings are more prominent than in the former (2010b: 323). An interesting caveat, then, to the inductive logic of 'hybrid hierato-demotic writings = incomplete demotic transcriptions of hieratic Vorlagen', or 'hieratic = older, demotic = younger', is that there are instances among the *voces magicae* of these invocations where demotic is glossed in Old Coptic in one instance  (10/30), and in hieratic in another  (28/8) – demonstrating that innovative spellings in hieratic were also possible.

¹³ Quack's (2010b: 32) observations highlight how newer sections were added, or sections were lexically updated, during the transmission of this manual from the Late to Roman Period, cf. also 2018c: 301-302.

¹⁴ Under study in the Doctoral thesis of Christopher Waß.

¹⁵ For recent bibliographies of this corpus, its composition and dating, cf. Love 2016: 7 n.21-22; 9 n.33; 10 n.39.

¹⁶ TM#55955. For a bibliography, cf. Love 2016: 7 n.21.

Although the hybrid scripts summarised here are consistent with Egyptian trigraphic writing, the script use treated in the following sections breaks with the conventions of endographic writing in order to utilise either an exographic script (4.2.3), or produce a hybrid endo-exographic script (4.2.4), to render the Egyptian language.

4.2.3 Exographic Writing of Egyptian

Examples of the exographic writing of Egyptian, i.e. Egyptian language written in a script not part of the Egyptian writing system, comprising transliterations into the Greek script from the Ptolemaic Period onwards, have long been considered part of the ‘prehistory’ of the Coptic script. Certainly, the realisation that Egyptian, as any other language, could be transliterated into graphemes that rendered consonants and vowels was a crucial cognitive step for the development of the Old Coptic scripts from which the (Standard) Coptic script was later derived¹⁷. However, it is problematic to frame these examples within a supposed chronological and teleological narrative for three principal reasons: the first is that this would suppose centuries in which scribes ‘struggled’ and ‘failed’ to develop a coherent alphabetic script for Egyptian¹⁸; the second is that it fails to acknowledge that the practice of transliterating Egyptian names, theonyms, and toponyms continued until the obsolescence of the Greek language in Islamic Egypt as a practice distinct from (Old/Standard) Coptic writing; the third is that it fails to distinguish between the limited examples of Greek transliterations of Egyptian as indicative of the limited domains in which Greek transliterations of Egyptian were utilised, and the distinct domains in which Old Coptic scripts were utilised¹⁹. In his study of the transliterations of Egyptian into Greek script, Quack has termed this phenomenon “Graeco-

¹⁷ Throughout this study, “Standard” is placed in brackets in order to provide a conventional reference from which the reader can distinguish clearly between what is typologised as “Old Coptic”, “Early Coptic” – and its multitude and diversity of differing dialects and conventions, and “Coptic” as a subsequent ‘more standardised’ written idiom as it would be broadly understood by a Coptologist/Coptist.

¹⁸ Quaegebeur’s “Pre-Old Coptic” (1991; Kasser 1991a).

¹⁹ e.g. Compare P. Heid. inv. G 414 Verso (3rd century BCE) (Quecke 1997; Quack 2017: 32), a list of Greek words with Egyptian translations transliterated into Greek script, with the Egyptian votive graffito (c.205-197 BCE) transliterated into Greek script from the temple of Seti I at Abydos (Perdrizet and Lefebvre 1919: 13 #74; Lacau 1934; Pestman, Quaegebeur and Vos 1977a: 102-105; 1977b: 111-112; Quack 2017: 33) or the multiplicity of Egyptian-language *voces magicae* in Greek script in the Graeco-Egyptian magical papyri, cf. Quack 2013b: 189-190; 193; 2017: 36; Love *fc. b.*

Egyptian” (2017: 34), and the phenomenon of Graeco-Egyptian is therefore attested from the Ptolemaic to Islamic Period. Hybrid endo-exographic writing of Egyptian, however, was to inhabit different domains of writing, and thus render different spheres of textual culture.

4.2.4 Hybrid Endo-Exographic Writing of Egyptian

A hybrid endo-exographic script is the product of combining two or more historically distinct scripts, e.g. Greek + Glagolitic = Cyrillic. During the Late Period the exographic use of demotic to render Aramaic is attested²⁰, from the Late to Roman Period the exographic script utilised to render Egyptian is principally Greek, and during the Islamic Period the exographic script utilised to render Coptic is Arabic²¹. Comparable to the phenomenon of hybrid endographic writing which emerged in the Ptolemaic Period, whereby signs or groups of signs from hieroglyphic, hieratic, and/or demotic could be utilised within one graphic matrix (4.2.2), two distinct hybrid scripts of demotic and Greek are attested: Old Coptic (4.6.2) and Bigraphic Coptic (4.6.3).

Old Coptic scripts utilise graphemes deriving predominantly from the Greek alphabet, written in majuscule, with the addition of graphemes derived from demotic to render phonemes absent from Greek, or considered best rendered by demotic-derived graphemes. Although utilised exclusively to transliterate textual culture otherwise written only in hieroglyphs, hieratic or demotic, these scripts are the predecessors of the alphabet that came to write the dialects of (Standard) Coptic. Bigraphic Coptic is a writing system which exhibits the phenomenon of graphic-switching: the graphic matrix is a hybrid of demotic and Greek, where the exclusively Egyptian linguistic matrix is rendered in demotic, and Greek loanwords are rendered in the Greek script.

²⁰ P. Amherst 63+43b (TM#56121), an Aramaic-language papyrus from Aswan with hymnic/liturgical and literary texts transcribed into demotic, cf. Vleeming and Wesselius 1985; van der Toorn 2018, and a magical text inscribed in the Wadi Hammamat written in demotic with a Demotic title, but with ‘unegyptian’ and Aramaic ‘elements’, cf. Vittmann 1984; 2003a: 118-119, compare Steiner 2001.

²¹ cf. bibliography in Love 2016: 65 n.18; Love *fc.* d.

As with the digraphia and trigraphia exhibited by the endographic scripts utilised to render stages of the Egyptian language, whereby a certain language stage and its associated script would inhabit a certain domain, the crucial distinction between the two hybrid endo-exographic scripts of Old and Bigraphic Coptic is that the former wrote First Phase Middle/Classical Egyptian and Demotic, whereas the latter wrote an idiom closer to contemporary spoken Egyptian than any other written form of Egyptian.

4.3 Reading

In order to delve deeper into an analysis of the scripts introduced in the preceding section, and typologised below (4.5-4.6), how reading occurs in the brain (4.3), and how Egyptian can be understood as having been read (4.3.1), must be considered in order to inform a treatment of how the “orthographic depth” of different scripts impacts reading (4.4).

While writing prioritises sound, reading prioritises meaning. Thus, “the faculty of reading has, in fact, very little to do with the skill of writing” (Fischer 2003: 11). Almost counterintuitively, in order to decipher written language, the human brain combines processes completely unrelated to language. How the brain connects structures creates distinctions between how different writing systems are read, i.e. “a brain wired to read Egyptian hieroglyphs or Chinese characters activates some areas never used to read the Greek or English alphabet, and vice versa” (Wolf 2008: 217). Chinese, as Egyptian, logographic readers use different neuronal pathways to English, as Greek, alphabetic readers. Thus, when Chinese start/try to read English, their brains first attempt to use Chinese-based neuronal pathways. That is to say, “the act of learning to read Chinese characters has literally shaped the Chinese reading brain” (Wolf 2008: 5). Understanding how the brain reads should, I would argue, be fundamental to the training of any philologist because “we share our brain structures with our Sumerian and Egyptian ancestors” (Wolf 2008: 217). Furthermore, given that “the number of graphemes, sound structure of an oral language, degree of regularity in the written language, degree of abstraction, and extent of motoric involvement in learning a script all influence both the

efficiency and specific circuitry of a writing system” (Wolf 2008: 64), when considering the orthographic conventions governing a script, all these factors must be borne in mind for the written forms of both living and dead languages.

Wolf (2008: 133) describes five stages in the development of reading: 1) phonological – learning to hear, segment, and understand the units of sound that make up words; 2) orthographic – learning that a writing system represents spoken language through visual aspects, and how to spell them; 3) semantic and pragmatic – learning meanings facilitates the otherwise laborious decoding and comprehension of new words; 4) syntactic – learning the grammatical forms and structures of sentences; 5) morphological – learning the conventions surrounding how words are formed from smaller, meaningful roots, and units of meanings (i.e. morphemes).

In the incremental stages of a novice reader’s development (Wolf 2008: 115-153), “phonological development” – the ability to synthesise individual sounds to form syllables and words, precedes “phonological recording” – reading aloud that underscores the relationship between oral and written language, while “orthographic development” – learning the visual conventions for depicting language, precedes “semantic development” – learning meanings. The latter two developments highlight that deciphering the spelling/orthography of a word does not predicate knowing what the word means, which must be learned separately and subsequently. Indeed, although reading “propels word knowledge, knowing the meaning enhances reading”, while “our ability to use context” in order to decipher the semantics of a word is itself “fostered by reading” (Wolf 2008: 123).

Expert readers then utilise six types of memory (Wolf 2008: 144-149), and, unsurprisingly, “the more established our knowledge of a word, the more accurately and rapidly we read it” (Wolf 2008: 153). Indeed, where a word lies on the “continuum of word knowledge” depends on its frequency, i.e. how often a reader encounters that word, and a reader’s familiarity with

that word, as well as the recency of a reader's exposure to that word (Wolf 2008: 153).

Yet, it takes hundreds of "exposures" to letters and words for "the neuronal circuits to become virtually automatic" (Wolf 2008: 14). This relates to the concept of "Word Poverty", which "is not simply a matter of the number of words unheard and unlearned", but the case that "when words are not heard, concepts are not learned", and "when syntactical forms are never encountered", how a continuous text is produced is poorly understood (Wolf 2008: 102).

When considering the processes by which a Roman Period priestly scribe would have learned to read demotic, hieratic, and hieroglyphs, this would have begun with how to identify and synthesise sounds, before understanding and internalising the visual conventions for depicting language, and then tying semantic values to these visual units. Important when considering the subsequent learning of archaic language stages of Egyptian, i.e. First Phase

Old/Middle/Classical Egyptian, written in hieroglyphs/hieratic/demotic, then, is that the frequency of exposure to words that were obsolete in both spoken Egyptian and Demotic would have been low, and the likelihood of high recency would also have been low²².

Thus, learning a novel script that rendered an archaic language stage, e.g. hieratic rendering First Phase Old/Middle/Classical Egyptian, was certainly of greater difficulty than learning to read a novel script that rendered a contemporary language stage, e.g. demotic rendering Demotic. A complex modern analogy would be a contemporary Anglophone reader's difficulty in learning to read Chaucer's English if it were written in a novel logographic script, as compared with a contemporary Anglophone reader's difficulty in learning to read a form of English even older than Old English which was written in a different, and mutually incomprehensible, logographic script.

²² Quack (2012a: 233) highlights how "unetymological writing" (4.5.3) allowed scribes to avoid the need "of having to memorise lots of words not part of his active language", instead being able to use "a manuscript with relatively clear indications for correct pronunciation". As will be highlighted below, how "relatively clear" these "unetymological writings" were for "correct pronunciation", however, varied considerably.

4.3.1 Reading Egyptian

Reading logographic, unlike syllabic or alphabetic, writing systems utilises “considerable involvement of the right hemisphere areas”, which “appear to activate very distinctive parts of the frontal and temporal areas, particularly regions involved in motoric memory skills” (Wolf 2008: 35-36). It is unsurprising, therefore, that a study at the University of Pittsburgh noted that “motoric memory areas are far more activated in Chinese than in reading other languages”, because Chinese signs are learned by repetition (Wolf 2008: 36-37). As a result, grouping words in order of semantic categories is perfectly logical for logographic writing systems (Wolf 2008: 38). Thus, the decision to order Egyptian onomastica according to the order of the South Arabian Alphabet²³, instead of according to semantic field, was a considerable cognitive shift because such an order “gives novice readers a cognitive strategy for more easily remembering the characters of their script” (Wolf 2008: 53).

The brain has various strategies for decoding logograms when compared with decoding phonograms: recognising logograms requires “visual-conceptual connections”; recognising consonantal signs requires “connections between the visual, auditory, and phonological systems”; while recognising “phonetic and semantic markers require[s] additional abstraction and classification capacities, along with phonological and semantic analysis” (Wolf 2008: 44). Thus, “the reader of hieroglyphs had to possess a spectrum of skills, including a highly developed visual memory, auditory and phoneme analysis, and considerable cognitive and spatial flexibility”, with the result that “the brain of an Egyptian scribe may well have needed far more cortical activation and cognitive resources to handle the encrypted meanings than was required for most other writing systems in all of history” (Wolf 2008: 45-46).

Importantly, the development of these skills is fundamental to a *reader*, but not to a *decipherer*. While the Egyptian philologist may have to decipher fragmentary papyri,

²³ cf. Quack 2017: 29-30, with references.

a contemporary Egyptian reader had no such problems. Unlike when deciphering, the brain does not read every individual grapheme/sign when reading, but groups thereof – true of alphabetic, syllabic, and logographic writing systems. Deictic words require contextual information in order for their semantic value to be clear (Pinker 1995: 71): some such words are homographs, e.g. tear [teə] and tear [tɪə] – exhibiting “syntactically ambiguous information” which require context to be understood (Wolf 2008: 154), while others are homophones, e.g. new and knew [nju:]. Although homophones can appear to introduce ambiguity into a language, whether in spoken language or through morphemic orthographies in written language, the distinctions between them are clear because of redundancy²⁴. For example, “there”, “their”, and “they’re” [ðeə] are homophones which exhibit orthographies that distinguish their distinct semantic values, even though a sentence written ‘there [ðe:] over [ˈəʊvə] there [ðe:] with [wɪð] there [ðe:] friends [frɛndz]’²⁵ is actually unambiguous in speech and writing. By reading groups of graphemes/signs and utilising context, the reading brain can both phonetically and semantically decipher what the deciphering brain can find ambiguous. The fallacy of deconstructing group writings has been treated by Quack with respect to demotic²⁶, resulting in the conclusion that – unlike hieratic and hieroglyphic – demotic comprises only monoconsonantal signs, ligatured “historical groups”²⁷, and classifiers (2014a: 214-216; 239). Accordingly, a novel typology of demotic orthography is developed below (4.5.3).

4.4 Orthographic Depth

Written by an ‘orthographist’ as opposed to a linguist, this study is less concerned with the way in which Egyptian was pronounced than the way in which Egyptian was written.

²⁴ In language, “a certain number of elements are needed to distinguish each word or sentence from others. But the structures in which these elements are combined are redundant, so that if e.g. an individual element is indistinct the whole may still be correctly understood”. Thus “every element is to some degree predictable from those that accompany it, and the dangers of misunderstanding are effectively removed” (Matthews 2007: 336-337).

²⁵ “they’re over there with their friends”.

²⁶ cf. 2014a: 214-216.

²⁷ So much so that when historical/root groups appear in the transcription of Aramaic in P. Amherst 63 (4.2.4), e.g. imn from “Amun”, they are indivisible and thereby include their classifiers.

Nevertheless, theories from linguistics and the neuroscience of reading which inform upon how writing systems encode language have utility in this study. The micro-level framework introduced here to complement the approaches in this study is that of the “orthographic depth continuum”.

Any writing system must balance rendering morphology and phonology. When attempting to strike such a balance the most obvious difference is that between logographic and alphabetic writing systems – the former renders predominantly morphemes, the latter predominantly phonemes. As introduced above (2.2), a word has an orthography, i.e. the conventional spelling ascribed to the word, and a written language also has an orthography, i.e. the relationship between a written language and its script. The classification of the correspondences between graphemes and phonemes in any script is termed “orthographic depth”.

The orthographic depth hypothesis states that shallow orthographies support word recognition involving phonology, while deep orthographies support word recognition involving morphology through a word’s visual orthographic structure²⁸. There are two routes to fluent reading which depend upon the depth of the orthography of a written language: readers of shallow orthographies can utilise non-lexical reading strategies, e.g. alphabetic reading, due to more transparency in grapheme-phoneme correspondences, whereas readers of deep orthographies must utilise lexical reading strategies, e.g. logographic reading, due to more opacity in grapheme-phoneme correspondences (Ellis et al. 2004: 441; Marinus, Nation, and de Jong 2015: 128). Consequently, “alphabetic reading” strategies are more successful for readers of shallow orthographies, while “logographic reading” strategies are more successful for readers of deep orthographies.

²⁸ For a summary of existing definitions of orthographic depth, with references, cf. Schmalz et al. 2015: 1615-1616.

4.4.1 Deep and Shallow Orthographies

“Deep”, also known as “opaque”, orthographies are those in which grapheme-phoneme correspondences are equivocal or ambiguous. “Shallow”, also known as “transparent” or “phonemic”, orthographies are those in which grapheme-phoneme correspondence are consistent and unambiguous²⁹ – where graphemes can be described as “isomorphic” to phonemes (Katz and Frost 1992: 71). In this study, the “orthographic depth continuum” from “deep” to “shallow” will be referred to, with scripts and their spellings and orthographies also being described as “deep” or “shallow”³⁰.

The orthographic depth hypothesis proposes a continuum from shallow (i.e. unambiguous) to deep (i.e. ambiguous) orthographies in which reading acquisition becomes progressively more difficult (McClung 2012: 2). This continuum also extends from logographic through syllabic to alphabetic scripts, with orthographies that principally render morphology at one end, and orthographies that principally render phonology at the other. The defining linguistic factors behind orthographic depth are that only phonologically complex languages can have deep alphabetic orthographies, which must choose between “morphological invariance (a deep orthography)” and “grapheme-phoneme invariance (a shallow orthography)” (Katz and Frost 1992: 70). Important to stress, however, is that the scripts utilised within the writing system of a particular language can be both deep and shallow: Japanese utilises hiragana and katakana, both syllabaries and therefore comparatively shallow, and kanji, logographic and therefore opaque. When considering the scripts utilised to render stages of the Egyptian language, Coptic is an alphabetic script, and therefore comparatively shallow, whereas hieroglyphs, hieratic, and demotic are logographic, and therefore comparatively deep.

Within alphabetic scripts themselves, however, the variation in orthographic depth is considerable. On the continuum of “alphabetic depth”, Finnish is among the shallowest of

²⁹ The ‘shallowest’ orthographic system would, therefore, be the International Phonetic Alphabet.

³⁰ Here, “deep” and “shallow” reflect the metaphor of a conventional morphological orthography having a ‘deep history’, as opposed to unconventional – innovative – spellings that have a comparatively ‘shallow history’.

orthographies, with grapheme-phoneme correspondences being simple, consistent, and complete, i.e. isomorphic (McClung 2012: 3). For a reader, this results in consistency, rather than ambiguity, in both spelling-to-sound (“feedforward”) and sound-to-spelling (“feedback”) correspondences. Consequently, once 23 regular, symmetrical grapheme-phoneme correspondences have been learned, written Finnish can be deciphered and read. By comparison, English is an outlier with a particularly deep orthography, with grapheme-phoneme correspondences being complex, inconsistent, and incomplete.

Morphological information is rendered at the expense of phonological information, resulting in bidirectional, i.e. spelling-to-sound (“feedforward”) and sound-to-spelling (“feedback”), ambiguities³¹. Thus, while there are only 23 grapheme-phoneme correspondences in Finnish, there are over 500 in English³² (McClung 2012: 3). In addition to the linguistic factor that English, as compared to Finnish, is a contact language³³, a historical factor explaining this disparity is that conventional English orthographies began to be established in the 15th century, whereas conventional Finnish orthographies only began to be established in the 19th century (Horobin 2013: 35). Consequently, the orthographic conventions governing Standard English are not only multifarious and inconsistent because they were adopted from different languages, they are also centuries out of date and thus distinct from contemporary English pronunciation.

Katz and Frost (1992: 70) highlight the “morphophonemic invariance” common to English orthography in the example of the “derivational relatives” <heal> [hi:l] and <health> [helθ] – closely related morphologically yet orthographically opaque, and thus phonologically dissimilar. In that example, phonological transparency is sacrificed in favour of morphological transparency (Schmalz et al. 2015: 1615). By comparison, in Dutch conjugations, e.g. <wij

³¹ Ambiguities at the level of lexemes stem from the preponderance of homophones and homographs.

³² Indeed, only 31% of all English monosyllabic words are spelling-to-sound (“feedforward”) consistent. An example of such spelling-to-sound (“feedforward”) inconsistency is <t> in <whistle>, while an example of sound-to-spelling (“feedback”) inconsistency is /i/ in <reef>, <thief>, and <leaf> (McClung 2012: 3).

³³ A branch of West Germanic with significant grammatical and lexical influences from the Romance languages Anglo-Norman French, Central French, and Latin.

lezen> “we read” and <ik lees> “I read”, because “consonants in final positions in Dutch are devoiced”, morphological transparency is sacrificed for phonological transparency³⁴ (van Daal and Wass 2017: 47). Anglophone readers thus learn to read English through “logographic reading”, because they are not able to accurately decipher orthographies phoneme-by-phoneme as in Finnish or Dutch “alphabetic reading”. An isomorphic orthography for English, e.g. <heel> and <helth>, would prevent “the advantageous common spelling for words with common morphology”, disguising their “common meaning”, as well as producing many more homographs, e.g. <heel> for an unrelated verb and noun (Katz and Frost 1992: 70). By retaining loaned, historical, and morphemic orthographies, complex, inconsistent, and incomplete grapheme-phoneme correspondences highlight “morphological communality” at the expense of phonetic accuracy (Katz and Frost 1992: 70).

The dichotomies of simplicity vs complexity, consistency vs inconsistency, completeness vs incompleteness can be further demonstrated through the following examples from English orthography³⁵: complex multi-letter rules, e.g. <sh> for [ʃ], render the orthography “complex”³⁶; polyvalent sublexical units, e.g. <ough> for [ɔ:], [u:], [əʊ], [aʊ], [ʌf], and [ɒf], render the orthography “inconsistent”³⁷; polyvalent lexical units such as heterophonic homographs, e.g. <wind> for unrelated [wind] and [waɪnd], render the orthography “incomplete”, because context is required for semantics to be disambiguated (Schmalz et al. 2015: 1617; van Daal and Wass 2017: 47). As will be seen, this framework of analysis can also be applied to the orthographic conventions of logographic writing systems.

³⁴ For the impact of orthographic density on the legibility of Dutch, cf. Marinus, Nation, and de Jong 2015.

³⁵ Schmalz et al. (2015: 1626) propose that these features can be subsumed under the conglomerate of the concepts of complexity and unpredictability, which impact the grapheme-phoneme correspondences in any given orthography.

³⁶ Also termed “regular” divergences from phonemic orthography, because digraphs and trigraphs are utilised in adopted alphabets to render phonemes in the adopting language which are absent from the language from which the script has been adopted.

³⁷ Also termed “irregular” divergences from phonemic orthography, because the same grapheme(s) can render different phonemes, or different graphemes can render the same phoneme.

4.4.2 Orthographic Depth and Learning to Read

The impact of orthographic depth on the ease and effectiveness with which children learn to read has been found to be so profound that “readers of English (the deepest alphabetic orthography) are estimated to take two and a half years longer to master basic decoding and word recognition skills than the majority of readers of other alphabetic orthographies” (McClung 2012: i). A balance between deep and shallow orthographies is evident in Hebrew, where morphemic consistency is stressed by orthographies which render the triconsonantal roots that comprise much of the lexicon, but to which vowel points can be added to distinguish ambiguous or homographic orthographies (Katz and Frost 1992: 71). In the teaching of modern Hebrew, children are first exposed to pointed (shallow) Hebrew, with the transition to unpointed (deep) Hebrew being at the ages of eight to nine (Katz and Frost 1992: 72). Indeed, “research on reading acquisition has consistently shown that achieving reading accuracy is a slower process for children learning to read in deep compared to shallow orthographies” (Schmalz et al. 2015: 1614).

Studies of the European Concerted Action on Learning Disorders as a Barrier to Human Development from 2003 compared typically-developing, adjusted for socio-economic status and spoken language fluency, six to seven year-olds who were fluent in, and thus accurate decoders of, their respective written languages. In 14 European countries, 87% accuracy in reading was exhibited, whereas in Denmark this was only 71%, and in Britain only 31% (McClung 2012: 4). A study of the reading of alphabetic, syllabic, and logographic scripts undertaken by Ellis et al. produced evidence that reading accuracy was “correlated with depth”, affecting “both rate and strategy of reading” (2004: 439) – “Hiragana was read more accurately than, in turn, Albanian, Greek, English, and kanji”. The data from testing reading efficiency in these scripts demonstrated statistically significant contrasts between orthographic depth and the speed at which children learned to read aloud, and the accuracy of their reading

aloud³⁸. The resulting conclusion is that it is more difficult to learn to read aloud, and to self-teach, deep orthographies (Ellis et al. 2004: 454-456).

Ultimately, although orthographic depth may affect how easy it is to *learn* to read, this is not the same as how easy it is to read – the reading speeds of alphabetic and logographic writing systems are not dissimilar (Rayner and Pollatsek 2012: 37). Thus, the orthographic depth hypothesis does not establish a hierarchy of writing systems for ease of *reading*, but highlights distinctions between how the brain reads them to highlight ease of *learning*. Although there is controversy regarding the formal and testable definition of orthographic depth for studies that can accurately inform upon the influence of orthographic depth upon the acquisition of literacy³⁹, this regards the impact on *learning* to read. For the descriptive and typological uses of orthographic depth in this study, this contention does not need to be of concern.

4.4.3 Orthographic Depth in Standard (Written) Language Varieties

As Horobin (2013: 34-35) summarises, “it is a feature of all orthographies that they become increasingly deep over time”. That is to say, as pronunciation changes, so does the accuracy of grapheme-phoneme correspondences. The inertia of English orthography, then, reflects its status as a standardised written language, by necessity uniform and resistant to change, by being both supraregional and maintainable (Horobin 2013: 35-36). When a written language does not need to be supraregional – coherent across spatial frames – or maintainable – consistent across temporal frames, the orthographic conventions governing its standardised orthography can break down either in consistency over temporal frames or coherence across spatial frames.

³⁸ For studies demonstrating that learning to read shallow orthographies is easier than deep orthographies, cf. Ellis et al. 2004: 441.

³⁹ cf. Schmalz et al. 2015. For a summary of the debate between the Orthographic Depth Hypothesis and Psycholinguistic Grain Size Theory, cf. Schmalz et al. 2015: 1616-1618.

Unlike in (Early) Modern English, the codification of orthographies in hieratic and demotic was not enshrined in grammars and dictionaries maintained by a central authority, but – if at all – simply recorded in word lists or onomastica⁴⁰. The extent to which these written compendia of orthographic conventions differed across temporal and spatial frames is, however, difficult to reconstruct due to the dearth of extant evidence. Nonetheless, the breakdown of interconnectedness between the written idioms and orthographic conventions utilised contemporaneously at different institutions due to the decentralisation, institutionalisation, and regionalisation of writing during the Roman Period meant that orthography no longer needed to be coherent across spatial frames or consistent over temporal frames, leading to regionalised divergences in orthography.

4.5 Innovative Spellings in Egyptian Scripts

In Egyptian scripts, innovative – unconventional – spellings are attested in hieroglyphs, hieratic, and demotic, and are spellings which are not consistent with the established orthography of that word, i.e. a spelling that departs from the morphemic group writing that constituted the conventional historical spelling of that word. Although attested to their highest frequency in demotic, both inertia and innovation – simply put, the introduction of novelties – were evidently part-and-parcel of Egyptian scribal tradition. When studying the conventional or innovative spellings with which morphemes, lexemes, or compounds were written, whether that morpheme, lexeme, or compound is “contemporary” or “obsolete” must also be considered. In this study, “contemporary” refers to vocabulary that was in the contemporary Demotic and often also subsequent Coptic – and therefore arguably spoken Egyptian – lexicon, whereas “obsolete” refers to those which were not, and are thereby principally or only attested in the First Phase Old/Middle/Classical Egyptian⁴¹ lexicon.

⁴⁰ As Quack noted for the shift in hieroglyphic orthographies from the Old Kingdom to First Intermediate Period, as for the shift in demotic orthographies from the Ptolemaic to Roman Period, only “in times of a strong central government” would the centralised orthography of the residence “dominate” (2017b: 208).

⁴¹ Whether or not a morpheme, lexeme, or compound is contemporary or obsolete has been established with reference to the TLA and DWL, corroborated by EDG and the CDD, as well as CCD and ĆED.

4.5.1 Deep and Shallow Orthographies in Hieroglyphs

As introduced above (4.3.1) and developed below (4.5.3), while the logographic nature of hieroglyphs, hieratic, and demotic is consistent over time, the typology of graphemes through which this was achieved is distinct between demotic and its predecessors of hieratic and hieroglyphs. Hieroglyphic and hieratic comprise mono-/bi-/triconsonantal signs, ideograms, and classifiers – “determinatives”. Comparable to Semitic languages, the characteristic feature of Egyptian is its consonantal roots, with derivations or inflections thereof constituting the majority of the Egyptian lexicon. Mono-/bi-/triconsonantal signs captured the communality of this morphology, while classifiers distinguished the form of the word, e.g. ḥpr “to manifest” rendered  becomes ḥpr.w “Manifestation/Image” with the addition of a further monoconsonantal sign and classifiers, rendered .

Evolving out of some “rare tendencies” in the same direction during the 25th Dynasty, from the Late Period onwards there are a number of hieroglyphic texts in monumental contexts which exhibit an ‘alphabetic’ approach (Quack unpub.a.: 1; 4; 7-8). This comprises a preponderance for monoconsonantal signs with or without classifiers – henceforth termed “classified” or “unclassified” “monoconsonantals”. The most famous example of this is the Naucratis stela (380 BCE), and its parallel discovered at Tonis⁴², commemorating payments to the temple of Neith. Concentrated in certain sections of the text are a high-density of such spellings, whereas other sections are perfectly conventional (Quack unpub.a.: 8).

Many theories have been proposed as to why such an approach was utilised in a formalised monumental text, but no conclusion has proven to be robust⁴³ – I would conjecture that there was a desire to demonstrate that Egyptian writing had all the functionality of Greek, and much more besides.

⁴² For a bibliography of the former and latter, cf. Quack: unpub.a. 3 n.11 and n.12.

⁴³ Treated in Quack: unpub.a. 3-4.

A typology of the orthographic methods exhibited in these sections comprises: unclassified monoconsonantals, e.g. j-ḏ-r-t  for tr.t “sides”; homeophones⁴⁴, e.g. nb  “gold” for nb “lord”; unclassified ideograms, e.g.  for dšr “red”⁴⁵.

In certain parts, the entire text is written in monoconsonantal *scriptio continua*, but – notably – unlike the “invented” and “reinvented” conventional and innovative spellings in demotic typologised below (4.5.3), no example of monoconsonantals followed by (a) classifier(s), i.e. classified monoconsonantals, is attested. In certain cases, unconventional spellings betray contemporary pronunciations hidden by morphemic spellings, e.g.  ḥ-p-y from ḥpr “to manifest” (S                     

unmorphemic reinvented shallow orthographies. But this was not simply as part of a trend towards monoconsonantal – ‘alphabetic’ – transcriptions, because numerous other orthographic methods were also utilised that, consequently, reduced orthographic depth. It is in the context of breaking with script and orthographic conventions, as well as a shift along the orthographic depth continuum, that comparable orthographic methods in hieratic (4.5.2) and demotic (4.5.3) must now be considered.

4.5.2 Deep and Shallow Orthographies in Hieratic

Avoiding the arbitrary distinction of context between hieroglyphic texts in the monumental domain and hieratic texts in the ritual domain, Quack (unpub.a.: 9-15) has demonstrated that an ‘alphabetic’ approach is also attested in contemporary ritual texts. Gill (2016) has treated those attested in “The Great Ceremonies of Geb” of P. BM EA 10252 and 10081 (307/306 BCE), which can consequently be surveyed conveniently here. The scribe utilised not only a plethora of unconventional spellings exhibiting the orthographic method of monoconsonantal transcriptions in the linear text, he then returned to the text a generation later and provided a significant number of conventional morphemic orthographies as supralinear glosses to those unconventional spellings (Gill 2016: §11). For example, the unconventional monoconsonantal spelling  “to collect” was subsequently glossed with the conventional morphemic spelling .

A typology of the orthographic methods utilised in these spellings comprises: unclassified monoconsonantals, e.g.  <d> for d.t “body”; classified monoconsonantals, e.g.  n-t-r-G7-w for ntr.w “gods”; unclassified homeophones, e.g.  h-b-s-w-V6 “garment/clothing” for h3b-sd “Sed festival”; ideograms, e.g.  for mn “to endure” and  for iw “meat/flesh”⁴⁷; classified ideograms, e.g.  for fn “nose”; unclassified morphemic orthographies, e.g.  instead of ; complemented morphemic orthographies, e.g.  for nb “lord”⁴⁸.

⁴⁷ Ideograms serve essentially as biconsonantals or triconsonantals.

⁴⁸ Indeed, this orthography is not infrequent in later hieratic writing.

in hieratic with those in demotic (Widmer 2014: 134). So-called unetymological writing is found more frequently in ritual texts written in demotic than other spheres of textual culture written in demotic simply because ritual texts contain considerably more lexemes obsolete in Demotic which required such spellings (Quack 2012a: 237). Nonetheless, this phenomenon is found not only in ritual texts⁵¹, but also in texts inscribed upon sarcophagi, mummy tickets, graffiti, and documentary texts (Widmer 2004: 675; 675 n.36-38).

Furthermore, “unetymological writings” are also attested in hieratic⁵². Before “unetymological writing” in Roman Period demotic can be considered, a typology of orthographies in demotic, and thus what constituted conventional as opposed to unconventional, must first be treated.

4.5.3.1 The Nature of Demotic Orthography

The most robust typology of demotic orthography is that produced by Quack, who identified that demotic orthography comprises monoconsonantal signs, “historical groups”, and classifiers, as opposed to hieroglyphic and hieratic orthography which comprises mono-/bi-/triconsonantal signs, ideograms, and classifiers (2014a: 214-218). Thus, despite the evident break with orthographic conventions, “unetymological writing” was still “the logical result” of the structure of demotic because it also comprised monoconsonantal signs, “historical” groups, and classifiers (Quack 2012a: 237). These “historical groups” are predominantly ligatures of monoconsonantal and/or biconsonantal signs, or groups thereof, which have developed directly from their palaeographic predecessors in hieratic orthography. In this study, Quack’s “historical groups” will be typologised as ligatures and root-groups according to their morphological form, while being understood as immutable in their function. From this basis, this section introduces a typology of demotic orthography building upon the revisions of Quack, in order to highlight the similarities and distinctions between conventional demotic orthography and “unetymological writing”.

⁵¹ For the earliest corpus of such, cf. Quack 2012a: 219.

⁵² In “The Rite of Bringing Sokar out of the Shrine” of Bodl. MS. Egypt. a. 3(P) (Mark Smith, personal communication).

Before treating its nature, the term “unetymological writing” must first be considered⁵³.

Rightly speaking, etymology refers to the origin of a lexeme and its historical semantic development, not the pronunciation or orthography of the lexeme itself. For example, the etymology of Coptic ⲙⲁⲗⲩ is not ⲙ, nor is the etymology of ⲙ hieratic ⲙ, but Egyptian mw.t. Although, for scholarly continuity, the phenomenon will be described as “unetymological writing”, terminology that is more semantically appropriate – as well as of greater utility due to its application in Linguistics and Philology outside of Egyptology – would be “morphemic” and “unmorphemic” spellings. A morphemic spelling renders the morphemic structure of a lexeme through conventional reference to the historical combinations of signs, in demotic commonly the root-group, that relate to a lexeme’s consonantal root, while an unmorphemic spelling is one which departs from this convention.

While I am sympathetic to the reasoning behind Quack’s proposition that the term “unetymological” should be replaced with “phonological” (2012a: 237) – or, I would argue, “phonographic” – there are three obstacles to this: firstly, *all* writing is ultimately phonographic to a lesser or greater extent, and consequently such a term does not clearly delineate “unetymological writing” from any other type of writing; secondly, there are consequently many conventional spellings which are principally phonographic as opposed to morphemic; thirdly, “unetymological writing” does not always provide clearer indications of correct pronunciation than conventional spellings. Nonetheless, terminology that does reflect Quack’s proposition is utilised in the typology of unconventional spellings of demotic orthography, developed below (4.5.3.2).

Turning to Quack’s typology of demotic orthography (2012a), three types are discernible from his survey of spellings. What I will term Quack’s Type 1 comprises lexemes which do not

⁵³ For treatments of this phenomenon, incorporated into this section, cf. Depauw 1997: 26; Quack 2010b: 334-337; Smith 1977; 1993; 1999; 2014; Stadler 2005a: 116-117; 2008: 170-174; 2016: 37 n.22; Vleeming 1990; 2004; Widmer 1998; 2004; 2014; 2015: 40-47. For a survey of the history of scholarly treatments, cf. Widmer 2004: 673-674 n.31. For a survey of the value statements that have been made on such “aberrant” “déconcertant”, “abusive”, “absurd”, “sauvage” orthographies by scholars, cf. Widmer 2004: 673 n.29.

have an orthography, i.e. a conventional spelling, in demotic because they “do not have a well-documented earlier attestation or fixed orthography” in pre-demotic Egyptian writing, i.e. hieratic (2012a: 222). The example given by Quack is the spelling of sy-thy.t (𐛥𐛢𐛥𐛢𐛥𐛢), rendered as if it were 𐛥𐛢𐛥𐛢𐛥𐛢, drawing on the orthographies of sꜣ “son” and thi “to transgress/damage”. Such spellings do not derive from historical morphemic orthographies and thus do not transgress any established conventional spelling, meaning that they are neither unconventional nor unmorphemic, and thus will be typologised in this study as “invented” spellings – that is, “invented” within the temporal frame in which Demotic/demotic is attested. These are elaborated with further examples below (figure 4.5.3.2f).

Quack’s Type 2 comprises lexemes which do have an orthography in demotic, but one that is not morphemic because it does not derive from the hieratic ligatures and/or root-groups from which the majority of demotic orthographies derive. One rationale behind this type is that their hieratic root-groups contained signs which do not exist in Demotic (Quack 2012a: 223). An example of this given by Quack is the spelling of ʕꜥ “to fight” (𐛥𐛢𐛥𐛢), whereby there is no demotic sign deriving from 𐛥𐛢, and thus the demotic orthography is ꜥꜥ/ꜥꜥ (𐛥𐛢𐛥𐛢/𐛥𐛢𐛥𐛢) – distinct from the morphemic spelling in hieratic, an unmorphemic variation from which is already attested in hieratic as j-ḥ-ʕꜥ-ꜥ 𐛥𐛢𐛥𐛢 (Gill 2016: 249). Another rationale behind Type 2 spellings is that a lexeme’s conventional, and likely morphemic, spelling is too opaque because of changes to the pronunciation of Egyptian. An example is the spelling of mṯn “road” (𐛥𐛢𐛥𐛢) spelled myt (𐛥𐛢𐛥𐛢) (S MOËIT). Comparable in modern English is the American orthographic convention <thru> for British <through>, where an established morphemic – and therefore deep – orthography has been reinvented as a shallower spelling. This type includes examples where a switch from “traditional” to “modern” spellings “is not coterminous with the rise of demotic writing as such, but only occurs in later stages” (Quack 2012a: 222). Due to being established in demotic, these spellings are not unmorphemic. Such spellings can be termed “reinvented” – that is, “reinvented” preceding or within the temporal frame in which Demotic/demotic is attested – by nature of the fact that they depart from established

conventional, morphemic root-groups in pre-demotic Egyptian writing. These are elaborated with further examples below (figure 4.5.3.2g).

Quack's Type 3 comprises lexemes which are obsolete in Demotic and thereby also spoken Egyptian, i.e. "no longer a normal part of active language" from the Late Period onwards (2012a: 224). These can also be termed "invented" spellings because they are quite literally *invented* – rather than drawing from established morphemic orthographic conventions.

The difference between Type 1 and Type 3, then, is that the former concerns contemporary whereas the latter concerns obsolete lexemes. What separates this phenomenon from other demotic orthographies is that they are not "unmorphemic" because there is no "morphemic" orthography established for them in demotic or in pre-demotic Egyptian writing. In addition to those identified by Quack, demotic orthography comprises several other types, and the typology of demotic orthography utilised in this study concerns the following section.

4.5.3.2 Typologising Demotic Orthography

In order to highlight the considerable overlap between the orthographic methods utilised to render both contemporary and obsolete lexemes in demotic, and how this developed over time, a full typology must be produced – illustrated in figure 4.5.3.2a.

Contemporary Lexemes				Obsolete Lexemes					
Conventional	Orthographic Method	Unconventional	Orthographic Method	Conventional	Orthographic Method	Unconventional	Orthographic Method		
Established	Classified Monoconsonantals	Established	NA	Established	NA	Established	NA		
Established Morphemic	Classified Ligature(s)	Established Morphemic	NA	Established Morphemic	NA	Established Morphemic	NA		
	Classified Root-Group(s)		NA		NA		NA		
Complemented Established Morphemic	Classified Monoconsonantals	Complemented Established Morphemic	NA	Complemented Established Morphemic	NA	Complemented Established Morphemic	NA		
	Classified Monoconsonantal(s) & Ligature(s)		NA		NA		NA		
	Classified Monoconsonantal(s) & Root-Group(s)		NA		NA		NA		
Conventional Invented	Classified Monoconsonantals	Innovative Reinvented	Monoconsonantals	Conventional Invented	NA	Innovative Invented	Monoconsonantals		
Conventional Reinvented	Classified Monoconsonantals		Classified Monoconsonantals	Conventional Reinvented	NA		Classified Monoconsonantals		
			Homeophone(s)				Homeophone(s)		
			Classified Homeophone(s)				Classified Homeophone(s)		
			Monoconsonantal(s) & Homeophones				Monoconsonantal(s) & Homeophones		
			Classified Monoconsonantal(s) & Homeophone(s)				Classified Monoconsonantal(s) & Homeophone(s)		

Figure 4.5.3.2a illustrates the categorisation of orthographic methods according to several criteria and delineated between contemporary and obsolete lexemes. Firstly, the spellings of contemporary lexemes can be categorised as “conventional” or “unconventional” spellings, while the spellings of obsolete lexemes, by nature of having no established orthography in demotic, can only be categorised as “unconventional”. Secondly, “conventional” spellings for contemporary lexemes are those “established” from a palaeographic predecessor: “conventional established” spellings comprise classified monoconsonantals, cf. figures 4.5.3.2b-c, while “conventional established” spellings utilising classified ligatures and classified root-groups are also categorised as “morphemic”, because they derive from a palaeographic predecessor in hieratic which renders the morphology of the lexeme by reference to its historical consonantal root⁵⁴, cf. figures 4.5.3.2b-e. Thirdly, certain

⁵⁴ e.g.  mwt “to die” () and  mtr “to witness” () exhibit a ligature and root-group respectively which is “morphemic” to the historical consonantal root of that lexeme – thus  also writes “(the) deceased” and  writes “witness” (). As introduced above (4.4.1), such a phenomenon can be compared to the “derivational relatives” <heal> [hi:l] and <health> [helθ] in English, where the orthography <heal> is morphemic. In this study, ligatures are distinguished from root-groups only regarding their morphological form, not their function: ligatures are morphologically self-contained signs; root-groups comprise more than just a

“established” and “established morphemic” spellings came to be “complemented” with monoconsonantals – elucidating the phonetic value of the morphemic orthography by reducing orthographic depth, cf. figures 4.5.3.2b-f. Fourthly, where orthographies did not exist in pre-demotic Egyptian writing, i.e. where there were no palaeographic predecessors in hieratic, spellings had to be quite literally “invented” in demotic, which nonetheless came to comprise the “conventional” orthography of that lexeme, cf. figure 4.5.3.2f (Quack’s Type 1). Fifthly, even where orthographies did exist in pre-demotic Egyptian writing, i.e. there was a palaeographic predecessor in hieratic, certain spellings were “reinvented” in demotic, which nonetheless came to comprise the “conventional” orthography of that lexeme, cf. figure 4.5.3.2g (Quack’s Type 2).

At this point, a notable distinction illustrated by figure 4.5.3.2a must be highlighted: while the conventional spellings for contemporary lexemes which had to be “invented” or “reinvented” were rendered exclusively with classified monoconsonantals, in the case of unconventional spellings for contemporary lexemes, the full spectrum of orthographic methods was utilised to produce “innovative” – that is, as opposed to “conventional” – spellings which quite literally “reinvented” the way in which those contemporary lexemes were spelled in demotic, cf. figure 4.5.3.2b-e. As will be seen below, this full spectrum of orthographic methods was also utilised, or perhaps derived from their utilisation, in providing “innovative invented” spellings in demotic for lexemes obsolete in Demotic (Quack’s Type 3).

ligature, but are in most cases indivisible morphological units – compare the “ligature”  C33 “to be many” with the indivisible tripartite root-group before the classifier Au in rs “to (a)waken” .

Contemporary Lexeme	Conventional			Unconventional
	Palaeographic Predecessor	Established (Morphemic)	Complemented Established (Morphemic)	Innovative Reinvented
hmhm “to roar”				
	Monoconsonantals	Monoconsonantals + Classifier		
r'-pr “Temple”				
	Monoconsonantals + Classifier	Ligature + Classifiers	Monoconsonantal + Ligature + Classifier	
thi “to damage etc.”				
	Monoconsonantals + Classifier	Monoconsonantals + Classifier	Monoconsonantals + Classifier	
mḥ “to burn”				
	Monoconsonantals + Classifier	Ligature (+ Classifier)	Monoconsonantal + Ligature + Classifier	Monoconsonantals + Classifier
pṯh “Ptah”				
	Monoconsonantals + Classifier	Ligature + Classifier		Monoconsonantals + Classifier

Figure 4.5.3.2b illustrates examples of contemporary lexemes whose orthographies in pre-demotic writing comprised classified monoconsonantals and whose “conventional established (morphemic)” orthographies in demotic derived directly from this palaeographic predecessor. In some examples, “complemented” spellings are found alongside the “established (morphemic)” orthographies, and in others the “(complemented) established (morphemic)” orthography is abandoned completely in favour of an “unconventional innovative reinvented” spelling comprising classified monoconsonantals. Most notably, this is the case for lexemes whose “conventional established morphemic” orthographies comprise classified ligatures or root-groups – thus suggesting the rationale of elucidating phonetic value by reducing orthographic depth. This hypothesis is supported by the fact that no “conventional established” orthographies comprising classified monoconsonantals were “reinvented”, only “complemented”, because they were already orthographically shallow.

Contemporary Lexeme	Conventional			Unconventional
	Palaeographic Predecessor	Established Morphemic	Complemented Established Morphemic	Innovative Reinvented
mḥ "to fill"				
	Biconsonantal + Classifier	Ligature	Monoconsonantal + Ligature	
mtr.w "Witness"				
	Biconsonantal + Monoconsonantals + Classifiers	Root-Group + Classifier	Monoconsonantals + Root-Group + Classifier	Monoconsonantals + Classifier
mtr "to witness"				
	Biconsonantal + Monoconsonantal + Classifier	Root-Group + Classifier	Monoconsonantals + Root-Group + Classifier	
bḳ.w "Work"				
	Biconsonantal + Monoconsonantal + Classifier	Ligature	Monoconsonantal + Ligature	Monoconsonantals + Classifier
šwi "to be dry"				
	Biconsonantal + Monoconsonantal + Classifier	Ligature + Classifier	Ligature + Monoconsonantal + Classifier	Monoconsonantals + Classifier

Figure 4.5.3.2c illustrates examples of contemporary lexemes whose orthographies in pre-demotic writing comprised classified biconsonantals and whose “conventional established morphemic” orthographies in demotic consequently comprise classified ligatures or root-groups. In each of these examples, “complemented” spellings are found alongside the “established morphemic” orthographies, and in others the “(complemented) established morphemic” orthography is abandoned completely in favour of an “unconventional innovative reinvented” spelling comprising classified monoconsonantals. These approaches of either complementing or reinventing spellings served to elucidate phonetic value by reducing orthographic depth.

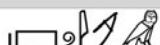
Contemporary Lexeme	Conventional			Unconventional
	Palaeographic Predecessor	Established Morphemic	Complemented Established Morphemic	Innovative Reinvented
nfr “good”				
	Triconsonantal + Monoconsonantals	Ligature + Classifier		
mw.t “Mother”				
	Triconsonantal	Root-Group	Monoconsonantal + Root-Group	
mḥr “Tomb”				
	Monoconsonantals + Triconsonantal + Classifier	Monoconsonantal + Root-Group + Classifier		Monoconsonantals + Classifier
mḏ.t “Bookroll”				
	Triconsonantal + Classifier	Ligature	Monoconsonantal + Ligature	Monoconsonantals + Classifier
ndm “to be sweet”				
	Triconsonantal + Monoconsonantal + Classifier	Root-Group + Classifier	Monoconsonantal + Root-Group + Classifier	Monoconsonantals + Classifier

Figure 4.5.3.2d illustrates examples of contemporary lexemes whose orthographies in pre-demotic writing comprised unclassified or classified triconsonantals and whose “conventional established morphemic” orthographies in demotic consequently comprise unclassified or classified ligatures or root-groups. In some examples, “complemented” spellings are found alongside the “established morphemic” orthographies, and in others the “(complemented) established morphemic” orthography is abandoned completely in favour of an “unconventional innovative reinvented” spelling comprising classified monoconsonantals. These approaches of either complementing or reinventing spellings served to elucidate phonetic value by reducing orthographic depth⁵⁵.

⁵⁵ Notable, however, is that in Ptolemaic Demotic the “reinvented” monoconsonantal orthography of ndm is favoured, whereas in Roman Demotic, especially of the 2nd century CE, the historical – “established morphemic” – orthography is favoured (Quack, personal communication). Thus, the trend from deeper to shallow orthographies does not always correspond to historical development.

Contemporary Lexeme	Conventional			Unconventional
	Palaeographic Predecessor	Established Morphemic	Complemented Established Morphemic	Innovative Reinvented
ntr.w “Gods”				
	Root-Group + Classifiers	Root-Group + Classifiers		
phr.t “Remedy”				
	Root-Group + Classifier	Root-Group + Classifier	Root-Group + Monoconsonantal + Classifier	
ntr.t “Goddess”				
	Root-Group + Classifiers	Root-Group + Classifiers	Monoconsonantal + Root-Group + Classifiers	
ḥb “Festival”				
	Root-Group + Classifier	Ligature + Classifier	Monoconsonantal + Ligature + Classifiers	
ḥr.j-ḥḥb.t “Lector Priest”				
	Root-Group	Root-Group + Classifier	Root-Group + Monoconsonantal + Classifier	Monoconsonantals + Classifier

Figure 4.5.3.2e illustrates examples of contemporary lexemes whose orthographies in pre-demotic writing comprised unclassified or classified root-groups and whose “conventional established morphemic” orthographies in demotic consequently comprise unclassified or classified ligatures or root-groups. In some examples, “complemented” spellings are found alongside the “established morphemic” orthographies, and in others the “(complemented) established morphemic” orthography is abandoned completely in favour of an “unconventional innovative reinvented” spelling comprising classified monoconsonantals. These approaches of either complementing or reinventing spellings served to elucidate phonetic value by reducing orthographic depth.

Contemporary Lexeme	Conventional		
	Palaeographic Predecessor	Invented	Complemented
mḵḥ “to suffer”	NA	𐎠𐎵𐎶𐎶	
		Monoconsonantals + Classifier	
prḏ “to separate”	NA	𐎠𐎵𐎶𐎶	
		Monoconsonantals + Classifier	
lhb “Steam/Smoke”	NA	𐎠𐎵𐎶𐎶	
		Monoconsonantals + Classifier	
ndḥ “to sprinkle/spread”	NA	𐎠𐎵𐎶𐎶	𐎠𐎵𐎶𐎶
		Monoconsonantals + Classifier	Monoconsonantals + Classifier
mḏl “Onion”	NA	𐎠𐎵𐎶𐎶	𐎠𐎵𐎶𐎶
		Monoconsonantals + Classifier	Monoconsonantals + Classifier

Figure 4.5.3.2f illustrates examples of contemporary lexemes without palaeographic predecessors in pre-demotic writing whose orthographies were therefore “invented”. As noted above, the orthographic method utilised for such “conventional invented” orthographies comprised – almost without exception – classified monoconsonantals⁵⁶. In some examples, “complemented” spellings are also found, where further monoconsonantals have been added to elucidate phonetic value by reducing orthographic depth.

⁵⁶ The exception is sy-thy.tṭ, noted above.

Contemporary Lexeme	Conventional		Contemporary Lexeme	Conventional	
	Palaeographic Predecessor	Reinvented		Palaeographic Predecessor	Reinvented
mṯn “Road/Way”			tš-š “Fayum”		
	Monoconsonantals + Classifier	Monoconsonantals + Classifier		Root-Group	Monoconsonantals + Classifier
jnh “Eyebrow”			bš “Ba”		
	Mono-/Biconsonantals + Classifier	Monoconsonantals + Classifier		Root-Group	Monoconsonantals + Classifier
mr “Canal”			ḥsbḏ “Lapis Lazuli”		
	Biconsonantals + Classifier	Monoconsonantals + Classifier		Root-Group	Monoconsonantals + Classifier
nf.w “Sailor”			phr “to surround”		
	Biconsonantals + Classifier	Monoconsonantals + Classifier		Triconsonantals + Classifier	Monoconsonantals + Classifier
wḡdwḡ “to be green”			kṗ “to hide”		
	Triconsonantals + Classifier	Monoconsonantals + Classifier		Tri-/Monoconsonantals + Classifier	Monoconsonantals + Classifier

Figure 4.5.3.2g illustrates examples of contemporary lexemes whose palaeographic predecessors in pre-demotic writing were not utilised in rendering orthographies in demotic, but whose conventional demotic orthographies were “reinvented”. It is notable that “complemented” spellings are not found commonly, suggesting that such “reinvented” orthographies were already orthographically shallow – consistent with the fact that the orthographic method utilised for such “conventional reinvented” orthographies comprised – without exception – classified monoconsonantals.

This typology in six parts has illustrated the relevance of the orthographic depth continuum to demotic orthography. The orthographic methods utilised suggest a trend in demotic orthography over time, that of elucidating phonetic value by reducing orthographic depth. This was achieved by “complementing” or entirely “reinventing” deep orthographies comprising classified ligatures and root-groups – in each case utilising the orthographically shallowest orthographic method of monoconsonantals and classified monoconsonantals, respectively.

As illustrated by figure 4.5.3.2a, unconventional “innovative reinvented” spellings for contemporary Demotic lexemes share something in common with “innovative invented”

spellings for lexemes obsolete in Demotic; both utilise the full spectrum of orthographic methods attested in demotic orthography. Some of these orthographic methods are comparable to the unconventional hieratic orthographies treated above (4.5.1), and the full spectrum comprises: unclassified monoconsonantals; classified monoconsonantals; unclassified homeophone(s); classified homeophone(s); monoconsonantal(s) and homeophone(s); classified monoconsonantal(s) and homeophone(s). Illustrative examples for how obsolete lexemes in P. Berlin 6750 – treated below (7.2.4) – are rendered through “innovative invented” spellings comprise: ḥr-tp “upon” with the unclassified monoconsonantals h-ṯ-p; jty “sovereign” with the classified monoconsonantals ʒ-ṯ-y-Sl; ṯbw.t “feet” with the unclassified homeophone ṯ-bt[y] “the abomination”; ʒ.w “adorations” with the classified homeophone “to come” jw-Br-Mh-Kd; mn.t “thigh” with the homeophone mn “to not exist” followed by monoconsonantals as mn-y-ṯ; m^cnd.t “(the) Mandjet barque” with monoconsonantals framing the homeophone “to give” (infinitive) followed by a monoconsonantal and classifiers as m-ty.t-y-Ho-Go.

In this typology, “innovative reinvented” spellings, i.e. unconventional spellings for contemporary lexemes, are only attested written with classified monoconsonantals.

However, in addition to *innovating* by *inventing* spellings for obsolete lexemes, the Roman Period saw the proliferation of orthographic methods utilised to write contemporary lexemes in unconventional ways – *innovating* by *reinventing* spellings for them. Illustrative examples for how contemporary lexemes in P. Berlin P. 8043 Verso – treated below (7.2.5) – are rendered unconventionally through “innovative reinvented” spellings comprise: nfr “good” with the unclassified monoconsonantals n-f; sw^cb “to purify” with the classified monoconsonantals s-w-b-ʒ-Go; ḏw “evil” with the unclassified homeophone ṯ “land”⁵⁷; ḳmy.t “gum” with the classified homeophone gm “garden” as gm-Kd-Go; ḥr.j “master” with the homeophone iri “companion” preceded by a monoconsonantal as ḥ-iri. Occurring only rarely, an example of classified monoconsonantal(s) and homeophone(s) must be borrowed

⁵⁷ Admittedly, this homeophonic orthography is not as “innovative” as others, because it is frequently attested.

again from P. Berlin 6750: ḥr.j-š=f with monoconsonantals and classifiers following the homeophone ḥr “upon”⁵⁸ as ḥr-š-f-ʒ-Sl-Go.

The preceding examples have augmented the typology presented in this section in order both to categorise the orthographic methods utilised to render contemporary and obsolete lexemes in conventional and unconventional spellings, and to illustrate the relevance of the orthographic depth continuum to demotic orthography. While the traditional orthographic method utilised in demotic orthography to *invent* or *reinvent* spellings for contemporary Demotic lexemes has been demonstrated to be that of classified monoconsonantals, *innovating* by *reinventing* spellings in demotic for contemporary, as well as by *inventing* spellings in demotic for obsolete, lexemes, utilised the full spectrum of orthographic methods attested. Notable, then, is that while the utilisation of shallow classified monoconsonantals accords with the rationale of elucidating phonetic value by reducing orthographic depth, e.g. by replacing deep(er) morphemic orthographies comprising ligatures and root-groups, the utilisation of orthographic methods comprising homeophones complicates this picture – as has been seen, for example, with ḥr “upon” for /ḥ-r/. As the proportional analysis of the orthographic methods attested in the textual culture at Soknopaiou Nesos will demonstrate (7.2), classified and unclassified homeophonic spellings were often utilised in considerably higher proportions than classified monoconsonantals – marking a significant departure from the ‘more alphabetic’ consonantal spellings of lowest orthographic depth. Most likely is that homeophonic spellings also provided vocalic information, by nature of encoding the phonetic value of an entire morpheme or lexeme, and therefore were superior in rendering the phonetic value of the transcribed contemporary or obsolete lexeme than a simple monoconsonantal transcription. However, such orthographies do not, necessarily, also reduce orthographic depth – suggesting instead that the orthographic methods which utilised homeophones complicated, rather than simplified, unconventional demotic writing during the Roman

⁵⁸ Though perhaps understood as ḥr “face” without its determinatives, given that ḥr “upon” is in no way homophonous or even homeophonous.

Period. It is the contentiousness of the proposed rationale behind the utilisation of such homeophonic orthographic methods that concerns the next section.

4.5.3.3 “Unetymological Writing” and “Visual Poetry”

In addition to a contention as to whether unetymological writing rendered the contemporary or archaic pronunciation of words⁵⁹ – a debate for which there is currently insufficient evidence to close – the principal contention is whether such innovative spellings rendered only one phonetic and thus semantic value, or whether they also expressed a secondary visual, and thus alternative semantic, value.

O. BM EA 50601⁶⁰, a late Ptolemaic or early Roman demotic ostrakon inscribed in Middle Egyptian with hymns to the first and second Ba of Amun, attests a variety of spellings with a phonetic, semantic, *and* a secondary visual, and thus alternative semantic, value: tn ḥpr n-m ḥ.t “Tatenen who came into existence at the beginning” sees the god’s name rendered with the verb tn “to raise/exalt” (3), thus Tatenen is “The Exalted One”; wr m^crt.t=f “Great is his prosperity” was rendered as wr md ʀ<=f> “Great is the word of <his> mouth” (10); nn sk=f “He shall not perish” was rendered as m sg^c “in the divine barque” (10). Although numerous innovative spellings do not exhibit alternative semantic values, Smith suggests that for those that do, scribes were able to “use such writings to create an additional layer or layers of meaning”, which could perhaps “enhance[e] the power of the ritual texts”, made more efficacious by nature of exploiting “the interface between the spoken word and the written word” – “to actualise both what is said and written” (2014: 151; 153-154). Alternate readings have the capacity to “transform the text in which they are used into a commentary on itself” –

⁵⁹ The principal argumentations are noted by Widmer, cf. 2004: 680 n.56 to which I add Quack 1999: 195. Quack (2012a: 229) implies that “unetymological writing” spellings would accord with “current pronunciation” rather than a “historical” form. Similarly, regarding the Old Coptic glosses exhibited in the P. Carlsberg 2 corpus, treated below (6.2.2), Osing argues these ‘faithfully reproduce the Egyptian word in its late pronunciation in the dialect of Tebtunis’ (1985: 185).

⁶⁰ TM#51038, cf. Smith 1977; 1999.

not a technical commentary that explains difficult passages such as in technical texts⁶¹, but a cultic commentary that serves not as a secondary or subsidiary text but is equal to the text and complementary (Smith 2014: 154). Consequently, Smith (2014: 154) argues for a “category of texts where the manner in which a word is written is just as important as the manner in which it is pronounced”.

Stadler has also argued that “the editor of an unetymological demotic text should not discard too readily the possibility that its writings may convey two or more layers of meaning”, because “new graphic, visually poetic options were developed for religious compositions through unetymological writings” (2008: 172-173). From examples studied, Widmer concludes that “unetymological writings do not necessarily result from the need to indicate the accurate pronunciation of an obsolete word” (2014: 142), but that in some texts they serve as “intentional variants” – enrichments, harnessing a polysemy. While interscript transcriptions into demotic, as intralingual translations from First into Second Phase Egyptian (Cole 2015: 151), enabled a declining number of priests to engage with the content of their textual culture, by utilising the polysemy of their logographic writing system, scribes were not evidencing a decline or simplification of their abilities⁶², but an increase in complexity and broadened ‘world vision’ (Widmer 2004: 682-683).

On balance, Smith (2014: 151), Stadler⁶³ (2008: 171-172), and Widmer (2004; 2014: 137; 2015: 44), have all demonstrated that innovative spellings could render not only one phonetic and thus semantic value, but a secondary visual, and thus alternative semantic, value.

Indeed, this is very much in the tradition of Graeco-Roman orthographic and phonetic play in

⁶¹ For such commentary, whose purpose was “to interpret and explain vague, complex, or out of date religious concepts” and which was achieved by “annotating applicable passages and accumulating textual variants” (including as glosses), resulting in “layering commentary onto the original text”, cf. Cole 2015: §4, there 88.

⁶² Indeed, ‘it is rather uncertain whether the commonly utilised terms ‘methods’ and ‘rules’ for this type of orthography is even appropriate, or whether each scribe developed their own system spontaneously’ (Stadler 2012a: 268).

⁶³ Stadler notes that both “literal” and “intended” readings can be considered, producing a “visual poetry” comparable to that found in other scripts of the Egyptian writing system, cf. 2008: 172 with references, and criticises Depauw (1997: 26) for only considering the phonetic aspect of such innovative spellings, cf. 2005a: 116-117.

hieroglyphic writings (Widmer 2004: 682); consider, for example, the distinct phenomenon, but notable visual value, of composing hymns to Khnum-Ra almost entirely in crocodile or ram hieroglyphs⁶⁴.

Criticising this conclusion, Quack has raised several points of opposition. Noting that the orthographic methods utilised in hieratic and demotic should not be expected to differ, Quack concludes that because homeophonic spellings with a secondary visual, and thus alternative semantic, value are not found in contemporary hieratic texts, they should not be expected to be found in demotic texts (2012a: 223). Smith⁶⁵, however, will argue that such are found, while it is also the case that spellings *did not need* to be invented for obsolete lexemes in hieratic – whether with classified consonantals or homeophones – because established conventional orthographies in hieratic for such obsolete lexemes already existed. Thus, to compare the rationale behind the use of such orthographic methods in hieratic and demotic is not to compare like for like at both the level of orthography and register of language. This is, after all, also suggested by Quack’s own analysis that the nature of demotic orthography is distinct from that of hieratic and hieroglyphic orthography.

Arguing directly against the thesis of “visual poetry”, Quack (2010b: 334) stresses a dislike for the term “poetry”, arguing that it implies a poetic freedom irrelevant to the spelling of a word – illustrated by spellings that are ‘less than poetic’, e.g. nn (negative existential) written n=n “for us” (2010b: 334-335). Subsequently, in a survey of innovative spellings from two short “unetymologically-written” texts, Quack (2012a: 228-229) summarises that “there is no predilection at all to use “meaningful” writings with word groups to create an additional layer of associations or commentary” because “there are too many orthographies which do not really give a satisfactory new level of meaning to the text” (2012a: 226). This is not, however, always the case. In his edition of Bodl. MS. Egypt. a. 3(P), Smith (fc. §15) has demonstrated

⁶⁴ cf. Leitz 2001.

⁶⁵ In “The Rite of Bringing Sokar out of the Shrine” of Bodl. MS. Egypt. a. 3(P) (personal communication).

that the majority of unetymological writings can be plausibly identified as having the potential to express a secondary visual, and thus alternative semantic, value – several of which are even prepositions.

While the use, or not, of the term “visual poetry” is a matter of judgement, Quack (2010b: 335) rightly stresses that the rationale behind such innovative spellings was to reproduce the phonetic values of the written text so that it could be recited with ease by the reader – not least because of the numerous examples where semantic obscurity would instead be the product of such spellings quite the argument against the idea of enhancing semantic value. But this is not *always* the case. In his edition of Bodl. MS. Egypt. a. 3(P), Smith (fc. §15) has identified several invented spellings which do not provide accurate phonetic renderings of obsolete lexemes, for example šḥ “to strike” (S CΩΩ) written wsh̄ “to widen” (S, B, F OYΩΩC) – suggestive, instead, that a secondary visual, and thus alternative semantic, value was to be expressed⁶⁶. Two unconventional spellings of obsolete ḥntš “to rejoice” also provide salient examples: in demotic, the innovative invented spelling utilising unclassified homeophones ḥnt.t-šj “foremost of the lake” in P. Berlin 6750 x+4/5⁶⁷ (Widmer 2015: 180) can be compared to the syllabic writing in hieratic utilising classified monoconsonantals of šw-n-d-š-D19 in P. BM EA 10252 26/5 (Gill 2016: 31). Comparing the vocalisation of ḥnt/ḥnt “foremost” attested in Old Coptic as 6NT (P. BM EA 10808 x+2/1) with the transcription šw-n-d highlights not only a disparity between the rendering of historical /ḥ/ and contemporary /š<ḥ/, but raises the question as to whether that homeophone is really more phonographically salient than the alternative hieratic bi-/monoconsonantals⁶⁸.

After all, homeophonic orthographies can exhibit less regular grapheme-phoneme correspondences due to inconsistency between the phonetic value of the homeophone and the

⁶⁶ In order to withstand Quack’s critique of such variant orthographies as simple textual variants of one another, it will have to be established whether these examples in their context cannot simply be understood as such.

⁶⁷ Admittedly, a reading which is only hypothetical due to an absence of secure parallels.

⁶⁸ If so, monoconsonantal <š> would have to be understood as indicating the phonetic value of šj “lake” attested in (Standard) Coptic as F ΩHl/ΩEl. However, since the qualitative does not exhibit such a vocalic ending, this is instead an argument against Widmer’s reading (Quack, private communication).

phonetic value of the lexeme spelled with the homeophone, but monoconsonantals can also lead to feedforward (spelling-to-sound) errors due to an absence of vocalic information. Ultimately, only a phonological reconstruction of such obsolete lexemes will be able to answer the question as to whether the spellings utilising homeophones were truly more phonographic than their monoconsonantal alternatives.

Quack (2012a: 226-227) also argues that if the rationale behind unetymological writing were “primarily a means of laying a commentary on the text itself and expanding its semantic relevance”, a more comprehensive utilisation of innovative spellings would be expected. Instead, the highest density is found among those words for which there was no established demotic orthography, because they are obsolete, or at least archaic, in Demotic⁶⁹ – with the largest proportion of innovative spellings he studied being monoconsonantal. While this is the case, it is interesting – as will be seen below – that numerous lexemes for which there is a conventional orthography in demotic are still sometimes rendered with unconventional “innovative reinvented” spellings – contrary to Quack’s assertion (2010b: 232).

Furthermore, in his edition of Bodl. MS. Egypt. a. 3(P), Smith (fc. §15) has demonstrated for that manuscript that the *majority* of unetymological writings are not in fact monoconsonantal, but homeophonic, and almost all of those homeophonic spellings can conceivably provide a secondary visual, and thus alternative semantic, value.

On balance, there is no need to treat the “phonetic” and “visual” aspects of “unetymological writing” as mutually exclusive. I concur with Quack that secondary visual, and thus alternative semantic, values could not have been “the primary relevance” for such spellings (2012a: 226), because *all* innovative spellings which *could* be interpreted as ‘poetic’ would first *have to be* phonographic – even the deepest orthographies are still phonographic. This does not mean, however, that certain unclassified and classified homeophones could not *also* have

⁶⁹ In addition to prepositions and morphemes such as “formative grammatical elements”, which could never be interpreted with novel semantics (Quack 2012a: 226).

expressed a secondary visual, and thus alternative semantic, value. As Smith (fc. §15) summarises in his study of the unetymological writings of Bodl. MS. Egypt. a. 3(P), although “the practice of utilising the orthography of one word to write another made it possible for scribes to create a second layer of meaning in a text, or comment in some way on words thus written”, “it did not oblige or compel them to do so”. However, given the invariability with which such orthographies are found in numerous spheres of textual culture, the fact that the identification of such secondary visual, and thus alternative semantic, value has only been assessed for texts in the ritual domain, and within those texts for only a proportion thereof⁷⁰, limits the reliability of such a conveniently ‘catch all’ conclusion.

4.6 Innovative Scripts

As introduced above (4.2.2), the hybridity that was possible between the scripts of the Egyptian writing system was paralleled by a comparable phenomenon in which both the endographic script of demotic and the exographic script of Greek were utilised to render Egyptian as both Old and Bigraphic Coptic (4.2.4). These innovative scripts concern this section, prefaced by a consideration of how “the alphabetic principle” (4.4.1), which governed Greek and thus shaped Old Coptic and its successor (Standard) Coptic – in contrast to Bigraphic Coptic, should be understood in the context of Egyptian writing.

4.6.1 The Alphabetic Principle

In a study of “revealed scripts”, Monaghan (2008: 239) made the observation that “colonized people find themselves enmeshed in relationships where they are subordinated politically, economically, socially, and culturally to a dominant group”. Resultantly, the source of colonial power is “a matter of acute interest to the colonized”, and – quite commonly cross-culturally – writing is identified as “one of the key sources, if not the key source of colonial power” (Monaghan 2008: 239). No less in Egypt than in the Greek-colonised Near East,

⁷⁰ That is to say, given that many orthographies did not, or could not, have a secondary visual, and thus alternative semantic, value, it is a problematic point of departure to say that some, by comparison, did, i.e. that they are only to be found where it is possible that they *could* be found.

Roman-colonised Europe, or English-colonised North America and Africa, the spread of alphabetic writing systems comprised part of an imposed state infrastructure, while the emergence of hybrid derivatives thereof developed in response to “idea diffusion” from, or “blueprint copying” of, the alphabet of the colonial power (Diamond 1999: 187).

Conveniently avoiding such geopolitical considerations, scholars who are only familiar with, and thus biased towards, alphabetic writing systems often study ‘the evolution of writing’ as one in which alphabetic systems supersede syllabic and logographic systems⁷¹. This may have been one process by which certain alphabetic writing systems evolved, but that is not to say that alphabetic systems are more ‘advanced’, i.e. have higher functionality and thus utility, than syllabic or logographic systems. Indeed, as has been seen, hieroglyphic writing was utilised from the 4th century BCE to render compositions alphabetically (4.5.1), and thus the scripts of the Egyptian writing system were long conceptualised as having this functionality⁷². However, as Loprieno (1995: 14) has considered, there is an underlying difference in the “philosophy of writing” between alphabetic, syllabic, and logographic systems – in addition to considerations of “orthographic depth” (4.4). Furthermore, this supposed “great breakthrough by the inventors of the Greek alphabet – the conscious, systematic analysis of speech – happens unconsciously in the life of every child who learns to read”, and – ironically and in sharp contrast to their Egyptian and Mesopotamian contemporaries – the ancient Greeks still considered their oral culture superior to a written one (Wolf 2008: 68).

An important clarification is that while alphabetic writing has the capacity to render phonemes “more closely than any other” (Rayner and Pollatsek 2012: 27), alphabetic graphemes do not actually correspond to phonemes, because “no writing system has symbols for actual sound units” (Pinker 1995: 186-187). Thus, to say that a letter renders a phoneme is “an extreme

⁷¹ cf. Gelb 1963.

⁷² Indeed, Egyptian monoconsonantal signs have long been considered the genesis of alphabetic writing that spread from the Near East to Crete, and from there to Greece. For a cross-section of the debate, cf. Baines 2008: 355-356; Wolf 2008: 51-54; Powell 2009: 177-185.

simplification” of the alphabetic principle – “the phoneme is a category”, “all the allophones that are not distinguished by the language are in the same phoneme” (Rayner and Pollatsek 2012: 27). Alphabets thus have two major limiting factors: 1) economy, “since there are usually fewer letters than phonemes in a language it may be easier to have some ambiguities in the representation of the sound than to use a larger set of symbols”; 2) vocalisation, “the matter of variation in the speech signal, both between speakers and in different contexts for the same individual”⁷³ (Rayner and Pollatsek 2012: 27-28).

A language such as English has c.8,000 syllables, far too many to be written effectively with a syllabary, whereas Chinese, written with a logographic writing system, has only 1,300 (Katz and Frost 1992: 69). This is because Chinese morphemes are principally monosyllabic and the variety of syllables is limited, Chinese exhibits considerable homophony, meaning that Chinese writing favours an orthography that distinguishes homophonic morphemes, where an orthography which only rendered phonetic forms would hamper reading (Katz and Frost 1992: 68). Furthermore, all alphabetic writing systems “reflect the spoken forms of their respective languages with different degrees of consistency and completeness between letter and phoneme” (Katz and Frost 1992: 70). Importantly, as stressed by Pinker (1995: 188), the “goal” of reading “is to understand the text, not to pronounce it”, and because morphemic spellings allow the distinction of homophones from one another, “a morphemic writing system is more useful than you might think”. As has been seen regarding “alphabetic depth” (4.4.1), “English spelling is not completely phonemic; sometimes letters encode phonemes, but sometimes a sequence of letters is specific to a morpheme” – to the extent that some English orthographies are essentially logographic (Pinker 1995: 188).

Nonetheless, the advantages of alphabetic writing stem from “cognitive efficiency and a more economical use of memory and effort in reading and writing”, with the implications such

⁷³ With the implication that “the inventors of alphabets may have decided that they wanted to ignore many of those differences”, e.g. between vowel length and stress, and thus accents and dialects (Rayner and Pollatsek 2012: 27).

“cognitive automaticity” had for human intellectual development being “potentially staggering” because “the efficient reading brain ... literally has more time to think” (Wolf 2008: 54). Yet this overall picture must be nuanced, because an alphabet achieves efficiency – “the capacity of a writing system to be read rapidly with fluent comprehension” – through an “economy of characters” (Wolf 2008: 60). But efficiency also depends on orthographic conventions, because – as highlighted above (4.4.2) – “children learning more regular alphabets, such as Greek and German, gain fluency and efficiency faster than children learning less regular alphabets, such as English” (Wolf 2008: 64). After all, “there is no good evidence that alphabetic languages can be read faster than non-alphabetic languages”, indeed, alphabets may be less suited to languages which have not adopted them (Rayner and Pollatsek 2012: 37).

Thus, “the alphabet does not build a “better” brain” but a “different” one⁷⁴, particularly regarding “developmental efficiency” (Wolf 2008: 64). Consequently, Japanese readers’ brains use pathways similar to Chinese readers’ brains for kanji (a logographic system) and similar to alphabet readers for kana (a syllabic system) because “different routes can be used within the same brain for reading different types of scripts” (Wolf 2008: 63). Significant for this study, if it were possible to scan the brains of Demotic-Greek literates, the observed routes would be similar to both a Japanese reader and a bilingual and biliterate Chinese-English reader.

These considerations have highlighted that the functionality, and thus utility, of alphabetic writing systems is not necessarily higher than those of syllabic or logographic writing systems – and for some languages is significantly lower. A crucial consideration, however, is that it is much easier to *learn* to read an alphabet than a logographic writing system.

Without comprehensive tuition in a logographic writing system, there is essentially no possibility that even a native-speaker could ever learn to read a language written thus,

⁷⁴ Wolf (2008: 61) cites a Chinese-English bilingual and biliterate who suffered a severe stroke in the posterior areas of the brain and consequently could not read Chinese, but could still read English.

whereas an illiterate native-speaker need only to be introduced to the sounds of the alphabet with shallow orthographic conventions to be able to teach themselves to read. Indeed, the fact that alphabets are utilised in China “to help people to learn to read suggests that logographies may be harder to learn”⁷⁵, while they are certainly “much harder to codify and to produce”, e.g. in dictionaries and in writing (Rayner and Pollatsek 2012: 47). On balance, and given the study of priestly education above (1.2.3), perhaps this consideration is the most crucial for understanding the domains of writing and spheres of textual culture in which Old Coptic was utilised as a *supplement* to hieratic and demotic, as well as the apparently rapid obsolescence of the scripts of the Egyptian writing system.

4.6.2 Old Coptic – A Hybrid Exo-Endographic Script

A study of the ways in which Old Coptic has been treated and typologised by scholars has recently been undertaken⁷⁶, making it necessary here only to summarise the principal factors of definition relating to script, language, and temporal frame. Regarding script, given the regionalised traditions and ‘unstandardised’ spellings – variable orthographic conventions – attested at different sites, it is erroneous to refer to *the* Old Coptic script, as opposed to *an* Old Coptic script or Old Coptic *scripts*⁷⁷. Regarding language, an Old Coptic script could transliterate any stage of the Egyptian language, and such is attested for a mixture of Middle, Late, and Classical Egyptian, as well as Demotic, and (Standard) Coptic. Regarding temporal frame, Old Coptic is attested from the beginning of the 2nd to early 4th century CE, thereby pre-dating the processes of standardisation that led from Early Coptic texts to (Standard) Coptic texts. Therefore, while texts of atypical orthography and unusual phonology are attested outside of this temporal frame⁷⁸, they are not “old”.

⁷⁵ Consider also the Graeco-Babyloniaca, discussed below (3.2.2.2).

⁷⁶ cf. Love 2016: 2.1.1.

⁷⁷ Attested Old Coptic scripts are tabulated in the appendix.

⁷⁸ For these, cf. Love 2016: 2.1.1.3

Regarding the rationale behind the emergence and expansion of the use of Old Coptic scripts⁷⁹, as well as the production – or, more rightly, transliteration – of textual culture in Old Coptic scripts, Bagnall stated rather dismissively that “authors and motives are a matter for speculation”⁸⁰. This study challenges this non-conclusion by demonstrating how a close and comprehensive study of Old Coptic sources can provide insights into the rationale of Old Coptic as a *supplement*⁸¹ to the endographic – whether monographic or hybrid – scripts for writing stages of the Egyptian language, and contextualise this expansion alongside other innovative scripts and spellings in Roman Egypt.

As stressed on a previous occasion (Love 2016: 61-62), the earliest securely-datable source exhibiting the use of an Old Coptic script is P. London 98, which – due to the evidence of its textual content – must have been written no later than during the first quarter of 2nd century CE. Following the robust assumption that a refined script for rendering the Egyptian language alphabetically would not have been known deep into Upper Egypt, around Akhmim, without being known elsewhere in Egypt, the ‘pre-history’ of Old Coptic must be conceded as lost in so far as there are no sources that predate its earliest witness, and the identification of this pre-history with the sources for the exographic writing of Egyptian has been demonstrated to be erroneous (4.2.3). Thus, by the end of 1st century CE, a fully-fledged writing system for rendering any stage of the Egyptian language alphabetically had emerged and expanded along the Nile. Consequently, studies that have sought to trace the development of Old Coptic scripts and their usage via the extant sources have failed to appreciate the importance of this simple chronological fact⁸². Instead, while the rationale behind the utilisation of Old Coptic in each source can be discerned *from* and thus *for* each source, the rationale behind the emergence of Old Coptic can only be conjectured.

⁷⁹ Given that “natural selection is an explanation for the extremely improbable” (Pinker 1995: 376), ‘evolution by natural selection’ is not an appropriate analogy for the development of writing systems which were developed by individuals, whether consciously or not.

⁸⁰ Certainly his “fair guess”, “that these texts are the surviving evidence of widespread moves to preserve traditional learning in a form that might be more widely accessible” (1995: 238) does not withstand this study.

⁸¹ Indeed, this is in keeping with Egyptian scribal tradition more broadly, in which “the [intralingual] translation of the ritual texts was never meant as a replacement.” (Cole 2015: 84),

⁸² Contrary to Satzinger 1991: 171a.

This “fallacy of chronological evolution” is closely related to the problematic “outcome-based assumption” that because a standardised alphabet for rendering the Egyptian language was the ‘successor’ to the Old Coptic scripts, the production of a single standardised alphabetic system must have been the intention from the outset, and thus all other systems are inferior⁸³. Hence, one finds statements such as those of Bagnall, that Old Coptic was “a *coherent* attempt to create a new writing system using Greek characters” (emphasis my own) (2005: 11). Ultimately, scholars who reach such conclusions are not comparing like for like, they are taking a synchronic piece of evidence from a particular temporal frame and stating that it is the beginning/middle/end point of a diachronic process whose rationale, variables, and principal influences have themselves been defined by that scholar, rather than drawn from a comprehensive study of the available sources.

The “synoptic fallacy” relates closely to the two preceding assumptions because any study of the corpus of Old Coptic sources risks producing like for like comparisons between the sources, when almost all of the Old Coptic sources, whether or not from different sites, are dissimilar and thus not directly comparable. Not only did the regionalisation of script communities in Roman Egypt lead to different Old Coptic scripts being utilised at different sites, it also meant that the rationale behind their use differed between sites. That is to say, the conventions governing script use in one site were so different from those at others that Old Coptic could be utilised both to a sparingly minimal extent at one site, and to an innovatively maximal extent at another – demonstrated by the case studies treated below.

The “assumed rationale” behind the utilisation of Old Coptic, i.e. its function, has principally been derived from its form, i.e. an alphabet. As highlighted in the preceding sections, alphabets have numerous advantages, but none of particular consequence for functional reading and writing other than they are often – but not always – orthographically shallow, and quick(er) to

⁸³ Summarised in Love 2016: 62.

learn. Thus, while I quite reject statements to the effect that demotic was ‘hard’⁸⁴, and thereby scribes sought simpler alternatives – not least because the number of Demotic sources from Roman Egypt are larger by a factor in the hundreds than the number of Old Coptic sources, Old Coptic is often orthographically shallower than demotic, and would have been quick(er) to learn. However, the rationale behind Old Coptic cannot be that it could render vowels with less ambiguity than even demotic monoconsonantals⁸⁵, because the question ‘why was Old Coptic used?’ cannot be reverse-engineered from the already reached conclusion ‘because Old Coptic is alphabetic’. Instead, the question must be why, after seven centuries of demotic, and at least two and half millennia of hieratic and hieroglyphic, writing, the scripts of the Egyptian writing system no longer sufficed on their own to render the phonetic and/or semantic values required by readers. The answer, of course, is not that they were suddenly insufficient in doing so. The question, then, must lie with the readers (responders) and writers (producers) of written Egyptian. That is to say, why did individuals already literate in hieroglyphic, hieratic, and demotic need to use Old Coptic? This line of thought has led directly to this study’s treatment of the relationship between the use of “innovative” spellings such as “unetymological writing” in demotic and “innovative” scripts such as Old Coptic.

4.6.3 Bigraphic Coptic – A Hybrid Endo-Exographic Script

The script communities at Narmouthis, one of the four case studies treated in this study (1.2.1.4; 8), produced a unique script among the “innovative” scripts attested in Roman Egypt – “Bigraphic Coptic”. Of the 1,555 fragments of 1,471 Egyptian- and Greek-language ostraca dating to 151-225 CE excavated in a house situated against the eastern wall of the second court of Temple A (of Renenutet and Sobek-Hapy), certain examples were inscribed in a hybrid script derived from the utilisation of both demotic and Greek script. That is to say, unlike Old Coptic, it was not signs taken from the demotic script and graphemes from the

⁸⁴ cf. Mallon 1907: 2; Jensen 1925: 187; Kasser 1962: 13; Youtie 1975a: 203; Lambdin 1983: vii; McBride 1989: 96; Clarysse 1993: 187; Osing 1998: 41; Coulmas 1999: 92; Fewster 2002: 225. Rutherford (2010: 207) states regarding Bigraphic Coptic, “it might have been more straightforward to abandon Demotic entirely”.

⁸⁵ Old Coptic “was generally chosen in order to establish the exact pronunciation of a text that had to be recited aloud” (Satzinger 1975: 46).

Greek alphabet, but *the* demotic script and *the* Greek alphabet, that were brought together, yet kept separate, and combined not to write certain lexemes, but to render a written idiom of Egyptian. “Bigraphic Coptic” is “bigraphic” by nature of utilising two scripts fully, as a “bilingual” can utilise two languages fully.

While some of these bigraphic ostraca contain bilingual texts (8.2.2.4-8.2.2.5), the majority render monolingual texts within a bigraphic linear graphic matrix (8.2.2.1-8.2.2.3). In the latter case, this written idiom of Egyptian comprises Late Demotic grammar⁸⁶ combined with Greek loanwords⁸⁷, making it in many cases indistinguishable from (Standard) Coptic⁸⁸. The domain inhabited by Bigraphic Coptic at Narmouthis was the inward administrative domain, i.e. the administrative texts which circulated within the temple priestly milieu, and thus while the idiom of the texts does not reflect that of high register (literary) (Standard) Coptic, this would not be expected in such a sphere of textual culture. As will be treated below (8.2.2), arguments that there is no evidence for a pre-history of (Standard) Coptic derive from either an unfamiliarity with pre-Coptic sources, or a misunderstanding of how written idioms can differ considerably across domains of writing.

Illustrating this phenomenon, in ODN115⁸⁹ the scribe writes: imy w3ḥ mtw=k ty.t-irī ḥr irm n3y=f iry.w irī ΠΑΡΑΤΙΘΕΙΝ n3y=w {ḏc} ḏcm.w “Come and have that Horus and his companions present (παρατιθεῖν) their bookrolls” (2-6), i.e. S ΔΜΟΥ ΔΥΩ ΝΓΤΡΕΖΩΡ ΜΝΝΕΩΕΡΗΥ ΕΡΠΑΡΑΤΙΘΕΙΝ ΝΕΥΧΩΩΜΕ. The delineation between script-switching and code-switching in the OMM, the difference between monolingual Egyptian texts and texts exhibiting both Egyptian and Greek grammar and syntax, will be treated below (8.2.2).

This is in addition to how the OMM provide, through Bigraphic Coptic, unprecedented and

⁸⁶ As summarised in Quack 2006a.

⁸⁷ For the modest evidence of Greek loanwords in Demotic, cf. Clarysse 1987; Vandorpe and Clarysse 1998: 139, and the forthcoming Doctoral thesis of Robert Kade, and in Coptic, cf. references in 8.2.2.

⁸⁸ To my knowledge, the only published opinion on the OMM comparable to this is Quack, firstly in his reviews of Gallo 1997 and Menchetti 2005 (1999: 195; 2006/2007: 175-176), and also more recently where he argued that the OMM, though often declared bilingual, “are in many cases rather to be analysed as containing Greek loan-words (kept in their original writing system)” (2017: 140).

⁸⁹ OMM72, cf. Menchetti 2005: 56-57.

unparalleled evidence for the emergence of the written idiom of (Standard) Coptic alongside unique evidence for another “innovative” script from Roman Egypt.

4.7 Typologising Scripts and Spellings in Roman Period Egyptian Writing

Following a categorisation, above (2.1), of how writing systems render written language at the graphic level through logographic, syllabic or alphabetic scripts, this chapter has presented how writing systems render written language at the orthographic level through principally morphemic or phonographic orthographies, the spectrum between these two, and how scripts render written language differently when they are endographic as opposed to exographic, or hybrid varieties thereof (4.1). This micro-level modelling of scripts and spellings was then contextualised within a study of the unique combination of endographic, exographic, and hybrid endo-exographic scripts utilised in writing the stages of the Egyptian language in different domains during the Roman Period (4.2). By investigating how the brain both deciphers and reads written language differently depending on the writing system, a comparative understanding was presented of the way in which logographic Egyptian scripts as opposed to alphabetic Old Coptic were deciphered and read (4.3).

The relevance of the orthographic depth continuum for the study of the scripts of the Egyptian writing system, particularly demotic, was then presented, as was how reading is impacted by orthographic depth (4.4). The orthographic depth hypothesis proved illustrative for considering the ease with which logographic Egyptian scripts as opposed to alphabetic Old Coptic could be learned, deciphered and, read. By considering the orthographic methods utilised in writing hieroglyphic, hieratic, and demotic, it was possible to produce a typology of demotic orthography, which demonstrated a trend over time of elucidating phonetic value by reducing orthographic depth – entailing “complementing” or entirely “reinventing” deep orthographies comprising classified ligatures and root-groups (4.5). The orthographic depth of certain orthographic methods, such as classified monoconsonantals as opposed to unclassified homeophones, was then problematised. This was undertaken in the context of the contentious

debate as to whether “unetymological writing” in demotic, and therefore presumably also in hieratic and hieroglyphs, served exclusively to elucidate phonetic values, or to elucidate phonetic as well as provide a secondary visual, and thus alternative semantic, value – or whether these interpretations are even mutually exclusive (4.5.3.3). An understanding of the proliferation of the orthographic methods utilised in logographic Egyptian scripts during the Roman Period also facilitated an informed contextualisation of the innovative scripts utilised for writing the Egyptian language at that time (4.6).

Within these frameworks (4), the micro-level study of the innovative scripts and spellings utilised at Oxyrhynchus (5), Tebtunis (6), Soknopaiou Nesos (7), and Narmouthis (8) can now be undertaken in order to inform upon the zenith and nadir of Egyptian textual culture (1), the dynamics of priesthoods as communities of speech, script, and practice (2), as well as the slowing and ceasing of intergenerational transmission, and domain-by-domain moribundity and obsolescence, of the scripts of the Egyptian writing system (3), during the Roman Period.

5 Innovative Scripts and Spellings at Pemdje/Oxyrhynchus

This chapter treats the script communities and domains of script use at Oxyrhynchus (5.1), as well as the innovative scripts and spellings attested (5.2), in order to inform upon script shift and the intergenerational transmission of literacy during the Roman Period, and their implications for the domain-by-domain obsolescence of the scripts of the Egyptian writing system at Oxyrhynchus.

5.1 Script Communities and Domains at Pemdje/Oxyrhynchus

Whether in hieroglyphs, hieratic or demotic, only a minute proportion of the papyri fragments excavated during Grenfell's and Hunt's seasons at Oxyrhynchus were inscribed in the Egyptian language. Vastly outnumbered by the sheer quantity of Greek-language papyri, the few dozen Egyptian-language fragments found were frequently left out of field reports¹. It was not until Joachim Quack was enlisted to begin work on the Egyptian-language papyri from Oxyrhynchus, that any collation of those fragments, still housed in copies of the Oxford Gazette in which they have been resting for more than a century, was undertaken².

From a summary of this collation, Quack notes that while Egyptian-language texts are “relatively rare”, they are “substantially attested” (2016b: 105). That is to say, that among a relatively small number of fragments – c.40 hieratic (c.33% glossed in Old Coptic), 7 hieroglyphic, and c.90 demotic fragments – a substantial number of different texts are attested (Quack 2016b: 106). With a small proportion from the 1st century CE, but the majority dating to the 2nd, and it being unlikely that many – if any – should be dated to the 3rd, the general distribution of the textual culture produced by the Egyptian script communities at Roman Period Oxyrhynchus accords broadly with that found at the other sites treated in this study. Due to the papyri first having been dumped, and subsequently excavated without record (1.2.1.1), it is not possible to ascribe specific provenances to any of these

¹ From my own study of the fragments: one can be ascribed to the first season, c.20 to the second, c.10 to the third, c.30 to the fourth, c.12 to the fifth, and c.35 to the sixth.

² The corpus of Old Coptic sources was briefly described in Quack 2013a: 50.

sources, nor to identify in which temple priesthood of the numerous cults of traditional Egyptian deities they were produced. Consequently, the context of Egyptian textual culture from Oxyrhynchus is notably different from the comparably provincial sites of Tebtunis, Soknopaiou Nesos, and Narmouthis, where one priesthood is concerned.

However, by considering the textual culture attested and the domain of script and language use exhibited in each, the script communities within the city can at least be generalised to the extent the extant pattern of sources permits.

Regarding the domains of script use – visualised as figure 5.1, it is notable that not all Egyptian-language texts preserved are those stemming from temple textual culture.

In the administrative domain, as well as accounts in Demotic, likely from the 1st century CE, there are a number of contracts – some with Greek translations, the majority of which date to the 1st century BCE or CE, with the latest dating to the 19th year of Hadrian³ (135/136 CE) (Quack 2016b: 107-108). Such texts would have been valid outside of a temple priestly milieu only by nature of their Greek translation⁴. Thus, while the inward administrative domain was bilingual, the outward comprised only Greek. The flexibility of script choice within inward domains is also attested by two letters written in Demotic, although predominantly in hieratic with a few demotic signs⁵ (Quack unpub.b: 185-186). Elsewhere in the administrative domain, Demotic was also used in legal compilations. Demotic inhabited the technical domain of astrological, educational⁶, mathematical, and medical treatises, and the ritual domain of religious poetry, mythology, and (select) invocations (Quack 2016b: 108-109). The technical domain was also a bilingual domain, with divinations attested both in Demotic and Greek, but the majority of astronomical and astrological treatises only in Greek (Jones 1999).

³ I am grateful to Andreas Winkler for his comments on this papyrus, of which he is preparing an edition.

⁴ Consider also evidence for trilingualism in Demotic, Greek, and Latin, through a supposedly quadrilingual “shopping list” dating to 13 BCE (Coles 1981).

⁵ The recto of one of these refers to “The Scribe of the Book of Per-Medja (i.e. Oxyrhynchus)”, confirming that such (ortho)graphically-playful compositions were circulating within/among priestly script communities.

⁶ Elementary education in Demotic is also attested by a fragment of a ‘schoolbook’, consisting of a list of birds utilised in memorising the Late-Egyptian alphabetic sequence.

By comparison, hieratic, as would be expected, only inhabited the domain of temple textual culture, i.e. priestly manuals and monographs⁷, and the ritual domain⁸ (Quack 2016b: 117). A typological distinction within the hieratic corpus is that between those written solely in hieratic, and those with a linear text in hieratic and a selective or comprehensive supralinear transliteration into Old Coptic, which Quack refers to as “Greek interlinear version[s]” (2016b: 109). Hieroglyphs appear to have been reserved for use in the monumental domain, with the preserved fragments featuring figures, suggesting that “they were sketches for temple decoration” (Quack 2016b: 109). Notable, then, is that in some cases there is evidence of iconographically Egyptian drawings being annotated not with hieroglyphs, but in Greek⁹ (Quack 2016b: 110). This suggests that in order to retain an understanding of the semantics of the descriptions, archaic explanations in hieroglyphs were supplanted by contemporary elaborations in Greek¹⁰ – although hieratic examples are also attested. In comparison, a domain in which Egyptian appears to already have obsolesced by the Roman Period is the literary domain – at Oxyrhynchus, “narratives and wisdom texts are no longer attested in the Egyptian language” (Quack 2016b: 105).

At Oxyrhynchus, the Greek language inhabits more domains than at any other site treated in this study – suggestive of soft-shelled communities which placed less significance on prioritising and preserving linguistic and (ortho)graphic norms (2.1.2). In the technical domain, there is a direct translation into Greek of an astrological manual¹¹, as well as an astrological tractate describing Egyptian deities, their Egyptian names, and containing explanations in Greek of

⁷ Three or four manuscripts of the Book of the Temple are attested, alongside one text of religious geography, in which toponyms are listed and defined. Other hieratic fragments include those once constituting hymns, or perhaps lists of deities, and a curious text for inspecting a house for possible infections.

⁸ One offering ritual, one copy of an execration ritual, and one copy of the Ritual for Opening the Mouth with Sokar-Osiris as beneficiary – notable given the pr-hf (Osireion) attested at Oxyrhynchus (1.2.1.1).

⁹ Consider P. Oxy. 31 2552 (TM#63632) (early 2nd century CE), a papyrus with drawings of traditional Egyptian deities accompanied by fragmentary traces of a Greek text that may describe them (2016a: 279; 2016b: 111).

¹⁰ A phenomenon paralleled both before and after, e.g. the Demotic annotations of the vignettes in the 9 BCE hieratic P. Rhind I (TM#57970), cf. Möller 1913: pl.1 passim; Smith 2009a: 303, and II (TM#57971), cf. Möller 1913: pl.12 passim; Smith 2009a: 336, and the Arabic annotations of the illuminations in Coptic biblical manuscripts such as the c.1250 CE Institut Catholique de Paris 1 Folio 65 Verso and 66 Recto, cf. Hyvernat 1888: pl.1 passim, respectively.

¹¹ P. Oxy 65 4471 (TM#63742) and perhaps also P. Oxy 31 2607 (TM#64161) – with my thanks to Luigi Prada for raising these sources.

their meaning¹² (Quack 2016b: 112). A further bookroll comprises an astral allegorisation of a board game¹³, which “to judge from the genuine Egyptian words preserved in it”, is likely a translation into Greek of an Egyptian Vorlage (Quack 2016b: 112; 112 n.29). Written on the verso of legal proceedings dating to 284 CE, there is one copy of the so-called Oracle of the Potter¹⁴, a text which itself confirms that it is a translation into Greek of an Egyptian Vorlage (Quack 2005: 5; 2016a: 280; 2016b: 112; 112 n.30). In the literary domain of Graeco-Egyptian literature, one codex¹⁵ and one bookroll¹⁶ attest the so-called Sesonchosis Romance, which – although “not necessarily” a direct translation from an Egyptian composition – is paralleled by earlier Demotic tales about Prince Sesostri (Quack 2016a: 281; 2016b 113 n.37). Similarly, one bookroll¹⁷ contains a narrative about Amenophis, which is “at least under suspicion” of being a translation of an Egyptian Vorlage given its content and that part-parallels are known from Tebtunis (Quack 2016a: 281; 2016b: 113 n.38-39).

In the administrative domain, one bookroll¹⁸ has been established as “a direct translation of the Demotic legal manual”, whose best-preserved copy – the Hermopolite Law Code – is directly paralleled in a Greek-language fragment (Quack 2016a: 280; 2016b: 112 n.32-33).

In the domain of temple textual culture, the recto of one 2nd century CE fragment was inscribed with a Greek translation of the oath section of the Book of the Temple, while the verso was inscribed with a Greek translation of a collection of temple rules and priestly law¹⁹ (Quack 2016b: 113). In addition, there are hymns praising Isis²⁰, one of which is comparable to a Demotic composition attested in at least three manuscripts²¹ (Quack 2009a: 89-92; 2016a:

¹² P. Oxy. 3 456 (TM#62616) (151-250 CE).

¹³ P. Oxy. 3 470 (TM#63090) (1st century CE).

¹⁴ P. Oxy. 22 2332 Recto (TM#97861) and Verso (TM#64149) (284 CE).

¹⁵ P. Oxy. 15 1826 (TM#64331) (201-350 CE).

¹⁶ P. Oxy. 27 2466 (TM#64093) + P. Oxy. 47 3319 (TM#128918) + P. Oxy. 81 5262 (TM#64093) (3rd century CE).

¹⁷ P. Oxy. 42 3011 (TM#63646) (3rd century CE).

¹⁸ P. Oxy. 46 3285 Verso (TM#63672) (151-200 CE).

¹⁹ P. Washington University inv. 138+P. Oslo 1 2 (TM#63716). The former was excavated by Petrie in 1922 at Oxyrhynchus, and the latter was acquired by Eitrem in Oxyrhynchus, being so misunderstood it was published as *PGM XXXVII* (Quack 2016a: 271).

²⁰ P. Oxy. 11 1380 Recto (TM#63688) (c.98-136 CE).

²¹ Now edited in Quack 2019a. One of the Demotic examples, P. Wien D 6927+6329+10101 Recto, is from Soknopaiou Nesos and being edited by Martin Stadler, cf. the preliminary report in Stadler 2017b. In this

279; 2016b: 111; 111 n.22-23), as well as the so-called Aretalogie of Imouthes²², perhaps preserved in a Demotic Vorlage (Quack 2009a: 143; 2016a: 279; 2016b: 111). These examples evidence that, during the second half of the 2nd century and into the 3rd century CE at Oxyrhynchus, across spheres of Egyptian textual culture except for those of temple and funerary ritual texts²³, significant corpora of texts were being, or had already been, translated into, and transmitted in, Greek.

Figure 5.1 Script domains at Pemdje/Oxyrhynchus during the Roman Period.

Oxyrhynchus	Hieroglyphic	Hieratic	Demotic	Greek	Old Coptic	Bigraphic Coptic
Monumental	✓	☐	☐	☐	☐	☐
Ritual	✓	✓	☐	☐	✓	☐
Temple	☐	✓	✓	✓	☐	☐
Technical	☐	☐	✓	✓	☐	☐
Literary	☐	☐	☐	✓	☐	☐
Administrative (Inward)	☐	✓	✓	✓	☐	☐
Administrative (Outward)	☐	☐	☐	✓	☐	☐

As Quack (2016a: 278) notes, one principal factor for why “Egyptian religion and culture at Oxyrhynchus is still seriously underestimated” is that “up to now almost exclusively Greek papyri from Oxyrhynchus have been published”. The other principal factors, I would argue, are the evident trend in the scholarship to ascribe to ‘Greek/Hellenic’ culture anything written in the Greek language, and that Greek was principally written by ‘Greeks’, i.e. first language Grecophones. Egyptophones must have comprised a significant proportion, if not a considerable majority, of the Greek script community – whether Greek-literate and

composition in six sections, 19 identifications are made between Isis and other deities from other lands, e.g. Demeter and Athena.

²² P. Oxy. 11 1381 Verso (TM#63689) (2nd century CE).

²³ Another considerable sphere of textual production is that of magical texts, but this is a veritable Pandora’s Box that – in the context of this study – must remain closed.

Grecophone first-language Egyptophones working in the administration, or within priesthoods. If the population estimates cited above are at all realistic (1.2.1.1), there must have been tens of thousands of Egyptophones living in Oxyrhynchus. Thus, the Greek-language texts from Oxyrhynchus, by being divorced from their social and cultural context, have often been misinterpreted²⁴. Indeed, it has long been established that Demotic literature was translated into Greek²⁵ (Quack 2009a: 6), catalysing the tradition of Graeco-Egyptian literature²⁶, and Quack suggests that it was perhaps as early as during the 4th or 3rd, but at the latest during the 2nd, century BCE that such translations began to be produced – roughly contemporary with the translation of the Septuagint into Greek, with the Pentateuch completed during the 3rd century BCE (Aitken 2015: 3)

In summarising his survey, Quack concludes that “real translations (as opposed to free adaptations)” of Egyptian texts into Greek are principally attested for religious and judicial texts, i.e. texts in the temple and administrative domains. Such texts were valued not because of their “literary and stylistic merits”, but because of the semantic value of their textual content. Therefore, the very fact that translations exist “could be an indication that within this group, competence in Egyptian writing was no longer taken for granted” (Quack 2016a: 281). Subsequently, Quack constructs a typology of what in this study are termed domains, to illustrate how the utilisation of translation into Greek accords, or does not accord, with these treatises (2016b: 119-120).

In the ritual domain of temple and funerary ritual texts, Egyptian “retains its full rank as the one and only medium appropriate for the texts” (Quack 2016b: 113-114). Indeed, supralinear

²⁴ For example, where attestations of traditional Egyptian deities or religious content are attested in the Greek language, Whitehorne (1995: 3071) suggested that these ‘derived mainly from an antiquarian interest of Greeks in Egyptian religion’.

²⁵ Unlike translation from Greek into Demotic, which is still fiercely debated, this is directly comparable to translation from Demotic into Aramaic, cf. Love *fc.* a: §2.1.

²⁶ An early example is the Dream of Nectanebo on P. Leiden I 396 (TM#65612) (200-151 BCE), from Ptolemaios’ family archive found at the Serapeum at Saqqara, which describes itself as a translation from Egyptian – also attested in a Demotic copy from the Tebtunis temple library. For such Graeco-Egyptian literature, cf. Dieleman and Moyer 2010.

transliterations into Old Coptic evidence that translation was not permissible (Quack 2016b: 118; 118 n.52). The important distinction, sometimes manifest in bilingual magical texts in which the ritual instructions are in Greek and the invocations are in Egyptian²⁷, is that ritual practices in the Egyptian tradition have two components: the first being ritual instructions for which “semantic clarity is imperative”; the second being the ritual invocations, which are efficacious through their recitation (Quack 2016b: 118-119). In the technical domain, translation is a viable option, with astronomical tables and horoscopes common in Greek, whereas theoretical manuals on astronomy and astrology are as common in Demotic as Greek²⁸ (Quack 2016b: 115-116). Notable, however, is that unlike at Tebtunis and Soknopaiou Nesos, the Book of the Temple is only attested in hieratic versions – with one Old Coptic gloss attested (5.2.1.3). Quack therefore suggested that the absence of a Demotic version could be because its purpose would “equally be fulfilled by a Greek version” (Quack 2016b: 116). That is, translation into Demotic was simply bypassed in favour of Greek. Although the fragments of the Book of the Temple that are in Greek preserve only the oath section – itself suggesting notable implications regarding the Grecophone nature of priesthoods in Roman Period Oxyrhynchus – it is nevertheless possible that other sections of the Book of the Temple were also translated into Greek.

On balance, therefore, Quack proposes a binary model of the transmission of Egyptian textual culture at Oxyrhynchus: either Demotic and Greek, or Classical Egyptian (in hieratic) and Greek – “but not all three” (2016b: 116). With wisdom texts only sparsely attested, and literary texts entirely absent, Quack (2016b: 114-115) considers that the literary domain is one in which Egyptian Vorlagen could be entirely dispensed with after they had been translated – whether directly or freely – into Greek. Nonetheless, Greek epics, lyrics, dramas, and romances outnumber those with Egyptian Vorlagen²⁹, and thus “literary taste at Oxyrhynchus was quite

²⁷ cf. Love 2016: 1.1.1; *cf. d.*

²⁸ However much this follows logically, given the scholarly precedent it should be stressed that “it is not plausible” that this reflects “Greeks practicing and Egyptians contemplating the theory” (Quack 2016b: 116).

²⁹ As would be expected from education in Greek that centred on Greek – rather than Graeco-Egyptian – literature.

different from that of Tebtunis” (Quack 2016b: 115). Quack stresses that the provenance of the Egyptian-language sources from Oxyrhynchus as that of rubbish heaps is not sufficient to explain this disparity³⁰. Indeed, such a suggestion, which Quack rightly challenges, seems to want to separate the Greek-language from the Egyptian-language sources. This is although the very fact that the highest register of Egyptian textual culture, i.e. temple ritual texts, were found in those same rubbish heaps actually implies the circulation of a large amount of ‘Greek’ material within temple priestly milieux.

Figure 5.1 illustrates that the distribution among domains of language and script use for different spheres of Egyptian textual culture at Roman Period Oxyrhynchus is the most distinct from the other sites treated in this study. This is principally through the most pronounced evidence of ‘Hellenization’ – the increasing utilisation of Greek in the administrative, technical, and literary domains, and thus translation of spheres of Egyptian textual culture into Greek, resulting in the apparent obsolescence of Demotic in these domains during the 2nd century CE. In the temple ritual domain, the innovative script of Old Coptic was utilised widely during the 2nd century CE to gloss hieratic, attesting the *supplementation* and eventual *substitution* of an orthographically deep script with a shallow one. Old Coptic is otherwise only attested in the limited glossing of one temple text (5.2.1.3). This glossing suggests that the 2nd century CE also saw changes to the viability of intergenerational transmission of literacy in hieratic that can be traced as potential consequences of the tip towards obsolescence. It is a treatment of these sources which comprises the remainder of this chapter.

5.2 Innovative Scripts at Pemdje/Oxyrhynchus

The sources treated in this section attest the most diverse utilisation of supralinear glossing in Old Coptic, punctuation, and – ultimately – linear transliteration, of any hieratic texts

³⁰ After all, “the complete absence of demotic narratives coupled with the definite presence of Egyptian priestly texts at Oxyrhynchus remains significant” (Quack 2016b: 114 n.42).

attested: manuscripts whose layout suggests that selective supralinear glosses in Old Coptic were added subsequently to the initial inscription of the linear hieratic text both without (5.2.1.1), and with (5.2.1.2), punctuation to the linear text, or instead with punctuation to the supralinear text (5.2.1.3); manuscripts whose layout suggests that comprehensive supralinear glosses in Old Coptic were inscribed contemporaneously with the initial inscription of the linear hieratic text, without both linear and supralinear (5.2.1.4), and also without linear but with supralinear (5.2.1.5), punctuation. These examples cannot be assumed to attest a teleological narrative of development because they cannot be accurately dated. However, they do suggest that different methodologies were developed for the augmentation and production of texts in order to fulfil particular scribal requirements. These methodologies can be compared to those rationales behind the linear transliterations into Old Coptic of Vorlagen in hieratic or demotic, which depart almost entirely from millennia of scribal conventions (5.2.2).

Before this corpus can be treated, a number of caveats must be highlighted. As noted above (5.1), the Egyptian-language corpus from Oxyrhynchus dates almost exclusively to the 1st and 2nd centuries CE, and thus there is no way to compare textual production in the Roman to Ptolemaic Period. However, a consideration that stems from positive, rather than negative, evidence, is that of Jones (2007: 308): Grenfell's and Hunt's finds of Greek-language sources represent all conceivable spheres of textual production in the Roman Period, i.e. "the site held every kind of discardable written text". This at least suggests, therefore, that the sparse fragments of Egyptian-language sources may also represent a cross-section of those Egyptian-language texts that were still being produced during the Roman Period³¹. Nonetheless, the accident of survival means that – despite its apparent diversity – it is impossible to discern exactly how representative the extant corpus of fragments is. Aside from its internal (in)coherence, there also remains the issue that the fragmentary hieratic ritual texts from

³¹ If earlier (Ptolemaic) manuscripts were still in circulation, they too would have been 'dumped' during the 1st and/or 2nd centuries CE.

explained by the fact that 𐩧 is a polyvalent biconsonantal sign³⁵. Notably, however, the group 𐩧𐩛 appears again in line four of the third fragment, but there it is followed by a single black point as a diacritic which apparently parses the obsolete preposition “behind”³⁶ and its suffix pronoun object from what follows³⁷.

The second gloss appears in line two of the fourth fragment, which reads ...] 𐩧𐩛.w -pn rn=s “onion is its name”, where 𐩧𐩛 𐩧𐩛.w “onion” is glossed 𐩶𐩏𐩥 [.]. As a contemporary lexeme attested in Demotic as 𐩧𐩏𐩥 and in Coptic as Ⲥ Ⲓⲧⲧ, the rationale behind this gloss is ambiguous³⁸.

The third gloss appears in line three of the second fragment, where the obsolete lexeme for a w3d-amulet, or perhaps the equally obsolete “green eye-paint” or “malachite”, 𐩶𐩏𐩥 w3d is glossed 𐩶𐩏𐩥³⁹. The hieratic orthography itself is notable, given that certain lexemes with the root w3d could be written with just the ideogram 𐩶, the classified ideogram, e.g. 𐩶𐩏, or the ligatured phonetic complement 𐩶𐩏. Thus, the hieratic spelling is itself less deep, aiding the identification of the contemporary pronunciation, where final /t/ is rendered 𐩶, while the Old Coptic gloss indicates not only the stem vowel, but also – as the phonetic complement 𐩶 – that polyvalent⁴⁰ 𐩶 is to be read w3d (/w3t/).

Example B is a single fragment preserving the last ten lines of a column. The hieratic ritual text appears to be protective in nature, but with respect to the destruction of enemies⁴¹. In line four, 𐩶𐩏𐩥𐩶𐩏𐩥 šnj=f “his hair” is glossed 𐩶𐩏𐩥𐩶. This lexeme is not only obsolete in Demotic⁴² –

³⁵ Kurth books 10 significantly different phonetic values (KZL 11.45), compare with the four for 𐩧 (KZL 2.99).

³⁶ Occurring with an augment in Demotic as r-𐩧, and a derivative thereof in Coptic only as ⲢⲬⲙⲉⲛⲒⲏ “after”.

³⁷ This is distinguished from punctuation because it is not utilised within the linear hieratic text itself, nor in a comprehensive supralinear gloss – both of which are attested and treated below.

³⁸ The biconsonantal sign 𐩧 is not polyvalent (KZL 17.2).

³⁹ This orthography could also render “green stone” or “tubular bead” (Wb w: 264-268).

⁴⁰ Kurth books six significantly different phonetic values (KZL 11.41)

⁴¹ Consider 𐩧r m-𐩥=f “falling with him” (x+6), ‘𐩧r’ 𐩧r 𐩧r=f “falling upon his face” (x+10), and 𐩧hi (x+8), a designation for Syria since the New Kingdom (Quack, personal communication).

⁴² Although attested in EDG and the CDD, these attestations are exclusively from the Myth of the Sun’s Eye and afterlife texts, and given the register and domain of these texts, without further parallels in Demotic or Coptic,

replaced by $\text{f}^{\text{c}}(\text{e})$ ($\text{>CQW}(\text{E})$), it exhibits an archaic possessive suffix pronoun⁴³. In line nine another word is glossed, but both the linear and supralinear text are damaged – perhaps $\text{G} \cdot \text{N} \cdot$ glosses a noun, described as being $\text{nty} \text{ h.t}$ “of wood”.

Although this example, as the preceding, features other obsolete lexemes which are not glossed⁴⁴, the glossing of certain obsolete lexemes – especially those with deep orthographies utilising polyvalent graphemes – and their archaic constructions is nonetheless notable.

The selective glossing exhibited in both examples suggests the rationale of elucidating phonetic value by reducing the depth of the orthographies of obsolete lexemes, archaic constructions, and/or orthographies with polyvalent graphemes.

5.2.1.2 Subsequent Selective Supralinear Glossing with Linear Punctuation

The example in this section is similar to those in the preceding section in its attestation of selective supralinear glossing subsequent to the inscription of the linear text, but distinct in its attestation of comprehensive punctuation of the linear text. Example Γ is a single fragment of two columns of hieratic. Preserving the end of four lines of text from one column, and the beginning of four lines of text from another, the fragment is not substantial. However, what it attests of the scribal practices of glossing, utilising diacritics, and punctuation, comprises its own typology.

The first extant line of the second column reads $\text{jm.j-wt} \times \text{jnpw} \cdot \text{m pr} \times [\dots]$ “Imiut-Anubis, in the house-of- $[\dots]$ ”. The red diacritic $\times$ is familiar from, and utilised in the same way as at, Tebtunis (6.2.2), where it joins together words or parts of words in a line break or indicates a direct genitive, attributive, or compound. The red point between jnpw and m pr , however,

these are most parsimoniously understood as transcriptions into demotic of an obsolete lexeme, utilised otherwise only in the lexicon of First Phase Old/Middle/Classical Egyptian.

⁴³ While šnj is already obsolete by Coptic, it is nonetheless notable that “hair” as an inalienable trait is perhaps only attested in $\text{f}^{\text{c}}\text{QOYW}=\text{}$, and thus would not normally be possessed with a suffix pronoun in (Standard) Coptic.

⁴⁴ Notably h^{r} “to fall” and the rare $\text{s}^{\text{h}}\text{w.t}$ “product of the Wadi Natrun”.

serves to parse the former group from the latter. The second line continues with the name of the god Horus in a nominal sentence whose second element is hard to discern: ḥr · pn(?) · -pw · ndrjw -sw [..., but in which each semantic unit is parsed with punctuation (red points), i.e. the name of Horus from the second element, the enclitic particle -pw from what precedes and follows, and the verb “to hold fast” with its dependent pronoun object. Similarly, the third line reads: -sw · šm=f · m-ḥnw pr×nrjw · [... “him/it (m.). He went into the House of Fear(?)”, in which each semantic unit is parsed with punctuation, i.e. the demonstrative pronoun, the suffix conjugated verb, and the compound preposition connected with the object – itself a compound marked with the diacritic × and terminating in a red point. Traces of the fourth line begin  dhñ [=f -sw/-sj/-st] glossed 'T'6NЄQC from either dhñ “He hid himself” or tñ “He cast him/her/it (m./f./n.) down”. This verb is obsolete in Demotic in either meaning, while the synthetic suffix conjugated verbal form with its dependent pronoun object obsolesces in Demotic in favour of the analytic iri=f sdm. Notable is that this entire semantic unit is glossed as one, explaining also why the red point in the preceding line framed šm=f and not the morphemes šm and =f separately. Thus, although not the only obsolete lexeme in this fragment, glossing the sdm=f -sw construction could suggest that a contemporary scribe was not as familiar with the parsing of such a verbal construction. However, given that šm=f was not glossed, a more robust line of argumentation would be that this construction was glossed because dhñ/tñ was obsolete.

In summary, although the glossing was limited, the parsing of the linear text with red points, serving as both morpheme and lexeme markers, served as a reading aid through which the orthographic depth of hieratic in *scriptio continua* was reduced.

5.2.1.3 Subsequent/Contemporary Selective Supralinear Glossing with Supralinear Punctuation

Example Δ is a sliver of a single fragment, perhaps of a ritual text, preserving the middle of seven lines of hieratic which are selectively glossed with Old Coptic in three instances – one of

which is parsed by the morpheme marker ⲙ – and once with a demotic vocalic gloss.

Unknowable, but nonetheless important to raise, is whether the mixing of phonetic glossing in the exographic script of Old Coptic alongside the endographic script of demotic would have been conceptualised differently – not least given that monoconsonantal glossing in demotic is as functional as alphabetic glossing in Old Coptic.

The first gloss, in line two, is legible, while the linear text it glossed is lost. However, what can be discerned from the morpheme marker is that ...] . ⲙⲚ perhaps glossed the third person plural suffix pronoun =sn. In line three, a vocalic gloss rendered with demotic <y> is attested above the traces of the contemporary lexeme jp.t  “oipe-measure”, likely to indicate the stressed vowel⁴⁵. In the almost illegible line five, there are traces of the gloss ⲡ[... . In the almost entirely lost seventh line, the gloss Ⲛⲓⲕ is extant, as are the traces of <ḥ>, which is likely the first sign in the spelling of ḥk3 “ritual power”. Although little more can be said of this fragment, it is an example of a different typology of scribal practice; where a spacious linear and supralinear layout facilitates the addition of selected supralinear glosses, whether of only vowels or entire words, and the utilisation of punctuation to parse at least one Old Coptic gloss.

Example ⅸ is also a sliver of a fragment, preserving the middle of nine lines of hieratic text on the recto, and seven lines on the verso, and comes from a manuscript of the Book of the Temple (1.2.3.2). An outlier among the corpus exhibiting Old Coptic script⁴⁶, this fragment may preserve the upper margin of that column, where OΥCⲓⲡⲓ appears. Perhaps instead of preserving only one selective gloss, “Osiris” is instead part of the text’s ‘title’. This would at least be consistent with the contents of the fragment, which concerns the Osirian area of the temple enclosure (Quack, personal communication). Notably, this fragment provides the sole

⁴⁵ Notable, then, is the Demotic orthography iyp rather than simple ip – Ⲛ ⲟ(ⅸ)ⲓⲡⅸ.

⁴⁶ This example does not accord with the typology of glossing in this section, but is less different from the others.

evidence for the utilisation of Old Coptic in the domain of temple textual culture at Oxyrhynchus, a domain which dominates the attestations of Old Coptic at Tebtunis (6.2.2).

Although not exhibiting the supralinear punctuation of the preceding example, Example € is included in this section alongside Example Δ in order to consider whether the spacious layout of the linear and supralinear text in both examples informs upon the nature of the composition. Although not provided with comprehensive supralinear glosses as the subsequent examples (5.2.1.4-5.2.1.5), the spacious linear and supralinear layout of certain examples below suggests that the texts could have been redacted onto those manuscripts in order to provide supralinear space for subsequent glossing (5.2.1.5). In those instances, glossing was comprehensive, in these instances, glossing was selective.

5.2.1.4 Subsequent Comprehensive Supralinear Glossing without Punctuation

In comparison to the preceding examples of selective supralinear glossing, the examples in this section attest comprehensive supralinear glossing which provided a supplement to the entire linear text. The compact layout between register lines suggests that comprehensive supralinear glosses were redacted onto the manuscript subsequently to the linear text, rather than being conceived as part of the initial composition. The combination of the apparent development from selective to comprehensive glossing and the fact that supralinear glosses were added in order to aid the reading of the linear text below – Old Coptic being orthographically shallow compared to hieratic, likely explains why such bigraphic manuscripts break from the earlier Egyptian scribal tradition of side-by-side bigraphic compositions⁴⁷.

Example Z is a confetti-sized fragment preserving the middle of one line of hieratic text.

The linear text ...]n.w n3[... is glossed ...]MNNM[...], suggesting that the entire linear text may

⁴⁷ Consider the aforementioned P. Rhind I and II, where a complete hieratic and Demotic version are found side-by-side. The Demotic version was included not because of an incomplete knowledge of hieratic, but because a Demotic version was sought but lacked authority and prestige without its hieratic Vorlage (Cole 2015: 190). In later scribal practice, however, hieratic Vorlagen are dispensed with in favour of Demotic translations or transcriptions as a result of Demotic acquiring sufficient authority and prestige, cf. Cole 2015: 216-217; 222-223.

have been glossed comprehensively. The compact layout of the linear text between register lines, unlike the spacious linear and supralinear text of the preceding (5.2.1.3) and subsequent (5.2.1.5) examples, suggests that these supralinear glosses were not conceived of when the linear text was redacted onto the manuscript, but added subsequently. Example H is directly comparable, constituting two confetti-sized fragments preserving the middle of three lines of hieratic text, whose traces suggest comprehensive glossing and whose compact layout between register lines suggests that the supralinear glosses were added subsequently. The leftmost fragment of the two appears to exhibit . NOYṬ[... glossing ¶.

Directly comparable to the preceding fragments, but slightly more substantial, is Example Θ. Discovered by Paul Erich Kahle some 65 years ago among the Oxyrhynchus Papyri Collection, this fragment is now only known through a copy of a bromide print which I found among Kahle's manuscripts in the Griffith Institute Archive⁴⁸. The recto of this fragment preserves the middle of nine lines of hieratic text, exhibiting comprehensive glossing and a compact layout between register lines, suggesting that the supralinear glosses were added subsequently. The verso of this fragment preserves traces of an undiscernible text in Greek.

By nature of the fact that the endographic scripts for writing Egyptian are written right-to-left, but Old Coptic – a hybrid script derived in part from exographic Greek – is written left-to-right, the comprehensive supralinear glossing of the former in the latter poses practical problems. The approach adopted by the glossing scribe appears to have been the grouping of certain morphemes and lexemes into syntactical units, which were then glossed as a whole. These units were delineated from one another in the supralinear gloss through the use of *spatia*. Thus, not only is Old Coptic orthographically shallow compared to hieratic, utilising *spatia* when writing in Old Coptic reduces orthographic depth further, comparable to utilising morpheme markers as punctuation (5.2.1.2-5.2.1.3).

⁴⁸ From Kahle's papers (2/3), it is clear that he was preparing an edition of this text, before his regrettably early death.

Of what can be discerned, examples of this layout are: OYŲK̲M̲9NOY[€I€T]Q glossing  wnn=k m-hnw jr.t=f “May you be in his eye” (x+3) – where the gloss is preceded and followed by *spatia*; ...]ζλOPTNIB apparently glossing  hn^c jpd ʿ-nb.t] “together with all fowl” (x+5) – where the gloss is followed by a *spatium*.

The combination of comprehensive glossing exhibited in these fragments and the absence of punctuation in the linear and supralinear texts suggests that punctuation was seen as superfluous when glossing was utilised. The combination of orthographically shallow Old Coptic and punctuation with *spatia* was sufficient to aid reading. Within such a framework, an individual illiterate in hieratic, but knowing Old Coptic⁴⁹ and with an understanding of the pronunciation and intonation of Middle/Classical Egyptian, could recite the ritual text extant in these three manuscripts.

5.2.1.5 Contemporary Comprehensive Supralinear Glossing with Supralinear Punctuation

In comparison to the preceding examples of contemporary supralinear glossing, the examples in this section suggest a typology of scribal practice whereby a spacious linear and supralinear layout was utilised in order that a supralinear gloss to the entire linear text could be inscribed contemporaneously with the inscription of the linear text. That is to say, these manuscripts were conceived, rather than subsequently redacted, as bigraphic manuscripts, where the supralinear glosses provided a supplement to the entire linear text. Distinct from the typology of the preceding section, however, is that these comprehensive supralinear glosses were also parsed with punctuation.

Example I comprises three fragments, all of which have been badly worn and eaten, from the middle of columns of a ritual text in hieratic. In addition to the spacious layout of the linear and supralinear text comparable to certain examples above (5.2.1.3), the linear text exhibits

⁴⁹ And presumably having already learned Demotic and Greek.

the rubrified title *dd-mdw* and annotation *jr*, while red points punctuate the end of each clause of linear text and black points – as morpheme markers – parse the comprehensive glossing of the supralinear text. As far as can be discerned from the traces, the text comprises at least in part a ritual for protection, with body parts invoked – possessed by a masculine pronoun, through which the protection of the body – most likely of Pharaoh – is to be achieved.

The first fragment preserves traces of the middle of seven lines of linear hieratic and six of supralinear Old Coptic. Following the rubrified title in the third line of *dd-mdw* “words to be spoken”, which itself follows a red point terminating the previous clause, traces of four lines of linear hieratic comprehensively glossed with supralinear Old Coptic are extant.

Discernible among these traces is line four: ...] *m rḥ n=f* glossed ...] · *M · P6* [·] *N*[..., where each morpheme is parsed with supralinear punctuation in the Old Coptic glosses. The second fragment preserves a sliver of the upper margin of the manuscript, with traces of the middle of 11 lines of linear hieratic and 11 of supralinear Old Coptic – from which, unfortunately, no clauses are easily reconstructed.

The third fragment preserves the middle of 11 lines of linear hieratic and 10 of supralinear Old Coptic. The rubrified title *dd-mdw* and annotations *jr* are featured, while red points terminate clauses in the linear text, and *spatia* and black points – as morpheme markers – parse the supralinear text. Line four gives an example of this method of glossing, where the linear text *sš.n=i jmi.tw nn ·* “I have passed by between those who are in these” is glossed ...] · *ⲉ · ʾNⲉIʾ · MⲉT·Nʾⲉʾ*[... . A further notable example is line five, where the linear text [*dd-*]ʾ*mdwʾ n wḥb ks ḥr=f*[... “Words spoken by the *wḥb* Priest, being bent above him” is glossed ...] *C-2P·Q*. Notable here is the black point which appears between the glossing of the preposition *ḥr* “upon” and its suffix object pronoun *=f* “him”. Unlike the suffix conjugated verbs treated above (5.2.1.2), here the noun and its possessing pronoun were parsed graphically.

Thus, in Example 1, not only has the combination of orthographically shallow Old Coptic punctuated with *spatia* reduced orthographic depth, linear punctuation to the hieratic text and

supralinear punctuation to the Old Coptic transliteration comprises the largest complement of scribal methodologies attested for reducing orthographic depth to aid reading.

Example K is a fragment from the middle of a column, preserving four lines of linear hieratic and three lines of supralinear Old Coptic, which Quack ascribes to the preceding manuscript (personal communication). Although the linear text of this small fragment does not preserve evidence of punctuation with red points, the supralinear text is parsed with black points as morpheme markers. One example is line three, where the group $\overline{\text{r}}^{\text{n}}$ “mouth/spell of”, a standard construction in ritual formulae, is glossed $\cdot\text{PN}\cdot$.

Example λ is a fragment which, although only preserving traces of the middle of two linear hieratic and four supralinear Old Coptic graphemes, also exhibits a spacious layout with (potentially) comprehensive glossing, where a black point was utilised between two lexemes/morphemes in the supralinear gloss $\dots]\text{ḏ}\in\text{N}\cdot\text{K}[\dots$ to a lost line.

Example M is another sliver of a fragment, preserving the upper margin and top register line from the middle of one column of hieratic. Four lines of linear hieratic and five lines of supralinear Old Coptic are extant in a spacious layout, with the first rubrified line serving as a title or ritual introduction to the rest. Although little can be read of these traces, directly comparable to line three of Example K is the group $\overline{\text{r}}^{\text{n}}$ “mouth/spell of” in line two, which is again glossed PN . Furthermore, these lines are evidently glossed comprehensively, with line two attesting the use of black points as morpheme markers, and three attesting the use of *spatia* to parse clauses, in the supralinear text.

In summary, given that 40 hieratic manuscripts have been identified by Quack, the four examples from this section attest a not uncommon scribal practice: the spacious linear and supralinear layout of the manuscripts suggests that the inscription of the text was conceived from the outset to incorporate both the linear hieratic and comprehensive supralinear Old

Coptic versions. This is in contrast to the preceding examples exhibiting a compact layout which suggests, by comparison, that the supralinear text was redacted subsequently to the inscription of the linear text. In addition, the clauses of the supralinear text are terminated with *spatia*, comparable to the use of red points to terminate the linear text in certain preceding examples (5.2.1.2), while the supralinear text is also parsed with black points, serving as morpheme markers. As with the examples in the preceding section (5.2.1.4), within such a framework, an individual illiterate in hieratic, but knowing Old Coptic and with an understanding of the pronunciation and intonation of Middle/Classical Egyptian, could recite the ritual text extant in these four manuscripts. Thus, the combination of orthographically shallow Old Coptic punctuated with *spatia* and complemented by linear punctuation to the hieratic text and supralinear punctuation to the Old Coptic transliteration, made functional literacy in hieratic unnecessary, and thus the orthographic depth of hieratic irrelevant, for a practitioner scribe wishing simply to recite the ritual.

5.2.2 Monographic Linear Transliteration

One step removed from the inscription of a comprehensive supralinear gloss in Old Coptic contemporaneously with the inscription of a linear text in hieratic is the phenomenon of a linear text in Old Coptic which was either a copy of another comprehensive supralinear gloss, or a novel transliteration of a linear text in hieratic⁵⁰. The break in script conventions this demonstrates is unparalleled outside of Oxyrhynchus, while the break in language conventions is notable also because, as with the examples in the preceding two sections (5.2.1.4-5.2.1.5), an individual would no longer have to be literate in hieratic in order to read and recite the Middle/Classical Egyptian in which such ritual texts were written.

⁵⁰ As introduced above (4.2.2), and treated below (7.2), a demotic-hieratic graphic matrix or transcription of a hieratic Vorlage into demotic would also have been a viable Vorlage. However, given the corpus of sources attested at Oxyrhynchus, a hieratic Vorlage is most likely.

5.2.2.1 P. BM EA 10808 (151-225 CE)

P. BM EA 10808 is an Egyptian-language papyrus bookroll of magical texts preserving traces of a first column inscribed with 20 lines in Demotic, Greek script, and Old Coptic, and all of a second column inscribed with 53 lines in Old Coptic, complemented by certain group-writings in Demotic. The first column, whose traces are partly extant on the righthand edge of P. BM EA 10808 (Dieleman 2004), was augmented by the discovery of a connecting fragment of the upper third of the column among the Oxyrhynchus Papyri by Quack (2010a: 83 n.48; 2017: 64). The papyrus was excavated at Oxyrhynchus during Grenfell's and Hunt's third season⁵¹ (1904) and subsequently identified by Lobel in Parcel 21.3B/29F among the Oxyrhynchus papyri (Crum 1942: 20), before being moved to the British Museum in 1968 (Osing 1976: 1).

Crum, on the advice of Bell, dated the hand to around 150 CE, or “somewhat before” (1942: 20), and Osing broadly to the 2nd century CE (1976: 1). However, Quack (2017: 64), with reference to the palaeography of the Demotic of column x+1, argues for a late 2nd or early 3rd century CE dating. A comparison of the Demotic hand with that of an unpublished bilingual loan contract from Oxyrhynchus dated to 135/136 CE reveals notable similarities⁵². Thus, given that our understanding of Demotic palaeography at Oxyrhynchus is in its infancy, and no other dated comparanda are known to me, dating P. BM EA 10808 within two, rather than three or more, generations of this loan contract seems the most cautious approach. The palaeographies of Greek hands from Oxyrhynchus which exhibit the highest proportion of similarities to the Old Coptic hand's diagnostic morphologies⁵³ are P. Oxy. 66 4501; 4502; 54 3725; 56 3829 Verso; 65 4460⁵⁴. The first three are dated to the late 1st or

⁵¹ Dekker (2013: 64) erroneously stated that the manuscript “supposedly originates from an Egyptian temple library” – there is no evidence, internal or otherwise, for this.

⁵² I am grateful to Andreas Winkler for information on this papyrus, of which he is preparing an edition.

⁵³ Δ, Β, Θ, Η, Κ, Μ, Ν, Π, and Υ.

⁵⁴ Images of thousands of Oxyrhynchus papyri can be accessed online, cf.

<http://www.papyrology.ox.ac.uk/POxy/>. Comparisons were made with those exhibiting both literary and semi-literary hands. TM books 498 “P. Oxy.” manuscripts from the 1st, 1197 from 2nd, and 1370 from 3rd century CE.

early 2nd century CE – with the 2nd century favourable⁵⁵, the fourth to the second half of the 2nd century, and the fifth to the late 2nd or early 3rd century. Ultimately, dating the hand of this unique hybrid script has its problems, not least because some of its comparable Greek hands have been categorised as ‘inept’, i.e. the palaeographical assessments of comparanda are riddled with value statements. Thus, despite the vast quantity of sources for Greek hands from Oxyrhynchus, and the early 2nd century CE dating of some of these comparable Greek hands, the Demotic hand is a considerably more diagnostic palaeographical approach, and therefore a dating in the second half of the 2nd century seems justified as a point of departure.

Crum first published a transcription of the entire manuscript, and readings of words rendered in Old Coptic (1942). Despite being aided by Battiscombe Gunn, Paul Smither, and Sir Herbert Thompson, only a few words were discerned. Volten followed, adding translations of selected passages (1953). Osing was the first to undertake a comprehensive philological and linguistic study, including a translation of the entire Old Coptic text (1976). Asserting that the ‘language stage is by and large that of the temple texts of the Graeco-Roman Period’⁵⁶, i.e. Classical Egyptian derived from First Phase Middle Egyptian, with a few Late Egyptian and Demotic influences⁵⁷ (1976: 129; 1978: *32/78), Osing undertook a phonological, lexical, syntactical, and grammatical analysis⁵⁸, taking the reading of the text of the second column to

⁵⁵ P. Oxy. 66 4501; 4502; 54 3725 Verso are copies of epigrams by Nicarchus, a poet who lived in the second half of the 1st century CE. Thus, it would be unlikely to find copies of his epigrams at Oxyrhynchus contemporaneously with – let alone before – that time.

⁵⁶ And yet, as highlighted by Quack, such a text does not come under the purview of ‘Ptolemaicists’ for (ortho)graphic reasons (2010a: 83).

⁵⁷ Vergote (1977: 135) supported this analysis by Osing, but rejected that the text be ascribed to those known as Old Coptic as a result.

⁵⁸ cf. 1976: 3-44. For a classification of morphology, consonants, and vowels, cf. 1978: 32*/78-36*/82. This approach was criticised by Shisha-Halevy, however, as “a mixed, pan-Egyptian system in which anything goes”, and consequently “too convenient” (1980: 182) – a criticism developed with examples, cf. 1980: 184-186. The crucial point highlighted by the approach possible by Egyptologists, who are trained in Middle, then Old and Late Egyptian, Graeco-Roman Hieroglyphs, Demotic, and perhaps also Coptic, is whether it is meaningful – and whether it is methodologically cogent – to “freely pick and choose from the total diachronic inventory (and even posit such items are wrong in any given stage)” (1980: 182). Consequently, the text “postulated by Osing” is termed by Shisha-Halevy as being “often fantastic” (1980: 182), and the transcription as “on the whole unsubstantiated as a piece of Egyptian evidence” (1980: 183). Loprieno referred to the text as “a Late Middle Egyptian text” in “its grammatical structure”, but one which “display[s] contemporary phonological outcomes” (1995: 26).

a functional point⁵⁹, which has only recently been augmented⁶⁰. Sederholm's subsequent monograph attempted a republication of the Old Coptic text (2006), which was received critically (Quack 2009a: 30; Osing 2016: 520), predominantly because that study neither demonstrated progress from Osing's readings nor presented a philological edition⁶¹.

As a contribution to a project republishing all handbooks of magical texts from Roman Egypt, I have attempted a re-edition of this manuscript⁶². However, it must be stressed that the complexity of the transliteration, and absence of classifiers, *spatia*, and punctuation makes parsing at best ambiguous, and at worst impracticable.

Column x+1 preserves two ritual practices, with *spatia* following each⁶³. The first (x+1/1-11), titled ky "another", is written in two lines of Demotic, followed by five lines of *voces magicae* in Greek script, and a further five lines in Demotic. The diagnostic invocation for task reads: "Come to me, O Angel who is upon the barque of the Sun-god; Have that he completes my NN deed" (x+1/7-8). Thus, this first practice is comparable to those for acquiring a *πάρεδρος*, an assistant in ritual practices. The second (x+1/12-20+) invokes a "person of the necropolis"⁶⁴ (*rmṯ hr.t-nṯr*), i.e. "ghost", in two fragmentary lines of Demotic, followed by three lines of *voces magicae* in Greek script (consisting of the Maskelli-Maskellō formula),

⁵⁹ cf. 1976; 2016: 517-520. Consider Shisha-Halevy's praise of Osing's "painstaking detail with an admirable, often awe-inspiring ingenuity", as an "inferential *tour de force*" (1980: 181).

⁶⁰ cf. Quack 2004b: 428-429; 428 n.10; 2009c.

⁶¹ cf. Quack 2009c: 30 – echoed by Osing (2016: 520) and partly by Moje (2009: 2-3), but not by Satzinger (2012: 330) or Dekker (2013: 61). Curious also is Sederholm's utilisation of the hapax "Proto-Coptic" to refer to this text (2006: xi) – without explanation, yet reiterated by Dekker (2013: 61).

⁶² cf. Love *fc. e.* I am consoled by the conclusion of Shisha-Halevy to Osing's edition: "I frankly confess my own inability to propose an alternative" (1980: 186), and Quack's assessment that it is "ein Text, der zweifellos zu den schwierigsten der Ägyptologie überhaupt gehört" (2009c: 28).

⁶³ Quack (2016b: 118-119; 2017: 64) has suggested that the Demotic is in fact the ritual instructions preceding the invocations of column x+2. However, I would argue: (i) the two discernible sections in Demotic are introduced with ky "another", implying they provide alternatives to preceding practices (although there are exceptions to this); (ii) in addition to there being two clear sections of Demotic in the fragment, the textual content of the Demotic in the first, and Old Coptic in the second, column is significantly different enough not to support this conclusion; (iii) the Demotic does not comprise exclusively, nor even principally, ritual instructions in x+1, while from the ritual instructions which are preserved, it is unclear how they would relate to the erotic practices of the spells of column x+2; (iv) Dieleman's identification of a spell for dream sending is not compromised by the different content earlier in column x+1 because there is a *spatium* between these sections; (v) the latter two-thirds of the first column is missing, and we cannot be certain about what follows; (vi) it is ultimately unclear whether column x+1 would have been understood as x+1 or x+2, i.e. whether the bookroll was read right-to-left or left-to-right – although the introduction of the Demotic sections with ky "another" would imply right-to-left because it is unclear how x+1 would provide an alternative to the texts of x+2, and standard Egyptian scribal practice predicates right-to-left.

⁶⁴ This reading is owed to Joachim Quack.

repeat” in m-wḥm “repeatedly”, ʕ “great”, mn (ʕʕʕ) “NN/so-and-so”, and a sign⁶⁷ deriving from 𐩈 ḥnꜥ “together with”. At the end of x+2/47 there is also the use of the ideogram 𐩈, which commonly renders the vocative j/i “O”. What can be discerned about the dialect of the alphabetic transliteration is that it reflects an idiom comparable to the Mesokemic dialect of Coptic which otherwise first appears in the 4th century CE⁶⁸ (Osing 1978: 33*/79-35*/81).

The Old Coptic text of column x+2 constitutes either a copy of another comprehensive supralinear gloss, or a novel transliteration of a linear text in hieratic. Despite the utilisation of 𐩈 </h/, ʕ </ḥ/, and 𐩈 </ḥ/, there is no differentiation between etymological /h/ and /ḥ/, nor is there between etymological /ḥ/ and /ḥ/, i.e. /ḥ<ḥ/, and seemingly also between etymological /ḥ/ and /š/, i.e. /š<ḥ/. Thus, considering whether the Old Coptic transliterations were derived from the hieratic Vorlage, or were novel contemporary phonetic renderings, can evidence either the intention to render historical orthographies, due to an understanding of historical phonetic realisations, or that the accurate utilisation of demotic-derived graphemes in the Old Coptic transliteration may simply have been because their palaeographic predecessors were apparent to the glossing scribe in the hieratic orthography.

There are numerous hieratic orthographies which utilise monoconsonantals from which a historically-accurate transliteration of consonants into Old Coptic can be drawn, whether for contemporary⁶⁹ or obsolete⁷⁰ lexemes. Even for those hieratic orthographies whose signs do not spell out a lexeme’s consonantal structure with monoconsonantal signs, i.e. those which utilise biconsonantals⁷¹ and triconsonantals⁷², historically-accurate transliterations of consonants are

⁶⁷ In essence, the grapheme appears to be demotic 𐩈 with demotic initial 𐩈 attached to the base of the stem.

⁶⁸ Engsheden (2016: 4) summarises that this text “demonstrates that Traditional Egyptian when spoken out was more or less on a par with the contemporary vernacular as regards phonological matters”. For a deconstruction of “Traditional” Egyptian, cf. 4.2.1.

⁶⁹ Consider 𐩈(𐩈)𐩈 (ḥft.j) “enemy” from 𐩈𐩈𐩈 – despite being attested in contemporary demotic orthographies as 𐩈ft.

⁷⁰ Consider 𐩈𐩈𐩈 (ḥti) “to return” from 𐩈𐩈𐩈, and even 𐩈𐩈 (bw) “place” from 𐩈 – not 𐩈𐩈 (mꜥ).

⁷¹ Consider 𐩈𐩈𐩈 (mnk) “to complete” from 𐩈𐩈𐩈 – which also attests a conscious 𐩈 for 𐩈, and 𐩈𐩈𐩈 (m-ḥnw) “inside” from 𐩈𐩈𐩈𐩈.

⁷² Consider 𐩈𐩈𐩈 (phr=) “to circulate/enchant” from 𐩈𐩈.

also found. Notable also are that certain lexemes – all of which are contemporary – are never rendered with reference to their historical orthographies⁷³. Consequently, it appears that historically-accurate transliterations of consonants outnumber contemporary phonetic realisations in the Old Coptic transliterations. Nonetheless, that is not to say that these transliterations were recited with historical pronunciations, the orthographies could still be vocalised with contemporary vocalisation. For example, although Ⲭⲙⲁⲙ betrays Demotic ⲥⲙⲙ (<šmm), Mesokemic Ⲫⲙⲁⲙ, there is no reason to assume that a contemporary Egyptophone would have been able to distinguish between obsolete /ḥ/ and /h<ḥ/ in pronunciation, even though this was done so in the Old Coptic transliteration Ⲭⲙⲁⲙ. Instead, while Ⲭⲙⲁⲙ reflected the hieratic orthography with /ḥ/ or /š/, it could nonetheless have been pronounced as if Ⲫⲙⲁⲙ, i.e. /h<ḥ/. That being said, the crucial issue is when /ḥ/ ceased to be pronounced, i.e. when /ḥ/ became /h/. This transliteration, i.e. the Old Coptic Vorlage, could have been produced at a time when the distinction was still salient, while the copy extant on P. BM EA 10808 was copied at a time when the distinction had been lost in contemporary pronunciation. This would not, however, have necessarily resulted in an ‘orthographic update’.

Despite these considerations, I disagree with Sederholm that the text’s “lack of a system for writing Egyptian with Greek letters” calls into question “just how intelligible” the text would have been to another scribe (2006: xiv). First and foremost, no system has to be entirely internally coherent – an inconsistent system can be viably taught to another speaker⁷⁴, while it should also be noted that the difficulties of modern scholars should not be conflated with those of contemporary scribes. Furthermore, although the Old Coptic text could in theory be a copy from an Old Coptic Vorlage or a direct transliteration from hieratic, the fluent copying of the hand and precise layout of the manuscript strongly suggest that the scribe

⁷³ Consider Ⲭⲧⲡ (r-ḡr=) “all/entire” from Ⲭⲧⲡ; Ⲛⲙ (-nb) “all/every” from Ⲛ; Ⲫⲧⲙ (sdm) “to hear” from Ⲫⲧⲙ; Ⲭⲙⲁⲙ (Demotic ⲥⲙⲙ; Egyptian šmm) “to be(come) hot” from ⲥⲙⲙ.

⁷⁴ An example of another inconsistent system of spelling – with considerable “feedforward” and “feedback” errors possible – would be, after all, English (4.4.1).

copied from an Old Coptic Vorlage. Notable, then, is that even though a scribe in the textual history of the Old Coptic transliteration was almost certainly also literate in Demotic, that scribe determined Old Coptic the most viable script for transliterating the hieratic Vorlage. This is most likely because the established scribal practice at Oxyrhynchus was not to transcribe into demotic, but to transliterate into Old Coptic. As will be seen, this is comparable to at Tebtunis (6.2), whereas at Soknopaiou Nesos script shift in the ritual domain was instead from hieratic to demotic (7.2).

On balance, although the Old Coptic transliteration aided accurate recitation (Quack 2012a: 239), it is a logical error to then state that “the Egyptian priesthood *needed* to use the Greek script in order to ensure its correct pronunciation” (emphasis my own) (Dekker 2013: 61). At Oxyrhynchus, script shift in the ritual domain was from hieratic to Old Coptic, but at one other it was from hieratic to demotic. What can only be stated is that (an) Egyptian priesthood(s) at Oxyrhynchus considered Old Coptic to have the highest utility in ensuring correct pronunciation. This “shift in priority”, however, had the consequence that “while the phonetic realisation becomes even easier”, i.e. literacy in Old Coptic is considerably easier to acquire than literacy in hieratic due to orthographic depth, comprehension of the text’s semantics became even harder (Quack 2012a: 239). Indeed, Quack notes that “the discrepancies in interpretation by different Egyptologists [of P. BM EA 10808] are probably a good sign that the semantics are not very clear” (2016b: 118). Notable, then, is the absence of *spatia* and punctuation in P. BM EA 10808. The scribe did not, therefore, utilise all methodologies available to ensure that the orthographic depth of this linear transliteration was reduced to the same extent as previous examples of supralinear glossing (5.2.1.4-5.2.1.5).

Before the implications of P. BM EA 10808 for understanding the breakdown in script and language conventions, script shift in the ritual domain, the slowing of intergenerational transmission and loss of functional literacy in hieratic, and the potential tip towards

moribundity and obsolescence, can be considered, two further manuscripts must be introduced which highlight that P. BM EA 10808, at least in form, was not one of a kind.

5.2.2.2 A fragment featuring Nephthys

Example N is a papyrus fragment inscribed with five lines of Old Coptic in one column, and one line of hieratic under that, with a blank verso. Quack (2016b: 118 n.54) has suggested that this fragment could be part of P. BM EA 10808, but without an obvious join or contextual reference to the lost remainder of the first column, this is hard to deduce, while the excavation records⁷⁵ and palaeography exhibits some diagnostic differences⁷⁶. With regard to the textual content, a reference to ΝϢΒΘΩ (nb.t-ḥw.t) is discernible, suggesting that this fragment belongs either to the ritual or temple domain.

5.2.2.3 “Clackson’s Old Coptic Wordlist” (>100 CE)

Example Z is the manuscript referred to by Clackson in her article on “Coptic Oxyrhynchus” as “a word-list in Old Coptic script written on the other side of a papyrus containing some unpublished Greek accounts” (2007: 335). These Greek accounts are dated to the 1st century CE⁷⁷, suggesting that “Clackson’s Old Coptic Wordlist” was written in the first half of the 2nd century. I have been fortunate to be able to study this manuscript from the transcript of the papyrus among Clackson’s papers in the Griffith Institute Archive⁷⁸. Although not a ritual text, the text upon this manuscript informs upon the written compendia of lexical information which were available to priestly scribes in Oxyrhynchus during the 2nd century – perhaps belonging to the temple or technical domain. 11 fragments preserve 23 columns,

⁷⁵ This fragment was excavated during Grenfell’s and Hunt’s second season, P. BM EA 10808 during the third. However, consider Ryholt’s remarks on excavating a dump of thousands of papyri east of the temple at Tebtunis, where “fragments of a single papyrus or groups of related papyri sometimes turn up during different seasons, even years apart” (2018: 132).

⁷⁶ The morphology of Qj is significantly more quadratic. In addition, two diacritics are utilised which are not found in P. BM EA 10808: · above N twice, the fully-preserved example being NM&Qj, i.e. MM&Qj without assimilation, resonant of the historical orthography n-im=f, as well as NM(M)&=/NM(M)O=; ˘ in MM – likely reflecting how the supralinear stroke is utilised in (Standard) Coptic. This fragment is thus crucial evidence that these diacritics were developed alongside the Old Coptic scripts.

⁷⁷ Coles and Obbink dated the Greek hand to the reign of Domitian (Clackson MSS 8).

⁷⁸ cf. Clackson MSS 8.2.5.

which may have once joined as 12 columns⁷⁹. Unfortunately, these columns are particularly thin, averaging only 3-5 graphemes per line, and the fact that they are poorly preserved, frequently missing the beginning or end of each line, often means that no more than a grapheme or two are extant in each line.

Only a handful of readings seem possible from the transcript⁸⁰, and there are many lines which sound distinctly ‘un-Egyptian’ – complicating any interpretation of the nature of the text. Consequently, it is difficult to discern any typology for the lexemes listed. Nonetheless, such a comparatively early attestation of the use of an Old Coptic script – tabulated in the appendix – informs upon a factor that is often overlooked. Deterministic statements about Old Coptic, e.g. that its form dictates its function – an alphabetic aid to recitation (4.6.2), supplant a prior question: why was Old Coptic suddenly necessary to ensure the accurate recitation of texts when nearly three millennia of logographic written Egyptian had – presumably – been thus far accurately vocalised? The Old Coptic sources in this chapter evidence the use of Old Coptic to supplement (5.1) or substitute (5.2) logographic hieratic through alphabetic transliteration. From these attestations, the implication of “Clackson’s Old Coptic Wordlist” is instead that if Old Coptic was used to aid hieratic literates (5.1.1-5.2.1.5), or even support ‘semi-literates’ (5.1.4-5.2.1.5), and to substitute for literacy in hieratic (5.1.4-5.2.1.5; 5.2.21-5.2.2.2), it could also be used to educate – comparable to the Graeco-Babyloniaca (3.2.2.2). Education in the Egyptian lexicon through an orthographically shallow script would not require recourse to literacy in demotic or hieratic and would thus be comparable to the limited use of alphabets in teaching Chinese in China (4.6.1). In the early 2nd century CE, this cannot be assumed to have been in order to *substitute* demotic or hieratic, but to *supplement* these scripts in learning, and thus facilitate the intergenerational transmission of functional literacy in these scripts.

⁷⁹ Due to the tragically untimely death of Sarah Clackson, I am unable to adequately express the debt I owe to her masterly reconstruction of the manuscript from its fragments, insightful transcript, and generous foresight to donate her papers to the Griffith Institute Archive for the exact reason that they may benefit future scholars. My gratitude is particularly pronounced because I was otherwise refused permission by the Oxyrhynchus Papyrus Management Committee to consult or edit this papyrus.

⁸⁰ Perhaps ⲁⲙⲩⲛ (jmn) “Amun” (1 x+3/19); ⲱⲩⲁⲟⲩⲉⲉⲛ (w^c w^cb) “a w^cb-priest” (2 x+1/3); Ⲙⲓⲉⲛ (shy) “to be bitter” or “bitterness” (2 x+1/21); ⲙⲃⲙⲁⲙ (m h_hmm) “in heat(?)” (3 x+1/12); Ⲉⲙⲟⲩ (sm^c) “to praise” or “praise” (4 x+2/9).

5.3 Innovative Scripts and Spellings, Script Shift and Obsolescence at Pemdje/Oxyrhynchus

The fragments from Oxyrhynchus treated in this chapter, whether linear hieratic texts – without (5.2.1.1) or with (5.2.1.2) punctuation – exhibiting either selective (5.2.1.1-5.2.1.3) or comprehensive (5.2.1.4-5.2.1.5) supralinear glosses in Old Coptic – without (5.2.1.4) or with (5.2.1.5) punctuation, or linear Old Coptic texts transliterated from hieratic Vorlagen (5.2.2.1-5.2.2.2), provide an unparalleled corpus of sources into how script shift altered the transmission of functional literacy before leading to the domain-by-domain obsolescence of the scripts of the Egyptian writing system.

Wary of a teleological narrative of development which the typologisation of the sources in this chapter may have suggested, i.e. from selective glossing without punctuation, to those with, and from selective to comprehensive glossing, etc., the scribal choice exhibited by their *utilisation* – rather than their *development* – suggests different rationale behind their use which do not necessarily accord with such a teleological narrative of development. As was seen above (4.3), where a word lies on the “continuum of word knowledge” depends on its frequency, i.e. how often a reader encounters that word, a reader’s familiarity with that word, and the recency of a reader’s exposure to that word (Wolf 2008: 153). This rationale, I would argue, is therefore consistent with reducing the orthographic depth of predominantly obsolete lexemes, often in obsolete forms, written in hieratic, often with polyvalent graphemes, by augmenting logographic linear texts with clarifying supralinear transliterations. This is thus suggestive of a tip in the intergenerational transmission of functional literacy in hieratic, and thereby Middle/Classical Egyptian⁸¹.

The subsequent selective supralinear glossing without punctuation attested the need to gloss linear hieratic in order to elucidate the phonetic values of both polyvalent biconsonantals/triconsonantals and entire group-writings of lexemes, in particular in the

⁸¹ At a site where Middle/Classical Egyptian texts were not transcribed into demotic, literacy in hieratic and Middle/Classical Egyptian were indivisible.

context of archaic suffix constructions, alongside the complementary utilisation of a supralinear diacritics (5.2.1.1). The clarification of archaic constructions is also attested among the fragments exhibiting subsequent selective supralinear glossing with linear punctuation, where the linear text is also graphically parsed with points to aid reading (5.2.1.2). The first attestations of graphic parsing of the supralinear text, suggesting that even the glosses required reading aids, is exhibited among the subsequent selective supralinear glossing with supralinear punctuation of certain examples (5.2.1.3). More numerous, however, are the fragments of the manuscripts exhibiting subsequent comprehensive supralinear glossing without punctuation, where a supralinear gloss of the entirety of the linear hieratic text was squeezed into the supralinear space (5.2.1.4). For some glossing scribes, or for a certain period of time, this practice was sufficient that neither the linear nor supralinear text required punctuation. Indeed, within scribal practices where *scriptio continua* is the norm, spaces between lexemes also served as an effective means of punctuation, essentially rendering points redundant, thus reducing orthographic depth further.

Fragments of four manuscripts attest copies of hieratic Vorlagen provided with sufficient supralinear space so as to allow a comprehensive supralinear gloss contemporaneously with the inscription of the linear text (5.2.1.5), while two others exhibiting selective glosses may also exhibit a similar layout for the same reason (5.2.1.3). The examples exhibiting contemporary comprehensive supralinear glossing also exhibit graphic parsing with punctuation in order to delineate – as *spatia* do in modern European writing – between lexemes, as well as morphemes, while *spatia* – as punctuation does in modern European writing – delineate the end of clauses. This suggests that even though an individual illiterate in hieratic, but knowing Old Coptic and with an understanding of the pronunciation and intonation of Middle/Classical Egyptian, could recite the transliterated ritual text, graphic parsing with punctuation was essential for semantic parsing in Old Coptic in the same way that graphic parsing with classifiers was essential in logographic Egyptian writing. This phenomenon is found not only at Oxyrhynchus, but also at Tebtunis (6.2.2.5).

One step removed from this process are the attestations of linear Old Coptic transliterations of hieratic Vorlagen without graphic parsing, and with limited *spatia* (5.2.2.1-5.2.2.2).

Thus, although these sources attest a phenomenon whereby a break with millennia of script and language conventions facilitated the legibility of Egyptian textual culture to individuals who were illiterate in logographic Egyptian writing, how effectively those individuals were at *responding* to these texts is problematic to ascertain. Certainly, it could be argued that even these transliterations would not have facilitated transmission because they would not have been transparent to individuals who were not educated in that textual culture.

For example, a contemporary English literate could vocalise alphabetically-written Old English, but the semantics would have to be learned (4.3). Thus, from the idiosyncrasies of the glossing scribes, their selective and often inconsistent glossing, and the difficulties exhibited by a composition such as P. BM EA 10808, I would argue that the most parsimonious explanation is instead that these sources attest not a motivation to *produce* traditional Egyptian textual culture in an innovative script, but to retain an ability to *respond* to texts which were increasingly orthographically deep by nature of their graphic form due to a tip in the intergenerational transmission of functional literacy in hieratic. These transliterations aided contemporary horizontal transmission among responders, but not necessarily vertical intergenerational transmission among future producers⁸².

Thus, although innovative in terms of script choice, Old Coptic scripts at Oxyrhynchus do not necessarily attest innovation in terms of script use – this was to be the preserve of (Standard) Coptic – “neo” – script communities who produced a novel textual culture in a distinct written idiom of the Egyptian language. If hieratic, and the Middle/Classical Egyptian it encoded, was *not* still highly valued due to textual authority and prestige, despite the scribal difficulties with hieratic that the glossed texts evidence, Old Coptic could easily have become a *substitute for* rather than a *supplement to* hieratic. The script conventions of three millennia, then, were not

⁸² Indeed, the use of *spatia* and punctuation rather implies the contrary.

so easily dispensed with. After all, it is perhaps only in the limited sphere of magical texts, within the ritual domain, that linear transliterations into Old Coptic were produced. These may then have been governed by different conventions to temple and afterlife texts in the ritual domain, which circulated predominantly within temple priestly institutions.

Even among a corpus which exhibits few internal parallels, the uniqueness of the sources from Oxyrhynchus raises fundamental questions about the breakdown of script as opposed to language conventions during the Roman Period. The domain-by-domain obsolescence of the scripts of the Egyptian writing system at Oxyrhynchus did not result in a dematerialisation of Egyptian textual culture, due firstly to the avenues of transmission possible through Greek translation, and secondly to the innovative script that was Old Coptic, which – at least in theory – could have facilitated transmission to milieux outside of the hieratic script communities of hieratic within the temple priesthoods. Difficult to demonstrate, but crucial to bear in mind, then, will be how this phenomenon may be considered as unique to Oxyrhynchus, or representative of all the sites in this study, for which the evidence has simply not been preserved. Regarding translations into Greek, unlike at Tebtunis, the hieratic papyri from Oxyrhynchus cannot be ascribed to a cache or genizah from a temple library. Therefore, their mixing with Greek-language papyri of all types could also be evidence for the circulation of such Greek-language texts in Egyptian script communities, and/or that these hieratic texts may have found their way into the private collections of priests, who were able to respond to, reproduce, and transmit Egyptian textual culture in Greek, in addition to ‘Greek/Hellenic’ textual culture.

These preceding conclusions must also be considered alongside the unparalleled – in quantity⁸³ – evidence from Oxyrhynchus for the translation of Egyptian textual culture into Greek (5.1). The volume of such Greek-language sources facilitates an understanding of the shift from

⁸³ It is crucial to bear in mind that because so many Greek-language sources have survived from Oxyrhynchus and have been published continuously by Classicists and Greek papyrologists for the last 120 years, the image of Oxyrhynchus as a city of ‘unparalleled’ ‘Hellenism’ is not cogent because there is no comparable case study.

Demotic to Greek in the documentary, literary, and technical domains, while the Egyptian-language sources facilitate an understanding of the shift from hieratic to Old Coptic in the ritual domain. Furthermore, aside from the study of these sources for their own sake, the contextualisation of these sources within Roman Period Oxyrhynchus also provides a crucial clarification for the other priesthoods treated in this study. Coupling the Greek-language primary sources on the substantial number of temples, and therefore cults and serving priests, of traditional Egyptian deities at Oxyrhynchus with the Egyptian-language sources exhibiting innovative scripts and shifts in the domains of script use (1.2.1.1; 5.2), demonstrates that contemporary Egyptian-language sources from Tebtunis and Narmouthis which exhibit similar phenomena cannot be dismissed as evidence only of the situation among ‘provincial’ priesthoods in ‘marginal’ environments. Quite the contrary, and as will be seen (6.3; 8.3), the fact that the glossed hieratic sources from 2nd century CE Oxyrhynchus are contemporary with comparable evidence from Tebtunis and Narmouthis suggests that there were wider trends in script shift and the slowing of intergenerational transmission of literacy that were not limited to the priesthoods of the Fayum.

On balance, the script shift, including the proliferation of hieratic texts exhibiting Old Coptic glosses, evidenced in the sources treated in this chapter suggests a change in intergenerational transmission – a tip – around the middle, or during the second half, of the 2nd century CE. Although there are several aforementioned difficulties in dating the glosses, they cannot be dismissed as considerably later than the linear hieratic texts they gloss. This is not least because the layout of several manuscripts suggests that they were copied as bigraphic compilations, but also because the glosses could only have been produced by a generation in which there were still fully-functional hieratic literates who could advise on glossing, or produce glossed, hieratic texts. Given that “Clackson’s Old Coptic Wordlist” (as possible evidence of education with Old Coptic) could date to the first half of the 2nd century CE, it could be that the slowing of intergenerational transmission occurred one or two generations prior to the proliferation of glossed hieratic texts in the second half of the 2nd century CE. With fewer living compendia of

orthographic and linguistic knowledge into the second half of the 2nd century CE than before, it could have been that texts had to be augmented into written compendia which could be responded to by a reader even if their literacy in hieratic was not to the level of functionality of prior generations. Indeed, as has been seen (3.1.1), without effective policies of language maintenance, once a tip has occurred retrieving functional literacy without living compendia on which to draw is virtually impossible. Alphabetic Old Coptic was orthographically shallow compared to logographic hieratic, and therefore easier to learn – while the utilisation of *spatia* and punctuation also reduced the orthographic depth of both linear hieratic and supralinear Old Coptic texts. Thus, these scribal methodologies could be understood as bolstering intergenerational transmission both horizontally within one, and vertically across subsequent, generation(s). However, a by-product of such an (ortho)graphic approach could also have been – ironically – that transliterations into Old Coptic, intended to *supplement but not substitute* hieratic, in fact accelerated hieratic towards moribundity, because hieratic was no longer the sole (ortho)graphic preserve of Middle/Classical Egyptian ritual texts at Oxyrhynchus.

6 Innovative Scripts and Spellings at Totoun/Tebtunis

This chapter treats the script communities and domains of script use at Tebtunis (6.1), as well as the innovative scripts and spellings attested (6.2), in order to inform upon script shift and the intergenerational transmission of literacy during the Roman Period, and their implications for the domain-by-domain obsolescence of the scripts of the Egyptian writing system at Tebtunis.

6.1 Script Communities and Domains at Totoun/Tebtunis

Comprising a unique corpus within Egyptology, the extant textual culture produced by the script communities of temple priests at Roman Period Tebtunis constitutes both the largest number of securely provenanced Egyptian manuscripts and the largest number which are also argued to have been the former contents of a temple library¹. This attribution is not uncontentious, however, with other assessments stressing that this cache could instead have been a genizah² or private priestly collection³. Regarding sources for Ptolemaic Period Tebtunis, since 1988, Franco-Italian excavations at the site have discovered and documented several thousand new papyri and ostraca from a dump east of the temple, most of which date to the 2nd century BCE⁴. Despite these finds, and thus comparable to at Oxyrhynchus and Soknopaiou Nesos, a caveat to the treatment of the following corpus remains that no corpus from the Ptolemaic Period is preserved with which to draw comparisons with the sources in this chapter concerning script domains and shift between the Ptolemaic and Roman Period.

The Roman Period cache was found on the 10th March 1931 by the Missione Archeologica Italiana in a building (36A, cf. figure 1.2.1.2b) situated within the temenos itself,

¹ Ryholt (2005: 158) argues this due to: “the internal consistency of the contents of the deposit”; “the wide circulation of virtually all the texts that are attested in multiple copies”; “a comparison with the essential priestly knowledge described by the Book of the Temple and Clement of Alexandria”. For an elaboration of these points, cf. Ryholt 2005: 158-162; Osing 1999; Quack 2006b: 7. For a survey of the manuscripts, cf. Ryholt 2005, for religious texts, cf. von Lieven 2005, and for hieratic and hieroglyphic texts, cf. Quack 2006b.

² cf. van Minnen 1998: 168; Tait 1992: 306; Rostovtzeff quoted in el-Aguizy 2010: 175.

³ cf. Tait 1992: 306; von Lieven 2005: 68.

⁴ For a survey of the Demotic, and bibliographical references for all other, papyri, cf. Ryholt 2018a.

standing against the east side of the enclosure wall⁵, and containing two subterranean vaulted rooms in which the papyri were piled from floor to ceiling⁶. Complicating the assumption that this cache stems directly from a temple library, the upper layers consisted of administrative documents, dating to the 1st to mid-3rd century CE, while the lower layers consisted of the temple textual culture of interest in this study. Whether the manuscripts were dumped directly from Tebtunis' *pr-ꜥnh* or *pr-mḏ.t* (1.2.3.2-1.2.3.3) while the temple was active or after it had closed, or whether the cache was a private collection, the manuscripts found were nonetheless those, or copies of those, which would also have been housed in a temple library.

The extant c.400 manuscripts are suggested to represent only a fraction of what could have once constituted a complete temple library⁷. Of the 315 texts preserved among these c.400 manuscripts, nearly two-thirds are demotic (c.>200, c.63%), one-third hieratic (c.>100, c.32%), 15 (c.4%) are hieroglyphic, while even fewer are Greek⁸ (c.1%) (Ryholt 2005: 142; 2018a: 138; 149). Nearly one-half of those demotic, and one sixth of those hieratic, were written on the verso of reused Greek documentary papyri, and, in a limited number of cases, on the verso of literary papyri in both hieratic and Demotic, as well as even two Latin papyri (Ryholt 2016: 2-3)⁹. Notable, then, is that Greek and Latin textual culture fulfilled no function in the temple library at Tebtunis. More than one-third of all manuscripts was reused, suggesting that Tebtunis “did not possess the means to acquire enough new and unused papyrus for its needs”, while new papyri were prioritised for the inscription of hieratic over Demotic texts (Ryholt 2016: 2). The extant manuscripts were written from the 1st century BCE up until the early 3rd century CE. Thereafter “it may be assumed that the library was

⁵ cf. Rondot 2004: Plan 2.

⁶ For the discovery of the papyri and their subsequent distribution, cf. the bibliography in Andorlini 2004.

⁷ By 2005, more than 2,500 individual fragments had been (to a certain extent) identified and inventoried (Ryholt 2005: 141). Ryholt (2016: 1; 2005: 158) suggests this could be “on average less than 10% of the individual papyri”, and that the contents of the Temple Library are “largely representative for its time” – although such proportions are problematic to ascribe when the total is unknown and there are no comparanda.

⁸ According to Medea Norsa, of the ‘15 baskets full of papyri’ excavated by the Italian mission, ‘only 30 fragments of Greek papyri’ were among them – these include two medical treatises and one astrological calendar, but also 23 documentary texts (Ryholt 2005: 143-144). These documentary papyri were likely saved in anticipation of the reuse of their versos (2005: 144; Osing HPT: 23; Vitelli 1932: 52) – also explaining why several blank sheets of papyri were found with them.

⁹ For the most recent discussion papyri reuse at Tebtunis, cf. Ryholt 2016: 2-5.

abandoned” (Ryholt 2016: 1), contemporary with the disappearance of documentary evidence for the site (1.2.1.2). With the majority of manuscripts assigned to the 1st and 2nd century CE, Ryholt has proposed that “the average life-span of a manuscript was – roughly estimated – about a century and a half” (2016: 1).

Of the temple textual culture extant, a broad typology of ritual (c.110, 48%) and non-ritual (c.120, 52%) can be assigned¹⁰ (Ryholt 2005: 147). In the domain of temple textual culture, temple reference texts comprise c.50 manuscripts and thereby nearly half of the temple texts in total. These were subdivided by Ryholt into manuals of priestly knowledge and teaching¹¹. Six of the most prominent of these manuals of priestly knowledge are also paralleled outside Tebtunis¹², and presumably “formed an integral part of temple libraries” (Ryholt 2005: 148). In the domain of ritual texts, those for the temple are all written in hieratic – three prominent texts being attested in multiple copies¹³. The category of religious poetry constitutes c.6 manuscripts written entirely in Demotic (Ryholt 2005: 150-151). Of those manuscripts which have not survived, hints of their titles provide tantalising evidence of prolific textual production¹⁴. The range of textual culture produced by the script communities at Tebtunis, attesting certain scribes by name¹⁵ among a “bewildering” number of hands¹⁶ (Tait 1992: 307), has thus been suggested as evidencing the motivation of that milieu to have the fundamentals of Egyptian textual culture to hand (Quack 2006b: 7).

¹⁰ Ryholt refers to “cultic” (50%), “non-cultic” (25%), and “narrative” (25%) – the latter category should be problematised in so far as certain narrative texts could also have had a cultic/ritual application/function, e.g. the Ptolemaic Myth of Horus of Behdet and the Winged Disc upon Edfu temple, or even the New Kingdom Tale of Horus and Seth.

¹¹ cf. 2005: 151. I would argue, however, that the latter essentially comprise manuals of priestly knowledge, given that these texts were not *exercises*, but compendia for reference.

¹² The Book of the Temple (c.20 mostly hieratic manuscripts), of Thoth (c.10 Demotic manuscripts), of the Fayum (one/two hieroglyphic and at least four hieratic manuscripts, as well as two demotic translations with commentary), of Nut (five hieratic manuscripts, two with demotic commentary), The Mythological Manual (four hieratic manuscripts), and The Priestly Manual (one hieroglyphic and two hieratic manuscripts); The Manual of the Priesthood of Sakhmet (2005: 148-150).

¹³ Opening of the Mouth Ritual (six manuscripts) – for temple, rather than funerary, use; Offering Ritual (five/six manuscripts); Daily Ritual of Soknebtunis (three manuscripts) (Ryholt 2005: 150). A fourth notable composition is a liturgy of Osiris entitled the Glorification by the Two Sisters (two manuscripts).

¹⁴ cf. Ryholt 2005: 154; 154 n.20-21; Ryholt 2018b.

¹⁵ For these, cf. Ryholt 2016: 17. Only three or four scribes from Tebtunis are known by name (2016: 14-15).

¹⁶ One possibility is that “the priests collected books written elsewhere; another would be that some of the writers themselves came from elsewhere” (1992: 307 n.21). For the joint duties of a priest at Tebtunis and Akoris, cf. Wegner 2011.

Within this corpus, script domains can be identified with relative clarity – visualised as figure 6.1. Hieroglyphs inhabited the monumental domain and that of temple textual culture, hieratic inhabited the ritual domain and that of temple textual culture, Demotic/demotic inhabited the inward administrative¹⁷, technical¹⁸, and literary¹⁹ domains (2016: 1-2), while Greek inhabited the inward and outward administrative, technical, and literary domains.

Figure 6.1 Script domains at Totoun/Tebtunis during the Roman Period.

Tebtunis	Hieroglyphic	Hieratic	Demotic	Greek	Old Coptic	Bigraphic Coptic
Monumental	✓	☐	☐	☐	☐	☐
Ritual	☐	✓	☐	☐	✓	☐
Temple	✓	✓	✓	☐	✓	☐
Technical	☐	☐	✓	✓	☐	☐
Literary	☐	☐	✓	✓	☐	☐
Administrative (Inward)	☐	☐	✓	✓	☐	☐
Administrative (Outward)	☐	☐	☐	✓	☐	☐

Before assessing how innovative scripts at Tebtunis reflect script shift and a breakdown of script conventions, the language and script conventions at Tebtunis must be identified.

Quite distinct from contemporary and neighbouring Soknopaiou Nesos, where the convention was to transcribe hieratic texts into demotic (Quack 2006bb: 6-7), hieratic inhabited the domain of temple textual culture at Tebtunis, as at Oxyrhynchus. By compiling, copying, and transmitting texts in hieratic, Middle/Classical Egyptian retained its position as the

¹⁷ For the obsolescence of Demotic contracts in the 1st century CE, cf. Depauw 2003: 89-97; 104-105; Muhs 2005.

¹⁸ The majority of Ryholt's "non-cultic" texts were written in Demotic, apart from a few in Greek, and can be classified as technical, i.e. divinatory (c.75%), astronomical, medical, mathematical, or legal (2005: 152-154).

¹⁹ Demotic narratives include the cycles of Inaros, Khamwase, and the Heliopolitan Priesthood, as well as mythological texts and prophecies (Ryholt 2005: 154-157; 162-163).

predominant idiom. Even though demotic could also render Middle/Classical Egyptian, the Vorlagen of Roman Period ritual texts would have been written in hieratic.

Thus, transmitting these texts in hieratic adhered both to language and script conventions.

With these factors in mind, the utilisation of hieratic, demotic, and Old Coptic to gloss hieratic and hieroglyphic texts, and hieratic and demotic to annotate hieroglyphic texts, attested at Tebtunis can now be considered.

6.2 Innovative Scripts and Spellings at Totoun/Tebtunis

By comparison with those from Oxyrhynchus (5.2.1), the sources treated in this section²⁰ attest a limited utilisation of supralinear glossing in Old Coptic of ritual texts in hieratic (6.2.1), and, unparalleled in the extant sources from Oxyrhynchus, evidence the utilisation of Old Coptic and Demotic in the sphere of temple textual culture of manuals of priestly knowledge in hieratic (6.2.2-6.2.3). Thus, the Tebtunis corpus provides new insights into the utilisation of Old Coptic as a *supplement* to hieratic in ritual texts²¹, reducing the orthographic depth of linear logographic hieratic through supralinear alphabetic Old Coptic glosses, as well as to the study of Egyptian writing and textual culture by the contemporary script community – where supralinear Demotic/demotic and Old Coptic glosses provided reading aids with reduced orthographic depth to linear hieratic in order to bolster the intergenerational transmission of both hieratic orthographies and the obsolete (Middle/Classical Egyptian) lexicon.

6.2.1 Digraphic Glossing in Hieratic Ritual Texts

Example O is an unpublished papyrus fragment in the Oxyrhynchus Papyri Collection, but from Tebtunis²², being studied by Andrea Kucharek²³. This papyrus preserves the top and bottom margin of a hieratic ritual text – the end of the first column being preserved for a

²⁰ The manuscript information on the unpublished sources treated in this chapter is provided with the accompanying digital plates.

²¹ Attested Old Coptic scripts are tabulated in the appendix.

²² For other papyri from Tebtunis among the Oxyrhynchus Papyri Collection, cf. Tait 1977: vii-viii.

²³ First noted in Quack 2013a: 50 n.102. For the first treatment and an image, cf. Quack 2017: 43 figure 6. I am most grateful for Andrea's assistance in understanding this composition, as well as her appraisal that it was likely the same scribe who also produced, among others, a copy of the Great Decree (P. Carlsberg 233+PSI inv. I 123).

number of lines, and the beginning and majority of the second column being preserved for 17 lines. Although the edition of this manuscript is in its primary stages, the textual content of this manuscript has been appraised as an Osirian ritual with parallels to those inscribed upon the eastern and western walls of the first western Osiris chapel on the roof of Dendera temple (Quack 2017: 42-44), with part parallels in two hymns to Osiris²⁴. This ritual is preceded by an apotropaic recitation (x+2/1-5), concluding with a purification that is followed by the recitation of the hymn. Thus, this text belongs to a comparable sphere of textual culture to the corpus of glossed hieratic ritual texts from Oxyrhynchus treated above (5.2.1).

Three Old Coptic glosses are preserved in the second column, as treated by Quack (2017: 44). Firstly, in the phrase [jn-]j'w=i r-gs=k m-bḥ wtt -sw “Am I beside you, in the presence of the one who engendered him?”, the non-periphrastic nominalised participle  wtt is glossed OΥΤ&OT (x+2/1). Secondly, in the phrase bs.ti m sd.t “she is burned in fire”, the pseudo-participle  bs.ti is glossed BHCT (x+2/4). In both cases, as identified by Quack (2017: 44), the lexemes glossed are obsolete. In x+2/7,  ḥb appears to be glossed lḥBH[.], a transliteration of its archaic pronunciation, because the contemporary pronunciation had shifted – /b/ being instead vocalized /m/ (Quack 2017: 44). As seen above (4.3), where a word sits on the “continuum of word knowledge” depends on its *frequency*, i.e. how often a reader encounters that word, a reader’s familiarity with that word, and the *recency* of a reader’s exposure to that word (Wolf 2008: 153). By comparison with the selective and comprehensive supralinear glossing of hieratic ritual texts from Oxyrhynchus (5.2.1), even though there are only three selective glosses attested on this fragment, the rationale behind such phonetic glossing can be understood as aiding the decipherment of obsolete lexemes, often in obsolete verbal forms, which would not have been encountered frequently by a reader. What’s more, even though the number of glosses in column x+2 is small, the upper margin of the top right-hand corner of the fragment exhibits three lines of Old Coptic,

²⁴ cf. *Dendara* 10, 283.1-10 and *Dendara* 2, 133.4-6; 130.11-12 – Beinlich’s (1995) Text A and B, respectively (Kucharek, personal communication).

difficult to discern, but perhaps glossing or annotating content in column $x+1$. Given that perhaps as large a proportion as one-third of hieratic ritual texts at Oxyrhynchus appear to exhibit glossing (5.1), this single example has notable implications for the necessity of such supralinear supplementation of hieratic ritual texts at Tebtunis.

6.2.2 Digraphic Glossing in Hieratic Priestly Manuals

There are two rationale behind the scribal method of glossing: semantic glossing provides a semantic supplement, i.e. an explanation or synonym, through which the reader is able to *understand* semantic value; phonetic glossing provides a transcription or transliteration of the word in another script, through which the reader is able to *decipher* phonetic value.

Thus, the latter concerns the *deciphering* of a word, whereas the former concerns the *understanding* of a word. If an orthography cannot be deciphered phonetically, it also cannot be understood semantically (4.3). Yet, even if an orthography can be *deciphered* phonetically, it cannot be *understood* unless the semantic value of that combination of phonemes is known. For example, a modern monoliterate English reader could not decipher the phonetic value of the orthography $\overline{\text{𓆎}}$, and therefore not understand the semantic value of the Egyptian lexeme. However, a modern monoliterate English reader could perhaps decipher the phonetic value of the orthography <andgiēt>, but not understand from that combination of phonemes the meaning “understanding/knowledge”. Hence, it is crucial to bear in mind that – unlike a modern Egyptologist who learns Middle, Old, Late, and Classical Egyptian followed by Demotic and Coptic – a contemporary Demotic/demotic literate would not necessarily have known words from the lexicon of earlier stages of the Egyptian language which were obsolete in Demotic or spoken Egyptian. It is with this consideration of the “obsolete lexicon” and the distinction between phonetic decipherment and semantic understanding that the digraphic glossing in Demotic/demotic and Old Coptic of manuals of priestly knowledge, three of the

four manuscripts in the P. Carlsberg 2 corpus published by Osing²⁵ (HPT), can now be treated.

6.2.2.1 P. Carlsberg 2.1

P. Carlsberg 2.1 is the so-called Tebtunis Onomasticon²⁶, a compilation comprising sections most accurately termed “synonym-vocabularies” and “glossaries” (HPT: 34).

This compilation, reconstructed from c.750 fragments²⁷, only 370 of which can be joined, is an encyclopaedic work providing a compendium of taxonomically arranged verbs, nouns, *materia sacra*, and data regarding religious calendars. At >10m long – if this now fragmentary composition was inscribed upon only one papyrus – P. Carlsberg 2.1 is among the longest papyri extant (HPT: 28). The linear text was inscribed in a formal hand, which omitted only a few words that were later added by another hand²⁸, dated by Osing to the first half of the 2nd century CE, while the supralinear glossing of the vast majority of the manuscript was undertaken by another hand altogether, dated by Osing to the second half of the 2nd century CE (HPT: 29-31). Despite this dating, it is very uncertain whether the same scribe glossed all the sections of this compilation in all its different scripts, i.e. discerning from only palaeography that a hieratic hand is that of the same scribe of a demotic hand is at best speculative. Even if it was certain, whether this glossing was undertaken contemporaneously or subsequently, or was part or entirely copied from a Vorlage which was also glossed, is also very uncertain, and essentially impossible to discern. Thus, Osing’s assessment that one scribe glossed the manuscript in hieratic, Demotic/demotic, and Old Coptic one, two or three generations after another scribe inscribed the linear hieratic text is an uncertain point of departure.

²⁵ P. Carlsberg 2.4 is not included in this corpus, not only because Osing noted that it is only ‘perhaps’ from Tebtunis (HPT: 276), but also because Quack has highlighted that the presence of a piece of this manuscript in the Louvre does not favour Tebtunis as a provenance (2012b: 443: n.60).

²⁶ P. Carlsberg 180+P. Berlin 10465 and 14475+PSI I 76 (TM#56092), cf. HPT: 25-218; plates 2-22; Osing 1985; Volten 1951: 71.

²⁷ For the papyrological work of collecting these fragments, and a history of their excavation and treatments, cf. HPT: 25-27.

²⁸ For examples, cf. HPT: 39.

Osing's Part A is not so much a dictionary as a taxonomically-arranged wordlist of First Phase Egyptian, and is titled "the secret compendium(?)²⁹ of interpreting the difficulties" (p3 3pd šṭ3 n whꜥ jdn[.w]) (HPT: 67). In order to "interpret these difficulties" (1.2.3.5), lexemes are organised according to semantic fields³⁰. Osing's Part A comprises Section I on verbs (6.2.2.1.1) and Section II on nouns (6.2.2.1.2). In this study, a further delineation of Section II is made between a synonym-vocabulary and a glossary due to a fundamental change in how the nouns are listed – from N9/2(?) entries are given explanations rather than being simply listed within a certain semantic field³¹ (6.2.2.1.3). Osing's Part B is a manual of priestly knowledge ordered into two registers, Section III is a compendium of *materia sacra*, and Section IV is a religious calendar (6.2.2.1.6). Similar to the latter part of Section II, the first entries in Section III are given explanations (6.2.2.1.4) – functioning as an encyclopaedia in the way that the latter part of Section II functions as a glossary, followed by listed entries in a "synonym-vocabulary" (6.2.2.1.5).

Unlike the transitions between Sections I to II and III to IV, the transition between Sections II and III, and thus the delineation into Parts A and B, is clear (HPT: 31). Yet, with the end of Section II and the beginning of Section III not preserved, it could be that P. Carlsberg 2.1 originally constituted two papyri, and thus two compositions – the first effectively a wordlist constituting a synonym-vocabulary, the second effectively a glossary constituting an encyclopaedia (HPT: 31). In my judgement, there is no reason to suggest that Sections I and II were originally inscribed upon the same bookroll as Sections III and IV, while the significantly different textual content and layout of the manuscript, e.g. column widths of 9.6-14cm in Sections I and II inscribed with a synonym-vocabulary and 7.5cm (1 palm) or 15cm (2 palms)

²⁹ 3pd is a hapax, cf. HPT: 67.

³⁰ Distinct from other lexicographic sources such as the "hieroglyphic dictionary" of P. Carlsberg 7 (Iversen 1958; Müller 1962; Quack in Ryholt *fc.* a), whose order is based on that of the Egyptian alphabet, cf. Quack 2006b: 2 n.5, as is P. Carlsberg 12 verso and 41A, cf. Tait 1982, a Demotic wordlist of birds, trees, and places, cf. Smith and Tait 1983: 198-213, and the Tanis Geographic Papyrus, cf. Griffith and Petrie 1889: 21-25; plates 9-15.

³¹ This is the 'functional explanation' to which Osing referred (HPT: 31).

in Sections III and IV inscribed with an encyclopaedia, rather argue against the single-bookroll hypothesis.

All of the compositions within P. Carlsberg 2.1 were organised, to a lesser or greater extent, with linear annotations: jr “as for” introduced a new list of entries (lemmata) inhabiting a particular semantic field; ky-dd “otherwise said/another says” introduced synonyms and variants; dd-r “i.e./corresponds to” introduced a clarifying gloss; < “ditto” clarified that the glossed lexeme had the same or a similar meaning as the preceding; · or | marked the end of a word or delineated morphemes; × joined together words or parts of words in a line break or indicated a direct genitive, attributive, or compound (HPT: 34-35). Supralinear additions which are not transcriptions of the linear text constitute: jr, ky-dd, < or | - “ditto”, and × as above; n kd “type of”, indicating a description of the lexeme; (n) t(ʒ) hʒt “the beginning”, referring to entries immediately preceding in the hieratic linear text or demotic glosses in the sense of “supra/see above”; ph(wy) “end” with hʒt “beginning”, indicating which lexeme in a compound is subject to honorific transposition, i.e. nswt, bjtj or ntr (in all but one case), and thus to be read first and last (HPT: 43).

Osing (1985: 185; HPT: 40) sets the scene of P. Carlsberg 2.1 as follows. With knowledge of, and thus competency in, hieratic ‘rapidly disappearing’ in the Roman Period, a 2nd century scribe glossed almost the entirety of Sections I and II with supralinear glosses in demotic and Old Coptic³². Glosses in Old Coptic ‘faithfully reproduced’ the late pronunciation of the Egyptian lemmata in the dialect of Tebtunis, meaning that scribes with ‘less competency in hieratic than demotic could still read and understand the hieratic version’³³. However, as raised above, being able to *decipher* the phonetic value of a demotic or Old Coptic gloss does not mean that the semantic value of the glossed lexeme is understood. Thus, it cannot simply be

³² The significantly different utilisation of glossing as well as linear annotation and punctuation in Sections III and IV, treated below (6.2.2.1.4-6.2.2.1.6), further supports the delineation of Sections I and II from III and IV.

³³ el-Aguizy also stated that the rationale behind the glossing was to make “the reading of the manual easier for scribes who did not know hieratic” (2010: 177), as did Baines, referring to “aids to pronunciation” (2007: 162).

the case that ‘all these glosses are reading aids with which scribes who were less familiar with hieratic than demotic and Greek could read and understand hieratic texts as well as pronounce difficult words correctly’ (HPT: 41). In certain cases, glossed lexemes would have been contemporary to the Demotic and/or spoken Egyptian lexicon, but in many cases they were obsolete. Consequently, there would have been no reason that a Demotic/demotic or Old Coptic literate would have any familiarity with such obsolete lexemes.

As will be seen, the vast majority of glosses did not provide any further semantic clarifications than the generic semantic values – often leading to the contraction of semantic fields and/or introduction of semantic ambiguity – ascribed by listing entries within a particular semantic field. Thus, these “written compendia” of lexical and – once glossed – linguistic³⁴ information must have been supplemented by “living compendia” – “living lexica” and “living ‘(ortho)graphica’”. After all, synonym-vocabularies and glossaries are not comparable to modern dictionaries, and certainly not grammars from which a written language can be learned. This study, therefore, seeks to delineate the rationale behind glossing by analysing the association between the orthographic method utilised in glossing, and the register of each lexeme glossed. By doing so, this study takes Osing’s concluding statement, that ‘it cannot be said with certainty on what, largely subjective, viewpoint the choice was made between all the possibilities of glossing’ (HPT: 42), as its point of departure.

The orthographic methods utilised when phonetic glossing in demotic are those typologised for unconventional “innovative (re)invented” spellings in demotic introduced above (4.5.3): unclassified and classified monoconsonantals, homeophones³⁵, and monoconsonantals and homeophones. In addition to these, where the glossed hieratic orthography renders a contemporary lexeme, a conventional established orthography in hieratic or demotic can be

³⁴ In this way Osing also notes how the bilingual arrangement of vocabulary accords to traditions in Sumerian-Akkadian, Latin-Greek, and Greek-Coptic wordlists, cf. HPT: 33-34 n.86; 87; 88.

³⁵ Some of which are hieratic. Notable also is that classifying the demotic homeophones glossing hieratic lemmata was likely considered unnecessary because linear lemmata are assigned a semantic field in the synonym-vocabulary.

utilised as a gloss, or where the glossed hieratic orthography renders an obsolete lexeme, a conventional established orthography in hieratic can be utilised as a gloss. In some instances, only a vowel – the stressed vowel – was added in a gloss as hieratic ideograms or root-groups or demotic ligatures and root-groups³⁶. The orthographic methods utilised when phonetic glossing in Old Coptic comprise direct transliterations of the entire glossed lexeme into Old Coptic or the rendering of only a vowel – the stressed vowel. These orthographic methods utilised in phonetic glossing are complemented by the semantic glosses of synonyms, “type of” glosses, and explanations. These two superordinate methods of glossing will be tabulated and analysed proportionally, while additional scribal features such as annotations, i.e. “ditto”, “supra”, “likewise”, x, and beginning-end annotations, although excluded from the tabulated and analysed values of glossing because they do not provide immediate phonetic or semantic values for the glossed lexemes, will be discussed for each section where appropriate. For clarity, partially-preserved entries or glosses will be omitted. The register of entries will be typologised as obsolete, contemporary, or hapax, i.e. unattested outside of the P. Carlsberg 2 corpus, and a proportional analysis of the orthographic methods utilised for glossing these entries will be tabulated for each section, before a synthetic summary and analysis is provided.

6.2.2.1.1 P. Carlsberg 2.1 Section I – Synonym-Vocabulary of Nouns

Section I comprises a wordlist of verbs organised according to semantic fields by the classifiers with which their conventional established hieratic orthographies were written, e.g. B1-B4 and I list verbs with negative meanings and are classified accordingly with  – including verbs on speaking, seeing, motion, fearing, cutting, writing, and carving³⁷. Based on the preservation of the fragments, Section I could once have contained as many as 2,000 original entries³⁸.

³⁶ Hieratic: 𓆎 = *a <𓆎; j- = *a <𓆏; jw.t = *e <𓆏; jriw = *ai/*e <𓆏; j = *ei/ <𓆏. Demotic: 𓂏 iyā = *i/*e (probably infinitival); j̄t/𓂏 = *ō <𓂏; 𓂏 w̄t = *wi/*ui (from “one (f.)”), cf. HPT: 48-50; 280-282.

For 𓂏 j = *ei; 𓂏 / r iyā = *ai; 𓂏 = *ot < j̄t glossing a hieratic temple ritual text, cf. Quack 2012b: 228.

³⁷ Osing (HPT: 32) was unable to identify a parallel to the order.

³⁸ Having studied this papyrus word-by-word, this seems like an overly-cautious estimate.

Evidently there were a considerable number of difficulties to be interpreted when it came to the contemporary and obsolete lexicon of Egyptian verbs, and their hieratic orthographies³⁹.

Figure 6.2.2.1.1a tabulates examples of each of the orthographic methods utilised for the glossing of the entries in Section I's synonym-vocabulary.

Innovative Glosses to Section I S-V	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Gloss	Reference	Lemma	Translation	Gloss	Reference
Unclassified Monoconsonantals	šrj	"to stop/block up"	ḥ-r	A1/7	snm	"to be said"	(iw=)s-nm	B2/9
Classified Monoconsonantals	ngb	"to turn aside/misdirect"	in-g-b-Kr	B3/11	ḳnd	"to rage/become angry"	g-n-t-y-Kr	B3/8
Homeophones (Hieratic)	NA				NA			
Homeophones (Demotic)	jḥ.w	"senility"	iḥ "cow"	F1/12	šm	"to be hot/burn"	šm "summer/harvest"	F2/12
Monoconsonantals & Homeophones	sʿrk	"to complete"	(iw=)s-ʿrk	J5/24	NA			
Alphabetic	bt (<bt)	"to foresake"	BITI	B3/3	mnmn	"to move about/shift"	MΔIMEN	H11
Old Coptic Vowel	šp	"to build"	ϵ	A1/15	ḥḏi	"to injure/be lacking"	ϵ	J2/13
Egyptian Vowel	bḥnw	"to remove/punish"	j (*ci < $\frac{A}{B}$)	B3/10	NA			
Synonyms	mʿr	"to succeed/be successful"	mtr "to be right"	D2/1	ḥti	"to carve/inscribe"	štm "to carve/inscribe"	J5/24
Type Of	Non-Semantic				Non-Semantic			
Explanations	NA				NA			

Figure 6.2.2.1.1b tabulates the proportional analysis of the established hieratic and demotic orthographies utilised for the glossing of entries in Section I's synonym-vocabulary, the total number and the proportion of those unglossed, and the proportional analysis of the orthographic methods utilised for the glossing of the entries in Section II's glossary with *innovative* spellings, directly comparable between obsolete and contemporary lexemes⁴⁰.

³⁹ The TLA books 4,558 entries (not including all lemmata) for Egyptian verbs, and 1,635 for Demotic verbs.

⁴⁰ 6 "ditto" annotations are also attested, as are two 2 "supra", to obsolete entries, as well as 1 "supra" to a contemporary entry.

Glosses to Section I S-V	Obsolete		Contemporary	
	Number	Proportion	Number	Proportion
Established Hieratic	0	0.0 %	0	0.0 %
Established Demotic	NA	NA	82	53.2 %
Total	185	100.0 %	167	100.0 %
Unglossed	9	4.9 %	13	7.8 %
Innovative Glosses to Section I S-V	Obsolete		Contemporary	
	Number	Proportion	Number	Proportion
Unclassified Monoconsonantals	40	22.7 %	11	15.3 %
Classified Monoconsonantals	30	17.0 %	9	12.5 %
Homeophones (Hieratic)	0	0.0 %	0	0.0 %
Homeophones (Demotic)	45	25.6 %	23	31.9 %
Monoconsonantals & Homeophones	4	2.3 %	0	0.0 %
Alphabetic	42	23.9 %	12	16.7 %
Old Coptic Vowel	7	4.0 %	12	16.7 %
Egyptian Vowel	3	1.7 %	0	0.0 %
Synonyms	2	1.1 %	4	5.6 %
Type Of	3	1.7 %	1	1.4 %
Explanations	0	0.0 %	0	0.0 %
Total Glossed	176	100.0 %	72	100.0 %

Of first note is that nearly twice as large a proportion of contemporary compared to obsolete lexemes are without glosses. Although the proportion of classified monoconsonantals is not so distinct, a considerably larger proportion of obsolete compared to contemporary lexemes are glossed with unclassified monoconsonantal and alphabetic glosses, while the opposite is true for demotic homeophones. Notable, then, is that demotic homeophones, while providing accurate phonetic renderings of the glossed words, do not necessarily reduce the orthographic depth to a reader, given that homeophones often comprise classified ligatures and root-groups (4.5.3.2). Thus, the predominance of unclassified monoconsonantal and alphabetic glosses for obsolete lexemes suggests that the shallowest orthographic methods were sought.

By comparison, Old Coptic was used proportionally sparingly for rendering the stressed vowel of obsolete lexemes, compared to contemporary lexemes – although Egyptian vowels were used in glossing the former, but not the latter. Despite the utilisation of orthographically

shallow Old Coptic, it should be stressed that innovative spellings in demotic still predominate, with two-thirds of the orthographic methods utilised for glossing both obsolete and contemporary lexemes being demotic-derived. Thus, Old Coptic here cannot be said to have served as anything more than a *supplement* to, rather than *substitute* for, endographic Egyptian writing.

Historical Orthographies

As treated for P. BM EA 10808, above (5.2.2.1), a further aspect worth considering is historical spellings, i.e. whether the demotic-derived consonantal graphemes chosen in the Old Coptic glosses render the historical orthographies of the hieratic lexeme, and thus historical phonetic realisations, or whether, instead, they render contemporary vocalisations.

In the majority of cases the demotic-derived consonantal graphemes chosen accord with those in the historical hieratic orthography, whether in glosses to hieratic orthographies utilising monoconsonantals for obsolete⁴¹, contemporary⁴², or hapax⁴³ lexemes, or for the glosses to hieratic orthographies utilising biconsonantal or triconsonantal graphemes for obsolete⁴⁴ and contemporary⁴⁵ lexemes. In one-third of cases, however, the demotic-derived graphemes utilised for obsolete⁴⁶ and contemporary⁴⁷ lexemes do not render the historical hieratic orthography. Thus, while Old Coptic transliterations were able to draw directly on the historical hieratic orthography, their vocalisation was not necessarily incongruous with, and therefore is likely to have been in line with, contemporary phonetic realisations.

⁴¹ Consider MOYCK (msk) “rumour/slander” (E2/9); 9OZ (hk) “to swallow” (F2/12); 9AB9B (hbbh) “to play” (J2/3); KO/B (khh) “to harm/be violent” (J2/19); BOH9N (bhn) “to branch off/set aside” (J2/21); ABH (sh^c) “to scratch/carve” (J9/21); ABKAEK (rkrk) “to stop” (J10/11); 9[OCQ]Z (hfg) “to drink milk” (J10/14); LB9H (dbhw) “to fish” (J11/4); HΔ (h^{cc}) “to empty/dry out” (J11/19); CZPHZ (sgrg) “yard” (J11/21); OYOLC (wts) “to lift up/announce” (J12/5).

⁴² Consider KΔTKT (ktkt) “to quiver” (H13); TOKC (tkc) “to reach/pierce” (J10/14).

⁴³ Consider TRAA corrected to TΔAA (dg^{rw}) (E2/11); 9EN[T]OT (hndd) (J2/13).

⁴⁴ Consider HΔH9N (hjh-jb) “storm(?) of the heart” (J2/14); OYOLAI (wd^c) “decision/judgement” (J3/17); 3MMEOY (hnm.t) “humanity” (J5/21); CΔKTI (skd) “to go around/avoid” (J11/5).

⁴⁵ Consider 9Δ (hj.t) “beginning” (J3/18).

⁴⁶ Consider AB (jh.t) “thing” (C2/3); Z[ε]Z jkk “to blow/flutter” (E2/3); ANHΔBHB (c [n] hbbh) “condition of slaying” (J10/8); ATOMT (jrj dmd) “to complete” (J10/17).

⁴⁷ Consider HWCQ (hjsf) “to oppose” (J2/4); ZOBC (hbs) “to plough/hack up” (J6/8); THB (dbi) “to replace/repay/block” (J5/16); [O]YOPT (wrđ) “to be/grow weary” (J10/8).

The historically-accurate utilisation of demotic-derived graphemes in the Old Coptic transliteration, then, was perhaps simply because their palaeographic predecessors were apparent to the glossing scribe through the hieratic orthography.

Alternative Glossing

Interesting to consider are those entries which have been glossed more than once, e.g. *tkš* “to reach/pierce” glossed with both its established demotic orthography *tkš* and the alphabetic transliteration *TOKC* (J10/14). An analysis of the distribution of entries which appear more than once in Section I did not, however, yield any discernible patterns⁴⁸.

In many instances the repeated lexemes are glossed in the same way⁴⁹ – especially when glossed alphabetically⁵⁰, in certain instances in a similar but playfully-different way⁵¹, or in a way that reflects both historical and contemporary pronunciation⁵², although in other instances, without any clear rule⁵³. This diversity could suggest: (i) the glossing scribe was not familiar with which entries featured in this entire section from the outset; (ii) glossing was not contemporary – whether copied from a *Vorlage* or undertaken over years; (iii) not all the glossing was undertaken by the same scribe. Ultimately, the likelihood of each of these possibilities cannot be discerned.

⁴⁸ For example, one hypothesis was that such lexemes cluster in two or more separate columns in the manuscript, which might have suggested that the composition itself was a compilation of several *Vorlagen*.

⁴⁹ For example, obsolete *sʿrk* “to complete” glossed twice with a monoconsonant and homeophone (*iw=*)*s-ʿrk* (J5/20; 5/24); obsolete *bhn* “to remove/punish” glossed twice with <j> (**ei* < ʃ) (B3/10; B3/12); contemporary *hdb* “to kill”, where discernible, glossed with its established demotic orthography (J5/24; J6/7; J6/21; J6/23).

⁵⁰ For example, *jk* “to blow/flutter” glossed ʒEʒ (E1/10; E2/3); *bnbn* “to make flow/swell” glossed B&N[B&N] (H8) followed by “ditto” (H10); *khb* “to harm” glossed KOʿB (J 2/19; J2/22); *skd* “to go around/avoid” glossed C&KʿTl (J11/5; J11/23). The exception is contemporary *db* “to replace/repay/block” glossed firstly with THB (J5/16) and secondly with its established demotic orthography (J12/3). Yet, this is not a peculiarity of the glossing of contemporary vs obsolete verbs, because *wrdw* “to be/grow weary” is glossed both OY&PʿT (J10/8) and [O]YOPT (J10/9).

⁵¹ For example, hapax *pš* “sharing(?) pot” glossed firstly and secondly with the homeophone – likely, root – *pš* “to share” (J12/12; J12/13) and in the secondly instance also with the hieratic homeophone *ph* (J12/13). Consider also contemporary *km* “to throw/create/produce” glossed firstly with the established demotic orthography (A1/6) and secondly with the homeophonic ideogram ʾ (J10/13).

⁵² Consider obsolete *ʿr* “to accomplish/supply” glossed firstly ʿ-l-ʿ-l-Sa (J5/15) and secondly ʒ-r-ʒ-r-Sa (J5/15).

⁵³ For example, obsolete *hrwy* “hostility/war” occurs, and is glossed, on four occasions (B3/19; J3/13; J7/22; I23): the first is damaged; the second and third are apparently the unclassified monoconsonantals *h-l-y* (with damage making it unclear whether classifiers were ever written); the fourth is simply vocalic demotic ʾi/*e.

Semantic Glossing

In some seemingly rare instances, the glossing scribe sought to provide both phonetic and semantic information. For example, ḥti “to carve/inscribe” is glossed with 𓂀 (A1/16), the synonym štm (J 5/24), the homeophone šdy “to remove” (J 9/19), and with another gloss too damaged to discern (A1/18). Synonyms were, however, utilised sparingly in this entire section, for only two obsolete lexemes: m^c(r)dy glossed mtrj “to set right” (J11/21); ptpt “oil from a snake(?)” glossed gys “ointment” (J12/10), and for four contemporary lexemes: ḥti “to carve/inscribe” glossed štm “to carve” (J5/24); šḥpr “to bring into being” glossed 𓂃 ḥt ḥpr “the first manifestation” (J11/1); jdnw “to represent” glossed ḥr=f “under him” (J12/7); šw “beer jug” glossed ps “jar” (J12/11). In addition, “type of” glosses are only found in four instances: a homeophonic analogy to swḥ “to bind & garment” (A1/23) by referring back to šḥs[ḥ] “to trample” glossed n kt šsr “type of linen” (A1/23) for two obsolete lexemes šḥḥ (B4/6) and šḥw (B4/7) and for the contemporary lexeme šḥš “to trample/pound” – as well as glossing a lost word as a “type of” snake (ḥf) (D3/7).

With so few semantic glosses to complement the broader semantic fields of Section I’s synonym-vocabulary, Osing’s conclusion that the comprehensive glossing enabled a Demotic literate to both decipher and understand the linear hieratic text cannot be maintained.

Annotation and Punctuation

Furthermore, the utilisation of the annotation ky-ḏd “another says” which precedes an entry with a similar semantic value to the preceding, and the diacritic > “ditto” which follows an entry with a similar semantic value to the preceding, does not always provide unambiguous and/or accurate semantic values – let alone the semantic nuance – of the annotated entry. For example, lines H7-9 hardly list true synonyms: jrj ḥdb “to overcome”; bnb > “to swell; ditto”; ky-ḏd škrkr “another says; to roll around”; ky-ḏd phr “another says; to circulate”; [dnb]ḥ > “to turn aside; ditto”; sbj > “to slide(?); ditto”. An example of a similar problem is illustrated in H11-H12, which reads: jrj nwr “Concerning; to shake/tremble” · mnmn “to move about/shift” · pn^c [...] “to turn upside down”; njn > “to tremble/shake; ditto”;

ḳṛḳṛ > “to spread over; ditto”; ntḥi “to run/hurry(?)”. No annotations are provided to clarify the semantic relationship between obsolete nwr and contemporary mnmn, which share a semantic field but are by no means synonyms, while obsolete ḳṛḳṛ is annotated as if a synonym of contemporary njn, and consequently pn^c, which likewise share a semantic field but are by no means synonyms.

In certain other cases, however, annotations would have been effective in informing a deciphering reader that the semantic value of an entry is directly comparable to that of related entries, e.g. nmmn > “to move to and fro; ditto” ky-dd k[tk] “another says; to quiver” (H13) – where the former being a contemporary, and latter being an obsolete, lexeme suggests that a deciphering reader could have understood the semantic value of ktk with reference to the contemporary synonym. Even so, this is an exceptionally rare example.

Thus, although supralinear annotations are often insufficient on their own to enable a reader to decipher the phonetic and semantic value of the annotated lexeme, by using both phonetic and semantic glosses this section *could* have been turned into a fully-fledged source of lexical and linguistic information that a Demotic literate could have utilised to decipher the phonetic value and understand the semantic value of the hieratic orthographies. Given, then, that examples of such are by far the exception rather than the rule, I would argue that without a “living lexicon” to complement this written compendium, Section I’s synonym-vocabulary would not have been functional for teaching hieratic to an exclusively Demotic literate.

6.2.2.1.2 P. Carlsberg 2.1 Section II Synonym-Vocabulary of Nouns

Section II comprises a synonym-vocabulary of nouns organised according to semantic fields which are broadly grouped by the classifiers with which their conventional established hieratic orthographies were written. The entries comprise sections on writing, reading, the practice of rituals, and medicine, as well as buildings, toponyms, topographical terms, foreign lands and their people, and time, festivals, diseases, and wooden objects. Following the entries on wooden

objects, a fundamental change in the character of the wordlist occurs, whereby the simple lexical entries cease, and lexemes are instead listed with explanations of their meaning – transitioning the composition from a synonym-vocabulary to a glossary of terms (6.2.2.1.3). Thus, two sub-sections will be delineated within Osing’s Section II. Distinct from Section I, yet similar to Sections III and IV, the content of these sections is partially paralleled in earlier onomastica (HPT: 31 n.80). Based on the preservation of the fragments, Section II’s synonym vocabulary could once also have contained as many as 2,000 original entries⁵⁴.

Figure 6.2.2.1.2a tabulates examples of each of the orthographic methods utilised for the glossing of the entries in Section II’s synonym-vocabulary.

Innovative Glosses to Section II S-V	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Gloss	Reference	Lemma	Translation	Gloss	Reference
Unclassified Monoconsonantals	bsy (<bs.w)	“swelling”	b-y-s-y	L16	pdt	“bow”	p-t	N4/5
Classified Monoconsonantals	rwy	“to expel/drive off”	l-y-w-y-Sa	J13/20	sgb	“Geb”	(iw=)s-g-b-w-Go	J18/23
Homeophones (Hieratic)	NA				NA			
Homeophones (Demotic)	št	“mine/quarry”	šwt “merchant”	J21/1	wł	“darkness/ night”	wł “column”	K3/16
Monoconsonantals & Homeophones	dw.wj	“two mountain ridges”	t-wj “to be far”	J21/7	NA			
Alphabetic	st	“work/activity”	CTΔI	M15	łbs	“festival”	9BC	J13/12
Old Coptic Vowel	włt (<włd.w)	“pain”	ε	M5	włt	“decree”	ε	J12/15
Egyptian Vowel	ły.t	“shallow water”	j (*ci < [~] Δ)	J20/2	NA			
Synonyms	šw.t	“shadow”	łyb “shadow”	K4/8	bwłt	“hill”	łjw & ł ^h “high land”	J20/23
Type Of	pr-ł ^{cc}	“House of Celebration”	[n] kd ršy(?) “type of joy(?)”	J5/13	Non-Semantic			
Explanations	NA				łs.tjw	“foreigners”	rmł.w “people”	J16/11

⁵⁴ This is a notably smaller proportion of the “common substantive nouns” booked in the TLA for Egyptian (12,966) and for Demotic (4,563).

Figure 6.2.2.1.2b tabulates the proportional analysis of the established hieratic and demotic orthographies utilised for the glossing of entries in Section II’s synonym-vocabulary, the total number and the proportion of those unglossed, and the proportional analysis of the orthographic methods utilised for the glossing of the entries in Section II’s glossary with *innovative* spellings, directly comparable between obsolete and contemporary lexemes⁵⁵.

Glosses to Section II S-V	Obsolete		Contemporary		Hapax	
	Number	Proportion	Number	Proportion	Number	Proportion
Established Hieratic	0	0.0 %	0	0.0 %	0	0.0 %
Established Demotic	NA	NA	72	56.7 %	0	0.0 %
Total	158	100.0 %	152	100.0 %	40	100.0 %
Unglossed	13	8.2 %	25	16.4 %	1	2.5 %
Innovative Glosses to Section II S-V	Obsolete		Contemporary		Hapax	
	Number	Proportion	Number	Proportion	Number	Proportion
Unclassified Monoconsonantals	28	19.3 %	4	7.3 %	2	5.1 %
Classified Monoconsonantals	43	29.7 %	15	27.3 %	11	28.2 %
Homeophones (Hieratic)	0	0.0 %	0	0.0 %	0	0.0 %
Homeophones (Demotic)	39	26.9 %	17	30.9 %	13	33.3 %
Monoconsonantals & Homeophones	1	0.7 %	0	0.0 %	1	2.6 %
Alphabetic	20	13.8 %	3	5.5 %	5	12.8 %
Old Coptic Vowel	7	4.8 %	11	20.0 %	3	7.7 %
Egyptian Vowel	2	1.4 %	0	0.0 %	1	2.6 %
Synonyms	4	2.8 %	2	3.6 %	2	5.1 %
Type Of	1	0.7 %	1	1.8 %	1	2.6 %
Explanations	0	0.0 %	2	3.6 %	0	0.0 %
Total Glossed	145	100.0 %	55	100.0 %	39	100.0 %

Of note is that a proportion twice as large of contemporary compared to obsolete lexemes are without glosses. In addition, the values and proportions suggest a preference for glossing obsolete lexemes with unclassified monoconsonantals, with proportionally twice as many attested than in the glossing of contemporary lexemes. Although the proportions of innovative

⁵⁵ 4 “ditto” annotations are also attested to contemporary, and 2 to hapax, entries; 2 “likewise” to obsolete entries, and one to a contemporary and a hapax entry; 10 × diacritics to obsolete, and 11 to contemporary, entries; as well as 2 “beginning-end” annotations to hapax entries.

spellings with classified monoconsonantals or demotic homeophones are directly comparable, there is a clear correspondence between the register of the lexeme and utilisation of alphabetic glosses. Interestingly, selective glossing of the stressed vowel in Old Coptic is attested four times more frequently for contemporary than obsolete lexemes, although obsolete lexemes themselves are more frequently glossed and, indeed, glossed with orthographically shallow monoconsonantals or Old Coptic. Nonetheless, it must be stressed that innovative spellings in demotic predominate, with three quarters of obsolete, and two-thirds of contemporary lexemes, glossed with demotic-derived orthographic methods. Thus, Old Coptic again served as a *supplement* to, rather than *substitute* for, endographic Egyptian writing.

Historical Orthographies

Regarding historical orthographies, the majority of demotic-derived consonantal graphemes chosen do render historical phonetic realisations, whether for obsolete⁵⁶, contemporary⁵⁷, or hapax⁵⁸ lexemes. However, one-third of demotic-derived consonantal graphemes do not render historical orthographies, but contemporary phonetic realisations⁵⁹. As in the preceding section, this suggests that while the Old Coptic transliterations were able to draw directly on the historical hieratic orthography to be glossed, their vocalisation was not necessarily incongruous with, and therefore is likely to have been in line with, contemporary phonetic realisations, and the accurate utilisation of demotic-derived consonantal graphemes in the Old Coptic transliteration was simply because their palaeographic predecessors were apparent to the glossing scribe through the hieratic orthography.

⁵⁶ Consider ⲁⲕ (m-ḳ) “opposite” (J21/10); ⲛⲏⲡⲓⲛⲓ (nhp(.w)) “early morning” (K3/10); Ⲙⲟⲩⲗⲁ (swḏ) “to pass on” (K4/16); ⲕⲏⲡⲓⲛⲓ (ḳp(w)t) “hidden one” (L11); ⲩⲙⲣⲓ (šmr(.t)) “bow” (N4/6); Ⲙⲩⲙⲓ (sšmi) “to conduct” (J13/15).

⁵⁷ Consider 9ⲐⲘ (ḥbs) “festival” (J13/12); Ⲙⲏⲉⲑⲙ (snḥm) “30th day of the month” (K1/12).

⁵⁸ Consider ⲩⲡⲉⲡⲓⲛⲓⲟⲓ (špp) (J13/17); ⲗⲟⲃ (ḏb.w) (J13/11).

⁵⁹ Consider ⲕⲏⲥ (ḥs) “ritual” (J13/10); ⲛⲉⲩⲟⲩ (nhwj) “complaint(?)” (L13); ⲧⲁⲘⲧⲓⲘⲓ (ḏsḏs<ḏsḏs) “Bahriya Oasis” (J17/3); Ⲙⲩⲕⲁⲁⲡⲓ (shj×kr n ḥf[y]) (O2/6).

Alternative Glossing

In many instances repeated lexemes are glossed in the same way⁶⁰, in certain instances in different ways⁶¹ or in ways which perhaps illustrate both archaic and contemporary pronunciation⁶². There are also instances when the gloss shows deliberate variation⁶³, is not repeated⁶⁴ or is never written⁶⁵, as well as those where there is no discernible pattern⁶⁶. Discerning whether the glossing scribe became increasingly familiar with entries as he glossed, however, is problematic because the examples noted – with the exception of the contemporary nouns *ḏw/tw* “mountain” and *ḥn/hn* “chest” – appear simply to render either consistent glosses or variant glosses, rather than suggesting a progression from unfamiliarity to familiarity. As with Section I, alternative glossing of the same lexeme also cannot be used to discern whether the glosses were copied from a Vorlage, were contemporary with the compilation, or were even undertaken by the same scribe.

Semantic Glossing

Semantic glosses are remarkably rare. Synonyms are provided for only a few words: *bwṣ(t)* “hill” is glossed with the homeophone *bw* as well as *ḥjw* and *ḥ^c* as words for “high land” (J20/23), while *rdw* “instruction” is glossed *ty-^c* “to give the arm” (J12/19), and *šw(.t)* “shadow” is glossed *ḥyb* “shadow” (K4/8). “type of” glosses are found with reference to certain types of *pr* “house” (J15/4; J15/13), although in a damaged context, as is *nbd*

⁶⁰ Consider the consistent glossing of *ḥt ṭw* “mast” (N3/22 N3/23; N3/24), *ḥ^cyt* “cow” (K3/7; K3/15), *mtr(.t)* “midday” (K3/8; K3/14; K3/15), and *rwhṣ* “evening” (K3/13; K3/17; K4/6).

⁶¹ Consider *mn.dj* “two mountain ridges” (J21/4; J21/12) glossed firstly *jdt* and secondly *MHN[ṭ]*; *whṣ* “darkness/night” glossed firstly with the homeophone *whṣy* “column” (K3/16) and secondly with the established demotic orthography *whṣy* (K4/7).

⁶² Consider *rdw* “efflux” glossed firstly with the homeophone *rt* “heron” (M9) but secondly with the unclassified monoconsonantals *l-y-ṭ-y* (M10); *šw(.t)* “shadow” glossed firstly with the homeophonic ideogram *šwt* (N6/8), preceded by the definite article, and secondly with the classified monoconsonantals *š-w-ṣ-F10* – in the latter case the semantic gloss *ḥyb* “shadow” is also given (K4/8 twice).

⁶³ Consider *[šht j]nr* “rushes” glossed firstly with *λλ* (J20/7) and secondly with *Ḗ* (J20/10); *whṭ* “pain” firstly with classified monoconsonantals *w-ḥ-t-Sp* (L17) and secondly *Ḗ* (M5).

⁶⁴ Consider *ḏw* (J21/12 twice) glossed firstly with the established demotic orthography *tw*, but secondly not glossed; *ḥn* “chest” (J13/20 twice; J13/21 twice; J13/22 twice; J13/23 twice; 13/24 twice) glossed in the first four, but not subsequent six, instances.

⁶⁵ Consider *dry* (<*ḏr*) “to hinder/put an end to” (J13/21; J13/22) and *jwn* “Heliopolis” (J21/10; J21/12), glossed on neither occasion.

⁶⁶ Consider the glossing, or absence thereof, of *hrw* “day” (J22/7; K1/10; K2/20; K3/14).

“night(?)” (K3/20). A “type of” gloss is also utilised in glossing pđt “bowman” (N4/5), however, n ƙd iwƒ “type of flesh” instead indicates a homeophonic analogy to pt “knee”.

Annotation and Punctuation

From Section II’s synonym-vocabulary, a section listing quarries and mountains is illustrative due to the utilisation of the diacritic > “ditto”, the red point (morpheme/lexeme marker), and the annotation ky-đđ “another says”: jr šƒw · đw · (Ɠ) > mn > mrw > dnjs > wdnw > šry > ƒƙ > mn.dj > jkw · ƒkw · ky-đđ wrw [·] kpy · dhnt · đw · ƒn.wj · đw jmntt · đw ƒbtt · (J21/1-J21/6). Notable is that this particular list begins with obsolete šƒw “mountain/quarry/hill”, whereby the homeophonic demotic orthography šwƔ “merchant” only provides a phonetic value. The following three lines then list entries which are supposed to have meanings “likewise”, i.e. “mountain of precious stone”, “mountain”, “desert”, “weight(s)”, “heavy block(s)”, šry (hapax), ƒƙ (hapax), “two mountain ranges” – all of which are followed by the diacritic > “ditto”. Each of these are provided with their own series of glosses – either monoconsonantals or homeophones, given that all but đw Ɠ are obsolete. Thus, in this rare case, although the semantic fields of these obsolete and hapax lexemes would only have been contracted to that of the obsolete lexeme šƒw “mountain/quarry/hill”, at least the majority of these lexemes would also have been decipherable through their own phonetic glosses.

6.2.2.1.3 P. Carlsberg 2.1 Section II – Glossary of Nouns

Section II has been delineated into two sub-sections because the preceding synonym-vocabulary of nouns is followed by a glossary of nouns. These entries are no longer simply listed, but are, in many cases, supplemented with explanations, e.g. Ɠ ƒ [... m(?)] ƒƒ.wj-jđhw wnn=f m jnm ƒđ [km] đšr ktt -pw ƒn=f ƒr-tp [... “Bee/Fly(?): It [lives] in the marshes of the papyrus marsh. It is of white, [black], and red colour. It is a small one, which lands upon [...]” (S1/12-14). Entries in N9/2(?)–11 and O–U all relate to the animal kingdom, from mammals

to crocodiles, snakes, worms, vermin, birds, fish⁶⁷, and turtles (HPT: 32). Worth reiterating is that although explanations are given to each entry, they were still written in hieratic.

Thus, without glosses or the aid of a “living lexicon”, these explanations would have been opaque to an exclusively Demotic literate. Based on the preservation of the fragments, Section II’s glossary could once also have contained as many as 1,000 explicated entries.

Figure 6.2.2.1.3a tabulates examples of each of the orthographic methods utilised for the glossing of the entries in Section II’s glossary.

Innovative Glosses to Section II G	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Gloss	Reference	Lemma	Translation	Gloss	Reference
Unclassified Monoconsonantals	št.w	“turtle”	ḥ-y-t	U/15	bḥs	“calf”	b-ḥ-s	N9/20
Classified Monoconsonantals	kṛ	“chameleon”	ḳ-r-ṣ-Ti	O2/4	bḥd[.tj]	“the one from Edfu”	b-ḥ-t-t-Ti(?) Go	P2/10
Homeophones (Hieratic)	gṣydj	“wings”	gsi “to run”	R2/5	rṣ	“goose”	r’ “mouth”	O2/16
Homeophones (Demotic)	nri	“to protect / tend”	nṣ “to go”	O2/8	sṣt (< sṣ)	“sheep”	sw “six”	N10/2
Monoconsonantals & Homeophones	ḥdd(j).w	“the flying-ones”	ḥ-tṣ-jd.t “ḥ, the womb”	S2/12	NA			
Alphabetic	nšm	“fish scales”	nṣṣmḥ	U4	[m]nḥ.w	“young animals”	mḥḥḥ	N9/18
Old Coptic Vowel	wr wr[dw]	“Great wrd-goose”	wr wltṣ ḥ	O2/19	šnj	“hair”	ḥ	N9/22
Egyptian Vowel	trp (<trp)	“white-fronted goose”	jw.t (*e < ṣ)	J20/2	NA			
Synonyms	NA				NA			
Type Of	ḥḥr	“Jaculus”	n ḳd pny “type of mouse”	O2/11	NA			
Explanations	ḥr ḥṣw	“concerning crocodiles”	pṣ nty ḥr jr.tj=f “the one with two eyes”	N11/6	NA			

⁶⁷ Note the partially-preserved title: “all [fish] in the water, their names” (U14).

Figure 6.2.2.1.3b tabulates the proportional analysis of the established hieratic and demotic orthographies utilised for the glossing of entries in Section II’s glossary, the total number and the proportion of those unglossed, and the proportional analysis of the orthographic methods utilised for the glossing of the entries in Section II’s glossary with *innovative* spellings, directly comparable between obsolete and contemporary lexemes⁶⁸.

Glosses to Section II G	Obsolete		Contemporary		Hapax	
	Number	Proportion	Number	Proportion	Number	Proportion
Established Hieratic	0	0.0 %	3	4.3 %	1	1.5 %
Established Demotic	NA	NA	36	52.2 %	0	0.0 %
Total	121	100.0 %	102	100.0 %	72	100.0 %
Unglossed	10	8.3 %	33	32.4 %	4	5.6 %
Innovative Glosses to Section II G	Obsolete		Contemporary		Hapax	
	Number	Proportion	Number	Proportion	Number	Proportion
Unclassified Monoconsonantals	10	9.0 %	5	16.7 %	15	22.4 %
Classified Monoconsonantals	28	25.2 %	2	6.7 %	4	6.0 %
Homeophones (Hieratic)	5	4.5 %	4	13.3 %	4	6.0 %
Homeophones (Demotic)	30	27.0 %	10	33.3 %	24	35.8 %
Monoconsonantals & Homeophones	2	1.8 %	1	3.3 %	4	6.0 %
Alphabetic	18	16.2 %	2	6.7 %	8	11.9 %
Old Coptic Vowel	4	3.6 %	5	16.7 %	3	4.5 %
Egyptian Vowel	7	6.3 %	0	0.0 %	2	3.0 %
Synonyms	0	0.0 %	0	0.0 %	0	0.0 %
Type Of	4	3.6 %	1	3.3 %	3	4.5 %
Explanations	3	2.7 %	0	0.0 %	0	0.0 %
Total Glossed	111	100.0 %	30	100.0 %	67	100.0 %

Much starker than in the previous sections, a proportion four times as large of contemporary compared to obsolete lexemes are without glosses. This is, however, to be expected, given that the explanations themselves comprise a large number of contemporary lexemes. That being said, there is a much higher proportional utilisation of unclassified monoconsonantals for

⁶⁸ 5 “ditto” annotations are also attested to obsolete entries, 1 to a contemporary entry, and 5 to hapax entries; 1 “supra” to an obsolete and a contemporary entry; as well as 10 × diacritics to obsolete entries, 1 to a contemporary entry, and 9 to hapax entries.

contemporary lexemes, while classified monoconsonantals are much more frequent for obsolete lexemes. The utilisation of orthographically shallow innovative spellings in demotic is notable alongside the higher proportion of classifiers in such glosses to obsolete lexemes – providing some semantic clarification. Interestingly, the proportional utilisation of demotic homeophones is comparable for both registers, although hieratic homeophones are, notably, more common for contemporary than obsolete lexemes. Comparable to the preceding sections, alphabetic glossing predominates with obsolete lexemes – consistent with the motivation to gloss with an orthographically shallow method, while glossing of the stressed vowel in Old Coptic predominates with contemporary lexemes. Nonetheless, it must be stressed that innovative spellings in demotic predominate, with three quarters of obsolete, and two-thirds of contemporary, lexemes being glossed with demotic-derived orthographic methods. Once again, Old Coptic served as a *supplement* to, rather than *substitute* for, endographic Egyptian writing.

Historical Orthographies

In the majority of cases the demotic-derived consonantal graphemes chosen do render historical phonetic realisations, whether in the transliteration of hieratic monoconsonantal orthographies for obsolete⁶⁹ or contemporary⁷⁰ lexemes or in the transliteration of hieratic biconsonantal or triconsonantal orthographies for obsolete⁷¹ and contemporary⁷² lexemes. One-third, however, do not reflect these historical hieratic orthographies, but rather contemporary phonetic realisations – whether for obsolete⁷³ or contemporary⁷⁴ lexemes.

As in the preceding sections, this trend suggests that while the Old Coptic transliterations were able to draw directly on the historical hieratic orthography, their vocalisation was not

⁶⁹ Consider 3T (ḥḏi) “harmful” (N11/4); KETOY ([k]dy) “cockroach” (O2/11); 9CMH (ḥsmw) “ḥsm-goose” (O2/22); LCHI (tsy.w) “tsy-fish” (U2); NΘ3MH (nsm.w) “fish scales” (U4).

⁷⁰ Consider 3TΔ (ḥdj) “to cense” (O2/10); KTH (kt) “small” (U17).

⁷¹ Consider LB3H (ḏ[bḥw]) “fisherman” (U4). Note also hapax ΠΕΞΛ (pikrw) (O2/3).

⁷² Consider MNJH (mnḥ.w) “young animals” (N9/18).

⁷³ Consider 3T (ḥḏi) “harmful” (N11/4); TOCC (ds=s) “herself” (O2/8); ΕΗΘ (jrtw) “colour” (O2/10); 3NΘC (ḥn=f) “to set down” (S1/14); TΔCT[C] (dsds<dsds) “Bahriya Oasis” (J17/3).

⁷⁴ Consider OY3I (ḥt) “inundation” (R2/12).

necessarily incongruous with, and therefore is likely to have been in line with, contemporary phonetic realisations. Thus, the accurate utilisation of demotic-derived consonantal graphemes in an Old Coptic transliteration was simply because their palaeographic predecessors were apparent to the glossing scribe through the hieratic orthography.

Semantic Glosses

Of the four glosses to obsolete lexemes with the potential to elaborate the semantic value of the glossed lexeme, all are “type of” glosses. However, only one of these does indeed clarify the meaning of the glossed entry, i.e. ḥḏr “Jerboa” glossed n ḳd pn[.]y “type of mouse” (O2/11). Another appears rather ambiguous, i.e. rnpy “colt” glossed n ḳd ḥḳḳ “type of barber”, which Osing suggests might relate to the prefix PM- “person of” (HPT: 122 n.e). However, Quack (personal communication) notes that in the Book of the Temple (1.2.3.2), rnpi “to renew” is translated ḥḳḳ “to shave”, demonstrating an established accordance between these two roots, and thus between two nouns derived from them: rnpy “colt” and ḥḳḳ “barber. The other two instead clarify the gloss itself: the aforementioned gṣydy “wings(?)” glossed gsi “to run” and Ⲉ (R2/5) sees the gloss referred to as [n ḳd] mšḥ “type of going”; ḳrḥt “Primordial deity” is glossed n ḳd Ⲑ “type of vessel” (W24) – a homeophonic analogy to ḳrḥ.t “vessel” (HPT: 136 n.l). Three explanations are also attested, including two regarding crocodiles: ḥr ḥḥ.w “concerning crocodiles” glossed pṣ nty ḥr jr.tj=f “the one with two eyes” (N11/6); jr ḥntj “regarding crocodiles” glossed nṣ rn.w nṣ msh.w “the names of the crocodiles” (N11/5) – beginning a list of Egyptian types of, or synonyms for, crocodiles.

Annotation and Punctuation

Another justification for separating this glossary of nouns from the synonym-vocabulary of nouns typologised by Osing is the way in which linear annotation and punctuation is utilised. Dissimilar to the preceding section, the diacritic > “ditto” is utilised rarely, no doubt because the majority of entries are given explanations, e.g. in the list of insects: jr ḥr · m p.t [·] n sm.w(?) · ḳdy “Concerning that which falls from the sky into the herbs(?); cockroach”

(O2/7). In that entry, the title serves to describe the entries listed subsequently – the description itself being graphically parsed from the subsequent entry by red points. The sequence continues: ky-dd šmšm jw(r) · ḥpr ds=s · ẓdj “another says; the šmšm plant, to arise by itself; cockroach” (O2/8). In that entry, this variant description is also graphically parsed by red points. The next statement ʕpšyt -pw wrt “it is a great grasshopper” (O2/9) is also graphically parsed, both distinguishing it from the preceding ẓdj “cockroach”, and providing a variant for the type of insect found to have fallen upon the šmšm-plant. Notable, therefore, is that the next description is not graphically parsed in any way: wn jrtw=s mj ḥt m sḏt “Its colour is like something in fire [...]” (O2/10). While this description could aid identification, both ẓdj “cockroach” and ʕpšyt “grasshopper” are obsolete – the former being glossed with a combination of vowels rendered in demotic and perhaps a homeophone, the latter with classified monoconsonantals. Thus, although glosses provide part or whole phonetic values for the entries glossed, and punctuation aids a reader in distinguishing between different morphemes and lexemes in each explanation, the crucial semantic value of the entries is missing, and – unlike in the preceding two sections – the relationship between entries is not explicated through the use of the diacritic > “ditto”. Consequently, even this written compendium of entries with explanations is insufficient for an exclusively Demotic literate to learn hieratic, without the supplementary knowledge of a “living lexicon” familiar with such obsolete lexemes and their hieratic orthographies.

6.2.2.1.4 P. Carlsberg 2.1 Section III – Glossary of *Materia Sacra*

Section III, unlike the preceding sections, is onomastic in nature, listing the *materia sacra* of Egypt, including sacred toponyms, animals, and trees, as well as deities, priestly titles, shrines, and the dimensions of Egypt and hierarchy of the divine world. Following these entries, and comparable to the break between the synonym-vocabulary and glossary in Section II, the organisation of Section III changes from a glossary to a simple word list of synonyms, with Y2/x-6/2 comprising a list of divine snakes. Thus, two sub-sections will be delineated within Osing’s Section III. What’s more, the significant change in textual content from

Section II and III is further evidence that Sections I and II and Sections III and IV are distinct manuscripts. Based on the preservation of the fragments, Section III's glossary could once have contained around 1,200 explicated entries.

Figure 6.2.2.1.4a tabulates examples of each of the orthographic methods utilised for the glossing of the entries in Section III's glossary.

Innovative Glosses to Section III G	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Gloss	Reference	Lemma	Translation	Gloss	Reference
Unclassified Monoconsonantals	jm.j hnt	"chamberlains"	m h-n- 𓂏	X5/12	šb.w	"secrets"	š-t-j (*ci < 𓂏)	V1/12
Classified Monoconsonantals	wr[r]y[t]	"Upper Egyptian crown"	w(r)-l-y-l-y- 𓂏	V4/18	si[.w]	"Sais"	s-y-D3(?)	V5/10
Homeophones (Hieratic)	jn.wj (< jnr.tj)	"Gebelein"	ḥnw "limestone"	X4/6	nwt×wrt	"Great Town"	nḥ.w wrt "(adjectival verb), Uraeus"	V2/12
Homeophones (Demotic)	jst tšw	"(a sacred mound)"	r ty "in order to give"	V2/10	jwn.w	"Helipolis"	iny "stone"	X3/4
Monoconsonantals & Homeophones	hr.j- 𓂏	"Babylon"	h- 𓂏 "h, to fight"	W3/10	NA			
Alphabetic	jp.t	"Opet"	ΔΠ[l]	V4/21	hr=s	"under it"	𓂏𓂏𓂏[C]	X2/12
Old Coptic Vowel	bwt=f	"abhorrence of him"	Δ	X4/1	srkt	"Selqet"	ε	V5/14
Egyptian Vowel	dp.jt	"She of Dep"	jw.t (*e < 𓂏)	X2/2	ntrj.wt	"goddesses"	ntr.wt & jriw (*ai < o)	X3/3
Synonyms	ḥ	"man"	ḥwt "man"	W2/10	ṭ	"earth/land"	jdṇ "ground/earth"	V4/20
Type Of	nḥjw	"(Toponym)"	n kd t-y-m-y-Wa-Ka 𓂏𓂏𓂏𓂏 "type of village: 𓂏𓂏𓂏"	V2/13	NA			
Explanations	NA				ḥbw.wj	"two horns"	iny ḥbw(t) "pair of horns"	W3/13

Figure 6.2.2.1.4b tabulates the proportional analysis of the established hieratic and demotic orthographies utilised for the glossing of entries in Section III's glossary, the total number and the proportion of those unglossed, and the proportional analysis of the orthographic methods utilised for the glossing of the entries in Section II's glossary with *innovative* spellings⁷⁵, directly comparable between obsolete and contemporary lexemes.

Glosses to Section III G	Obsolete		Contemporary	
	Number	Proportion	Number	Proportion
Established Hieratic	0	0.0 %	6	3.4 %
Established Demotic	NA	NA	131	74.4 %
Total	147	100.0 %	453	100.0 %
Unglossed	34	23.1 %	279	61.6 %
Innovative Glosses to Section III G	Obsolete		Contemporary	
	Number	Proportion	Number	Proportion
Unclassified Monoconsonantals	15	13.3 %	1	2.7 %
Classified Monoconsonantals	34	30.1 %	5	13.5 %
Homeophones (Hieratic)	3	2.7 %	2	5.4 %
Homeophones (Demotic)	11	9.7 %	7	18.9 %
Monoconsonantals & Homeophones	2	1.8 %	0	0.0 %
Alphabetic	35	31.0 %	6	16.2 %
Old Coptic Vowel	6	5.3 %	7	18.9 %
Egyptian Vowel	1	0.9 %	5	13.5 %
Synonyms	2	1.8 %	3	8.1 %
Type Of	4	3.5 %	0	0.0 %
Explanations	0	0.0 %	1	2.7 %
Total	113	100.0 %	37	100.0 %

Immediately apparent is that for both contemporary and obsolete lexemes, a much larger proportion are without glosses than in the preceding sections, with a proportion two and half times larger of contemporary, compared to obsolete, lexemes being without glosses.

A considerably larger proportion of obsolete lexemes are glossed with unclassified and

⁷⁵ 3 “ditto” annotations are also attested to obsolete, and 4 to contemporary, entries; 4 “supra” to obsolete, and 5 to contemporary, entries; 29 × diacritics to obsolete, and 38 to contemporary, entries; as well as 1 “beginning-end” annotation to an obsolete entry and 7 to contemporary entries.

classified monoconsonantals, while – as has been seen for preceding sections – demotic homeophones predominate for contemporary lexemes. Such orthographies, however, often comprising ligatures and root-groups, are not necessarily orthographically shallower, and thus it is notable that alphabetic glosses are twice as common for obsolete as contemporary lexemes. Comparable to the preceding sections, this is in direct comparison to a considerably larger proportion of contemporary lexemes whose stressed vowels are glossed in both Old Coptic and Egyptian. Unlike preceding sections, less than two-thirds of glosses to obsolete, and less than one-half to contemporary, lexemes utilise demotic-derived orthographic methods. Thus, the proportionally more significant utilisation of orthographic methods such as alphabetic glossing which is orthographically shallow alongside selective complementary glosses such as those for rendering stressed vowels provide a significantly larger proportion of pronunciation aids for the reader than in the preceding sections.

Historical Orthographies

Unlike the preceding sections, demotic-derived consonantal graphemes render historical phonetic realisations in only one-half⁷⁶ of instances. Therefore, as with the preceding sections, this suggests that the accurate utilisation of demotic-derived consonantal graphemes in Old Coptic transliteration was simply because their palaeographic predecessors were apparent to the glossing scribe through the hieratic orthography, rather than an attempt to render historical vocalisations.

Semantic Glosses

As in preceding sections, semantic glosses are rare. Only one single pair of glosses has the capacity to provide both the phonetic and semantic value of the glossed lexeme to a Demotic literate: nh̥w, a hapax toponym, is glossed n ƙd ȡ-y-m-y-Wa-Ka “type of village” and n̥ʒOY (V2/13). For obsolete lexemes, there are four “type of” glosses, although [šst̥] “nightfall”

⁷⁶ Consider ȡHPΔIC (hr=f) “under him/it (m.)” (V4/7); 3ΠΔOY (h̥p̥x̥jw̥tw) “Athribis” (V4/11); 9ETCWOYI (h̥w.t̥ j̥t̥β̥ wr) (hapax) (V2/22); OY̥TΔC (w̥d̥=f) (V4/10); OY̥WT (w̥d̥) (V4/10); n̥ʒOY (nh̥w) (hapax) (V2/13).

glossed n ꜥd grḥ “type of night” (X2/3) is the only complete example, and two synonyms: ꜥ “man” glossed ḥwtꜥ “man” (W2/10) and mꜥrꜥdd “well spoken” glossed mtry dd (X2/13). For contemporary lexemes, there are three synonyms: ḥꜥꜥsnf r ꜥ m ꜥꜥšꜥꜥꜥ “Blood has fallen to the ground in the mꜥꜥ-lake” glossed ḥꜥꜥ snf [jw] ꜥꜥjdn m šy “Blood has fallen to the ground in the lake” (V4/20); ꜥbw.wj “two horns” glossed tp “horn” (W3/7); ḥ.t “body” glossed tp “head” (X3/13). One explanation is attested, i.e. ꜥbw.wj “two horns” glossed iny ꜥbw(t) “pair of horns”⁷⁷ (W3/13).

Annotation and Punctuation

Although the sub-sections within Section III’s glossary are delineated by use of the linear annotation jr “concerning”, otherwise notable by its absence – with the exception of the list of holy animals in column W1 and aspects of the hierarchy of the divine world in column X5 – is the utilisation of linear annotation and punctuation. In X5, the diacritic > is utilised to list variants beside one another, e.g. jr imy-rꜥ wꜥb shmtꜥšꜥꜥ > ky-dd ḥr sms “Concerning the overseer of the priests of Sekhmet of Upper Egypt; likewise; another says; Horus the Elder” (X5/7); jr imy-rꜥ s.t > shꜥ wthꜥ > “Concerning the overseer of the kitchen; ditto; scribe of the offering jug(s); ditto” (X5/8). Thus, in this section the diacritic > does not list variants of equivalent or closely-related semantic value, but – as illustrated in X5/7 – variants concerning the duties related to those titles⁷⁸.

6.2.2.1.5 P. Carlsberg 2.1 Section III – Synonym-Vocabulary of *Materia Sacra*

Essentially comprising a list of snakes, this sub-section is by no means as substantial as the preceding, but nonetheless must be delineated because of the shift from a glossary of explicated entries to a simple list. Based on the preservation of the fragments, Section III’s glossary could once have contained around 1,800 entries. Of the nine obsolete entries, six are glossed. Of those three phonetic glosses, one is an unclassified monoconsonantal gloss preceding a vowel in

⁷⁷ Through homeophonic analogy, cf. HPT: 159 n.s.

⁷⁸ Quack (personal communication) notes that the relatively close link between these roles can be more clearly understood with reference to the description of their duties in the Book of the Temple (1.2.3.2).

Old Coptic⁷⁹ and another is a demotic homeophone⁸⁰. All three semantic glosses are “type of” glosses⁸¹. Of the 12 contemporary entries, five are glossed. All five are phonetic glosses, containing three demotic homeophones⁸² and three hieratic homeophones⁸³.

Due to their number, as well as the relatively small sample size of this section, the 35 hapax entries are also worth considering, of which 18 are glossed. Of the 16 phonetic glosses, six are unclassified monoconsonantals⁸⁴, eight are demotic homeophones, e.g. psš tp “the-one-with-the-split-head” glossed pšc tp “to share, head” (Y3/16), and two are monoconsonantals and homeophones⁸⁵. Of the two semantic glosses, one is a “type of” glosses⁸⁶ and one an explanation⁸⁷.

Annotation and Punctuation

Unlike the synonym-vocabularies of Sections I and II, this list of snakes is notable for its absence of linear annotation and punctuation in the form of the diacritic > and red points. Nonetheless, given the coherent textual content of this section, and the relative absence of descriptions/explanations of the entries themselves, it could be argued that the distinctive snake classifier 𐩺 did much to graphically parse the entries from one another.

Due to the short length of this section, and limited glosses, no proportional analysis can be considered significant. Notable, however, is that even in a select number of examples, nearly twice as many contemporary lexemes are without glosses as obsolete lexemes⁸⁸.

⁷⁹ hr.j-^ch³ “Babylon” glossed h-h & e (Y4/2).

⁸⁰ hr cc “the one under the cc-bowl” glossed hrxc³ “under, great” (Y5/12).

⁸¹ The sacred snakes named are a “type of god(dess)”: ^cbšy (Y4/10); ^cbs (Y4/16); mnkrt (Y4/19).

⁸² e.g. hr cc “the one under the cc-bowl” glossed hrxc³ “under, great” (Y5/12).

⁸³ e.g. dšrxwsh[xtp] “the red-one with the wide head”, where wsh “wide” is glossed wsh^t “broad hall” (Y3/21).

⁸⁴ e.g. kdd “kdd-snake” glossed j-jr=k twtw-ty ky-dd t-y (Y4/6).

⁸⁵ e.g. mj-n-mj-pn “mj-n-mj-pn-snake” glossed mj p(n)y “like, this” ky-dd mj p(n)y “another says; like, this” (Y3/8).

⁸⁶ jmi šs(r) glossed n kd sb³ “type of enemy” (Y4/22).

⁸⁷ šnj-^cr “deaf brother” glossed sn šl n kd rmt iw=f ir (n) nby “sn šl, type of man who is harmed” (Y4/7).

⁸⁸ x diacritics are found joining contemporary lemmata in four instances, in one instance a hapax, with a hapax lemma also annotated with “supra” once.

6.2.2.1.6 P. Carlsberg 2.1 Section IV – Religious Calendar

Section IV, as the preceding section, is onomastic in nature, containing a calendar including descriptions of timing, the names of decans in nine lists⁸⁹, the hours of the day and night⁹⁰, including the gates (sbḥ.wt) of the underworld⁹¹, as well as months and monthly festivals⁹².

Figure 6.2.2.1.6a tabulates examples of each of the orthographic methods utilised for the glossing of the entries in Section IV’s religious calendar.

Innovative Glosses to Section IV	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Gloss	Reference	Lemma	Translation	Gloss	Reference
Unclassified Monoconsonantals	psdn.tjw	“Festival of the New Moon”	p-s-t-n	AC2/17	NA			
Classified Monoconsonantals	knmt	“knmt-star”	g-n-w-m-y- 	Y10/11	hḥb[=s]	“its dispatch”	h-ḥ-b-ḥ-N6-s	AA2/23
Homeophones (Hieratic)	rmn hr	“rmn-hr-star”	rmn ḏḥ[P] “upper-arm/shoulder”	Y8/1	ḥntj	“crocodile”		Y11/14; Y11/19
Homeophones (Demotic)	sštḥ	“mystery”	shj-tḥ “to write, land/earth”	AA3/24	wnw.wt xgrḥ	“hours of the night”	wḥ.t “one (f.)”	AA2/7; AA2/20
Classified Homeophones	ḥi.t-ḥy	“ḥi.t-ḥy-star”	ḥi-ḥ.t- 	Y10/12	NA			
Monoconsonantals & Homeophones	wšitjxbiktj	“wšitj-biktj-star”	b-kt “b, other (f.)”	Y10/16	NA			
Alphabetic	wšitj	“wšitj-star”	ΟΥΣΩΤ	Y10/15	wḥ [j]w nšnj	“one-received-in-anger”	ΟΥΕΙ	AC1/15
Old Coptic Vowel	šsm	“šsm-star”	ḏ	Y10/22	sbḥ.t	“gate”	ε	e.g. AA2/8
Egyptian Vowel	ḥnḥ ntr.w ntj ḥḥ.w [n=sn/=w]	“together with the gods [for whom] they stand”	jriw (*ai <ḥ)	Y13/17	prḥ	“to come out”	j (*ci <ḥ)	Y10/8
Synonyms	NA				NA			
Type Of	Non-Semantic				ḥḥ	“celebration”	n kd ršy “a type of joy”	AA1/24
Explanations	NA				NA			

⁸⁹ Note the title [rh] nḥ rn.w n sbḥ[w] “[In order to know] the names of the star[s]” (Y6/3).

⁹⁰ The names of the deities are specified through the formula of the *Stundenrituals*: ḥḥ=s n GN “It stands for God NN”, with the hours numbered thereafter and a description thereof (HPT: 198).

⁹¹ Theonyms are introduced with the formula “The God in it, i.e. the gate is God NN” for hours 1-10, “The one in it is God NN” for hour 11, and “This is the hour of God NN” for hour 12 (HPT: 198).

⁹² Notable is that in the Tanis Geographical Papyrus, treated as a parallel by Osing, the order is decans, months, hours, and days of the lunar month (HPT: 187-188).

Figure 6.2.2.1.6b tabulates the proportional analysis of the established hieratic and demotic orthographies utilised for the glossing of entries in Section IV’s religious calendar, the total number and the proportion of those unglossed, and the proportional analysis of the orthographic methods utilised for the glossing of the entries in Section IV’s religious calendar with *innovative* spellings, directly comparable between obsolete and contemporary lexemes⁹³.

Glosses to Section IV	Obsolete		Contemporary	
	Number	Proportion	Number	Proportion
Established Hieratic	7	7.9 %	9	6.7 %
Established Demotic	NA	NA	82	61.2 %
Total	95	100.0 %	223	100.0 %
Unglossed	6	6.3 %	89	39.9 %
Innovative Glosses to Section IV	Obsolete		Contemporary	
	Number	Proportion	Number	Proportion
Unclassified Monoconsonantals	7	8.5 %	0	0.0 %
Classified Monoconsonantals	24	29.3 %	1	2.3 %
Homeophones (Hieratic)	1	1.2 %	6	14.0 %
Homeophones (Demotic)	26	31.7 %	15	34.9 %
Classified Homeophones	3	3.7 %	0	0.0 %
Monoconsonantals & Homeophones	1	1.2 %	0	0.0 %
Alphabetic	14	17.1 %	1	2.3 %
Old Coptic Vowel	2	2.4 %	17	39.5 %
Egyptian Vowel	1	1.2 %	1	2.3 %
Synonyms	0	0.0 %	0	0.0 %
Type Of	3	3.7 %	2	4.7 %
Explanations	0	0.0 %	0	0.0 %
Total	82	100.0 %	43	100.0 %

In stark contrast to preceding sections, a proportion more than six times larger of contemporary compared to obsolete lexemes are without glosses, while hardly any demotic-derived orthographic methods are utilised for glossing contemporary lexemes other than demotic homeophones. Notable, then, is that such spellings are orthographically deep

⁹³ 1 “ditto” annotation is also attested to a contemporary entry; 7 “supra” to contemporary entries – mostly in the hours of the day glossing ʕḥc=s n “It stands for” (AA1/22; AA1/23; AA1/24; AA2/6); as well as 7 × diacritics to obsolete, e.g. knm×šsm “knm-šsm Star” (Y11/18) and 31 to contemporary, e.g. p.t×rsyt “Southern Sky” (Y10/9), entries. In one instance “ditto” refer to the aforementioned alphabetic gloss OY€ll as being the same as the preceding demotic gloss w3j (AC1/15).

compared to (un)classified monoconsonantals or alphabetic transliterations – the latter orthographic method being found in a large proportion only for glossing obsolete lexemes. As in preceding sections, the glossing of the stressed vowels of contemporary lexemes in Old Coptic comprises two out of five glosses⁹⁴ – twenty times more occurrent for contemporary than obsolete lexemes. Nonetheless, more than two-thirds of glosses to obsolete, and nearly one-half to contemporary, lexemes utilise demotic-derived orthographic methods.

Historical Orthographies

The majority of demotic-derived consonantal graphemes chosen – whether for monoconsonantal⁹⁵ or biconsonantal and triconsonantal⁹⁶ palaeographic predecessors – render historical phonetic realisations. However, one-third do not⁹⁷. As in the preceding sections, then, this suggests that while the Old Coptic transliterations were able to draw directly on the historical hieratic orthography, their vocalisation was not necessarily incongruous with, and therefore is likely to have been in line with, contemporary phonetic realisations, and the accurate utilisation of demotic-derived consonantal graphemes was simply because their palaeographic predecessors were apparent through the hieratic orthography.

Semantic Glosses

As in preceding sections, semantic glosses are rare. One “type of” gloss was interpreted by Ousing as providing a semantic value to an obsolete lexeme (HPT: 194), i.e. *dm3mt* (<*tm3.t*) “mother star(?)” glossed *n ƙd mwt* “type of mother” (Y10/14). However, the meaning of this word is uncertain, and therefore the gloss might instead provide a phonetic value through homeophonic analogy, as in the other two cases of “type of glosses”: *šsm* “šsm star” glossed *n ƙd šwty* “type of whip” (Y10/22) – a homeophonic analogy to obsolete *šsm* “whip”,

⁹⁴ Skewed by the 11 repetitions of *sbḥ.t* “gate”, glossed *ⲉ* in each instance (AA2/8-19 except AA2/17).

⁹⁵ Consider *ⲁⲗⲡⲓ* “quiet” (*wnwtxjgrt*) (AA1/21); *Ⲉⲛⲉⲓⲙ* (*snḥm*) “30th day of the month” (AC2/1); *ⲓⲁⲧ* (*ḥd-ḥ*) “break of day” (AC2/14).

⁹⁶ Consider the decans *rmn ⲁⲓⲡ* (*rmn ḥr*) (Y8/1), *ⲟⲩⲗⲱⲧ* (*wšṭj*) (Y10/15), and *ḥnt ⲁⲓⲡ* (*ḥntj ḥrj*) (Y14/2) and festivals *ⲓⲡⲏⲃ* (*ḥr-jb*) (AC1/20) and *ⲁⲓⲁ* (*ḥc*) (AC2/14).

⁹⁷ Consider the hours *ⲁⲛⲓⲗⲓ* ((*m*)*xnḥt m jmntt*) (AA2/6) and *ⲛⲏⲗ* (*njk*) (AA3/22), festival *ⲓⲁⲧ* (*ḥd-ḥ*) (AC2/14), and decan *ⲓⲱⲟⲩ* (*[ḥj]wj*) (Z7/3).

and wḥmꜣjḥḥ “repeating twilight” glossed n ꜥd rt “type of plant” (AA2/22) – a homeophonic analogy to jḥḥ “twilight/dusk” via jḥj/jḥ.w “papyrus thicket” or jḥ.j “plants”.

For contemporary lexemes, both semantic glosses are “type of” glosses – the one preserved example being ḥꜥ “celebration” glossed n ꜥd ršy “type of joy” (AA1/24).

Annotation and Punctuation

The only clear utilisation of punctuation is in AB2, where ḥꜥꜣmꜣꜥt · ḥsbꜣmꜣꜥt | ꜥbꜣmꜣꜥt · jr mꜣꜥ[t] | wtꜣꜣmꜣꜥt (AB2/22) distinguishes “Ruler of Maat” from “The one who distributes Maat”, “The one who unifies Maat” from “The one who performs Maat”, and “The one who exalts Maat” – neatly delineating nominalised forms which serve as names of months preceding the section concerning the regulation (gsgs) of the months.

As expected from a section that is neither a synonym-vocabulary nor glossary, it is unsurprising to find a considerably different utilisation of orthographic methods, linear annotations, and punctuation to the preceding sections. Only in comparison to all other sections in P. Carlsberg 2.1 can these distinctions be accurately contextualised (6.2.2.4).

6.2.2.2 P. Carlsberg 2.2

P. Carlsberg 2.2⁹⁸ comprises a handbook of priestly knowledge at least 2.7m in length and divided into three sections: Calendar and Meteorology; Monograph of Nomes; Expanded List of *Materia Sacra*. According to the demotic pagination at the top of each column, the bookroll once contained at least 23 columns (HPT: 219). P. Carlsberg 2.2 is part-paralleled by sections of the Geographical Papyrus of Tanis, although the latter is written in hieroglyphs and organised in tables. Osing (HPT: 221 n.1068; 230), from internal evidence, argues that P. Carlsberg 2.2, or its Vorlage, had a hieroglyphic Vorlage. P. Carlsberg 2.3, below (6.2.2.3),

⁹⁸ P. Carlsberg 182+PSI I 77 (TM#56093; 91293), cf. HPT: 219-258; plates 23-26.

is a duplicate of P. Carlsberg 2.2, with the additions of sections noted by Osing to be paralleled in another “Sacerdotal Encyclopedia”⁹⁹ (HPT: 220).

P. Carlsberg 2.2, together with P. Carlsberg 2.3, the Geographical Papyrus of Tanis, and the aforementioned unpublished hieratic parallel, demonstrate that this composition was standardised, and that it was transmitted in such a form to different script communities throughout Egypt (HPT: 220 n.1065). Due to there being only a small number of glosses upon this manuscript, both conventional and unconventional orthographic methods will be analysed together¹⁰⁰.

Notably, all but two glosses are found in Section III, the Expanded List of *Materia Sacra* – compare P. Carlsberg 2.1 Section IV. Similar to P. Carlsberg 2.3, the majority of this extant manuscript was otherwise left unglossed, and so only a summary, rather than proportional analysis, of the orthographic methods utilised in glossing is possible. Only four obsolete lexemes are glossed, one with an established hieratic orthography¹⁰¹ and three with alphabetic glosses¹⁰². Only two contemporary lexemes are glossed, one with an established hieratic orthography¹⁰³ and another with an alphabetic gloss¹⁰⁴ – although it is unclear to which entry it refers. Three hapax lexemes are also glossed, one homeophonic¹⁰⁵, one alphabetic¹⁰⁶, and one vocalic¹⁰⁷. Notable is that no semantic glosses are utilised in any section of this manuscript.

⁹⁹ cf. Osing and Rosati 1998: 19-54.

¹⁰⁰ “ditto” is also attested for 2 obsolete entries and 1 hapax, while the × diacritic is attested for 9 obsolete, 8 contemporary, and 8 hapax entries.

¹⁰¹ g3wt “chest” glossed ky-dd kyt “another says; chest” (L21/4).

¹⁰² hnm “hnm-vessel” part-glossed NΔM (L21/7); hnt “vessel-stand” glossed 𐎡𐎡𐎢𐎣 (L21/10); ds “ds-jug” glossed 𐎡𐎢𐎣 (L21/14). Regarding the first instance, Quack (2017: 46) suggested that the omission of the “non-Greek sound” is “perhaps due not to a reluctance per se to write signs of non-Greek derivation, but rather in this case the scribe was aiming specifically at giving the vowels, and hence indicated consonants only insofar as they were needed to correctly locate the vowels” – consistent with the second alphabetic gloss utilising 𐎡.

¹⁰³ sbj “enemy” glossed ky-dd sbj “another says; enemy” (L21/15).

¹⁰⁴ 𐎡 (L17/17).

¹⁰⁵ ty.t “to give” (infinitive) glossing jwdjt “jwdjt-loaf” (L21/14).

¹⁰⁶ ΔIT glossing jwṭ “jwṭ-loaf” (L21/14).

¹⁰⁷ 𐎡3wt “𐎡3wt-goddess” glossed iyṯ (*i/*e) or s.t (*se) (L18/8).

Although little can be said about the corresponding trends between the register of the glossed lexemes and the orthographic method utilised in glossing, the trends reflected in annotation and punctuation are perhaps more informative. Three × diacritics appear in Section I, 20 in Section II, and three in Section III, while two of the three “ditto” annotations appear in Section II, and the third in Section III. By comparison, the one vocalic gloss appears in Section II, while all alphabetic glosses appear in Section III. Thus, it is the toponyms of Section II’s Monograph of Nomes that required the highest proportion of annotation, facilitating the deciphering of morphemes and lexemes within the compound entries¹⁰⁸.

It is only in Section III’s collection of *materia sacra* that phonetic transliterations of obsolete lexemes into Old Coptic were undertaken. Notable, then, is that punctuation appears much more frequently than in any other section, with supralinear points separating compounds from one another, e.g. sdj [hr(?)] hnt “water upon the vessel stand” · sdš “Seth” [·] mhn “milk jug” · jrt “eye” [·] htp-ntr “divine offerings” · p(r)s (<pśn) “pśn-bread” · t “bread” [·] kmḥ “kmḥ(w)-bread” (·) šcy “grain-bread(?)” [·] t xwr “great(?) bread” · šns “šns-cake” [·] šcy “grain-bread(?)” · šfy w3dt “fresh šfy” · sdš “Seth” (·) spt “shore/edge” [·] jrt “eye” · jwṭ “jwṭ-loaf” · ky-dd jwdjt “another says; jwdjt-loaf” · ds “ds-vessel” · c “c-bowl” [·] (L21/10-14). Thus, punctuation served to distinguish a collection of predominantly obsolete lexemes, where the orthographic depth of writing in *scriptio continua* was reduced through graphic parsing – also attested in most sections of P. Carlsberg 2.1, treated above, and in ritual texts from Oxyrhynchus (5.2.1.2; 5.2.1.3; 5.2.1.5). The implications of reducing orthographic depth with graphic parsing as opposed to glossing will be considered alongside comparable instances in the other manuscripts of the P. Carlsberg 2 corpus, below (6.2.2.4).

¹⁰⁸ e.g. šxtp-n “marshes of Tepni” (L19/2).

6.2.2.3 P. Carlsberg 2.3

P. Carlsberg 2.3¹⁰⁹, a handbook of priestly knowledge at least 3.38m in length, is a duplicate of P. Carlsberg 2.2 dating to the 1st or 2nd century CE. The same hand as inscribed the linear text added supralinear variants/corrections preceded by ky-dd, while two further hands added any missing words. Similar to in the case of P. Carlsberg 2.1, Osing stated that the two hands which added any missing words also added the glosses in demotic and Old Coptic¹¹⁰ (HPT: 260). Ultimately, however, such a conjecture is essentially impossible to prove.

The text of this fragmentary papyrus can be reconstructed based on P. Carlsberg 2.2 and the Tanis Geographical Papyrus¹¹¹, and comprises four sections: Calendar and Metrology; Monograph of Nomes; Expanded List of *materia sacra*; Monograph of Additional Districts. Similar to P. Carlsberg 2.2, due to there being only a small number of glosses upon this manuscript, both conventional and unconventional orthographic methods will be analysed together¹¹².

Similar to P. Carlsberg 2.2, the majority of this extant manuscript was left unglossed, and so only a summary, rather than proportional analysis, of the orthographic methods utilised in glossing is possible. Obsolete lexemes exhibit eight alphabetic glosses¹¹³, while contemporary lexemes exhibit five glosses, one is an established demotic orthography¹¹⁴, two render vowels in Old Coptic¹¹⁵, one is unclassified monoconsonantal¹¹⁶, and another is alphabetic¹¹⁷. The single

¹⁰⁹ P. Berlin 14447+PSI I 78 (TM#56094), cf. HPT: 259-275; plates 27-28.

¹¹⁰ Osing (HPT: 260) also stated that the × diacritics were added by the hand of the Old Coptic glosses, if not another entirely. The ink of the × diacritics, as the glosses, appears darker than that of the linear text – perhaps the ink of the linear text was of a different consistency, as carbon-based ink is itself unlikely to fade, suggesting that the glosses and diacritics were added on a separate occasion, and perhaps by (an)other scribe(s).

¹¹¹ Notable is that the older series of month names is utilised in P. Carlsberg 2.3, whereas the hours of the day and night are contemporary to the Roman Period (HPT: 260).

¹¹² “ditto” is also attested for 1 obsolete entry, and the × diacritic is attested for 3 obsolete, 2 contemporary, and 1 hapax entries.

¹¹³ e.g. mnḥp (<mnph> “breast” glossed MNΔ9Π (D7/7). Above damaged entries, six further alphabetic glosses are found.

¹¹⁴ šnw “circuit” glossed šny (D2/15).

¹¹⁵ e.g. ndrj (<ntrj> “Divine one” glossed H (D3/18).

¹¹⁶ ḥsmn “natron” glossed <ḥ> – suggestive that /ḥ/ was read?

¹¹⁷ mḥ^c “cubit” glossed MΔ[9I] (D3/9).

semantic gloss, an explanation, is where ʒs.t ḥ.t “Palace of Isis” is glossed jwn.t “Dendera” (D2/15).

Among hapax entries, one alphabetic gloss is attested, i.e. tktj glossed ΘЄRTI (E3), while another exhibits the only attestations of vowels rendered in Egyptian and Old Coptic, i.e. jw ds.wj ʒrt glossed jy and !IΔΥ (E9) – presumably renderings of jw “island”.

The × diacritic is only utilised once, in the compound nb×jgbt “Lord of the Flood(?)” (<ʒgb.w) (R2/3). The glossing of variants to the linear text, part-and-parcel of the compilation of such a handbook of priestly knowledge, is also attested in three instances, e.g. jp.t “Karnak” (D4/2) glossed in the margin with ky-dd jp.t-s.wt “another says; Karnak”.

Despite comprising only three examples, the potential for historical orthographies in the alphabetic glosses should be considered. Regarding the transliteration of etymological /t/ with Θ, Osing (HPT: 260) argued that this was a ‘Greek transliteration’, given the not uncommon rendering of /t/ with Θ in Greek transliterations¹¹⁸. However, regarding historical orthographies, the rationale behind the utilisation of Θ for /t/ could also have been precisely because a grapheme such as ʒ would not have differentiated between etymological /t/ and /d/, which had coalesced in spoken Egyptian in the Fayum¹¹⁹. Although two other examples, i.e. MNΔ9Π (mnḥp) “breast” and 9MHЄ[C] (ḥmwxs) “art of protection” (D4/6), are ‘historically accurate’, with so few examples it cannot be concluded that historical phonetic realisations were actually vocalised contemporaneously, not least due to an example such as ḥw.t-šn “House of the šn.wt-tree” glossed CNH (D2/13) – itself an ‘un-Egyptian transliteration’.

With a limited number of examples, and a very small proportion of the text itself being glossed, caution must be exercised in attempting to draw correspondences between the register

¹¹⁸ For a study of examples of such pre-Coptic transliterations into Greek, cf. Richter 1998: 65-66.

¹¹⁹ Consider the ‘Greek transliteration’ of *PGM* IV. 1231-1239, where CΘ renders X, cf. Love 2016: 60 n.202.

of lexemes glossed, the orthographic methods utilised in glossing, and the rationale behind glossing. Notable, however, is that all glosses to obsolete lexemes are alphabetic, while only one alphabetic glossed is attested for contemporary lexemes. Furthermore, alphabetic glosses are found in all four sections of P. Carlsberg 2.3, while the rendering of vowels in Demotic or Old Coptic is found only in Sections II and III. Evidently, glossing was undertaken very selectively, but – unmistakably, where phonetic glosses were required, recourse to alphabetic Old Coptic rather than demotic was made in the vast majority of cases – quite contrary to in P. Carlsberg 2.1. This trend could therefore be compared to the sparse glossing of P. Carlsberg 2.2, whereas a clear contrast is the absence of even sparse punctuation – noted for the parallel manuscript of P. Carlsberg 2.2. These implications will be considered alongside those of the other manuscripts in the P. Carlsberg 2 corpus, below (6.2.2.4).

6.2.2.4 The register of lexemes glossed, orthographic methods of, and rationale behind, glossing in the P. Carlsberg 2 Corpus

Following the section-by-section treatment of the register of the lexemes glossed, the orthographic methods utilised in glossing, and the rationale behind glossing, the implications for innovative script use and innovative spellings can be drawn together by revisiting the orthographic methods utilised across these sections. What’s more, Osing’s statement concerning these glosses can also be revisited: ‘it cannot be said with certainty on what, largely subjective, viewpoint the choice was made between all the possibilities of glossing’, ‘most likely one will assume that it generally depended on how well known the words appeared to the glossing scribe’ (HPT: 42).

Figures 6.2.2.4a-n tabulate the proportional analysis of the glossing of the entries in all but one¹²⁰ section of P. Carlsberg 2.1. Due to the sparse and localised glossing exhibited in P. Carlsberg 2.2 and 2.3, these manuscripts will not be included. Figures 6.2.2.4a-c concern

¹²⁰ Section III’s synonym-vocabulary has too few examples to provide any statistically viable comparanda.

the established hieratic and demotic orthographies utilised as a proportion of the total of all glossed or unglossed lexemes, and the proportion of all lexemes left unglossed. Figures 6.2.2.4d-k concern the orthographic methods utilised in phonetic glossing, while figures 6.2.2.4l-n concern semantic glosses.

Figure 6.2.2.4a illustrates that hieratic orthographies are utilised in glossing P. Carlsberg 2.1's religious calendar to a higher proportion than in any other section, whereas the utilisation of hieratic orthographies in glosses is otherwise very rare. Certainly, from Section II's glossary onwards, Osing's hypothesis that the rationale behind glossing was to make the linear text legible to an exclusively Demotic literate cannot be maintained¹²¹.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Established Hieratic	0	0.0 %	0	0.0 %
P. Carlsberg 2.1 Section II S-V	Established Hieratic	0	0.0 %	0	0.0 %
P. Carlsberg 2.1 Section II G	Established Hieratic	0	0.0 %	3	4.3 %
P. Carlsberg 2.1 Section III G	Established Hieratic	0	0.0 %	6	3.4 %
P. Carlsberg 2.1 Section IV	Established Hieratic	7	7.9 %	9	6.7 %

¹²¹ Although the attestation of hieratic homeophones could not be accounted for by such a consideration, it should at least be considered that these supralinear additions in hieratic might not actually be glosses, but might instead be alternative readings collated from other manuscripts.

Figure 6.2.2.4b illustrates that the majority of all glosses to contemporary lemmata in all sections of P. Carlsberg 2.1 were established demotic orthographies. Notable within this trend is that in the two synonym-vocabularies and first glossary, the proportion of unconventional innovative spellings utilised in glossing was nearly as large as that of established demotic orthographies. These trends are suggestive of a preference for utilising unconventional orthographic methods in glossing more so in these sections than in later sections.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Established Demotic	NA	NA	82	53.2 %
P. Carlsberg 2.1 Section II S-V	Established Demotic	NA	NA	72	56.7 %
P. Carlsberg 2.1 Section II G	Established Demotic	NA	NA	36	52.2 %
P. Carlsberg 2.1 Section III G	Established Demotic	NA	NA	131	74.4 %
P. Carlsberg 2.1 Section IV	Established Demotic	NA	NA	82	61.2 %

Figure 6.2.2.4c illustrates that the largest proportion of glossing overall is found in the same sections which demonstrate the utilisation of innovative orthographic methods for glossing. With the exception of Section III's glossary, more than 90% of all sections exhibit glossing of their obsolete lexemes, whereas there is significantly more variation in the proportion of contemporary lexemes glossed. The larger proportions of contemporary lexemes unglossed in the two glossaries is unsurprising given that these sections consisted not of single entries, but of entries with explanations, which were often themselves not glossed. This suggests that (a) glossing scribe(s) had a securer knowledge of these explanations than suggested by the extensive glossing of single entries in the two synonym-vocabularies.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Unglossed	9	4.8 %	13	7.8 %
P. Carlsberg 2.1 Section II S-V	Unglossed	13	8.2 %	25	16.4 %
P. Carlsberg 2.1 Section II G	Unglossed	10	8.3 %	33	32.4 %
P. Carlsberg 2.1 Section III G	Unglossed	34	23.1 %	279	61.6 %
P. Carlsberg 2.1 Section IV	Unglossed	6	6.3 %	89	39.9 %

Figure 6.2.2.4d illustrates that of the innovative orthographic methods utilised in glossing, unclassified monoconsonantals were utilised numerically and, in all but Section II's glossary, also proportionally more frequently for obsolete than contemporary lemmata. The largest numbers and proportions of unclassified monoconsonantals appear in the two synonym-vocabularies of P. Carlsberg 2.1. This trend is suggestive of a rationale of ensuring that the glosses in those sections were orthographically shallow.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Unclassified Monoconsonantals	40	22.6 %	11	15.3 %
P. Carlsberg 2.1 Section II S-V	Unclassified Monoconsonantals	28	19.3 %	4	7.3 %
P. Carlsberg 2.1 Section II G	Unclassified Monoconsonantals	10	9.0 %	5	16.7 %
P. Carlsberg 2.1 Section III G	Unclassified Monoconsonantals	15	13.3 %	1	2.6 %
P. Carlsberg 2.1 Section IV	Unclassified Monoconsonantals	7	8.5 %	0	0.0 %

Figure 6.2.2.4e illustrates that of the innovative orthographic methods utilised in glossing, classified monoconsonantals were utilised consistently numerically and proportionally more frequently for glossing obsolete than contemporary lemmata. Unlike with unclassified monoconsonantals, this trend is found throughout all sections of P. Carlsberg 2.1, further suggestive of a rationale of ensuring that the glosses in those sections were orthographically shallow through classified transcriptions into demotic – perhaps the shallowest of all orthographic methods.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Classified Monoconsonantals	30	16.9 %	9	12.5 %
P. Carlsberg 2.1 Section II S-V	Classified Monoconsonantals	43	29.7 %	15	27.3 %
P. Carlsberg 2.1 Section II G	Classified Monoconsonantals	28	25.2 %	2	6.7 %
P. Carlsberg 2.1 Section III G	Classified Monoconsonantals	34	30.1 %	5	12.8 %
P. Carlsberg 2.1 Section IV	Classified Monoconsonantals	24	29.3 %	1	2.3 %

Figure 6.2.2.4f illustrates that of the innovative orthographic methods utilised in glossing, hieratic homeophones were utilised only rarely. Glossing in hieratic not only undermines the hypothesis that glossing aided an exclusively Demotic literate, hieratic homeophones are as, if not more, deep than the hieratic orthographies they are glossing. Not only must the homeophonic gloss be phonetically deciphered, the semantic value of similar phonetic values must then either be known, deduced from context, or provided by a “living lexicon”.

It is, therefore, unsurprising that this orthographic method was so sparsely utilised.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Hieratic Homeophones	0	0.0 %	0	0.0 %
P. Carlsberg 2.1 Section II S-V	Hieratic Homeophones	0	0.0 %	0	0.0 %
P. Carlsberg 2.1 Section II G	Hieratic Homeophones	5	4.5 %	4	13.3 %
P. Carlsberg 2.1 Section III G	Hieratic Homeophones	3	2.7 %	2	5.1 %
P. Carlsberg 2.1 Section IV	Hieratic Homeophones	1	1.2 %	6	14.0 %

Figure 6.2.2.4g illustrates that of the innovative orthographic methods utilised in glossing, demotic homeophones comprised a considerable proportion, often as much as one-third, for both obsolete and contemporary lemmata in all sections of P. Carlsberg 2.1. As with the preceding examples of hieratic homeophones, the often obtuse homeophonic analogies between the supralinear gloss and glossed lexeme do not aid semantic decipherment as they do phonetic decipherment. Thus, the semantic value of the glossed lexeme through such homeophonic analogy would therefore have to be known, deduced from context, or provided by a “living lexicon”, to be of utility to an exclusively Demotic literate.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Demotic Homeophones	45	25.4 %	23	31.9 %
P. Carlsberg 2.1 Section II S-V	Demotic Homeophones	39	26.9 %	17	30.9 %
P. Carlsberg 2.1 Section II G	Demotic Homeophones	30	27.0 %	10	33.3 %
P. Carlsberg 2.1 Section III G	Demotic Homeophones	11	9.7 %	7	17.9 %
P. Carlsberg 2.1 Section IV	Demotic Homeophones	26	31.7 %	15	34.9 %

Figure 6.2.2.4h illustrates that of the innovative orthographic methods utilised in glossing, the combination of monoconsonantals and homeophones is only attested rarely. This is partly because this orthographic method was often utilised in glossing quadrivalent roots, of which there are few in Egyptian, and partly because transcriptions with unclassified and classified monoconsonantals were favoured in innovative spellings of multi-consonantal lexemes – likely because they were orthographically shallower.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Monoconsonantals & Homeophones	4	2.3 %	0	0.0 %
P. Carlsberg 2.1 Section II S-V	Monoconsonantals & Homeophones	1	0.7 %	0	0.0 %
P. Carlsberg 2.1 Section II G	Monoconsonantals & Homeophones	2	1.8 %	1	3.3 %
P. Carlsberg 2.1 Section III G	Monoconsonantals & Homeophones	2	1.8 %	0	0.0 %
P. Carlsberg 2.1 Section IV	Monoconsonantals & Homeophones	1	1.9 %	0	0.0 %

Figure 6.2.2.4i illustrates that of the innovative orthographic methods utilised in glossing, alphabetic glosses are consistently more frequently attested, in number and proportion, in glossing obsolete than contemporary lemmata. The frequency of utilising alphabetic transliterations in producing innovative spellings for obsolete lexemes which did not have established orthographies in demotic accords with the hypothesis that alphabetic transliterations are orthographically shallower than classified or unclassified transcriptions into demotic. That being said, while alphabetic spellings were as orthographically shallow as possible, they do not provide any inherent semantic value – unlike a classified monoconsonantal transcription into demotic. As noted with examples above, alphabetic glosses either relied, as all other phonetic glosses, upon the context of the glossed lexeme, or, as attested not infrequently, on complementary glosses, to provide semantic value.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Alphabetic	42	23.7 %	12	16.7 %
P. Carlsberg 2.1 Section II S-V	Alphabetic	20	13.8 %	3	5.5 %
P. Carlsberg 2.1 Section II G	Alphabetic	18	16.2 %	2	6.7 %
P. Carlsberg 2.1 Section III G	Alphabetic	35	31.0 %	6	15.4 %
P. Carlsberg 2.1 Section IV	Alphabetic	14	17.1 %	1	2.3 %

Figure 6.2.2.4j illustrates that of the innovative orthographic methods utilised in glossing, vowels rendered in Old Coptic were utilised relatively sparingly in both number and proportion for glossing obsolete as opposed to contemporary lemmata. This is directly comparable to the larger number and proportion of obsolete lemmata glossed alphabetically, suggestive that Old Coptic was utilised relatively sparingly, i.e. for contemporary lemmata, glossing a single stressed vowel in Old Coptic was preferred to Old Coptic transliterations of entire words.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Old Coptic Vowel	7	4.0 %	12	16.7 %
P. Carlsberg 2.1 Section II S-V	Old Coptic Vowel	7	4.8 %	11	20.0 %
P. Carlsberg 2.1 Section II G	Old Coptic Vowel	4	3.6 %	5	16.7 %
P. Carlsberg 2.1 Section III G	Old Coptic Vowel	6	5.3 %	7	17.9 %
P. Carlsberg 2.1 Section IV	Old Coptic Vowel	2	2.4 %	17	39.5 %

Figure 6.2.2.4k illustrates that of the innovative orthographic methods utilised in glossing, vowels rendered in endographic Egyptian scripts were, in number and proportion, less common than in Old Coptic, and, unlike vocalic glosses in Old Coptic, they are sometimes attested more frequently glossing obsolete than contemporary lemmata. When considering both orthographic methods for glossing stressed vowels in P. Carlsberg 2.1, contemporary lemmata are therefore glossed at least two times more frequently than obsolete lemmata. It is nonetheless notable, however, that the shallowest orthographic method, i.e. Old Coptic, was then utilised more frequently for contemporary than obsolete lemmata.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Egyptian Vowel	3	1.7 %	0	0.0 %
P. Carlsberg 2.1 Section II S-V	Egyptian Vowel	2	1.4 %	0	0.0 %
P. Carlsberg 2.1 Section II G	Egyptian Vowel	7	6.3 %	0	0.0 %
P. Carlsberg 2.1 Section III G	Egyptian Vowel	1	0.9 %	5	12.8 %
P. Carlsberg 2.1 Section IV	Egyptian Vowel	1	1.2 %	1	2.3 %

Figure 6.2.2.4l illustrates that of the semantic glosses, synonyms are utilised rarely in all sections. The implications this has for an exclusively Demotic literate to decipher as opposed to understand the glossed hieratic lexemes have been developed in the discussions above. Indeed, sparse semantic glossing instead suggests that the glossing scribe(s) had few issues with understanding the semantic value of the entries in the synonym-vocabularies and glossaries.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Synonyms	2	1.1 %	4	5.6 %
P. Carlsberg 2.1 Section II S-V	Synonyms	4	2.8 %	2	3.6 %
P. Carlsberg 2.1 Section II G	Synonyms	0	0.0 %	0	0.0 %
P. Carlsberg 2.1 Section III G	Synonyms	2	1.8 %	3	7.7 %
P. Carlsberg 2.1 Section IV	Synonyms	0	0.0 %	0	0.0 %

Figure 6.2.2.4m illustrates that of the semantic glosses, “type of” glosses are also utilised rarely in all sections. What’s more, as has been demonstrated with examples above, these do not always provide unambiguous semantic information about the linear hieratic lexemes glossed, but often rather obtuse homeophonic analogies.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Type Of	3	1.7 %	1	1.4 %
P. Carlsberg 2.1 Section II S-V	Type Of	4	3.6 %	1	3.3 %
P. Carlsberg 2.1 Section II G	Type Of	4	3.6 %	1	3.3 %
P. Carlsberg 2.1 Section III G	Type Of	4	3.5 %	0	0.0 %
P. Carlsberg 2.1 Section IV	Type Of	3	3.7 %	2	4.7 %

Figure 6.2.2.4n illustrates that of the semantic glosses, “explanations” are the rarest – despite the fact that they have the capacity to elucidate unambiguous semantic values for lemmata.

Manuscript Section	Orthographic Method	Obsolete		Contemporary	
		Number	Proportion	Number	Proportion
P. Carlsberg 2.1 Section I S-V	Explanations	0	0.0 %	0	0.0 %
P. Carlsberg 2.1 Section II S-V	Explanations	0	0.0 %	2	3.6 %
P. Carlsberg 2.1 Section II G	Explanations	3	2.7 %	0	0.0 %
P. Carlsberg 2.1 Section III G	Explanations	0	0.0 %	3	7.7 %
P. Carlsberg 2.1 Section IV	Explanations	0	0.0 %	0	0.0 %

Historical Orthographies

Informative for the understanding of the glossing scribe(s) are the demotic-derived consonantal graphemes chosen, or not, in rendering Old Coptic transliterations of the historical hieratic orthographies glossed. These suggest whether the glossing scribe was familiar with historical phonetic realisations, or simply rendered the Old Coptic transliterations according to contemporary vocalisation. Regarding P. Carlsberg 2.1: In Section I, although there is no attestation of historical /h/ glossed, and although historical /ḥ/ and /ḥ<ḥ/ have coalesced in some transliterations – as presumably in contemporary vocalisations, as have historical /k/ and /g/, more than two-thirds of the demotic-derived consonantal graphemes utilised in the alphabetic transliterations into Old Coptic script render the historical consonantal orthography, and thus historical phonetic realisation of the consonants, of the glossed lexeme¹²²; In Section II, there is a clear delineation between etymological /h/ and /ḥ/, although /ḥ<ḥ/ is also glossed as /ḥ/, with two-thirds of the demotic-derived consonantal graphemes utilised rendering the historical orthography, and thus historical phonetic realisation, of the glossed lexeme; In Section III, the evidence for historical phonemes to be rendered is limited – of the extant glosses there is a clear delineation between etymological /ḥ/, /ḥ/, and /ḥ/, although only one-half of the demotic-derived consonantal graphemes utilised reflect historical orthographies and phonetic realisations; In Section IV, although etymological

¹²² The correction of the gloss ΤΚΛΔ to ΤḲḲΔ (dgḳrw) suggests that the accurate phonetic realisation of the historical orthography could have been important to the glossing scribe(s).

/ḥ/ and /š/, as well as /ḥ/ and /ḥ/, are not distinguished, the demotic-derived consonantal graphemes utilised accord to the historical orthographies in two-thirds of cases¹²³.

When these variations are considered altogether, they suggest that while the Old Coptic transliterations were able to draw directly on the historical hieratic orthography to be glossed, their vocalisation was not necessarily incongruous with, and therefore is likely to have been in line with, contemporary phonetic realisations. Thus, the accurate utilisation of demotic-derived consonantal graphemes in an Old Coptic transliteration may in certain cases simply have been because their palaeographic predecessors were apparent to the glossing scribe through the hieratic orthography, e.g. *P* from , *9* from , and *ḥ* from . Although in almost all sections a larger proportion of historical orthographies are rendered in Old Coptic transliteration than not, it cannot be extrapolated from this whether historical vocalisations were maintained. After all, the lethargic orthographic conventions, whether loaned, historical or morphemic, and thus orthographic depth of English – as treated above (4.4) – do not reflect that contemporary spoken English has retained historical phonetic realisations, only historical orthographies.

Annotation and Punctuation

The issue of whether the linear annotations of *ky-dd*, > “ditto”, and the punctuation of red points could have enabled an exclusively Demotic literate to read between the contemporary and obsolete registers of Egyptian has been raised and treated with examples above.

As noted for each relevant section, these do not provide the semantic values of entries in Sections I and II – the only sections in which they are utilised in full complement – sufficiently enough to supplement a lack of familiarity with the lexemes themselves.

¹²³ This perhaps renders the utilisation of *ʒ* for etymological /ḥ/, given that it is also utilised for etymological /š/, and of *ḥ* for etymological /ḥ/, given that it is also utilised for etymological /ḥ/, coincidental. Although it is possible that /š<ḥ/ had already occurred, but not /ḥ<ḥ/.

Linear annotations such as ky-dd and > in fact often serve to merge ‘synonyms’ with a variety of distinct semantic values into a contracted semantic field based on the anchoring of obsolete lexemes among a select number of contemporary ‘synonyms’. Thus, without the elaboration provided by a “living lexicon”, it is unclear how a Demotic literate unfamiliar with the obsolete lexicon of Egyptian would have been able to engage in a sufficiently nuanced to be meaningful manner with the linear hieratic lemmata or text. This would instead rather result in the contraction of semantic fields, and thereby the obsolescence – due to superfluity or redundancy – of many of those ‘synonyms’. What’s more, in P. Carlsberg 2.1 Sections III and IV linear annotations simply provide variants, rather than synonymous orthographies or lexemes.

The utilisation of punctuation, by comparison, serves to graphically parse a small number of compounds – providing no aid to understanding semantic values. Nonetheless, graphic parsing, as *spatia* in modern alphabetic writing, facilitates deciphering and thus understanding through reducing the orthographic depth of *scriptio continua*. As summarised above (5.3), such graphic parsing is not uncommon among the glossed hieratic ritual texts from Oxyrhynchus, and therefore it is notable that punctuated hieratic ritual texts are also found at Tebtunis¹²⁴. Aids in recitation also served as aids in deciphering¹²⁵, and, although this did not supplement the understanding of semantic value, as highlighted above (5.2.2.1; 5.3), it could be that the understanding of semantic value became a moot point in the case of ritual texts.

Rationale behind glossing P. Carlsberg 2.1

Returning to another of Osing’s statements that ‘all’ the glosses of P. Carlsberg 2.1 serve as ‘reading aids with which scribes who were less familiar with hieratic than demotic and Greek could read and understand hieratic texts as well as pronounce difficult words correctly’,

¹²⁴ Consider the Osiris Liturgies of P. Carlsberg 589+PSI Inv. I 104+P. Berlin 29022, cf. von Lieven 2006, punctuated into lexical and syntactical units.

¹²⁵ This practice is transmitted into Coptic scribal tradition, consider the comprehensive morphemic and lexical punctuation of *The Apocalypse of Elijah* upon P. Chester Beatty 2018, cf. Pietersma, Comstock, and Attridge 1979.

consider also the statement that the glosses were not for the benefit of ‘the glossing scribe’ because he knew all three scripts and the language stages adequately – as demonstrated by his glosses (HPT: 41). In these statements, Osing did not engage with the stage beyond the deciphering of an orthography by establishing its phonetic value to the stage of understanding the semantic value of a lexeme by knowing what that phonetic value renders. While demotic and Old Coptic glosses did enable a scribe with limited literacy in hieratic to vocalise many of the hieratic orthographies glossed, without the addition of exceptionally rare semantic glosses, or the exceptionally rare instances in which linear and supralinear annotations were utilised effectively, they did not enable a scribe to understand what the obsolete lemmata themselves meant. The semantic values of those obsolete lemmata, then, had either to be deduced from the generalised semantic fields of the synonym-vocabularies and glossaries, or sought from another source. It must be conceded, therefore, that given such an orthographic and lexical source to fill this gap, e.g. a monographic let alone bigraphic or trigraphic dictionary, is not extant in Egyptian textual culture, this source must have been – throughout all of Egyptian history as well as during the Roman Period – a “living lexicon”.

As Quack (2012a: 234) has summarised, the rationale behind the glossing of this manuscript is most likely to have been to aid “training”, as “a reference tool”. Likewise, Hoffmann (2002: 228 n.36) sees the glosses extant upon this manuscript as evidence that priestly scribes into the 2nd century CE were still able to understand the linear hieratic in order to be able to render such supralinear phonetic and semantic elaborations. That is to say, without an individual with the knowledge base of the glossing scribe(s) to help a scribe without that knowledge base to work through the hundreds of obsolete lexemes inscribed upon P. Carlsberg 2.1, the latter scribe would not himself have been able to ‘learn’ the semantic nuances of these lexemes from the text alone. In concluding that ‘in the glossed form, the text could still be used as a reference book when the knowledge of the hieratic had generally already disappeared’ (HPT: 42), Osing does not consider that an exclusively Demotic literate would have known little of the obsolete Egyptian lexicon, and First Phase Middle/Classical Egyptian grammar and syntax,

absent from both Demotic and spoken Egyptian. Thus, it must be added that, given a source to fill the linguistic gap, e.g. a grammar, is not extant in Egyptian textual culture, a “living lexicon” and compendium of grammatical knowledge was also essential for learning the Middle/Classical Egyptian written in hieratic.

On balance, the close study of the P. Carlsberg 2 corpus in this chapter suggests that P. Carlsberg 2.1 should be considered principally as a tool for the *retention* of lexical information, i.e. for aiding the phonetic decipherment of the glossed lemmata, for the benefit of the glossing scribe(s), or (a) scribe(s) who was/were party to the glossing of the manuscript. Osing’s assertion that the glosses could not have been for the benefit of ‘the glossing scribe’ because ‘he’ would have been functionally literate enough in all scripts and language stages not to need them (HPT: 41), presupposes that the glosses could not still have been reading aids for that/those same scribe(s). The functional literacy to decipher and understand an obsolete lexeme in hieratic once does not presuppose that that/those glossing scribe(s) would be able to do so every time that lexeme was encountered – where a word sits on a literate’s “continuum of word knowledge” depends on its frequency, i.e. how often a reader encounters that word, a reader’s familiarity with that word, and the recency of a reader’s exposure to that word (Wolf 2008: 153). Thus, just as Egyptologists check dictionaries to be sure of both the phonetic value, i.e. transliteration, of the lexeme they are deciphering and the semantic value, i.e. translation, of the lexeme they wish to understand, such glosses could well have been aids to the glossing scribe(s). Rather, the often idiosyncratic and inconsistent treatment¹²⁶ of the glossing suggests that it was undertaken for the benefit of the glossing scribe(s), or alongside the scribe(s) who was/were to subsequently utilise those glosses. Ironically, although there is truth in Osing’s statement that P. Carlsberg 2.1 is ‘a testimony to the philological work that was done in Roman times in Egyptian temples to preserve the ancient language and literature’ (HPT: 42), without a “living lexicon” and compendium of grammatical knowledge to *teach*

¹²⁶ If the glosses were for the benefit of another, so that that other could utilise the text without aids, they would have to be internally coherent, consistent, and self-explanatory, which they are certainly not.

and transmit the content of P. Carlsberg 2.1, the utility of this composition – even when glossed – has been seen to be surprisingly limited.

The perhaps surprising limitations of the “Tehtunis Onomasticon”, then, should be compared to similar in the “Tanis Sign Papyrus”¹²⁷, a compendium of hieroglyphic and cursive hieroglyphic signs, alongside descriptions in hieratic of those signs. For understanding anything more than what the hieroglyphs themselves depict, the Tanis Sign Papyrus is practically useless. Indeed, a scribe would have to be functionally literate in *hieratic* in order to even discern what the hieroglyphs were supposed to represent, and even then that scribe would learn nothing more from the compendium than the meaning behind the morphology of those signs. That is to say, a scribe could not learn the phonetic values of those signs, the semantic values of those signs when utilised as ideograms, nor the lemmata commonly written with those signs. For the Tanis Sign Papyrus to have functionality, a “living lexicon” as well as “living (ortho)graphicon” would have had to augment this compendium. It is, then, in this context of scribe’s requiring “living compendia” of knowledge to augment such textual reference works in order to retain and transmit knowledge of the obsolete Egyptian lexicon, First Phase Middle/Classical Egyptian syntax and grammar, and hieratic orthographic conventions that the “Tehtunis Onomasticon” should be contextualised.

Thus, to contextualise the individuals who glossed the P. Carlsberg 2 corpus, and in particular P. Carlsberg 2.1, within the models of language death, and thus script obsolescence, introduced above (3.1), I would argue that they should be positioned in the generation after which incomplete intergenerational transmission took place, and that this generation was therefore living during the second half of the 2nd century CE. It was in this generation that there was, rather suddenly after millennia of successful and complete intergenerational transmission without glossing, the need to augment textual reference works with phonetic and

¹²⁷ cf. Griffith and Petrie 1889: 1-19; plates 1-8.

semantic glosses, many of which utilised innovative shallow orthographic methods. Although it could also be envisaged that a scribe took advice from a superior in order to render glosses to terms less familiar to himself, this would not alter the generation in which this tip in intergenerational transmission occurred. The very existence of this corpus of glossed manuscripts, therefore, as a phenomenon absent from the earlier textual record, and the fact that these manuscripts are themselves incomplete reference works for the transmission of their textual content, can be most parsimoniously understood in the context of the slowing of intergenerational transmission of functional literacy in hieratic within the superordinate script community at Tebtunis during the second half of the 2nd century CE.

6.2.3 Trigraphic Glossing in the Hieroglyphic P. Carlsberg 468+PSI inv. I 196

The final source treated in this study of textual culture from Tebtunis evidencing inventive scripts and spellings is the unpublished P. Carlsberg 468+PSI inv. I 196. This papyrus is the only known manuscript upon which all four scripts utilised for writing the Egyptian language, i.e. hieroglyphs, hieratic, demotic, and (Old) Coptic, are attested together. Composed in two registers, in each of which an upper and lower horizontal band frames vertical columns, a hieroglyphic base text in which a god is named, and an epithet or manifestation thereof is elaborated is inscribed in each column. Regrettably, no single fragment is well-enough preserved to inform upon the relationship between the content of the two registers.

Although the interpretation of this manuscript is in its early stages, the compilation could have served as an onomasticon of theonyms and epithets according to a yet unidentified typology.

In favour of this interpretation is the fact that many of the columns of the hieroglyphic base text are annotated and glossed in hieratic, Demotic/demotic, or Old Coptic. The hieratic and demotic glosses provide alternative readings or versions of the text, while the Old Coptic glosses provide transliterations of the hieroglyphic group writings. Otherwise, an alternative

interpretation is that of a hieroglyphic Vorlage for temple decoration, known both from Tebtunis¹²⁸ and Soknopaiou Nesos¹²⁹.

The difficulty in assigning a more specific typology to the arrangement of theonyms stems from the lack of certainty about the placement of fragments, and the apparent lack of parallels. One series of theonyms, however, that of Nephthys, Isis, Horus, Sopdu/Horus-Sopdu, and Seth (468,1), is certain, while other individual fragments attest Horus in six, as well as Osiris, Seth, Hepui/Hephep, Hetep-Sekhet, Tjert(y), in one instance each (468,2-4; 196A). In the horizontal band which frames the top of the second register of columns Osiris is attested (196A), as are the Neshmet and Mandjet barques in the horizontal band which frames the bottom of the second register of columns (468,2). Despite all these ambiguities, it can already be said that the mix of phonetic and semantic glosses utilised in this manuscript provides unique insights into how the hieroglyphic script, as opposed to hieratic in the preceding examples, was understood, or not, at Roman Period Tebtunis.

In the most completely preserved columns from the upper register, the hieroglyphic group  appears in three instances. In the first (468,1 x+4), descending from the theonym Sopdu/Horus-Sopdu,  is followed by a sign that appears to be , and , before the column breaks off. (Part of) this group is glossed with an as yet undeciphered hieratic group.

Two columns to the left, the same hieroglyphic group  is again written twice. In the first instance (468,1 x+6), this is within  *dh*-sn.wy, which is glossed *TjCNHOY ky-dd jTCNHOY*.

¹²⁸ Consider the hieroglyphic P. Carlsberg 390 Verso, a copy of temple inscriptions, and P. Carlsberg 494, an offering scene with colour and a hieroglyphic caption. A considerable number of other hieroglyphic papyri also feature 'monumental' textual content, e.g. P. Carlsberg 305+PSI Inv. I 3+P Tebt. Tait Add. 2 and P. Carlsberg 306+PSI Inv. I 4+P. Tebt. Tait Add. 3, both of which contain copies of Middle Kingdom tomb inscriptions from Assiut. Other hieroglyphic manuscripts include a copy of The Book of the Fayum (P. Carlsberg 56+P. Tebt. Tait 35), a priestly encyclopaedia of geography (P. Carlsberg 54+PSI Inv. I 2+P. Tebt. Tait. Add. 1+P. Berlin 14412i), a list of nomes (P. Carlsberg 390 Recto), and the ritual of the Votive Cubit (PSI Inv. I 1).

¹²⁹ Consider P. Vienna Nationalbibliothek Aeg 9976 (TM#105746), a hieroglyphic papyrus with inscriptions for the door of a naos, cf. Winter 1967: 61-68. Mentioning Ptolemy VIII (170-116 BCE) and Cleopatra III (142-101 BCE), this papyrus appears to be a Roman Period copy of an earlier Vorlage, copied either for hieroglyphs and Middle/Classical Egyptian practice, or antiquarian interests (Stadler 2017a: 21). P. Vienna D 10100 (TM#105745), a Demotic papyrus with a description of reliefs in a hall of the temple, was perhaps copied in the Roman Period because of the scribe's 'antiquarian interest in Ptolemaic decoration' (Stadler 2017a: 21), cf. Vittmann 2003.

In the second instance (468,1 x+7), this appears instead to only be in the group 𐩎 (with the traces that follow difficult to discern), which is glossed as Tꜥꜥ ky-dd 3TꜥH.

Even though these glosses illustrate potential confusion and ambiguity in the order of reading hieroglyphs, it cannot be simply assumed that the glossing was unable to discern the order in which the hieroglyphs were to be read. Perhaps, instead, the Old Coptic glosses could be understood as acknowledging the potential for metathesis, or even that a metathesis had occurred in some readings of this word, which is otherwise unattested in the sources preserved. An important distinction, some of the disparities between the Old Coptic glosses to this same group in each instance also stems from the fact that 𐩎 is written firstly as part of the construct form 𐩎sn.wy, and secondly – although traces of a subsequent sign are preserved – perhaps simply as the lexeme 𐩎¹³⁰. Notably, the Old Coptic glosses utilise two different demotic-derived graphemes for <ḥ>, from etymological /ḥ/ – ꜥ and 3. Thus, the glossing of one single hieroglyphic group has produced five different orthographic and phonetic variants, with the four variants in Old Coptic comprising two variants depending on whether the group was an absolute or construct form – but without any glosses or annotations to clarify the semantic value of the glossed, seemingly obsolete or even hapax, lexeme.

Such phonetic glosses, and their variants, are also found alongside supralinear annotations that provide semantic variants. Column 468,1 x+3 comprises a field inscribed with ḥr “Horus”, followed by a vertical column descending from it reading ḥr ḥw.wt nr.t-rsj.t/nr.t-mḥ.tjt “Horus of the Temples of the 4th/5th (Neith) Nome of Lower Egypt”¹³¹. Above the double register lines, in the upper margin of the papyrus, are three lines of annotations in hieratic. Although the beginning of the first line is lost, it is likely to have read ḥr “Horus”, with the other discernible signs being those at the end of that short line, namely a hieratic rendering of n.t “the 4th/5th (Neith) Nome of Lower Egypt”. The second two lines are variants,

¹³⁰ Indeed, the penultimate gloss favours the reading 𐩎ḥ, an orthography attested in Demotic for 𐩎ḥ “to exult”.

¹³¹ Notable is that Horus is not attested to have an association with either of these nomes, cf. LGG8: 419; 781-782.

and correspondingly both begin with ky-dd “another says”. Following this, both the second and third lines begin with hr ḥwt.w n “Horus of the Temples of”, with the final groups in each line presumably being variant nomes or toponyms. In contrast to the preceding demotic and Old Coptic glosses, these annotations do not simply provide alternative phonetic values, but rather alternative versions of the hieroglyphic text itself. As with the variations found among the P. Carlsberg 2 corpus, such glossing has a history as long as Egyptian scribal culture itself, and is part-and-parcel of the compilation of such manuscripts.

In another fragment belonging to the upper register (468,3 x+2), Horus appears to be given the epithet “Beloved of Wennefer”¹³². The orthographies comprise , where wnn-nfr is, notably, written with an ideogram – the deepest orthography possible. Thus, it is not surprising to find that the ideogram is glossed OMΥQPI!¹³³. Not simply orthographically deep, this ideogram is also polyvalent¹³⁴, while there are also nine other fragments with orthographies classified with, or consisting of, . In this instance, the rationale behind glossing does not appear to relate to the *register* of the glossed lexeme so much as the deep and potentially ambiguous ideographic *orthography* of the lexeme.

In a fragment belonging to the lower register, the horizontal band framing the bottom of the register of vertical columns preserves ..., MΔNTḲ . and MΔNTḲ¹³⁵ (468,2 middle-bottom) – the latter orthography glossing historical mꜥnd.t. Although it is uncertain whether any prefixed phonetic complements were part of the orthography due to the damage to the fragment, the presence of final <t>, and fact that writings with the ideogram are rare if not unattested¹³⁶, suggest that the ideogram  was complemented. These considerations, then, suggest that the rationale behind glossing was not the polyvalence of ¹³⁷, but instead perhaps

¹³² Notably, an epithet not dissimilar from others, but otherwise not attested, cf. LGG8: 433.

¹³³ Compare with OΥCP-OΥENΔQP in P. BM EA 10808 (5.2.2.1) line 18.

¹³⁴ With several phonetic as well as ideographic values, cf. KZL: 1.45.

¹³⁵ Paralleled in PGM VII (P. Lond. 121) in the sequence cχιαθι (sk.tt < msk.tjt) και (“and”) μαντω (mꜥnd.t) (518), cf. Bergman 1982: 30; Betz 1986: 132 n.83.

¹³⁶ cf. Wb m: 48; WPL: 415.

¹³⁷ cf. KZL: 14.1.

that the glossing scribe sought to record two variant phonetic realisations – although the former transliteration remains uncertain.

A loose fragment of a column that provides no diagnostic information on its potential placement reads ...]† (196A middle-bottom). Underneath this classifier the gloss MIM was written. Presumably the orthography lost in the column is mn.w “aromatic plant” – an obsolete lexeme whose phonetic realisation had undergone a coalescence of bilabial dental to nasal.

Notable are not only such supralinear glosses and annotations, but also the orthographic conventions of the hieroglyphic text itself. Consider the group , isolated on a fragment of a column with no discernible diagnostic features allowing its placement (196A centre-left). This orthography must be understood as etymological *dt* “olive tree”, ultimately a Semitic loanword, written with its stem vowel rendered. Thus, this inventive orthography, which does not correspond to the established conventional orthography in hieroglyphs¹³⁸, accords more closely to the contemporary phonetic realisation of this contemporary lexeme – *F XΔIT*.

A substantial fragment of the upper register preserves theonyms of Osiris, followed by a partially-preserved epithet or manifestation thereof in the column descending beneath, among a series of theonyms and epithets/manifestations (196A top-right). Although poorly preserved, it is easy to discern that the extant upper margin of this fragment is filled with Old Coptic and hieratic/hieroglyphic glosses. In the case of at least two theonyms and their epithets/manifestations, the theonym is repeated in an Old Coptic gloss in the upper margin, followed by a non-alphabetic grapheme/diacritic underneath, and then further Old Coptic glossing. A discernible example is OΥC|Pl, followed by a grapheme underneath – one of which resembles the × diacritic¹³⁹, and then two lines of Old Coptic and hieroglyphic gloss [.]NOΥTl,

¹³⁸ cf. Wb d: 618.

¹³⁹ Although this is unlikely because OΥC|Pl is not the construct form of the name, cf. OΥCP-OΥENΔQP in P. BM EA 10808 (5.2.2.1) line 18.

followed by what might be . The first line could then correspond to the attested epithet ntr-ḥ-m-ḥ-wr “Great God in the Sacred Land”, i.e. nome of Abydos. Notable is that the ideogram for the 8th Upper Egyptian nome, if read correctly, is written as if orientated left-to-right as the Old Coptic gloss, rather than right-to-left. This gloss does not, however, appear to correspond to the partially-preserved column of hieroglyphs descending from the divine name of Osiris on this fragment. The name that follows, reading left-to-right among the Old Coptic glosses, and presumably relates to the column preceding that featuring Osiris, but now lost, is the gloss HCl | . ⲉⲁⲙⲟⲛ/ⲗ mr.t(?)–jmn(?), “Isis, beloved(?) of Amun(?)”, followed by a grapheme/diacritic underneath, and CMΔT  “Form (of) Horus”. Despite the uncertainty of these readings, the mixing of graphic codes in these glosses is something otherwise unattested in the glosses treated in this study, and instead reminds of the bigraphic writing developed for an entirely different application – treated below (8.2.2).

Without question, at the time of this study there is significantly more to be learned from this manuscript, which deserves – and will receive – its own edition. This limited treatment has in the meantime served to illustrate a particular phenomenon of glossing and therefore textual production and scribal practice attested uniquely at Tebtunis. Notable is the extensive utilisation of trigraphic glossing, in hieratic, demotic, and Old Coptic, and the – not infrequent – cumulative use of that glossing, i.e. hieratic and Old Coptic glossing the same hieroglyphic orthographies, as well as the unconventional and thus innovative spellings of select hieroglyphic orthographies. With functional literacy in hieroglyphs being the metaphorical capstone of the pyramid of scribal learning, literacy in all other scripts is presupposed of a hieroglyphic literate. What’s more, at least in the case of this hieroglyphic text, all scripts as well as various orthographic methods of phonetic glossing and annotations were utilised to retain an understanding, and – as has been seen – propagate a misunderstanding, of both obsolete lexemes and the unfamiliar orthographies with which they were rendered in hieroglyphs. Quite in contrast to the P. Carlsberg 2 corpus, however, it is Old Coptic,

rather than endographic scripts, which predominates in the phonetic glossing of this manuscript.

As intragenerational transmission slowed, to which the glossing on this manuscript could be suggested is testament, scribes' ability to *decipher* – and then, ultimately, *understand* – orthographies utilising polyvalent graphemes as well as rendering obsolete lexemes with less *recency* in a scribe's continuum of word knowledge would, as a result, have stalled.

Although such manuscripts are often compendious – by nature of being compiled from several Vorlagen, their augmentation with phonetic glossing, not attested in earlier periods of Egyptian history, is suggestive of the need to provide reading aids due to the orthographic depth of hieroglyphic orthographies and the obsolete Egyptian lexicon commonly rendered in such orthographies.

6.3 Innovative Scripts and Spellings, Script Shift and Obsolescence at Totoun/Tebtunis

The conclusions to the close study of the P. Carlsberg 2 corpus, and especially P. Carlsberg 2.1, stressed that, even when augmented with hundreds of glosses, such written compendia of lexical information could not have enabled an exclusively Demotic literate to decipher, understand, and thus read hieratic – let alone learn hieratic from such glossed manuscripts. The orthographic methods utilised in glossing have, however, demonstrated the ways in which innovative spellings with reduced orthographic depth, in comparison to the hieratic orthographies they were glossing, served to aid the deciphering of the glossed lemmata in that corpus (6.2.2) or the obsolete lexemes rendered with polyvalent hieratic signs, and thus in deep orthographies, among hieratic ritual texts (6.2.1). Where hieroglyphs were concerned, all the scripts ever utilised for writing the Egyptian language glossed the highest register of language, i.e. theonyms, epithets, and toponyms, often rendered conventionally in orthographies, such as ideograms, with considerable orthographic depth.

In doing so, the orthographic methods utilised to render innovative spellings suggest the necessity for such innovative spellings, following millennia of Egyptian textual culture where no such phenomenon is attested. Thus, the innovative script use and spellings rendered not only evidence a process of script shift whereby demotic and Old Coptic spellings were being produced to gloss obsolete lexemes with orthographies only in archaic hieratic, they also suggest that there had to be a rationale behind such a shift. What's more, significant in comparison to the standard practices of linear annotations to texts which have been attested throughout Egyptian scribal tradition, the utilisation of punctuation through graphic parsing – also attested at Tebtunis in ritual texts, demonstrates that aids to deciphering not only extended to those more familiar with demotic than hieratic, they were also used by those who were evidently functionally literate in hieratic. Graphic parsing, as *spatia* in modern alphabetic writing, reduces the orthographic depth of *scriptio continua*. Consequently, it was not only the orthographic methods utilised in producing innovative spellings, and the innovative script of Old Coptic with the lowest orthographic depth of all, that reduced orthographic depth – the extensive utilisation of punctuation through graphic parsing was evidently also an effective and valued scribal technique for reducing orthographic depth.

By comparison to Oxyrhynchus, where the use of both supralinear glossing and punctuation was developed to the extent of comprehensive supralinear transliterations of hieratic texts in alphabetic Old Coptic, with morphemic and lexical units punctuated, the utilisation of Old Coptic, and to a lesser extent punctuation, at Tebtunis appears relatively limited. This is not least because demotic-derived – endographic – orthographic methods substantially outnumber those utilising Old Coptic (6.2.2.4), but also because selective vocalic glosses were often added where entire supralinear transliterations could instead have easily been rendered.

Thus, Old Coptic was utilised comparatively sparingly at Tebtunis, as a *supplement to*, rather than *substitute for*, endographic Egyptian writing – perhaps suggesting that the script conventions governing script use at Tebtunis were more traditionalist than those at Oxyrhynchus. Despite the apparent paramountcy of endographic Egyptian writing at the site

treated in the next chapter, the process of script shift attested there is not, as at Oxyrhynchus and Tebtunis, an apparent *supplement to* endographic writing, rather it is a *substitute for* one form of endographic Egyptian writing – hieratic – for another – demotic.

7 Innovative Scripts and Spellings at Timoui/Soknopaïou Nesos

This chapter treats the script communities and domains of script use at Soknopaïou Nesos (7.1), as well as the innovative scripts and spellings attested (7.2), in order to inform upon script shift and the intergenerational transmission of literacy during the Roman Period, and their implications for the domain-by-domain obsolescence of the scripts of the Egyptian writing system at Soknopaïou Nesos.

7.1 Script Communities and Domains at Timoui/Soknopaïou Nesos

The textual culture produced by the script communities comprising the priesthood of Sobek Lord of Pai (Soknopaïos) is a corpus most closely comparable to that excavated at Tebtunis. However, the form of the textual content contained in this corpus is significantly different from that at its neighbouring site south of Lake Moeris. At Soknopaïou Nesos there was a predisposition in the temple, ritual, and inward administrative domains to reproduce, compile, and transmit texts in Demotic/demotic. Although the outward administrative domain during the Roman Period was inhabited by Greek, the textual culture circulating within the priesthood apparently shunned the encroachment of the Greek language. While this could be taken as suggestive of a hard-shelled community prioritising and preserving linguistic and (ortho)graphic norms by resisting outside influence (2.1.2), quite contrary to the prioritisation of traditionalist script conventions, hieratic was almost abandoned in the ritual domain in favour of demotic.

Before the examples of innovative scripts and spellings can be considered, the textual culture extant from the site must be considered, in order to construct a typology of script domains and shift. In order to do so, the scholarly debate regarding the provenance of textual sources which, although predominantly not excavated at the site, have nonetheless been ascribed to the site, must be summarised. In doing so, this study draws upon the comprehensive treatment of this issue by Stadler, who has undertaken the archival work necessary to establish the

provenance, or lack thereof, of the relevant papyri, as well as to disentangle scholarly assumptions and received wisdom.

The majority of manuscripts ascribed to Soknopaiou Nesos were acquired from the antiquities market during the late 19th century, ending up in Vienna, London, Paris, and Berlin (Stadler 2015: 191). In 1909-1910, the Royal Museums of Berlin dispatched an expedition to excavate Greek-language papyri, which also brought with it a “by-catch” of Egyptian-language papyri (Stadler 2015: 191-192). This mix of unprovenanced with securely-provenanced papyri has resulted in undue certainty, ultimately the assumption, that many unprovenanced manuscripts in Berlin are from Soknopaiou Nesos. In the 1930s, excavations by the Egyptian Expedition of the University of Michigan worked principally in the town¹ (Boak 1935), rather than the temenos. Importantly, it was there that, in “House I 112”, fragments of the L01 manuscript of the Book of Thoth were found (Stadler 2015: 192), as well as the only Old Coptic manuscript from the site (7.3.1). This mix of finds demonstrates that not all textual culture produced by the script communities of the priesthood was housed in the temple’s House of Books, or similar, but in private priestly collections – with notable implications for the Tebtunis corpora, treated above (6.1). Comparable to at Oxyrhynchus and Tebtunis, a caveat to the treatment of the following corpus remains that no corpus from the Ptolemaic Period is preserved with which to draw comparisons with the sources in this chapter concerning script domains and shift between the Ptolemaic and Roman Period.

Stadler stresses that the assumption that all papyri in Vienna come from Soknopaiou Nesos constitutes circular reasoning already disproven by Loebenstein². Other than the hand

¹ For a full history of the discovery of papyri at the site, cf. Stadler 2017a: 47-49.

² Loebenstein (1983), with the following clarifications (Stadler 2015: 193-194): 10,000 papyri from Crocodilopolis-Arsinoë and Heracleopolis Magna gathered by Theodor Graf arrived in Vienna by 1881/1882; the papyri added from 1884 are said to be additions to the former corpus; the papyri added from 1886 are said to come from Hermopolis Magna; the papyri from 1893 are said to come from Dime – “among them, however, [were] pieces from other sites”, including in the Fayum and Hermopolis Magna. In addition, copies of the Book of the Dead from Memphis and Thebes also came to Vienna in the 19th century (Stadler 2015: 194), while there are also papyri in Heidelberg, Aberdeen, and the Sorbonne from Soknopaiou Nesos (2015: 194-196).

diagnostic of Soknopaiou Nesos, the so-called Satabous hand³, another hand, the so-called Serpot group/school, has – “implicitly or explicitly” – “been assumed as the attestation of a second school (or hand)” (Stadler 2015: 202-203). Although the hand itself is coherent, and thus the manuscripts exhibiting such a hand comprise a cohesive group⁴, ‘that does not mean they come from [Soknopaiou Nesos], because the provenance of none of the manuscripts attesting this hand is secure’ (Stadler 2017a: 52). Indeed, the paradigm that there were two hands stemmed from the idea that there was a different school for documentary and literary scribes, which Stadler argues is erroneous (2017a: 56). Quack (2018a: 209), however, stresses certain delineations, arguing that “the fact that at Soknopaiou Nesos we have only the Satabous type for documentary texts, while the other types are restricted to religious and literary texts, is tied up with the special transmission of competence in administrative techniques and legal intricacies”. Indeed, such a delineation would not be unparalleled, because at Tebtunis documentary and literary hands in Demotic were significantly different. Strongly suggestive evidence of this at Soknopaiou Nesos would be P. Berlin P. 8043 Verso, Manuscript A of the Daily Ritual of Soknopaios (7.2.5), which does not conform comfortably to the Satabous type. In Stadler’s judgement, however, “the view that both schools were based at [Soknopaiou Nesos] has to be questioned simply due to the lack of sources supporting this hypothesis” (Stadler 2015: 223). That is to say, the burden of proof is upon those who advocate that the “Serpot group/school” indeed comes from Soknopaiou Nesos.

In order to explain why papyri of the “Serpot group/school” were found both at Soknopaiou Nesos and Tebtunis, Stadler suggests that a priestly scribe⁵ or papyrus⁶ was exchanged.

³ Long-established from the provenanced corpora of 1st and 2nd century documentary and literary hands attested in ostraca and papyri, respectively. This hand developed following the lifetime of the scribe after which it was named – “Satabous”, who was deified after his death (Quack 2018a: 195 n.41-42; 210), by Stotoes, son of Harpbekis. Thus, it was “their master, whose name is still unknown” who “was probably the real innovator” (Quack 2018a: 194).

⁴ For this corpus, and a problematisation of the manuscripts’ supposed provenances, cf. Stadler 2017a: 52-55.

⁵ For attestations of priests serving cults in Tebtunis and Soknopaiou Nesos, cf. Monson 2005: 80-81, and in Tebtunis and Akoris, cf. Wegner 2011.

⁶ For the tangible evidence of papyri being traded between priesthoods, including being sent away to be copied, cf. Stadler 2015: 209; 2017a: 62, and for trade in papyri, cf. Stadler 2015: 210-211. Evidence of reuse includes P. Vienna D 4893+10014+10103, which was first inscribed with a Demotic Soknopaiou Nesos hand, before being palimpsest and inscribed in Greek at Crocodilopolis-Arsinoë (Stadler 2017a: 62-63).

Although Crocodilopolis-Arsinoë has been suggested as a potential provenance of the “Serpot group/school”, in the first instance Stadler favours “Fayumic town x”, and in the second, Karanis⁷ (2015: 223). Ultimately, an important caveat is that palaeography only attests where a scribe was trained, not whether the papyrus comes from where the scribe was trained⁸ (Stadler 2015: 208; 2017a: 63). Furthermore, Roman Period Demotic palaeography is not yet established enough to permit anything more reliable than “arguing with a general impression of a ductus”, which is deeply subjective – Stadler thus advocates a “methodologically clean approach” of identifying diagnostic morphologies which would or would not attest palaeographical homogeneity (2015: 205). Thus, although there is opposition to such a distinction⁹, Stadler’s case, including that arguments to the contrary often consist entirely of assumptions and/or received wisdom¹⁰, that “it would be wise to keep [the manuscripts of the Serpot school/group] apart and form them to one complex” (2015: 212), seems the most robust. Fortunately, the provenance of the manuscripts treated in this study is not contentious.

⁷ Although only one papyrus fragment – P. Michigan 5641a (Ryholt 2017) – was found by the Michigan mission at Karanis, and two papyri inscribed with the Serpot hand relate to Karanis (Stadler 2017a: 64). P. Carlsberg 159+PSI inv. D 10 Verso contains the tale of Hareus, son of Pahat, but also features a Greek recto in which the village of Karanis is mentioned, ‘which may indicate that the papyrus was written there and that the roll arrived at Tebtunis later’, although ‘it is also possible that the scribe moved to Tebtunis and took the papyrus with him’ (Stadler 2017a: 61). The hand of that text, however, is contentious, with Quack arguing that it cannot be a Serpot hand, and also stressing that fragments in Florence are diagnostic of a Tebtunis provenance (personal communication). Indeed, it is possible that the papyrus inscribed with its Greek recto arrived for reuse at Tebtunis, and also that it arrived there from Crocodilopolis, the nome capital, rather than Karanis (Quack, personal communication). The collector Farag Ismail acquired numerous papyri in addition to those from Soknopaiou Nesos, “explain[ing] why the complexes have been so intimately mixed up that many scholars were inclined to see both groups as one find” (Stadler 2015: 214).

⁸ Stadler highlights that Book of Thoth manuscript L01, which is “clearly not one typical for Dime”, joins with P. Michigan 6128, which was discovered by the Michigan mission at Soknopaiou Nesos (Stadler 2015: 208; 2017a: 58–60). Quack (2018a: 197 n.50) takes this as evidence for ascribing his ‘second Dime hand’ to Soknopaiou Nesos – concluding that despite the hand having “very much a character of its own”, it “shares some typological similarity” (2018a: 197). Yet, consider P. Carlsberg 400, with a diagnostically Dime hand but from Tebtunis (Stadler 2015: 210; 2017a: 58; Quack 2018a: 206). As Stadler concludes, ‘this bookroll is insufficient to prove the existence of a second school of scribes at Roman Period [Soknopaiou Nesos], because its palaeography rather resembles that of Tebtunis. Since L01 was found in a house, it testifies to private use, not a copy preserved in a temple institution like the House of Life’ (2017a: 60), cf. also 2017a: 48. Regarding P. Carlsberg 400, ‘Quack concluded that a scribe went to Tebtunis after his education at Dime. This is possible, but it is also possible that a literary papyrus was sent to Tebtunis and, later, another scribe added the hymn to Sobek, Lord of Tebtunis’ (Stadler 2017a: 62). Stadler (2017a: 62) further argues that ‘a tale would be exceptional in Dime where, in demotic, only documentary and religious texts are currently known’. For example, although Hoffmann (1995) and Quack (2018a: 199) ascribe the manuscript of the *Ägypter und Amazonen* to Soknopaiou Nesos, there is no evidence it came from there. That being said, Quack (personal communication) nonetheless highlights that the unpublished tale of Harpounesh is very much a Satabous hand, demonstrating that literary texts are known.

⁹ In a recently-published article (2018a), Quack has expressed that he does not share this view, constructing a typology of three Demotic hands at Dime from his impressions of the ductus. However, this article was presented at a conference in 2009, and thus has not yet engaged with the subsequent studies by Stadler summarised here.

¹⁰ For Stadler’s deconstruction of instances of circular reasoning, cf. 2015: 197–198.

Regarding script domains at Soknopaiou Nesos, although hieroglyphs predominate in the monumental domain, manuscripts concerning the decoration of temple walls are also attested in Demotic as well as in hieroglyphs (Stadler 2012b: 379-381). P. Vienna Nationalbibliothek 9976¹¹ is a Roman Period copy of a Ptolemaic¹² hieroglyphic papyrus featuring the inscriptions to be written upon the door of a naos leading to the main sanctuary, which describes Soknopaios as the one “who listens to prayers” (Stadler 2017a: 21). This text could be either a Ptolemaic or Roman copy (Stadler 2012b: 379), and is rare evidence of hieroglyphic literacy, and thus a hieroglyphic script community¹³. Stadler (2012b: 381) notes that while Winter (1967) stated this manuscript was the Vorlage utilised by craftsmen to carve the inscription on the door of a naos or gate of a pylon, a Roman copy would be a century too late unless the room was left undecorated until the Roman Period, and an earlier Vorlage was followed. P. Vienna D 10100¹⁴ is a 1st or 2nd century CE Demotic papyrus featuring a description of the internal decoration of the temple of Soknopaios¹⁵. Seemingly a copy of a Ptolemaic project, the composition is subdivided into registers and features an unspecified Ptolemy as the recipient king. The main text is in Demotic but also features some hieroglyphic signs, painted in red. Unlike the first example, however, Stadler argues that, contrary to Vittmann’s assessment, P. Vienna D 10100 could not be a draft of a wall decoration, only a copy of antiquarian interest¹⁶ (2012b: 381; 2017a: 21).

Monographs of priestly knowledge in Demotic, such as the Book of the Fayum (Beinlich 1991: 46-47), Book of the Temple (Quack 2005a: 114), and Book of Thoth (Jasnow and Zauzich 2014: 11-14), are all attested, and evidence the predominance of Demotic in the temple

¹¹ TM#105746, cf. Winter 1967.

¹² Ptolemy VIII and Cleopatra III (124-117 BCE).

¹³ On hieroglyphic papyri from Soknopaiou Nesos, cf. Stadler 2015: 219.

¹⁴ TM#105745, cf. Vittmann 2003b.

¹⁵ ‘The door inscription describes the function of the room as the place of funeral rites around – I suppose – the crocodile as living manifestation of the god’ (Stadler 2017a: 32).

¹⁶ In this, as Stadler notes, they would be comparable to the copies of the Assiut tomb inscriptions from Tebtunis (6.2.3), cf. Osing and Rosati 1998: 55-100. Neither papyrus corresponds to any relief found at the site. Either decoration was not completed (Stadler 2017a: 22), or, as Davoli argues, the walls were plastered and the decoration was subsequent lost (2007: 107 n.47), or the decorated walls are yet to be discovered (2010: 72). That being said, Stadler does note that, at Kallabsha, both Amenhotep II and Ptolemy IX are depicted in two adjacent ritual scenes carved under Augustus, who is referred to elsewhere generically as pr-ꜥ (2015: 381).

domain of textual production. Otherwise, only one Old Coptic gloss is attested in one copy of the Book of Thoth (7.3.2). In the ritual domain, in addition to the Daily Ritual (7.2.5), Hymns to Sobek are attested¹⁷, and – notably – these are in Demotic/demotic, rather than in hieratic as at Oxyrhynchus and Tebtunis. The ritual domain at Soknopaiou Nesos is not, however, populated exclusively by textual culture relating to his cult – there is ‘a mythological richness that goes beyond a focus on Sobek’ (Stadler 2017a: 33). In addition to the cult of Soknopaios, “as one would expect for any proper Egyptian temple during that period”, there is also evidence of a cult of Osiris (Stadler 2015: 215) – not only in a text treated in this study¹⁸ (7.2.4), but also elsewhere¹⁹. P. Vienna D 10100 also attests the worship of Osiris, Osiris-Sobek, Sobek Lord of ꜥꜣy-iꜣw, perhaps “Master of this Old Age”, and Ptah who rejuvenates (2017a: 32). A Hymn to a Universal Deity, which Stadler argues is likely Isis (2017a: 70), is also attested²⁰, but how far the cult of Isis Nepherses, “beautiful as to the seat” (nfr-(ir)-s.t), is distinct from the worship of henotheistic Isis is harder to discern (Stadler 2017a: 30). Although it is unclear exactly where she was worshipped, ‘the name of the college of priests as “Soknopaios, the great god, and Isis Nepherses, the great goddess” corresponds to the central role that Isis plays in the mythology of [Soknopaiou Nesos] as reflected in religious sources’²¹ (Stadler 2017a: 32). Furthermore, hymns to Iah-Thoth are also attested²².

¹⁷ cf. P. BM EA 76638 (TM#55942) and P. Strasbourg Demotic 31 (TM#48899) (Widmer 2007); P. Vienna D 6951 (TM#56173) (Hoffmann 2002; 2014) (7.2.2); P. British Library 264 (TM#130908) (Stadler 2012) (7.2.3).

¹⁸ For Stadler’s contextualisation of this ritual among the archaeology of the site, cf. 2017a: 85.

¹⁹ Stadler (2015: 216; 2017a: 84) summarises evidence from liturgies, ritual paraphernalia, and the attestation of a ꜥꜣm-ntr wsir “God’s Servant of Osiris”, ꜥꜣ ꜥꜣ wsir “A Processional Feast for Osiris”, as well as unpublished fragments of rituals for Sokar-Osiris. Two ex-voto bronze statuettes of Osiris found inside the temenos also suggest his worship there (Davoli 2015: 129-130).

²⁰ cf. P. Vienna D 6297+6329+10101 Recto (TM#55906), cf. Stadler 2017a: 70-77; 2017b. For a modelling of the relationship between Egyptian- and Greek-language hymns to Isis, cf. Stadler 2017a: 72-75.

²¹ cf. P. Vienna D 101000 attests Isis Nepherses accompanying Soknopaios in several ritual scenes (Stadler 2017a: 30-31). P. Vienna D 6297+6329+10101 Recto could relate to cult of Isis Nepherses and Nephremmis, given that documentary references and potential archaeological remains of a chapel of Dionysias are attested (Stadler 2017a: 76-77).

²² cf. P. BM EA 76126 (TM#129007).

Regarding the domains inhabited by hieratic at Soknopaïou Nesos, evidence is sparse²³.

In addition to P. Berlin P. 23817²⁴, a 1st BCE/CE “*semidemotisch*”²⁵ Tractate on Animal Breeding, Quack (2018a: 200; 202-203) states that there are two hieratic copies of the Book of the Temple extant, Stadler (2015: 197), more – while both agree that the hieratic mythical-astronomical text of P. Berlin P. 23514 comes from the site (Stadler 2015: 197; Quack 2018a: 201). In addition, Quack (2018a: 201-204) argues for a second hieratic hand, including two further copies of the Book of the Temple, a list of dates for the rotation of the phylae by the moon calendar, and a copy of the Book of Thoth. Thus, even if both corpora are to be ascribed to Soknopaïou Nesos, the volume of textual production in hieratic is significantly lower in the ritual and temple domains than the other sites treated in this study, while glossing is, consequently, all but non-existent.

Soknopaïos was not only served by a cult practiced by the priesthood²⁶, he also performed oracular functions²⁷ which seem to have taken place in a structure adjacent to the rear of the sanctuary (Stadler 2015: 382-384) (1.2.1.3 figure 1.2.1.3b). Notably, 17 Demotic oracle questions on papyri are attested from the Ptolemaic Period, while from the Roman Period a domain shift appears to have occurred, resulting in only Greek-language examples being attested (Stadler 2015: 382). Although the technical domain is principally inhabited by Demotic, one lot oracle is also attested in Old Coptic (7.3.1). The technical domain is also

²³ An important possibly to consider is that the aforementioned P. Carlsberg 2.4 – P. Berlin 7809/10+P. Louvre AF 11112 (TM#56095), cf. HPT: 276-296; plates 29-30, comprises fragments now in both Berlin and Paris. Quack has highlighted that this makes a provenance of Soknopaïou Nesos at least a possibility (2012b: 443: n.60).

²⁴ TM#175251.

²⁵ “hybrid endographic writing of Egyptian” (4.2.2).

²⁶ For the cult of Soknopaïos and its practice, cf. Stadler 2005b: 155-160, and for the ranks in, and running of, his temple, cf. Schentuleit 2015.

²⁷ As suggested by P. Vienna Äg. 9976, which describes Soknopaïos as “the one who comes to him who calls upon him, the one who listens to the prayers of those who are and those who are not”.

populated by Demotic texts concerning omina, such as the Book of the Gecko²⁸, or prophecies²⁹, as well as astrological handbooks³⁰.

The decade-long publication of principally Greek-language texts from Soknopaiou Nesos led to conclusions that the population at Soknopaiou Nesos were “highly hellenized”, even though “there were actually very few Greeks and later even fewer Romans there”³¹ (Lippert 2010: 427). Schentuleit and Lippert’s comprehensive study of the documentary sources have highlighted that of the 1139 Greek-language texts identified, 99 (<9%) concern the temple or priesthood itself. That is to say, although the outward documentary domain of textual production, that of receipts, petitions, contracts, accounts, and letters to the administration, were in Greek (Lippert 2010: 428-429), of the 1879 Demotic documentary texts attested³² (2010: 429), 1774 (94.5%) concern the temple and priesthood itself. The inward documentary domain, written by the priests themselves and concerning the running of the temple or other priestly business, was thus dominated by Demotic³³. The remaining 105 (5.5%) are legal documents, most of which are bilingual, and a few private letters³⁴. Indeed, the only Greek-language documents written for the temple are oracle questions, “and for some of them it is not even clear whether they really come from Soknopaiou Nesos” (Lippert 2010: 431). Thus, although the superordinate language contact situation in Egypt meant that Greek dominated in the outward domain³⁵, Demotic was retained in the inward domain “until at

²⁸ cf. P. Berlin SM P. 15680+15681+23511 (TM# 175250) (1st century CE) (Zauzich 2012) – “the way a gecko falls down, an unusual albeit not impossible occurrence, is taken as an omen” (Stadler 2015: 221).

²⁹ cf. P. Vienna Nationalbibliothek D 10000 (TM#48888) (4 CE), a copy of the *Prophecy of the Lamb of Bocchoris*, whose colophon states that it was written by “the famous Satabous who also may have been the scribe of pVienna D 12006”, itself oracular (Stadler 2015: 218).

³⁰ cf. P. Berlin P 8345 (TM#55981), which “aims at predicting general tendencies of a person’s life based on the planets’ constellations at the moment of his or her birth” (Stadler 2015: 221). For this manuscript, and an improved translation, cf. Hughes 1983 and Quack 2008: 368-370 respectively.

³¹ Despite Yiftach’s (2016: 272) conclusion that at Soknopaiou Nesos “women and men alike are overwhelmingly illiterate”, in Greek – of course Demotic sources were not treated, Lippert (2010: 429) has highlighted that “the Greek documentation from Soknopaiou Nesos does not, as has often been assumed, reflect life at the village and in and around the temple in an adequate way” – there is “simply too much administrative material”.

³² The ostraca have been published (Lippert and Schentuleit 2006), as have receipts (2006), and documents (2010a), with legal documents and priestly agreements to follow in two further volumes.

³³ For the obsolescence of Demotic contracts in the 1st century CE, cf. Depauw 2003: 89-97; 104-105; Muhs 2005.

³⁴ For example, P. Berlin P 8092 (TM#46466), cf. Lippert and Schentuleit 2010b.

³⁵ It is only in the Ptolemaic Period that there is some evidence for petitions to minor village officials in Demotic (Lippert 2010: 432).

least the late second half of the second century” (Lippert 2010: 431). The quotidian information required of the administration was first collected in Demotic, before being transposed into yearly reports which were translated into Greek for the Grecophone administration (Lippert 2010: 431). Figure 7.1 illustrates the predisposition towards, and cultivation of, Demotic across the majority of script domains at Soknopaiou Nesos.

Figure 7.1 Script domains at Timoui/Soknopaiou Nesos during the Roman Period.

Soknopaiou Nesos	Hieroglyphic	Hieratic	Demotic	Greek	Old Coptic	Bigraphic Coptic
Monumental	✓	☐	☐	☐	☐	☐
Ritual	☐	✓	✓	☐	☐	☐
Temple	☐	✓	✓	☐	✓	☐
Technical	☐	☐	✓	✓	✓	☐
Literary	☐	☐	✓	✓	☐	☐
Administrative (Inward)	☐	☐	✓	✓	☐	☐
Administrative (Outward)	☐	☐	☐	✓	☐	☐

7.2 Innovative Spellings at Timoui/Soknopaiou Nesos

The sources treated in this section attest the most extensive utilisation of innovative spellings in demotic of any site treated in this study and, indeed, any site from Roman Egypt.

Soknopaiou Nesos, therefore, evidences the utility of demotic as a *substitute* for hieratic in all script domains (7.1), and the orthographic methods utilised that enabled demotic to do so.

The substitution of hieratic has notable implications for understanding the viability of intergenerational transmission of literacy not only in demotic/Demotic, but also in Middle/Classical Egyptian, which was no longer bound to hieratic, but instead transcribed, compiled, and transmitted in(to) demotic.

7.2.1 Isis and the Divine Child/Dice (P. Vienna D 12006 Recto+D 6021) (25 BCE-25 CE)

P. Vienna D 12006 Recto is the principal manuscript attesting a composition concerning the acquisition of foreknowledge³⁶. This papyrus of nine columns was written by Kheteba (ḥtbꜣ) – “Satabous”³⁷, and thus dates from the last quarter of the 1st century BCE to first quarter of the 1st century CE (Stadler 2004: 257-258). Although there is considerable contention as to the interpretation of this composition³⁸, fortunately the interpretation of the orthographic methods utilised does not – except in one case – hinge upon semantics. The first section of three columns is structured with questions from Isis to, and answered by, the ⲉⲓ entitled “The Way of Questioning (šnꜥ) the ⲉⲓ”. Stadler (2002: 116-124) interprets the ⲉⲓ as the “child”, i.e. Harpocrates, in a dialogue between mother and son, while Quack interprets the ⲉⲓ as a “stone”³⁹, i.e. dice, in a sub-literary treatise on technical divination through the casting of lots (2008: 363). The following section of columns four to nine instead constitutes parables of myths and fables with morals and interpretations. Although known only in Demotic⁴⁰, and thus not a text in which a vast quantity of innovative spellings is to be expected in demotic, a proportional analysis of the orthographic methods utilised in this text will serve as a control group against which the other manuscripts in Middle Egyptian and demotic can be compared, i.e. by illustrating the proportion of innovative orthographic methods utilised to write a text which incorporates only a small number of obsolete lexemes.

³⁶ TM#80211, cf. Stadler 2002; 2003; 2004; 2006. A 1st century CE part-parallel is attested in P. Vienna D 12194 (TM#92324) and a 30th Dynasty (380-343 BCE) Demotic in hieratic part-parallel is attested in P. Berlin 23057 (TM#80213).

³⁷ Kheteba was also the scribe of the aforementioned P. Vienna Nationalbibliothek D 10000 (4 CE), a copy of the *Prophecy of the Lamb of Bocchoris*, cf. Zauzich 1976: 127; Hoffmann and Quack 2007: 349-350, P. Berlin P. 15594 (14/13 BCE), cf. Hoffmann 2002: 219-220, and P. BM EA 262 (11 CE), cf. Zauzich 1976: 128. This is in addition to the usurpation of P. Vienna D 6951 (7.2.2), where ḥtbꜣ bears the titles pꜣ wꜥb nty irꜥ ḥny pꜣ sꜣ 2.nw “the wꜥb-priest who performs the (cult) service, of the 2nd phyle” (Hoffmann 2002: 219-220).

³⁸ Compare Stadler, references in the footnote before last, with Quack 2005e; 2006c: 186; 2007c: 362-367.

³⁹ Stadler also discussed this reading, cf. 2004: 88-89, and subsequently responded to Quack, cf. Stadler 2006.

⁴⁰ One manuscript of which was written in hieratic.

Figure 7.2.1a tabulates examples of each of the orthographic methods utilised among the innovative spellings in P. Vienna D 12006 Recto.

Innovative Spellings in P. Vienna D 12006	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	NA				NA			
Classified Monoconsonantals	s ^c l	“to ascend”	s-l-Lb	4/18	ḍḍy	“to run”	ḍ-ḍ-ḍ-y-Lb	3/18
Unclassified Homeophone(s)	rwḍ	“to administer”	rt “foot”	1/20; 1/21	r-ḥ	“according to/like”	r ḥ.t “to (the) corpse”	1/4; 1/10; 1/20
Classified Homeophone(s)	mḥ	“nest”	m-mḥ-Hs-Gb “before”	5/10; 5/11	NA			
Unclassified Monoconsonantal(s) and Homeophone(s)	NA				NA			
Classified Monoconsonantal(s) and Homeophone(s)	NA				NA			

Figure 7.2.1b tabulates the proportional analysis of both conventional and innovative orthographic methods utilised in P. Vienna D 12006 Recto.

Conventional and Innovative Spellings in P. Vienna D 12006					
Obsolete			Contemporary		
Orthographic Method	#	%	Orthographic Method	#	%
Established Morphemic Hieratic	0	0.0 %	Established Morphemic Hieratic	0	0.0 %
Established Morphemic Demotic	NA	NA	Established Morphemic Demotic	315	84.0 %
Invented Conventional	NA	NA	Invented Conventional	13	3.5 %
Reinvented Conventional	NA	NA	Reinvented Conventional	9	2.4 %
Complemented Morphemic	NA	NA	Complemented Morphemic	26	6.9 %
Unclassified Monoconsonantals	0	0.0 %	Unclassified Monoconsonantals	0	0.0 %
Classified Monoconsonantals	6	66.7 %	Classified Monoconsonantals	6	1.6 %
Unclassified Homeophone(s)	1	11.1 %	Unclassified Homeophone(s)	6	1.6 %
Classified Homeophone(s)	2	22.2 %	Classified Homeophone(s)	0	0.0 %
Unclassified Monoconsonantal(s) and Homeophone(s)	0	0.0 %	Unclassified Monoconsonantal(s) and Homeophone(s)	0	0.0 %
Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %	Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %
Total	9	100.0 %	Total	375	100.0 %

In rendering obsolete lexemes, unlike all other texts treated in this chapter, unclassified monoconsonantals are not utilised, and while the proportion of classified monoconsonantals is larger than that of demotic-derived homeophones, the small sample size does not permit much

significance to be ascribed to this trend. Regarding contemporary lexemes, it is notable that 96.8% are written with conventional, whether established morphemic, invented and reinvented, or complemented morphemic, orthographies. Among innovative spellings, the utilisation of homeophones in equivalent proportion to monoconsonantals is perhaps surprising. This is not least because – as established above (4.5.3.2) – in demotic scribal tradition the orthographic method of classified monoconsonantals is – exclusively – the method utilised when rendering innovative spellings for lexemes previously without an orthography in demotic, i.e. invented and reinvented conventional orthographies, but also because monoconsonantal spellings are orthographically shallower than homeophones.

These examples demonstrate that, at the turn of the 1st century CE, very few innovative spellings in demotic were utilised – whether out of choice or necessity – in order to render contemporary lexemes in Demotic, while the orthographic methods utilised to spell obsolete lexemes were closer to Demotic scribal tradition, i.e. monoconsonantal as opposed to homeophonic spellings, than the other texts treated in this chapter.

7.2.2 A Hymn Compilation for Sobek (P. Vienna D 6951) (8 BCE)

The earliest evidence of a substantial manuscript exhibiting so-called unetymological writing is the compendium of cult hymns to Sobek, Lord of Lake Moeris, and a hymn to Horus, son of Isis. P. Vienna D 6951 preserves eight recto and one verso column(s) – as well as shorter verso columns of receipts inscribed during the reuse of the papyrus⁴¹. The colophon at the end of column seven informs that the text was inscribed in the 23rd year of Augustus, i.e. 8 BCE. The name of the original scribe, however, has been removed and replaced by that of the aforementioned Kheteba (ḥtbꜣ) – “Satabous”, son of hry=w the younger, whose mother was ḥtbꜣ the elder. Even though he was apparently not the scribe of the preceding seven columns of

⁴¹ TM#56173, cf. Hoffmann 2002; 2014.

recto nor verso texts, but perhaps at least the remaining recto columns, Kheteba did live contemporaneously with the production of this manuscript (7.2.1).

The composition is entirely in demotic and exhibits Middle and Late Egyptian as well as Demotic grammar (Hoffmann 2002: 223). Hoffmann (2002: 220-223) summarises this composition, whose publication is still in preparation, in five sections: columns one and two contain invocations to Sobek with his Nonad in his temple, to overcome his enemies, to Sobek's manifestations, and in his status as creator; column three invokes Sobek as 'Great Amun' in connection with King Maare (i.e. Amenemhet III), as Re, Geb, and protector of the king; column four features invocations emphasising the solar aspects of Sobek in the Sun-barque, in the Wadjwer, manifesting as Amun-Re-Khepri, coming forth from the Nun as the Falcon in his barque, and manifesting as the living Khepri; column five invokes Sobek as the Great God, as Re, Horus, Osiris, the Ba of Re and Ba, Lord of Mendes; column six emphasises the life-giving power of Sobek; and column seven ensures the purification of Soknopaios by deities termed his sons and daughters. Thus, the seven columns of this composition constitute a unity which corresponds to practices in the cult ritual: purification, offering, manifestation of the god, enthroning, and subsequent purification. The eighth recto and single verso column, perhaps written by Kheteba, comprise a hymn to Horus, Son of Isis, in which Sobek is not mentioned⁴².

Hoffmann (2002: 223) hypothesises that in inventing spellings for obsolete lexemes, the scribe was motivated to render phonetic values as accurately as possible, and that such phonetic realisations would also have been in the scribe's own Fayumic dialect. Regarding certain textual elements, Hoffmann concludes that the composition must have been transcribed into demotic at a significantly late date, even though the composition itself cannot be older than Ptolemaic due to its 'Neo-Middle-Egyptian' language stage⁴³ (Hoffmann 2002: 228).

⁴² This is paralleled in P. Berlin P. 6750 H.21-I.10, cf. below 7.2.1.3; Hoffmann 2002: 222-223.

⁴³ Given that Late Egyptian is attested in the ritual domain from the New Kingdom onwards (2.1.1), the criteria upon which this dating is based will require further examination when the text is published.

This conclusion, however, given the grammar Hoffmann describes, begs the question whether the composition itself was composed directly in demotic, rather than subsequently transcribed into demotic. Hoffmann (2002: 228 n.36) also suggests that the transcription into demotic was not much older than the copy in this papyrus, or even that this papyrus was the first transcribed version – a phenomenon nonetheless traceable to the 2nd century BCE⁴⁴ (4.2.1). Nonetheless, the original scribe, Hoffmann argues, sought a more easily readable and thus pronounceable composition because he had to recite this text as part of the temple cult (2002: 228).

Only the examples already presented by Hoffmann (2002) are those which can be treated here, because the papyrus remains unpublished. The fact that these have been preselected for publication because they have been both deciphered and understood by their editor means that it is unlikely they are proportionally representative of the orthographic methods utilised in the entire composition. Figure 7.2.2, therefore, tabulates only certain examples of each of the orthographic methods known to be attested among the innovative spellings in P. Vienna D 6951.

Innovative Spellings in P. Vienna D 6951	Obsolete Lemma Examples				Contemporary Lemma Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	Unknown				ḥr	“upon”	h	x+5/13
Classified Monoconsonantals	p ^c .t	“p ^c .t folk”	p ^c -y-A51-Sl	x+6/13	pth	“Ptah”	p-t-ḥ-Go	x+7/13
Unclassified Homeophone(s)	Unknown				ḥr.w	“faces”	ḥ-iry “ḥ, companion”	x+5/13
Classified Homeophone(s)	Unknown				ḥr.j- ḥḥb.t	“lector priest”	ḥr-rj.t-Sn “under, room”	x+2/5
Unclassified Monoconsonantal(s) and Homeophone(s)	ḥnmm.t	“sun folk”	h-inj-mwt “h, to bring, to die”	x+6/13	Unknown			
Classified Monoconsonantal(s) and Homeophone(s)	rs.j- jnb=f	“South of his wall”	i-irj-snf-y-A51-Sl “to do, blood, y”	x+7+13	Unknown			

⁴⁴ Hoffmann (2002: 228) takes the spelling ḥrb as an index of ‘a particularly late date of composition’, given that this orthography is not attested in demotic before the 2nd century BCE. However, it is attested in hieratic in at least the 4th, perhaps even 6th, century BCE as ḥḥ-r-b-ḥ-G7 (P. Brooklyn 47.218.156 3/5) (TM#58499), while orthographic updating is hardly uncommon in the copying of Egyptian manuscripts, and thus orthography can rarely inform upon the date of a composition.

In addition to these examples, although the utilisation of hieratic as an orthographic method to render both contemporary and obsolete lexemes is notable, there is a clear tendency towards shallower orthographies – with complemented orthographies such as *inḡ-mwt.t.w* attested. This trend is also suggested by several complemented morphemic orthographies, as well as unmorphemic reinvented orthographies for contemporary lexemes. Although the orthographic method of utilising homeophones is attested for both contemporary and obsolete lexemes, any predisposition towards monoconsonantal as opposed to homeophonic orthographic methods cannot be established. This composition does, however, provide the first attestations of combining monoconsonantal and homeophonic orthographic methods in order to render (obsolete) lexemes with complex consonantal structures.

7.2.3 A Sobek Theology (P. British Library 264 Recto) (1-100 CE)

Written in a 1st century CE hand, P. British Library 264 Recto is a palimpsest⁴⁵, with a substantial Middle/Classical Egyptian text written in demotic⁴⁶ inscribed across five columns, three of which are completely preserved (Stadler 2012a: 265-266). Notably, columns x+2 and x+3 are written in vertical demotic⁴⁷ and the first three columns are organised such that each line ends with a bird classifier – perhaps due to the identification of Sobek with the Ba of Re (Stadler 2017a: 66). The text invokes Sobek, Lord of Moeris, as a cosmic solar deity, the eternal source of life, a transcendent henotheistic deity, and – in the context of the Ogdoad – like Re, as the solar creator. The crocodile is thus identified as the symbol of the rebirth of the Sun out of the Primeval Ocean, of which Lake Moeris is a vestige (Stadler 2017a: 26).

Only the examples already presented by Stadler (2012a) are those which can be treated here, because the papyrus has not yet been published. As the preceding example, the fact that these have been preselected for publication because they have been both deciphered and understood

⁴⁵ TM#130908, cf. Stadler 2012a. The verso was reused for lists of names in Greek (2012a: 265).

⁴⁶ Noting the absence of *r-sdm=f* or *irḡ*-constructed periphrasis, Circumstantial and 1st Present constructions, alongside the presence of Middle Egyptian participles (Stadler 2012a: 267).

⁴⁷ Only otherwise attested in P. BM EA 76638 (TM#55942) – also from Soknopaiou Nesos, cf. Widmer 2007.

by their editor means that it is unlikely they are proportionally representative of the orthographic methods utilised in the entire composition. Figure 7.2.3, therefore, tabulates only certain examples of each of the orthographic methods known to be attested among the innovative spellings in P. British Library 264 Recto.

Innovative Spellings in P. BL 264 Recto	Obsolete Lemma Examples				Contemporary Lemma Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	Unknown				Unknown			
Classified Monoconsonantals	shr	“to satisfy”	(iw=)s-s-h-r-y-Gb	x+4/5	Unknown			
Unclassified Homeophone(s)	rth	“to confine/restrain”	rd-ḥ-t-ḥd “foot, white”	x+4/6	Unknown			
Classified Homeophone(s)	Unknown				Unknown			
Unclassified Monoconsonantal(s) and Homeophone(s)	shpr	“to create”	(iw=)s-ḥpr “she, to manifest”	x+2/15	Unknown			
Classified Monoconsonantal(s) and Homeophone(s)	Unknown				Unknown			

In addition to these examples, the utilisation of hieratic as an orthographic method to render contemporary lexemes is notable, while there is also a tendency in the known examples towards shallower orthographies – with complemented orthographies such as n3-nṯr.w attested. Given the trend for both monoconsonantal and homeophonic orthographies attested in the other texts treated in this chapter, the utilisation of both orthographic methods for rendering obsolete lexemes in these short extracts is also notable, not least because homeophonic spellings for obsolete lexemes are not as shallow as monoconsonantal spellings.

7.2.4 The Resurrection of Osiris and Nascence of Horus (P. Berlin P. 8765) (after 62 CE) (P. Berlin P. 6750) (76-125 CE)

Before a full edition was undertaken by Widmer⁴⁸, it was Spiegelberg who first identified that P. Berlin P. 8765⁴⁹, featuring a palimpsest recto text across two columns, was a parallel to several columns of P. Berlin P. 6750⁵⁰, constituting 10 recto columns with a blank verso (Widmer 2015: 2-5). From two verso columns featuring an agricultural tax register in Greek on the former, the palimpsest recto of the former is to be dated after the 8th year of Nero, i.e. after 62 CE, while the latter dates to the 1st century CE (Widmer 2015: 5-6).

The 10 columns of P. Berlin P. 6750, written in Classical Egyptian⁵¹ in demotic, were compiled into a novel composition. The first seven of these concern Osiris, and the following three Horus, son of Isis. The source texts from which this novel composition was compiled appear to come from Osirian compositions of a partially-adapted Abydene tradition and from liturgies on the divine birth of Theban tradition⁵² (Widmer 2015: 343).

Nonetheless, both compositions are novel, with only part-parallels known in other demotic sources from Soknopaiou Nesos as well as hieratic and hieroglyphic sources dating to the Ptolemaic Period (Widmer 2015: 6-7). The two columns of P. Berlin P. 8765 accord almost word-for-word with the litany of names in columns x+5-x+7 of P. Berlin P. 6750, while P. Vienna D 6951 (7.2.2) contains extracts of the hymn of x+9-x+10 copied twice, once on both the recto and verso⁵³ (Widmer 2015: 7). Ultimately, the variety of sources within the composition of P. Berlin P. 6750 demonstrates that funerary and liturgical texts were not necessarily partitioned between manuscripts⁵⁴ (Widmer 2015: 337).

⁴⁸ cf. Widmer 1998; 2002; 2005; 2014; 2015.

⁴⁹ TM#92898.

⁵⁰ TM#55938.

⁵¹ For more on the textual content of the compositions and its various rituals, cf. Widmer 2015: 337-344.

⁵² Due to the lack of divine discourses and ritual indications, Widmer argues that the manuscript is more likely a reference compendium than practicable ritual manual (2015: 343-344).

⁵³ Consequently, Widmer (2015: 344) concludes that this manuscript was a 'high prestige' copy for the temple library, or perhaps even deposited in the tomb of a priest, given the Osirian rituals within the composition.

⁵⁴ Consider the parallels to: a series of Osirian names in the wdnw-litany at the beginning of BD141-142; the 30th dynasty P. BM EA 10209 (Smith 2009a: #8; 178-192) and P. Leiden AL 61 vel 17; four hours of the *Stundenwachen* as attested on Graeco-Roman temple walls; a short excerpt attested on the Osiris Chapels at

The first seven columns of P. Berlin P. 6750 centre on Osiris, who presides over the West, and on the description of his resurrection⁵⁵ – building on associations with the Khoiak festival⁵⁶, whereas the last three columns concern the birth of Horus in the mammisi⁵⁷ (Widmer 2015: 31; 337). That latter text was assessed by Widmer as containing ‘modernising intrusions’⁵⁸ (2015: 31), but a reassessment by Quack has demonstrated that the composition is simply Late Egyptian (2016e: 315-316). The occasion of the practice of these rituals is argued by Widmer as having been during the *genesia* of Soknopaios. This lasted from the 8th to 25th of Hathōr – including the days featured in P. Berlin P. 6705, and coincided with the *Isia* which was held in the Fayum and some regions of Lower Egypt from the 17th to 20th of Hathōr (Widmer 2005: 177-178). A grounding for P. Berlin P. 8765, then, is that the 17th of Hathōr is the date stated by Plutarch as being the day on which Osiris was murdered, confirmed by the Egyptian *Calendar of Lucky and Unlucky Days*. Furthermore, the 24th of Hathōr is when Osiris Wennefer passes on the kingship to Horus – corresponding to when the festivals of Soknopaios ceased on the 25th (Widmer 2005: 178). Thus, P. Berlin P. 6750 “could have been a liturgy used in the context of institutionalized celebrations of the month of Hathyr (in particular, the *Isia*, from 17 to 20 Hathyr), which were themselves included in the celebrations of the *genesia* of Soknopaios” (Widmer 2005: 178). In summary, columns x+1-x+7 of P. Berlin P. 6750 “could correspond to the ritualized death of the “father” Osiris, an old crocodile”, followed by columns x+8-x+10, as P. Berlin P. 8765, “his own “resurrection” through the birth of his son Horus, a young crocodile, who would then succeed him” (Widmer 2005: 179). Therefore, these two forms correspond with the pair of crocodiles worshipped at Soknopaiou Nesos during the Roman Period: Soknopaios, a falcon-headed crocodile, as the elder, and Soknopiai(i)s, as the younger.

Dendera (Widmer 2015: 7) – explaining the lack of uniformity in the language utilised (2015: 31). For the arrangement of these parallels, cf. Widmer 2015: 8.

⁵⁵ Featuring various titles: Adorations of Sokar (x+3/3); of Osiris (x+3/22; x+5/1; x+7/14; x+7/18; x+7/22); Ritual of the Night of Searching (x+4/14); “The Loud Cry” (x+4/19; x+4/21); Offering Litany of Horus Son of Isis (x+6/7-8; P. Berlin P. 8765 x+2/15; x+2/19) (Widmer 2015: 20).

⁵⁶ Although the dates of the 18th to 20th Hathōr do not correspond with the month of Khoiak nor the holding of the Khoiak festival (Widmer 2005: 177).

⁵⁷ Entitled “the texts for nursing Horus the Son of Isis” (x+8/1).

⁵⁸ For example, the indefinite article and possessive article in variation with the suffix pronoun (Widmer 2015: 37).

Regarding the so-called unetymological writing exhibited in these manuscripts, Widmer argues that contemporary phonetic values were important, e.g. jtm for wtn, np for nb, as well as lambdacism, but also that there is evidence of ‘reinterpretations by enriching intellectual play’ (2015: 31-32). Indeed, as noted above (4.5.3.3), Widmer (2005: 173) has argued that “rather than constituting evidence for a loss of knowledge or lack of comprehension”, “the main reason” for unetymological writing “is to offer a double meaning to the text”. Notable also is the punctuation of the text with black points, the use of black points and strokes to complete lines, as well as the diacritic “ditto”⁵⁹ (Widmer 2015: 49-53) – treated at Oxyrhynchus (5.2.2.1; 5.3) and Tebtunis, above (6.2.2.2; 6.2.2.4; 6.3).

In her own typology, Widmer delineates ‘phonetic writing’, where the lexeme is generally provided with the expected classifier, and ‘non-etymological rewriting’, where the spelling generally retains the classifier of the homeophone (2004: 675-676). Regarding the latter typologisation, it should be noted that there are spellings that retain the classifier of the homeophone while *also* adding a novel classifier. The treatment of the conventional and innovative spellings exhibited for both contemporary and obsolete lexemes in these two manuscripts will instead accord with the typology developed in this study (4.5.3.2).

⁵⁹ Found only in P. Berlin P. 6750 – highlighting scribal choice.

Figure 7.2.4a tabulates examples of each of the orthographic methods utilised among the innovative spellings in P. Berlin P. 6750.

Innovative Spellings in P. Berlin P. 6750	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	ḥr-tp	“upon”	h-t-p	x+3/6; x+5/19	ḥr	“upon”	h	x+2/7
Classified Monoconsonantals	ḥci	“to be jubilant”	ḥ-c-y-Lo	x+1/5	sw ^c b	“to purify”	s-w-b-Sv-Kr	x+1/16
Unclassified Homeophone(s)	ḥb-sd	“Sed-festival”	ḥbs “clothing”	x+10/3	ḥn-wšb	“revenge”	ḥn-wšb “fine, answer”	x+9/9
Classified Homeophone(s)	r'-stj.w	“Rosetjau”	rs.j-tjw-Li-Or “south, wind”	x+5/17	pj js	“the laboratory”	pjy=s-jw-Kd “her receipt”	x+8/10
Unclassified Monoconsonantal(s) and Homeophone(s)	wsjr mr-jtj	“Osiris Merity”	wsir m-r-ḥt.t “Osiris, m, r, father”	x+5/2	ḥr.w	“faces”	ḥ-iry-Sl “ḥ, Companion”	x+7/3
Classified Monoconsonantal(s) and Homeophone(s)	mḥnd.t	“Mandjet-barque”	m-ty.t (infinitive)-y-Ho-Go	x+2/25	dfβ.w	“provisions”	t-f-w-iw.w-Kd	x+1/22

Figure 7.2.4b tabulates the proportional analysis of both conventional and innovative orthographic methods utilised in P. Berlin P. 6750.

Conventional and Innovative Spellings in P. Berlin P. 6750					
Obsolete			Contemporary		
Orthographic Method	#	%	Orthographic Method	#	%
Established Morphemic Hieratic	1	0.8 %	Established Morphemic Hieratic	7	2.3 %
Established Morphemic Demotic	NA	NA	Established Morphemic Demotic	221	73.4 %
Invented Conventional	NA	NA	Invented Conventional	6	2.0 %
Reinvented Conventional	NA	NA	Reinvented Conventional	8	2.7 %
Complemented Morphemic	NA	NA	Complemented Morphemic	15	5.0 %
Unclassified Monoconsonantals	6	5.0 %	Unclassified Monoconsonantals	2	0.7 %
Classified Monoconsonantals	42	34.7 %	Classified Monoconsonantals	17	5.6 %
Unclassified Homeophone(s)	31	25.6 %	Unclassified Homeophone(s)	13	4.3 %
Classified Homeophone(s)	27	22.3 %	Classified Homeophone(s)	4	1.3 %
Unclassified Monoconsonantal(s) and Homeophone(s)	8	6.6 %	Unclassified Monoconsonantal(s) and Homeophone(s)	2	0.7 %
Classified Monoconsonantal(s) and Homeophone(s)	6	5.0 %	Classified Monoconsonantal(s) and Homeophone(s)	6	2.0 %
Total	121	100.0 %	Total	301	100.0 %

85.8% of contemporary lexemes are written with conventional, whether established morphemic, invented and reinvented, or complemented morphemic, orthographies. Complemented morphemic orthographies comprise only 5% of the total for contemporary lexemes, while monoconsonantal orthographies are only utilised in a slightly larger proportion

to homeophonic spellings – departing from Demotic scribal tradition in which “invented” and “reinvented” orthographies were exclusively rendered with classified monoconsonantals.

In comparison, for obsolete lexemes, homeophonic spellings are utilised in a larger proportion than monoconsonantal spellings, while monoconsonantal and homeophonic methods are also combined to a larger proportion for obsolete than contemporary lexemes. The slightly larger proportion of unclassified monoconsonantals for obsolete than contemporary lexemes could be suggestive of the prioritisation of phonetic over semantic values – although the majority of these examples are prepositions, for which classifiers would not be expected.

However, the predisposition for homeophonic orthographies, with a relatively equal split for obsolete lexemes between unclassified and classified, is suggestive of the rationale of accurate rendering of phonetic values – although apparently by utilising an orthographic deeper method than monoconsonantal methods.

Of further interest is how the orthographic methods utilised by the scribe of P. Berlin P. 6750 in spelling the same lexeme also differed⁶⁰. Among established morphemic orthographies, *šhm* “divine image” was rendered with both orthographic variants <ḥ> and <š>, i.e. *s-ḥ-m-Go* and *s-š-m-Go*, as was *gjt* “sanctuary/chapel” with both <ḳ> and <g>, i.e. *ḳ-^c-Ho-Go* and *g-^c-Ho-Go*. The examples of <ḥ> vs <š> reflect that /ḥ/ was no longer distinct in vocalisation, as expected from Fayumic Coptic, while highlighting that orthographic conventions endured. The examples of <ḳ> and <g> reflect that although the demotic orthographies were differentiated, the contemporary vocalisation was unlikely to have been⁶¹, resonant of *ḳ* in Fayumic Coptic, which rendered both <ḳ>, and <g>. Certain orthographic variations are also attested in conventional invented orthographies, e.g. *lly* “to shout” as both *l-y-Fl* and *l-l-^c-y-Lo* (*B λΗλΟΥΙ*).

⁶⁰ There are numerous cases in which the only difference between spellings is the addition or subtraction of a classifier, and these will not be listed exhaustively, but nonetheless do highlight a lack of standardisation.

⁶¹ Consider also Peust’s conclusion: “I hesitate to make a decision on the phonological distinction between <q> and <g>”, transcribing instead /k₁/ and /k₂/, respectively (1999: 107).

Regarding shallower as opposed to deeper orthographies and spellings, the following examples suggest interesting trends regarding the continuum of orthographic depth: *nfr* “good” was rendered with the established morphemic orthography in all cases except for in the compound *ntr-nfr*, in which it was written with the unmorphemic reinvented unclassified *n-f-y*⁶²; *nb* “lord” was rendered with the established morphemic orthography in almost all cases except for an unmorphemic reinvented classified monoconsonantal spelling *n-p-Fl*⁶³; *ḥr* “face” in the singular was rendered with the established morphemic orthography, however *ḥr.w* “faces” in the plural was rendered with an unmorphemic reinvented classified homeophonic spelling *ḥ^c-jrj-Sl*⁶⁴; *nsw* “king” and *pr-ʕ* “pharaoh” were rendered more commonly than not with the complemented morphemic orthography *nṣ-nsw* and *pṣ-pr-ʕ*, respectively – reducing the orthographic depth of these established morphemic orthographies. Similarly, although the established morphemic pseudo-hieratic orthography for *nwn* “Nun” was utilised, the scribe utilised more frequently the unmorphemic reinvented classified monoconsonantal spellings *n-n-Go*, *n-w-n-Sl-Go*, and *n-w-n-y-Sl-Go* – comparable to the attestation of both the established morphemic orthography for *pṭḥ* “Ptah” and for *ḥ^cpj* “Hapy” alongside the unmorphemic reinvented classified monoconsonantal spellings *p-t-ḥ-Go* and *ḥ-p-ṣ-Fl-Go* and *ḥ-p-^c-Fl-Go*, respectively. On balance, the majority of orthographic variants utilised by the scribe of P. Berlin P. 6750 suggest the reduction of orthographic depth through the complementation of morphemic orthographies or their replacement with shallow unmorphemic reinvented spellings consisting of classified monoconsonantals.

⁶² Consider the adjectival form *FNOYCl*.

⁶³ Compare *ḤḏΠ* in some Upper Egyptian dialects, cf. Quack 1991: 97 n.29-30; 2012a: 223.

⁶⁴ *iry* “companion” (*HP*) reflects that final /r/ was preserved in the pronunciation of the plural, despite being long lost in the singular, form.

Figure 7.2.4a tabulates examples of each of the orthographic methods utilised among the innovative spellings in P. Berlin P. 8765.

Innovative Spellings in P. Berlin P. 8765	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	ḥr-tp	“upon”	h-ṯ-p	x+2/7; x+2/21	NA			
Classified Monoconsonantals	šd.tj	“Crocodilo- politan”	š-t-y-Sl	x+2/23	shd	“flame”	s-n-ṯ-y-Sl	x+3/11
Unclassified Homeophone(s)	pjw.t	“Primaeval Time(s)”	pj wt “the papyrus”	x+6/16	jp.w	“Akhmim”	ib.w “hearts”	x+2/18
Classified Homeophone(s)	ḥrw- nd-it=f	“Harendotes”	ḥr-n-tr.t.w=f-Go “Horus, through him”	x+2/13	NA			
Unclassified Monoconsonantal(s) and Homeophone(s)	mpj	“to rejuvenate”	irpy.ṯ “temple, ṯ”	x+2/26; x+2/31	NA			
Classified Monoconsonantal(s) and Homeophone(s)	sḥ	“mummy/ image”	s-ḥ-ḥ ^c -Sk-Go “s-ḥ, to stand”	x+2/1	m ^c .t	“Maat”	m ^c -c-Ei-Gn “to be right, c”	x+2/23; x+2/25

Figure 7.2.4b tabulates the proportional analysis of both conventional and innovative orthographic methods utilised in P. Berlin P. 8765.

Conventional and Innovative Spellings in P. Berlin P. 8765					
Obsolete			Contemporary		
Orthographic Method	#	%	Orthographic Method	#	%
Established Morphemic Hieratic	0	0.0 %	Established Morphemic Hieratic	6	5.0 %
Established Morphemic Demotic	NA	NA	Established Morphemic Demotic	79	65.8 %
Invented Conventional	NA	NA	Invented Conventional	1	0.8 %
Reinvented Conventional	NA	NA	Reinvented Conventional	5	4.2 %
Complemented Morphemic	NA	NA	Complemented Morphemic	15	12.5 %
Unclassified Monoconsonantals	5	10.9 %	Unclassified Monoconsonantals	0	0.0 %
Classified Monoconsonantals	10	21.7 %	Classified Monoconsonantals	5	4.2 %
Unclassified Homeophone(s)	15	32.6 %	Unclassified Homeophone(s)	4	3.3 %
Classified Homeophone(s)	12	26.1 %	Classified Homeophone(s)	0	0.0 %
Unclassified Monoconsonantal(s) and Homeophone(s)	2	4.3 %	Unclassified Monoconsonantal(s) and Homeophone(s)	2	1.7 %
Classified Monoconsonantal(s) and Homeophone(s)	2	4.3 %	Classified Monoconsonantal(s) and Homeophone(s)	3	2.5 %
Total	46	100.0 %	Total	120	100.0 %

In the first instance it is notable that 89.7% of contemporary lexemes are written with conventional, whether established morphemic, invented and reinvented conventional, or complemented morphemic, orthographies as well as that, compared to the previous manuscript, a much larger proportion of these are complemented. While unclassified

monoconsonantals are utilised for obsolete lexemes, this is not the case for contemporary lexemes – with the innovative spellings for contemporary lexemes being small in number. Although nearly one-third of obsolete lexemes are rendered with monoconsonantals, well over one-half of all innovative spellings for obsolete lexemes are instead homeophonic, suggestive of a predisposition towards this orthographic method. Monoconsonantals and homeophones are comparatively rare, while, compared to the previous manuscript, still being more frequently attested for contemporary lexemes.

Of further interest is how the orthographic methods utilised to spell the same lexeme across these two manuscripts and thus between these two scribes differed⁶⁵. Such variation can be as simple as between the complemented morphemic orthographies for *ḥb* “to offer”, rendered *ḥ-b-ḥ-Kd* by the scribe of P. Berlin P. 6750 and *ḥ-b-ḥ-Kd* by the scribe of P. Berlin P. 8765⁶⁶. Similarly, in the orthography of *ḥw.w* “altar(s)”, the scribe of P. Berlin P. 6750 had a preference for the established morphemic orthography *ḥw*, whereas the scribe of P. Berlin P. 8765 preferred *ḥw* – where historical /*ḥ*/ is rendered both <*ḥ*> and <*ḥ*>, evidencing the common free fluctuation between these signs, even though the vocalisation was /š/ in Fayumic. Two further variations are that the scribe of P. Berlin P. 6750 rendered the conventional reinvented orthography for *ḏsr* “sacred” as *t-s-l-y-Sa* and of *mḥr* “to suffer pain” as *m-ḥ-ḥ-l-ʿ?¹-Sv-Kr-Go*, whereas the scribe of P. Berlin P. 8765 rendered them as *t-s-r-y-A51-Sl* and *m-ḥ-ḥ-r-Sv-Kr*. Thus, the former scribe specified <*l*>, whereas the latter rendered /*l*/ with <*r*>. The clarification of vocalised /*r*/ or /*l*<*r*>, however, is found in the spelling of *nfr.t-jm* “She-of-fine-form”, where the scribe of P. Berlin P. 8765 rendered *n3-nfr-irj-j-m-Gn* and the scribe of P. Berlin P. 6750 rendered *n3-nfr-j-m-y-Gn* – the former scribe utilising *irj* (Єλ-) to clarify /*r*/ or /*l*<*r*>, otherwise missing in *n3-nfr* (*F N&NOY*). Notable also is that, unlike the scribe of P. Berlin P. 6750, the scribe of P. Berlin P. 8765 did not render *nsw* “king”, *pr-ḥ* “pharaoh”, or *nw.t* “Nut” in a complemented morphemic orthography,

⁶⁵ There are numerous cases in which the only difference between spellings is the addition or subtraction of a classifier, and these will not be listed exhaustively, but nonetheless do highlight a lack of standardisation.

⁶⁶ Suggestive that <*ḥ*> and <*ḥ*> rendered the same phonetic value.

e.g. n3-nsw, p3-pr-^{c3}, and inḫ-nw.t, but exclusively with its established morphemic orthography. This is despite the fact that the scribe of P. Berlin P. 8765 did utilise a complemented morphemic orthography for wp-w3.wt, i.e. w-wp-y-Go, and exclusively the unmorphemic reinvented classified monoconsonantal spelling n-w-n-y-Sl for “Nun”. Thus, although not to the same extent as the scribe of P. Berlin P. 6750, and with slightly different orthographic conventions regarding <ḥ>, <ḥ_λ>, and lambdacisation, many spellings utilised by the scribe of P. Berlin P. 8765 are also suggestive of a motivation to reduce orthographic depth.

7.2.5 Daily Ritual of Soknopaios (P. Berlin P 8043 et al.) (95-111 CE)

The Daily Ritual of Soknopaios – the Ritual for Entering the Temple of Sobek Lord of Pai⁶⁷ – is not only a substantial source for understanding innovative spellings at the turn of the 2nd century CE, it is one of very few sources for the Daily Ritual of any deity from any temple at any point in Egyptian history. Within the hundreds of temples along the length of the Nile valley over the millennia of Egyptian history, thousands upon thousands of papyrus copies of the Daily Ritual of individual deities must have been copied and recopied (1.2.3.3), and yet only a handful are extant. Indeed, alongside the five copies from Soknopaiou Nesos and c.10 copies from Tebtunis⁶⁸ – of which two from each are substantially preserved – only two substantial papyrus copies are preserved from the before the Roman Period⁶⁹. Otherwise, the only significant sources are those carved upon the chapels of various deities in the Temple of Seti I at Abydos.

Manuscript A (P. Berlin P. 8043 Verso) was inscribed upon the verso⁷⁰ of a list of receipts written in Demotic, dating to 107-111 CE, written by the priestly scribe Kheteba –

⁶⁷ TM#55939. For a bibliography of earlier references to this text, cf. Stadler 2007: 286 n.5.

⁶⁸ Other than P. Carlsberg 658 (TM#101328), cf. Quack 2002b: 98; Guernier 2014: 10, these are being edited by Rosati or Guernier.

⁶⁹ cf. that for Amun (P. Berlin P. 3055) (TM#57066), cf. Möller 1901: pl. 1-37, and for Mut (P. Berlin P. 3014+3053) (TM#57067), cf. Möller 1901: pl. 38-66.

⁷⁰ Quack (2018a: 193 n.33) considers the hand of the verso to be “very different” from the Satabous ductus, and more similar to the Book of Thoth manuscripts B01 and B04 (personal communication). This not only highlights that scribal production at Soknopaiou Nesos cannot be limited to the Satabous hand, but also makes the case that Stadler’s “Serpot group/school” could well come from Soknopaiou Nesos, because Manuscript A does.

“Satabous”. Thus, *A* has the terminus post quem of 111 CE, a year in which that Khetebea is attested as Scribe of the Priests (Stadler 2017a: 92). Manuscript *B* (P. Berlin P. 15652) is written on the recto of a new papyrus, and dates instead to the late 1st or early 2nd century CE (Stadler 2017a: 93). The verso of this manuscript was inscribed with the B01 manuscript of the Book of Thoth⁷¹ (7.2.1.5). Manuscript *C* (P. Berlin P. 15799+23538), whose scribe could be the same as that of P. Berlin P. 6750 (7.2.3), is dated to c.95-111 CE because the aforementioned scribe, Khetebea, son of Khetebea, son of Steiutawety, son of Maare, is attested in documentary sources from 95 to 111 CE⁷² (Stadler 2005b: 151). Two further copies are attested, in P. BM EA 76188 recto fragment d (*D*) and P. BM EA 76188 recto fragment j (*E*) – among ten other fragments (Stadler 2017a: 91-92). Indeed, given the considerations above (1.2.3.3), that ritual texts must first be copied before being practised, the number of copies could well indicate the significance of this text for the practise of the temple cult⁷³ by the priests of Soknopaios⁷⁴ (Stadler 2007: 287).

All of these manuscripts attest a ritual text for the temple cult composed in Middle Egyptian and transcribed into demotic by the scribes at Soknopaiou Nesos. The decipherment of this text has been made possible through the identification of hieroglyphic and hieratic parallels from various temple walls and papyri (Stadler 2016: 29) – principally Abydos and Edfu for hieroglyphic⁷⁵, and Tebtunis, as well as the Amun⁷⁶ and Mut papyri, for hieratic. The ritual practice of the priests is charted with 28 spells, numbered by the editor: from their purification with natron (5), washing of the mouth (6), donning white sandals (7), sd-clothes (8), šꜥ-cloth

⁷¹ Stadler considers this a “Satabous” hand, Quack (personal communication) does not. Originally dated to the 1st (Jasnow and Zauzich 2005: 79), this text was re-dated to the 2nd, century CE by Stadler (2007: 287).

⁷² P. Vienna D 4852 (95/96 CE), P. Berlin P. 7059, P. Vienna D 6344 (106/107 CE), and P. Berlin P. 23520 (111 CE) (Stadler 2017a: 92-93; cf. I-1.4)

⁷³ For a description of the ritual, cf. Stadler 2017a: 100-102, and an architectural contextualisation, cf. 2017a: 141-144 – demonstrating that the ritual follows the Roman Period architecture of the temple, cf. Stadler 2007: 297-302. The spell for the second gate at Soknopaiou Nesos is that for the first at Tebtunis, that for the third door comprises both the second and third at Tebtunis, while the spells for the fourth gates are identical, and there is no spell for the fifth gate at Tebtunis due to different architecture (2017a: 14-9). For a comparison of passing through gates in this ritual to the Book of the Dead, cf. Stadler 2005b: 157-158.

⁷⁴ For the identification of the practitioners with particular deities in the ritual, cf. Stadler 2005b: 154-155.

⁷⁵ Notable, however, is that while the Soknopaiou Nesos and Tebtunis versions are drawn from shared Vorlagen, these are ‘very different’ from ‘the liturgies of the temples of Upper Egypt’ (Stadler 2017a: 165).

⁷⁶ For example, the spell for taking the nms-headcloth is paralleled in the Amun Ritual from Abydos and Thebes (Stadler 2016: 35).

(9), and nms-headcloth (10), to the progression into the temple through spells to the doorkeeper (11), the first (12), second (13), third (14), fourth (15), and fifth (16) gates⁷⁷, and the broad hall (18)⁷⁸. Following this progression, the sanctuary is reached, and Soknopaios can be awoken, undressed, washed, clothed, and fed, before being returned to his naos.

In manuscript *A*, Stadler (2005b: 150) concludes that the majority of deviations in the text are to be understood as (ortho)graphic or phonetic mistakes. That being said, Stadler suspects that the compositions transcription into demotic was motivated by phonetic considerations (2007: 292-293; 2016: 39). Indeed, the spellings utilised both across the manuscripts and within each manuscript – especially *A* – attests that “unetymological writing” is ‘not a coherent system observed by demotic scribes, with orthographic rules, but sometimes an ad hoc invention’ (Stadler 2017a: 98). What’s more, manuscripts *A*, *B*, and *C* exhibit a significantly larger proportion of innovative spellings for contemporary lexemes than the preceding texts treated. This trend suggests that the innovative orthographic methods utilised to spell obsolete lexemes in demotic began to influence the spelling of contemporary lexemes. As will be seen, this trend is also suggestive of a tendency towards reducing orthographic depth by replacing conventional deep orthographies with innovative shallow spellings.

⁷⁷ With one further variant.

⁷⁸ With 10 further variants.

Figure 7.2.5a tabulates examples of each of the orthographic methods utilised among the innovative spellings in Manuscript A.

Innovative Spellings in Manuscript A	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	ḥb.w	“purity”	ḥ-b-ḥ	x+4/11	ḍlh	“to scoop”	ḍ-l-ḥ	x+2/1-2
Classified Monoconsonantals	bd	“natron”	b-t _h -Ho	x+9/10	sntr	“incense”	s-ntr-n-t _h -e-Kd	x+2/4
Unclassified Homeophone(s)	jr.w	“form/ image”	iry “companion”	x+6/8	nsw	“king”	n _i -s.t “the (pl.) place”	x+7/6
Classified Homeophone(s)	sntr	“to incense”	s-ntr.t-‘Kd’	x+6/11	ḵmy.t	“gum”	gm-Hs-Go-Ti “garden”	x+4/9
Unclassified Monoconsonantal(s) and Homeophone(s)	shp	“to satisfy”	(iw=)s-ḥtp	x+5/10	ḥr.j	“master”	ḥ-iry “ḥ, companion”	x+9/15
Classified Monoconsonantal(s) and Homeophone(s)	dp	“Dep”	ṭ-p-y-‘?’-Go-‘?’ “land, p, y.”	x+2/9	NA			

Figure 7.2.5b tabulates the proportional analysis of both conventional and innovative orthographic methods utilised in Manuscript A.

Conventional and Innovative Spellings in Manuscript A					
Obsolete			Contemporary		
Orthographic Method	#	%	Orthographic Method	#	%
Established Morphemic Hieratic	0	0.0 %	Established Morphemic Hieratic	5	2.9 %
Established Morphemic Demotic	NA	NA	Established Morphemic Demotic	110	64.3 %
Invented Conventional	NA	NA	Invented Conventional	0	0.0 %
Reinvented Conventional	NA	NA	Reinvented Conventional	1	0.6 %
Complemented Morphemic	NA	NA	Complemented Morphemic	15	8.8 %
Unclassified Monoconsonantals	10	15.2 %	Unclassified Monoconsonantals	6	3.5 %
Classified Monoconsonantals	29	43.9 %	Classified Monoconsonantals	11	6.4 %
Unclassified Homeophone(s)	21	31.8 %	Unclassified Homeophone(s)	19	11.1 %
Classified Homeophone(s)	3	4.5 %	Classified Homeophone(s)	2	1.2 %
Unclassified Monoconsonantal(s) and Homeophone(s)	1	1.5 %	Unclassified Monoconsonantal(s) and Homeophone(s)	2	1.2 %
Classified Monoconsonantal(s) and Homeophone(s)	2	3.0 %	Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %
Total	66	100.0 %	Total	171	100.0 %

Compared with the preceding examples in this chapter, of first note is that 76.6% of contemporary lexemes are written with conventional orthographies – and more than one in ten are complemented. Thus, nearly one in four contemporary lexemes are written utilising innovative orthographic methods, with a similar proportion being (un)classified

monoconsonantals and (un)classified homeophones. In comparison, nearly two out of every three obsolete lexemes are written with monoconsonantals. Nearly three times as many of those are classified as unclassified, which suggests the utility of classifiers in graphic parsing, semantic classification, and thus reducing orthographic depth. However, of the one-third of obsolete lexemes written with homeophones, six times as many are unclassified compared to classified, suggesting that the semantic ambiguities of utilising homeophones was not always reduced where it could have been. Perhaps, then, the utilisation of classifiers in monoconsonantal transcriptions was more a matter of established convention than semantic classification – not least given the increased proportion of classifiers of a generic nature⁷⁹.

Figure 7.2.5c tabulates examples of each of the orthographic methods utilised among the innovative spellings in Manuscript *B*.

Innovative Spellings in Manuscript B	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	m	“in”	m	x+2/8	ḥnn.w	“disturbance”	ḥ-y=n	x+2/1
Classified Monoconsonantals	psd	“to illuminate”	p-s-t-Sn	x+3/23	wpw.tj	“messenger”	j-p-ṣ-Go	x+3/18
Unclassified Homeophone(s)	ṣ	“door”	ṣw.w “to be great”	x+1/6	mnw	“divine image”	mn “to remain”	x+1/17
Classified Homeophone(s)	dwṣ-ntr	“to worship the divine”	ṭ.wy-ntr.t-Kd=k “Two Lands, goddess, your (m.)”	x+2/4	šmj=i	“I went”	šm-iyṣ-Sl “summer, to come”	x+3/18
Unclassified Monoconsonantal(s) and Homeophone(s)	rṣw-nb	“every day”	r'-n-b “mouth, n, b”	x+1/11	r-r=i	“to me”	r-lj.t “to, room”	x+3/8-9
Classified Monoconsonantal(s) and Homeophone(s)	NA				NA			

⁷⁹ More than a dozen spellings, whether of adjectives, adverbs, nouns, verbs or theonyms, utilise the classifier Sl – perhaps because in the Daily Ritual most components were conceptualised as ‘divine’?

Figure 7.2.5d tabulates the proportional analysis of both conventional and innovative orthographic methods utilised in Manuscript *B*.

Conventional and Innovative Spellings in Manuscript B					
Obsolete			Contemporary		
Orthographic Method	#	%	Orthographic Method	#	%
Established Morphemic Hieratic	0	0.0 %	Established Morphemic Hieratic	3	2.3 %
Established Morphemic Demotic	NA	NA	Established Morphemic Demotic	80	61.1 %
Invented Conventional	NA	NA	Invented Conventional	0	0.0 %
Reinvented Conventional	NA	NA	Reinvented Conventional	3	2.3 %
Complemented Morphemic	NA	NA	Complemented Morphemic	18	13.7 %
Unclassified Monoconsonantals	4	4.6 %	Unclassified Monoconsonantals	4	3.1 %
Classified Monoconsonantals	43	49.4 %	Classified Monoconsonantals	6	4.6 %
Unclassified Homeophone(s)	27	31.0 %	Unclassified Homeophone(s)	15	11.5 %
Classified Homeophone(s)	6	6.9 %	Classified Homeophone(s)	1	0.8 %
Unclassified Monoconsonantal(s) and Homeophone(s)	7	8.0 %	Unclassified Monoconsonantal(s) and Homeophone(s)	1	0.8 %
Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %	Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %
Total	87	100.0 %	Total	131	100.0 %

With 79.4% of contemporary lexemes written with conventional orthographies, it is notable that nearly one in five of these are complemented morphemic orthographies. Unlike in Manuscript *A*, the proportion of (un)classified monoconsonantals utilised in writing contemporary lexemes is less than that of (un)classified homeophones. However, the proportion of (un)classified monoconsonantals to write obsolete lexemes is significantly larger than (un)classified homeophones – with classified monoconsonantals common, and classified homeophones comparatively rare. Compared to Manuscript *A*, *B* also attests a larger proportion of spellings that utilise monoconsonantals and homeophones when writing obsolete lexemes.

Figure 7.2.5e tabulates examples of each of the orthographic methods utilised among the innovative spellings in Manuscript *C*.

Innovative Spellings in Manuscript C	Obsolete Examples				Contemporary Examples			
	Lemma	Translation	Spelling	Reference	Lemma	Translation	Spelling	Reference
Unclassified Monoconsonantals	r-ḥft-ḥr	“in front of”	r-ḥ-f-t-ḥ-r-ʿw(?) ¹	x+12	NA			
Classified Monoconsonantals	ḥb	“throat”	ḥ-b-Fd	x+8	NA			
Unclassified Homeophone(s)	jm.jw	“those who are in”	jm “Come!”	x+25	ṭ	“land”	dw3.t “underworld”	x+15
Classified Homeophone(s)	pwn.t	“Punt”	pr-iny “house, stone”	x+7	w ^c b.t	“pure place”	w ^c b-Sv-Kr “to be pure”	x+15
Unclassified Monoconsonantal(s) and Homeophone(s)	wḏ ^c	“to separate”	w-wḏ-Me “to be whole/ secure”	x+24	r-r=i	“to me”	r-lj.t “to, room”	x+21
Classified Monoconsonantal(s) and Homeophone(s)	NA				NA			

Figure 7.2.5f tabulates the proportional analysis of both conventional and innovative orthographic methods utilised in Manuscript *C*.

Conventional and Innovative Spellings in Manuscript C					
Obsolete			Contemporary		
Orthographic Method	#	%	Orthographic Method	#	%
Established Morphemic Hieratic	0	0.0 %	Established Morphemic Hieratic	2	4.3 %
Established Morphemic Demotic	NA	NA	Established Morphemic Demotic	27	58.7 %
Invented Conventional	NA	NA	Invented Conventional	0	0.0 %
Reinvented Conventional	NA	NA	Reinvented Conventional	1	2.2 %
Complemented Morphemic	NA	NA	Complemented Morphemic	8	17.4 %
Unclassified Monoconsonantals	2	7.7 %	Unclassified Monoconsonantals	0	0.0 %
Classified Monoconsonantals	11	42.3 %	Classified Monoconsonantals	0	0.0 %
Unclassified Homeophone(s)	8	30.8 %	Unclassified Homeophone(s)	5	10.9 %
Classified Homeophone(s)	3	11.5 %	Classified Homeophone(s)	2	4.3 %
Unclassified Monoconsonantal(s) and Homeophone(s)	2	7.7 %	Unclassified Monoconsonantal(s) and Homeophone(s)	1	2.2 %
Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %	Classified Monoconsonantal(s) and Homeophone(s)	0	0.0 %
Total	26	100.0 %	Total	46	100.0 %

Although the sample size is considerably smaller than manuscripts *A* and *B*, 82.6% of contemporary lexemes – the largest proportion of any of the manuscripts treated in this section – are written with conventional orthographies, and notably one fifth of these are complemented orthographies. While no examples of (un)classified monoconsonantals are

attested to write contemporary lexemes, the largest proportion of spellings to write obsolete lexemes is found with (un)classified monoconsonantals – comparable to *A* and *B*.

Followed closely by (un)classified homeophones, once again it is common to find classified monoconsonantals, while comparatively rare to find classified homeophones.

A summary of the proportional analyses of the manuscripts treated in this section will draw together these trends in order to compare the orthographic methods utilised with the register of the transcribed lexemes, and their implications, below (7.4).

7.2.6 The Ancient Egyptian Book of Thoth/The Ritual for Entering the Chamber of Darkness (101-200 CE)

The composition known as both “The (Ancient Egyptian) Book of Thoth” and “The Ritual for Entering the Chamber of Darkness” has been introduced above (1.2.3.4). Three 2nd century CE manuscripts inscribed with this composition are ascribed to Soknopaiou Nesos⁸⁰, and thus while they do not evidence considerable compositions utilising innovative spellings, certain features which were highlighted by the editors can be summarised here⁸¹.

Although these cannot be treated with a proportional analysis⁸², highlighting the orthographic methods utilised is nonetheless of interest before the analysis presented in this section is synthesised (7.4).

In this demotic composition, the orthographic methods utilised are directly comparable to those encountered thus far: morphemic hieroglyphic orthographies for obsolete lexemes, e.g. wdꜥy “Wedjat Eye” (L01.2 6/18); hieratic orthographies for both obsolete, e.g. snsn “to worship” (B04 8/19), and contemporary, e.g. mhꜥy “Lower Egypt” (L01.2 6/16), lexemes; unclassified monoconsonantals, e.g. hr “upon” written <h> (L01.2 6/6); unclassified

⁸⁰ B01 = P. Berlin P. 15652 Recto (TM#69361), L01 = P. Louvre E 10488 (TM#69431), and B04 = P. Berlin P. 8027 Verso+P. Vienna D 12439+P. Vienna D 12438 (TM#56022).

⁸¹ cf. Jasnow and Zauzich 2005: 90-92.

⁸² This is prohibited by the spellings not being disambiguated in the collative glossary of the synoptic publication.

homeophones for both obsolete, e.g. gm-ḥs “to find praise” for gmḥs “falcon image” (L01 x+3/17), and contemporary, e.g. pʒe=f for bn-pw=f (L01 3/7), lexemes. Seemingly, no classified monoconsonantals or homeophones were utilised – suggesting that only a limited complement of orthographic methods was necessary for the small proportion of innovative spellings in this composition.

7.3 Innovative Scripts at Timoui/Soknopaiou Nesos

In addition to the unparalleled degree of innovative spellings within demotic orthography attested at Soknopaiou Nesos, the innovative script of Old Coptic is also attested.

Notably, with the exception of one Old Coptic gloss in one Demotic copy of the Book of Thoth, Old Coptic only appears in one copy of a lot oracle. Thus, in addition to this isolated evidence for the utilisation of Old Coptic in the temple domain, which is broadly attested at Tebtunis, Old Coptic is attested at Soknopaiou Nesos in a domain in which it does not appear at any other site treated in this study, i.e. the technical domain. The complete absence of Old Coptic from the ritual domain, and almost complete absence from the temple domain, is suggestive of the utility of transcribing into demotic rather than Old Coptic attested in those domains at Soknopaiou Nesos. That is to say, unlike at all other sites treated in this study, at Soknopaiou Nesos, Old Coptic was not conceptualised as having any higher utility for these purposes than demotic.

7.3.1 Old Coptic Lot Oracle (Ann Arbor Library P. 6124r+6124v+6121v) (101-200 CE)

The so-called Michigan Horoscope⁸³ was discovered on the 2nd of January 1932 by the Egyptian Expedition of the University of Michigan in “the underground passage and adjacent rooms of House No. I-112”⁸⁴ among “several score of papyri which seem to have formed a private archive, perhaps belonging to a certain Melas, son of Horion, a priest of the god

⁸³ Satzinger (1991: 170a) and Kasser (1991c: 41b), whose nomenclature is most common when referring to manuscripts of the Old Coptic corpus.

⁸⁴ For house I 112, where “I” refers to “Level I” (Boak 1935: 21), cf. Boak 1935: 15-16; plan VII. For more on the archaeological context, cf. Schwendner 2002: 115-116.

Soknopaios” (Worrell 1941: 84). This house belonged to the highest level of occupation on the west side of the town, dating from the early 1st to early 3rd century CE, with the Greek-language papyri from that archive dating from throughout the 2nd century CE.

Consequently, Worrell (1941: 86), the first to publish the manuscript, dated the text in “non-professional” “Coptic letters” of the verso to the end of the 2nd century (1934: 145).

The recto of the papyrus was first inscribed with a collection of custom duties in Greek⁸⁵.

It was the verso that was subsequently reused for inscribing what had previously been interpreted as a horoscope due to the reading of ⲁⲓⲛⲓⲕⲓ as ⲉⲛⲓⲕⲓ=“his lifetime”.

However, as identified by Quack (2017: 62-63), the numbering of different sections, paralleled by divinatory treatises in which numbered lots are drawn, reveals that this text is to be understood as a lot oracle. Such divinatory treatises are known in four Roman Period manuscripts from Tebtunis (Quack 2019b: #23, #25, #26, #27), where the technical domain was inhabited by Demotic and Greek, and one further Roman Period Demotic manuscript from Soknopaiou Nesos⁸⁶ (Quack 2019b: #28), where current evidence suggests that the technical domain was inhabited by Demotic, written in demotic and Old Coptic.

Quack (2017: 62-63) instead identified that ⲉⲛⲓⲕⲓ n following each number then precedes a theonym, rendering “it stands for” such-and-such a deity, e.g. [KH] ⲁⲓⲛⲓⲕⲓ ⲛⲓⲛⲓⲕⲓ “[28:] it stands for Horus” (x+3/1-2). Each numbered section is then delineated from each other by register lines – consistent with such reference works.

An unparalleled transliteration into Old Coptic of a divinatory treatise which is attested in several part-parallels, Quack (2019b: 315) has considered the hand to be unpractised and uncertain, perhaps therefore completed as an exercise. Nonetheless, with essentially no other Old Coptic comparanda from Soknopaiou Nesos, such a conclusion must remain tentative⁸⁷.

Quack (2019b: 327-328) has highlighted that the dialect reflected by this transliteration is,

⁸⁵ cf. Sijpestein 1987: 86; 183-188 #733-884; 1995.

⁸⁶ That text, however, was inscribed upon the recto of a new papyrus.

⁸⁷ The Old Coptic script utilised is tabulated in the appendix.

as would be expected, an early form of Fayumic⁸⁸, alongside phonetic features not expected of Fayumic contemporary with (Standard) Coptic⁸⁹, and the transliteration of obsolete lexemes⁹⁰. Given that this manuscript attests the reuse of a documentary text in Greek to transliterate a series of lots in a reference work, the materiality of the papyrus itself seems to accord with the formality of the hand and use of an Old Coptic script. Certainly, the discovery of this manuscript among many papyri which could have constituted the private archive of Melas, whether owned or loaned, suggests that the script conventions transgressed in compiling such a text in Old Coptic rather than Demotic would not have been significant – while the flexibility to do so is suggestive of the fact this text is contemporary with those Demotic and Middle Egyptian in demotic texts treated in the preceding section.

7.3.2 An Old Coptic Gloss in the L01 Manuscript of The Ancient Egyptian Book of Thoth/The Ritual for Entering the Chamber of Darkness (101-200 CE)

The aforementioned Demotic L01 manuscript of The Ancient Egyptian Book of Thoth/The Ritual for Entering the Chamber of Darkness (1.2.3.4) was inscribed upon P. Louvre E 10488 (TM#69431), dated by its editors to the 1st or 2nd (Jasnow and Zauzich 2005: 86-87), and recently reconsidered to date to the 2nd (Quack 2017: 47), century CE. This one particular copy among many is relevant to this study because it contains one single Old Coptic gloss, identified by Quack (2017: 47). In a section concerning the master and pupil, where the pupil has been understood as asking questions in allusions which the master answers with metaphors, the text continues: “The one who loves knowledge, he says: “What is the claw which fastens on the tongue?””⁹¹ (Jasnow and Zauzich 2005: 191-192). In this clause, Demotic ʕn.t “claw” is written ʕny and glossed ΔNIT, incongruous with both Demotic ʕny and S (ϵ)INϵ, but resonant

⁸⁸ Consider C2IMl (shm.t) (A x+1/9), ΠNOYTI (p3 ntr) (A x+1/12), EBΔλ (r-bl) (A x+1/18), 'C'NΔC (snf) (x+2/9), 2Ωλ “Horus” (B x+2/19; C x+3/2; x+3/7), λ'ΩM' [i] (rmt) (A x+1/2; x+1/10), λΔϖl (ršy) (B x+2/1), and 2λ'ϖ' (hrš) (E x+1/9).

⁸⁹ Consider ʕ'ϵ'λ (hl) (B x+2/4; C x+3/4) and ʕΔλΔ= (hr Status Pronominalis) (B x+2/10; x+2/18).

⁹⁰ Consider BϵλϵC (bw-irj=f) (B x+2/3), TIT[Τ]Ωλ[i] (t ntr.t) (B x+2/12), ϵ TΩB2 MΔ2 ΔMOY[N] (r thh m-b3h jmn.w) (B x+2/20), CIOYλl 'Π'NTΔ (wsir p3 ntr-ʕ) (C x+3/2), and N Ωϖ'Γ' -NIT'M' (n ih.t -nb) (C x+3/4).

⁹¹ mr-[rh] dd=f i[h t]y t3 ʕny · nty nql p3 ls (L01 2/10) (Jasnow and Zauzich 2005: 191).

with Demotic $\epsilon ny\tau$ – preserved in a parallel passage in manuscript B03⁹² (2/17) (Quack 2017: 47 n.96).

This single gloss, then, evidences the only utilisation of Old Coptic in the temple domain at Soknopaiou Nesos. Perhaps it was the incongruity of historical $\epsilon n.t$, where the feminine ending would not have been realised in contemporary vocalisation, and contemporary $\mathfrak{ny}$, also attested in Demotic as ϵne (P. London-Leiden 15/21; 19/30), that motivated this isolated utilisation of Old Coptic. The incredibly limited utilisation of Old Coptic is otherwise puzzling, not least when compared to the Demotic spelling $\epsilon ny\tau$ attested in B03 from Tebtunis, which highlighted the vocalisation of /t/, as the Old Coptic gloss ΔNIT does. Given the tendency to transcribe into demotic at Soknopaiou Nesos, as opposed to transliterate into Old Coptic at Tebtunis, this single example, alongside the preceding manuscript, highlights that the script community at Soknopaiou Nesos was perfectly familiar with transliteration into Old Coptic, but – at least as far as the pattern of evidence suggests – favoured transcription into demotic over transliteration into Old Coptic.

7.4 Innovative Scripts and Spellings, Script Shift and Obsolescence at Timoui/Soknopaiou Nesos

Before the broader implications for script communities, shift, and obsolescence are treated, a comparison of the proportional analyses of the orthographic methods utilised in demotic transcriptions (7.2) will inform upon the development of innovative spellings at Soknopaiou Nesos.

⁹² Written otherwise $\epsilon ny.t$ in B02 3/16 (Jasnow and Zauzich 2005: 191).

Figure 7.4a tabulates the proportional analysis of orthographic methods utilised to render obsolete lexemes in the Soknopaiou Nesos corpus.

Obsolete	P. Vienna D 12006	P. Berlin P. 6750	P. Berlin P. 8765	Daily Ritual A	Daily Ritual B	Daily Ritual C
Orthographic Method	%	%	%	%	%	%
Established Morphemic Hieratic	0.0 %	0.8 %	0.0 %	0.0 %	0.0 %	0.0 %
Unclassified Monoconsonantals	0.0 %	5.0 %	10.9 %	15.2 %	4.6 %	7.7 %
Classified Monoconsonantals	66.7 %	34.7 %	21.7 %	43.9 %	49.4 %	42.3 %
Unclassified Homeophone(s)	11.1 %	25.6 %	32.6 %	31.8 %	31.0 %	30.8 %
Classified Homeophone(s)	22.2 %	22.3 %	26.1 %	4.5 %	6.9 %	11.5 %
Unclassified Monoconsonantal(s) and Homeophone(s)	0.0 %	6.6 %	4.3 %	1.5 %	8.0 %	7.7 %
Classified Monoconsonantal(s) and Homeophone(s)	0.0 %	5.0 %	4.3 %	3.0 %	0.0 %	0.0 %

Notable among this proportional analysis is the utilisation of unclassified monoconsonantals to write obsolete lexemes in texts which transcribe Middle/Classical Egyptian, but not in Demotic texts. Indeed, although classified monoconsonantals are the traditional scribal method for producing innovative spellings in Demotic, as evidenced by invented and reinvented orthographies (4.5.3.2), it is only in the transcription of obsolete lexemes within a Demotic text that these comprise a significant majority of the orthographic methods utilised. Thus, although classified monoconsonantal is the most commonly attested orthographic method in all but one manuscript, in transcribing obsolete lexemes there is a considerable shift in the predisposition towards the orthographic methods which utilise homeophones. As noted above, these are – in comparison to monoconsonantals – more commonly found unclassified than classified, and yet the proportions of unclassified to classified are more closely comparable in P. Berlin P. 6750 and 8765 than in the manuscripts of the Daily Ritual of Soknopaios – a relative proportion that is mirrored among the rarer hybrid orthographic methods which utilise monoconsonantals together with homeophones.

Figure 7.4b tabulates the proportional analysis of orthographic methods utilised to render contemporary lexemes in the Soknopaiou Nesos corpus.

Contemporary	P. Vienna D 12006	P. Berlin P. 6750	P. Berlin P. 8765	Daily Ritual A	Daily Ritual B	Daily Ritual C
Orthographic Method	%	%	%	%	%	%
Established Morphemic Hieratic	0.0 %	2.3 %	5.0 %	2.9 %	2.3 %	4.3 %
Established Morphemic Demotic	84.0 %	73.4 %	65.8 %	64.3 %	61.1 %	58.7 %
Invented Conventional	3.5 %	2.0 %	8.0 %	0.0 %	0.0 %	0.0 %
Reinvented Conventional	2.4 %	2.7 %	4.2 %	0.6 %	2.3 %	2.2 %
Complemented Morphemic	6.9 %	5.0 %	12.5 %	8.8 %	13.7 %	17.4 %
Unclassified Monoconsonantals	0.0 %	0.7 %	0.0 %	3.5 %	3.1 %	0.0 %
Classified Monoconsonantals	1.6 %	5.6 %	4.2 %	6.4 %	4.6 %	0.0 %
Unclassified Homeophone(s)	1.6 %	4.3 %	3.3 %	11.1 %	11.5 %	10.9 %
Classified Homeophone(s)	0.0 %	1.3 %	0.0 %	1.2 %	0.8 %	4.3 %
Unclassified Monoconsonantal(s) and Homeophone(s)	0.0 %	0.7 %	1.7 %	1.2 %	0.8 %	2.2 %
Classified Monoconsonantal(s) and Homeophone(s)	0.0 %	2.0 %	2.5 %	0.0 %	0.0 %	0.0 %

A direct comparison of the orthographic methods utilised to render the Demotic text of P. Vienna D 12006 with the, chronologically arranged, Middle/Classical Egyptian manuscripts reveals that the proportion of conventional established morphemic demotic orthographies is notably lower among Middle/Classical Egyptian manuscripts, and that this could even be suggested as becoming increasingly the case over time. Whether through a breakdown of script conventions that limited the intergenerational transmission of established morphemic orthographies, or a breakdown of script conventions that permitted an increased utilisation of innovative spellings in demotic, it can be seen that conventional established orthographies become not only proportionally less utilised, their complemented morphemic orthographies become proportionally more significant. This trend suggests a motivation to reduce orthographic depth in demotic writing either by complementing established morphemic orthographies, or by replacing them entirely with innovative spellings.

Of these innovative spellings, the orthographic method of monoconsonantals is attested more frequently than that of homeophones. The proportion of both of these orthographic methods

appears to increase across the manuscripts, and thus – tentatively – over time, whereas the proportion of hybrid monoconsonantal and homeophonic spellings remains comparatively small. As attested among spellings for obsolete lexemes, classified monoconsonantals are comparatively common, whereas classified homeophones are comparatively rare.

Although the number of examples is relatively small, it is perhaps notable that established hieratic orthographies are only utilised for lexemes which are common, high in *frequency*, and contemporary, high in *recency*, such as r’ “spell” and dd-mdw “words to be spoken” in the Daily Ritual of Soknopaios, whereas almost no examples of obsolete lexemes are copied in their hieratic orthographies – unlike in the P. Carlsberg 2 corpus (6.2.2.5).

The implications of the script shift from hieratic to demotic in the ritual domain at Soknopaiou Nesos is unambiguous – although demotic transcriptions were not exclusively devoid of hieratic orthographies, the *substitution* of hieratic with demotic, as opposed to the *supplementation* of hieratic with demotic and Old Coptic attested at Tebtunis, and with Old Coptic attested at Oxyrhynchus, would ultimately lead to the redundancy and then obsolescence of hieratic in that domain. However, not simply due to morphological considerations⁹³, the demotic at Soknopaiou Nesos became increasingly complex as a result of this script shift, due to both a lack of standardisation⁹⁴ and because such manuscripts were produced for practise (recitation).

The question as to whether orthographies utilising homeophones provided more accurate phonographic renderings of the obsolete lexemes they rendered is difficult to discern.

As noted above (4.5.3.2), almost without exception all morphemic invented and unmorphemic reinvented demotic orthographies comprised classified monoconsonantals, and these were presumably sufficient for rendering the phonetic value of contemporary lexemes. Given the semantic values of obsolete lexemes were more ambiguous than contemporary

⁹³ Quack (2018a: 204) suggests that for a literate not trained at Soknopaiou Nesos, these texts, and their ductus, would have been “a lot harder to read”.

⁹⁴ e.g. ʕb.w “purity” was rendered with six distinct spellings in A.

lexemes, perhaps rendering the purported phonetic value had precedence – and this was discerned to have been more effective with homeophones, whether classified or not. It is certainly curious that more easily standardised and thus replicable orthographies comprising classified monoconsonantals were not utilised, as was common for all innovative spellings for contemporary lexemes. Thus, Widmer’s (2004: 682) argument that such writings enabled a declining number of priests to engage with the content of their textual culture without being proficient in all scripts may well be the case for transcribing from hieratic into demotic, but whether these demotic transcriptions of Middle/Classical Egyptian ultimately constituted a reproductive tradition of texts with clearly understandable semantic content is harder to discern⁹⁵. Indeed, comparable to the transliteration of into Old Coptic attested at Oxyrhynchus (5.3), it should not be assumed that those transliterations into Old Coptic or these transcriptions into demotic ensured vertical intergenerational transmission⁹⁶ – they could instead have been limited to contemporary horizontal transmission.

Further unique implications for script shift include that – other than the aforementioned possibility that P. Carlsberg 2.4 comes from Soknopaiou Nesos – there is otherwise no evidence that Old Coptic was utilised as a *supplement* to, let alone *substitute* for, hieratic – although this innovative script was both known and utilised at Soknopaiou Nesos. Instead, Old Coptic inhabits the technical domain, although apparently with a marginal status, while there is only one isolated instance in the temple domain, suggestive of script conventions at Soknopaiou Nesos whereby transcription within endographic scripts, i.e. hieratic to demotic, was favoured. This is in direct contrast to at Tebtunis, where both transcription within endographic and into hybrid endo-exographic scripts is attested, and Oxyrhynchus, where only transliteration from hieratic into hybrid endo-exographic Old Coptic is attested.

⁹⁵ This question was also raised by Quack, cf. 2013a: 50.

⁹⁶ Indeed, the fact that such texts are not easily deciphered without recourse to hieratic parallels rather implies the contrary.

Another implication is that the continued utilisation of demotic in the inward administrative domain, significantly more so than at Oxyrhynchus and Tebtunis, suggests a general predominance of demotic at Soknopaiou Nesos. This predominance led to an unparalleled specialism in demotic, meaning that the priestly scribes were exclusively practised, due to almost all textual culture at Soknopaiou Nesos being transmitted, in demotic. Consequently, these scribes would also have been more adept at transcribing into demotic, rather than transliterating into Old Coptic. Notable, then, are the implications that Old Coptic was evidently not conceived of as exhibiting a higher utility than demotic, that demotic was favoured as an endographic script, or both. Nevertheless, ‘necessity is the mother of invention’, and thus the inventive spellings in demotic attested at Soknopaiou Nesos had a rationale comparable to that behind the inventive utilisation of demotic and Old Coptic in glossing at Oxyrhynchus and Tebtunis. Indeed, perhaps ritual domain demotic diverged to such an extent that it became an innovative script in its own right.

Nonetheless, the fact that demotic predominated at Soknopaiou Nesos meant that two script communities of demotic and Greek were able to engage with almost all spheres of textual culture. Although a demotic/Demotic literate would not – without education in the obsolete lexicon of Egyptian – have been able to *understand*, but only *decipher*, the textual content of Middle/Classical Egyptian ritual texts transcribed into demotic, demotic was still the ‘scriptum francum’ at Soknopaiou Nesos. Thus, while the ambiguities in some, and mistakes in other, innovative spellings in demotic for obsolete lexemes suggests that phonetic values were of greater importance than semantic values⁹⁷, the frequent utilisation of classifiers for semantic classification and/or graphic parsing do suggest an accurate understanding of the transcribed Middle/Classical Egyptian text.

⁹⁷ Or, perhaps, that the scribes neither had a complete knowledge of Middle/Classical Egyptian and/or hieratic, nor a complete understanding of the text being transcribed.

Perhaps, then, functional literacy in Middle/Classical Egyptian was principally acquired through aural education, rather than with recourse to textual culture in hieratic, or even with recourse to glossed hieratic reference manuals such as those attested at Tebtunis⁹⁸, subsequently augmented by the instruction of a “living lexicon”. Either way, the script shift attested in the sources from Soknopaiou Nesos suggests the dematerialisation of Middle/Classical Egyptian literacy in hieratic, a tip in a process leading to the redundancy, and ultimately obsolescence, of hieratic, which had – regardless – already been supplanted by demotic.

⁹⁸ Although note, as reiterated above, the possibility that the aforementioned P. Carlsberg 2.4 may come from Soknopaiou Nesos (Quack 2012b: 443: n.60).

8 Innovative Scripts and Spellings at Narmoute/Narmouthis

This chapter treats the script communities and domains of script use at Narmouthis (8.1), as well as the innovative scripts and spellings attested (8.2), in order to inform upon script shift and the intergenerational transmission of literacy during the Roman Period, and their implications for the domain-by-domain obsolescence of the scripts of the Egyptian writing system at Narmouthis.

8.1 Script Communities and Domains at Narmoute/Narmouthis

Narmouthis is best known for an archive of ostraca, the Ostraca Medinet Madi (OMM)¹, discovered at the site in 1938. In the third room of a house of four rooms situated against the eastern wall of the second court of Temple A (of Renenutet and Sobek-Hapy), cf. figure 1.2.1.4c, Vogliano excavated 1,555 fragments of 1,471 ostraca inscribed in hieroglyphic, hieratic, Demotic, Greek, both demotic and Greek script², demotic with Greek numerals³, and hieratic and Old Coptic. The entire assemblage dates from the 2nd to perhaps the early 3rd century CE⁴. Around 1,300 of these were numbered and deposited in two large jars⁵, which were buried under the contemporary ground level of the room (Gallo 1997: xxxvi), while the others were stacked against the northern wall⁶. In the fourth room of that house,

¹ Throughout, excavation numbers, i.e. OMM# (“Ostrakon Medinet Madi #”), will also be included where appropriate, because arbitrary renumbering during publication and republication has led to many ostraca acquiring multiple numbers. For example, OMM1381 has three additional numbers – ODN11, OGN121, and ODN78. In certain cases, it is necessary to refer to publication numbers because several, and troublingly not only those excavated in the 1930s, are without excavation numbers.

² The description given by Bresciani, Pernigotti, and Betrò of 350 ostraca being inscribed in Demotic-Greek and 70 in Greek-Demotic (1983: 2) is problematic not simply because these two criteria were neither explained nor justified, but also because this dichotomy is not only therefore meaningless, it is misleading. Presumably such subjective categorisation arose from the desire to describe an ostrakon as exhibiting ‘more Demotic than Greek’, or vice versa. This typology will be treated below (8.2.2). The most up-to-date assessment of the entire assemblage is that of Gallo, designating 40% as being inscribed in demotic, 40% in the Greek script, and 20% in both demotic and the Greek script (1997: xli). Despite a number of important observations, Blasco Torres (2015: 351 n.5; 358) still typologises certain ostraca as ‘Greek and demotic’, and others as ‘demotic with some Greek’.

³ Blasco Torres (2015: 351 n.4) notes that such texts were not considered in the typology cited in the preceding footnote as demotic with Greek loanwords, and I argue this is without question the correct assessment – otherwise the utilisation of Arabic numerals in written English would also constitute bilingualism.

⁴ As noted by Vandorpe and Verreth (2012: 4), none can be dated with certainty to after 206 CE, and Menchetti (2009: 225) suggested that the latest horoscopes were drawn up during 203–206 CE.

⁵ These are still in situ (Bresciani and Giammarusti 2010: 34). As argued by Vandorpe and Verreth (2012: 3), and contrary to Giannotti (2007: 117 n.2), this argues against the suggestion that the ostraca were simply dumped for reuse.

⁶ For a picture of the so-called House of the Ostraca, cf. Bresciani and Giammarusti 2010: 35.

another 250 ostraca were discovered⁷, as were another c.10 in 2006 by ongoing excavations⁸ (Vandorpe and Verreth 2012: 3). Regrettably, the order in which they were found was not recorded – complicating their study (Blasco Torres 2015: 350), while the publishing and republishing of about a third of these ostraca preselected for either being in Demotic or Greek despite stemming from an evidently bilingual archive “make it difficult to get a view on the contents or the composition of the archive” (Vandorpe and Verreth 2012: 3).

This corpus is significantly different to the papyri from Oxyrhynchus, Tebtunis, and Soknopaiou Nesos studied thus far, and, consequently, direct comparisons cannot be drawn between them – although there is evidence *of*, just not *from*, a temple library⁹. Nonetheless, the OMM provide evidence of which scripts inhabited which domains at Narmouthis as well as for the innovative script of Old Coptic and the unique innovative script of Bigraphic Coptic.

The textual content of this bilingual cache, perhaps an archive¹⁰, comprises orders from superiors to subordinates, notes concerning all administrative, economic, and legal matters pertaining to the running of the temple, as well as horoscopes and other astrological and astronomical texts, and orthographic exercises or scholarly notes serving as reference works for priests¹¹. These texts attest that Demotic and Bigraphic Coptic inhabited the inward administrative domain, while Greek inhabited the outward administrative domain – comparable, except for Bigraphic Coptic – to the administrative domains at the other sites in

⁷ All are now housed in the Egyptian Museum in Cairo and have been numbered from 1 to 1555 “apparently without distinguishing the two groups”, apart from those numbered – confusingly – “from I to at least CCLXVI” (Vandorpe and Verreth 2012: 3).

⁸ cf. Bresciani and Giammarusti 2010: 35.

⁹ cf. OMM434, ⲧ ⲡⲛⲉⲛ ⲛ ⲡⲣ-ⲙⲁⲃ.ⲧ(?) “the tablet of the House of Books(?)” (ODN64/1), cf. Gallo 1997: 60; Menchetti 2005: 89 n.3, which Quack did not correct. In OMM1386, Menchetti (2005: 85; 2006: 89 n.3) also read: ky w^cb (n) pr-ⲙⲁⲃ.ⲧ(?) “another w^cb-priest of the House of Books(?)” (ODN 145/2), but Quack corrected this reading to ky w^cb sy “six further priests” (2006/7: 180). For the House of Books, cf. 1.2.3.3.

¹⁰ Having published only 2% of the OMM, Bresciani, Pernigotti, and Betrò presented the rather premature conclusion that the archive’s texts were entirely fictitious educational exercises (1983: 2-3), which was reiterated by Bresciani and Pinaudi (1987: 123). This interpretation was corrected by Gallo – with a later contribution by Pernigotti (1998) added nothing further – who hypothesized that the OMM comprised orders and notes of the temple administration, which were archived for future reference (1997: xlv-xlv). Giannotti (2007: 117 n.2) instead argued the room was a waste store, in which the ostraca were kept for reuse. Blasco Torres (2015) surveyed the extant corpus, typologising the texts according to language, i.e. Demotic, Greek, Demotic and Greek, and type, i.e. orders, notes, lists, administrative and financial documents, scholarly and astrological texts.

¹¹ For a survey, cf. Blasco Torres 2015.

this study. Also comparable to other sites is that the technical domain was inhabited by Demotic and Greek, as well as hieratic¹². The sparse papyrological sources suggest that hieratic inhabited the ritual domain¹³, while hieroglyphs and perhaps also Demotic/demotic inhabited the temple domain¹⁴. The script domains attested for Narmouthis are tabulated as figure 8.1. Notable also is that Gallo's study of the OMM has summarised evidence for priests such as Hor who could write in Demotic, Greek, and hieratic, as well as translate from Greek into Demotic (1997: xlviii-xxlix).

The documentary ostraca published by Menchetti were chosen because they 'form a series of documents related to one another written by the same scribe – a priest in the temple who lived in the second half of the 2nd century' CE (2005: 24). The dates in this dossier stretch from the 16th year of Trajan (112/113 CE) to the time of the Strategos Philoxenos (194-196 CE), with the possibility that a few could be dated to the very beginning of 3rd century (Menchetti 2005: 25). Each ostrakon was numbered incrementally by the priestly scribe, Phatres, son of Hormeinos¹⁵, with a protocol number in Greek numerals from 1 to 154. The majority of these ostraca exhibited a mixed graphic matrix of Demotic and Greek. Menchetti (2005: 24) maintained that the ostraca were for 'personal use only', serving as notes from which Phatres could compile 'a petition, memorandum, or dossier addressed to the Roman authorities', which would thus explain 'the intermingling' of 'first-hand narration of events' alongside 'quotations from official documents'. The 'peculiar, informal use of Demotic' is thereby seen as a consequence of their 'personal' character (Menchetti 2005: 24). The history of Phatres' family – from the marriage of his grandparents – is, with a purpose that 'is far from clear', elaborated in ODN140-145 as part of an archive which is argued to have been compiled after 198/199 CE (Vandorpe and Verreth 2012: 4). These ostraca provide the crucial information

¹² For the astrological ostraca, cf. Menchetti 2009. For the horoscopic ostraca, cf. Ross 2006; 2007; 2009; 2011. In Demotic and Greek (Jones 1999: 8), these ostraca reflect the economic value of literacy in those languages and textual production in their scripts for priests, outside of the remit of the maintenance of the temple cult itself.

¹³ cf. P. Med. Madi 23.11.99 (Menchetti 2006: 94). Consider also the glossed OMM, treated below (8.2.1).

¹⁴ cf. P. Med. Madi 13.11.01 (Menchetti 2006: 95) and P. Med. Madi 15.11.99 (Menchetti 2006: 90). Consider also the glossed OMM, treated below (8.2.1).

¹⁵ As noted by Vandorpe and Verreth (2012: 3), Messeri and Pintaudi (2002: 210; 210 n.4) suggested Phatres served as keeper of the 'school' ostraca.

that he was born in 162/163 CE, and thus was the generation between Isidora and Kronion and their son Pakebkis at Tebtunis – being c.20 years younger than the former, and c.20 years older than the latter. The life and career of Phatres provides insights into those of a priestly scribe during the 2nd century CE, perhaps in the last or, at least, the penultimate generation of the priesthood at Narmouthis.

On balance, the OMM evidence a bilingual speech and biliterate script community at Narmouthis, embedded within the Community of Practice of the priesthood. Alongside evidence for all scripts of the Egyptian writing system, unique among the speech and script communities treated in this study is that the bilingualism and biliteracy of priests at Narmouthis found its fullest expression not in Old Coptic, but in Bigraphic Coptic. This written idiom of Egyptian rendered in Bigraphic Coptic reflected the language contact situation between Egyptian and Greek that had been occurring for centuries and, alongside the utilisation of Old Coptic, Bigraphic Coptic itself provides unique evidence of yet another innovative script produced by a bigraphic and bilingual community who, unsurprisingly, developed and utilised bigraphic writing systems.

Figure 8.1 Script domains at Narmoute/Narmouthis during the Roman Period.

Narmouthis	Hieroglyphic	Hieratic	Demotic	Greek	Old Coptic	Bigraphic Coptic
Monumental	✓	☐	☐	☐	☐	☐
Ritual	☐	✓	☐	☐	☐	☐
Temple	✓	✓	✓	☐	✓	☐
Technical	☐	☐	✓	✓	☐	☐
Literary	No Sources					
Administrative (Inward)	☐	☐	✓	✓	☐	✓
Administrative (Outward)	☐	☐	☐	✓	☐	☐

8.2 Innovative Scripts at Narmoute/Narmouthis

The OMM, although not comprising ritual or temple textual culture, provide evidence for the innovative script of Old Coptic comparable to that found at Oxyrhynchus and Tebtunis (8.2.1), as well as evidence for the unique innovative script of Bigraphic Coptic (8.2.2) – unparalleled at any other site. These two innovative scripts were utilised in distinct domains – hence, there were distinct rationales behind their utilisation, with implications for understanding both parallel and distinct situations of script shift, and domain-by-domain obsolescence, at Narmouthis as well as the other sites in this study.

8.2.1 Old Coptic in the OMM

The OMM which exhibit Old Coptic have received little attention since their first publication by Gallo¹⁶ (1997). These ostraca attest the glossing of hieroglyphs, hieratic, and demotic in Old Coptic in order to provide either historical or contemporary phonetic realisations of the glossed lexemes¹⁷. As will be seen, the majority of the lexemes glossed are obsolete, while the – principally – hieratic orthographies glossed can also be appraised as significantly deep. Thus, the correspondence between the register of the lexemes glossed, their orthographies, and the fact they are glossed, is notable – even within this small corpus. Although significantly different in medium, and thus execution and extent, to the hieratic ritual texts from Oxyrhynchus (5.2.1) and Tebtunis (6.2.1) or the P. Carlsberg corpus of handbooks of priestly knowledge (6.2.2), these ostraca provide insights into a sphere of scribal production often palimpsest or discarded, and thus rarely preserved, as well as into the processes of the production, glossing, and annotation of formal papyrus copies at Oxyrhynchus and Tebtunis, of which these ostraca may be evidence of notes or drafts.

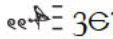
ODN34¹⁸ is triangular in shape and inscribed with three lines of hieratic and a further line of Old Coptic: *𐪎𐪓𐪔𐪕 | 𐪎𐪓𐪔𐪕 | 𐪎𐪓𐪔𐪕 | ...]MTHQ. The Old Coptic gloss is not entirely

¹⁶ With the exception of Quack (1999b), Bagnall (2005), and Osing (2016).

¹⁷ The Old Coptic script utilised is tabulated in the appendix.

¹⁸ OMM872 (TM#50173), cf. Gallo 1997: 3.

preserved, but the extant transliteration glosses *m dw3.w=f* “on his morning”¹⁹. Gallo (1997: 3), and subsequently Osing (2016: 514-515), argued that the rendering of etymological /*m*/ in transliteration reflects an understanding of both the historical orthography and its historical phonetic realisation. Quack (1999b: 195) argued, rightly, that this single example is insufficient evidence to allow such a deduction to extend to other glosses, not least because all other vocalisations appear broadly in line with contemporary vocalisations. Nonetheless, it is notable that the glossing of historical <*m*> with *M* is certainly not a contemporary phonetic realisation, because assimilation would not be expected before *T*. Given that the construct form of *F TΔΥΘ* is obsolete in Demotic, (Standard) Coptic, and thus spoken Egyptian, the glossing of this particular form suggests that it served to facilitate the historical phonetic realisation of this obsolete construction.

ODN35²⁰ is organised as a quadrat, with five lines in hieratic, one overlapping and two further lines in Old Coptic, and one final line in demotic:  |  |  |  |  |
 3ET3TΠ | BHNE MHTΔ | 3Ω ΔMOΥ | hwy. In comparison to the preceding ostrakon, this example exhibits several examples of comprehensive glossing: (i) the deity *hḏ-ḥtp* “(the weaver god) Hedjhotep”²¹, an archaic theonym without a demotic orthography, is glossed 3ET3TΠ²²; (ii) *bny.t*²³, either a hapax name of a goddess, given the series of classifiers, or a hapax orthography for a known goddess, presumably an archaic or obsolete theonym without a demotic orthography, is glossed BHNE; (iii) the gloss MHTΔ was read tentatively by Gallo as *mtr* “face/presence”²⁴, a contemporary lexeme with a demotic orthography. However, Osing (2016: 515) has reappraised this as *mtr* “right/correct” glossed MHT, also a contemporary lexeme with a demotic orthography; (iv) the following gloss was parsed and

¹⁹ For the phonetic realisation, cf. Osing 2016: 515.

²⁰ OMM1316 (TM#50174), cf. Gallo 1997: 4-5.

²¹ cf. LGG5: 601-603; “the one of shining offering” Quack 2012c: 519. Osing (2016: 515), in comparison, translates “der Gott der Stoffe”.

²² For the phonetic realisation, cf. Osing 2016: 515 n.7.

²³ For this revised reading, cf. Quack 2012c: 519 n.2.

²⁴ As Gallo (1997: 5) suggested, this would accord broadly with *FMTΔ*.

However, the ambiguity of the readings of both the hieratic orthographies glossed and the phonetic realisations of the Old Coptic glosses themselves highlight the orthographic depth of the glossed orthographies and the prevalence of glosses to such archaic or obsolete theonyms.

The top register reads: $\text{nds} \langle \text{nds} \rangle \text{ } \overline{\text{NHTC}} \text{ } \overline{\text{LWTOY}} \text{ } \overline{\text{EIPe}}$, the second: $\overline{\text{NHTC}} \text{ } \overline{\text{LWTOY}} \text{ } \overline{\text{EIPe}}$.

²⁵ A theonym attested in the Coffin Texts, Book of the Dead, and Book of Hours, cf. LGG2: 188-1289. Quack (1999b; 2017: 48) highlighted that several of the hieratic orthographies and thus their glosses were misunderstood by Gallo by nature of his reading $\overline{\text{𓆎}}$ as simply $\overline{\text{𓆏}}$.

²⁷ cf. Smith 1977: 140-143.

²⁹ cf. KZL: 1.46. For jmn-r^c spelled with ω , cf. LGG1: 320.

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orthography is not unambiguously hieratic nor demotic, with Quack highlighting that the two strokes on their own are in and of themselves rather ‘undemotic’³¹ (personal communication). As for the gloss to , Gallo was uncertain how to understand this orthography, suggesting a transliteration of *dd.tw* behind *ḏḏTOY* (1997: 7). Osing (2016: 515-516), however, identified the gloss as exclusively *ḏḏ*, most likely as a transliteration of *r dd* “in order to say/that means”. The orthography  was read by Gallo as *ḏ jr.wj* “two/both eyes” glossed *ḏIPḐ* (1997: 7), which could have been understood as clarifying the phonetic value of *ḏ*³², although in hieratic there is admittedly little polyvalence compared with in hieroglyphs. Osing (2016: 515), however, reads  as *ḏ dw-jr* glossed *TOYḐIPḐ*, a theonym or similar, where *jr* reads *jr.w* “image” or *jr.t* “eye”. Osing (2016: 516) thus reconstructed the reading of these three orthographies and their glosses as “little, that means; with evil action/eye”. Finally, the gloss *ḏḏ . . . OY* can be understood as clarifying an orthography which appears to read *ḏ.wt*, but which should read *tt.wt* – likely for *ḏ.w* “chicks” (Quack 1999b: 196) – due to confusion in hieratic between  and . This same reading, and the proposed reconstruction of the gloss as *ḏḏḏḏḏḏOY*, was also made by Osing³³ (2016: 516). Thus, the glosses on this ostrakon clarify obsolescing or obsolete lexemes or constructions, with one example where the hieratic orthography is significantly deep, and further examples where the hieratic orthography is – frankly – erroneous, and thus would have been even deeper.

ODN37³⁴ is the most substantial ostrakon in this corpus, divided into nine registers, with a mixed complement of hieratic, Demotic, and Old Coptic. The first register reads  *t-t-nn-j-j*, glossed *TNOYNE*. This hieratic orthography was read by Gallo as an unconventional spelling of the theonym *ḏ-tnn* “Tatenen”, in which the initial group had been written twice (1997: 10). Quack (1999b: 196), however, favoured reading the toponym *tnn.t* “the sanctuary at Memphis”, which is rendered with only one /n/ in Demotic. Quack’s reading would

³¹ Perhaps something like  was written for , where the two strokes were unfinished .

³² Kurth (KZL: 2.9) books six distinct phonetic values.

³³ For the phonetic realisation, cf. Osing 2016: 516. Osing was apparently unaware of Quack’s identical suggestion.

³⁴ OMM1063 (TM#50176), cf. Gallo 1997: 8-12.

certainly explain the gloss, although Gallo’s observation that the scribe was clearly unfamiliar with this lexeme because he wrote the initial group twice is also valid. In comparison, and perhaps most convincingly, Osing read t{t}-nn for t’-nn-bread – a reading supported by the classifiers exhibited in the hieratic orthography (2016: 516; 516 n.17).

The second register is written in Demotic and Old Coptic, with bk n nb “falcon of gold” glossed BH𐓇 – NOΥB³⁵. The third register reads 𐓇𐓇𐓇 mgjt glossed M𐓇–Ω, a lexeme which is apparently a hapax. The fourth register reads 𐓇𐓇𐓇 mḥdtj glossed M3ΘTΘ. Seemingly another hapax, this lexeme could relate to mḥt “entrails” or m-ḥti “to dig-up plants”³⁶. The fifth register appears at first to provide a variation on this root, written 𐓇𐓇𐓇, however the semantic value is also opaque, and is confused by the presence of a divine determinative. It is less likely that the glosses which follow render, as Gallo (1997: 11) stated, ‘corrections’ to ‘errors’ in a ‘summary exercise’ by a student scribe, given that errors are most commonly corrected or erased. Rather, they appear to be variants to the phonetic values ascribed to mḥdtj: M𐓇–Ω MΘ3T MH3TΘ³⁷ ky-dd “another says” M𐓇–Ω M3ΘTΘ M3TΘ – paralleled in the glossing at Tebtunis, treated above (6.2 2.1; 6.2.3). These glosses thus provide four total phonetic values for two hieratic orthographies of what is presumably the same hapax lexeme, while clarifying the relationship between that and the other hapax lexeme in the third register. The fifth register contains another ambiguous hieratic orthography, which could be read as 𐓇𐓇𐓇, glossed KḤΘCHΩ. Osing (2016: 516 516 n.18) instead suggested the reading 𐓇𐓇𐓇, rendering kḥ-ḥḥ glossed KHΘNΘ . Ω – the name of a star or constellation. However, given the numerous parallels among the OMM, the hieratic group favours 𐓇𐓇𐓇, ḥ can hardly be read H given the morphology of an unambiguous H in the same line, while the historical /ḥ/ in ḥḥ “life” would not be rendered Ω, but 2. Regardless, the ambiguity of all of the hieratic orthographies

³⁵ Notable is that 𐓇 is stacked upon – as if a quadrat of hieroglyphs or hieratic signs.

³⁶ Osing (2016: 516) stated that these forms should be read together as a magical name, argued as ‘well attested’. However, none of these forms are paralleled, nor is it clear why *voces magicae* would have been transcribed into hieratic and glossed in Old Coptic in this context, let alone why each magical name would then have been classified by a floral classifier.

³⁷ Not M𐓇–3TΘ, contrary to Gallo (1997 11).

on this ostrakon thus far suggest clear rationale as to why they were glossed, not least their orthographic depth, but also the fact that the glossed lexemes were obsolete or so rare they appear to Egyptologists as hapaxes.

The sixth register reads  glossed in demotic as ḥn-m-n-w-w in what Gallo interpreted as a ‘cryptographic’ orthography for the “Ogdoad” – although one which utilises polyvalent graphemes in a deep orthography³⁸. The seventh register contains two entries: the first is either  bȝt, an obsolete toponym for the 7th Upper Egyptian nome, or  bȝ(y)t, an obsolete word for “hole”³⁹, glossed BEEt; the second  wnn.t the participle “being” is glossed with what are presumably two orthographic variants of one another – OYN and OYNƏ⁴⁰.

The eighth register is the last to contain hieratic: firstly, what appear to be two orthographic variants of mȝc – “mȝc-plant”⁴¹ –  and  glossed MEE; secondly,  ḥnn=f “his penis” glossed 3NEQ. Regarding this eighth register, the “mȝc-plant” is obsolete in Demotic, and while ḥnn is attested in Demotic but not Coptic, the construct form is attested only very rarely in Demotic, providing a clear rationale for the gloss here.

The ninth register comprises a statement in Demotic: i-irȝ w^c rmt -nb iy n=k šny.t=f r pȝ mtr nȝy=f sw “If any man comes to you; ask him about the fit (of) his stars” (Quack 1999b: 195; 2018b: 75 n.34). Although Gallo (1997: 12) considers this statement to have nothing to do with the preceding registers, it could be that this obscure collection of lexemes – and perhaps all the trigraphic ostraca – are related to the astrological and astronomical sources found among the cache. Nevertheless, the glossing in these registers is suggestive of a rationale to render phonetic values to polyvalent graphemes comprising deep orthographies, or obsolete lexemes or forms thereof.

³⁸  has at least 16 distinct phonetic values, cf. KZL: 1.9.

³⁹ This reading is owed to Quack (personal communication).

⁴⁰ For the phonetic realisations, cf. Osing 2016: 516-517.

⁴¹ cf. WPL: 1095.

ODN38⁴² is inscribed in three registers, each containing hieratic orthographies glossed with Old Coptic. In the first register,                

ODN39⁴⁶ exhibits three hieratic orthographies glossed in Old Coptic. Firstly, the toponym $\text{𐩐} \text{tnj}$ “Thinis” is glossed $\text{TIN}\Theta$ ⁴⁷ – clarifying the phonetic value of this deep ideographic orthography. Secondly, the contemporary lexeme $\text{𐩐} \text{sntr}$ “incense” is glossed $\text{C}\Theta\text{NT}$, which suggests that here sntr is in its obsolete construct form⁴⁸. Thirdly, $\text{𐩐} \text{w3d}$, perhaps “fresh”, i.e. “fresh incense”, is glossed $\text{OY}\omega\text{T}$ – clarifying the reading of the polyvalent ideogram and its form in this compound⁴⁹.

ODN40⁵⁰ is the smallest ostrakon, preserving only the Grecophone⁵¹ gloss $\Theta\epsilon\rho\mu\omicron\Upsilon\Theta\iota\varsigma$ to polyvalent hieratic 𐩐 ⁵², a deep ideographic orthography for the goddess Renenutet.

ODN41⁵³ is the final example published in its entirety and consists of two registers. The first contains the hieratic orthographies 𐩐 and $\text{𐩐} \text{𐩐} \text{𐩐}$ glossed $\Delta\Upsilon\text{ON}$ and $\text{OY}\lambda\text{HT}$. The first ideogram, apparently a curious conflation of 𐩐 and 𐩐 atop a series of $\langle\text{h}\rangle$ signs, was read by Gallo as c_n , while the second was read as the name of a decan (1997: 18). Quack noted that the final /t/ reflects that the lexeme itself must be a dual, suggesting instead the reading of a compound: $\text{j-wn}(\text{.t-})\text{w}^{\text{c}}\text{r.ti}$ “the one who opened the thigh” (1999b: 196). Klotz (2010: 75), by contrast, suggested that the scribe misunderstood the “obscure epithet of Nekhbet” $\text{𐩐} \text{𐩐} \text{𐩐} \text{𐩐} \text{jwḥ.t-rd.wj}$ “soaked of legs” as $\text{c}_n\text{.t-w}^{\text{c}}\text{r.ty}$ “beautiful of legs”, hence the gloss $\Delta\text{OY}\text{ONOY}\lambda\text{HT}$. Osing (2016: 517), apparently unaware of Klotz’s interpretation, read $\text{𐩐} \text{𐩐} \text{𐩐} \text{𐩐}$ as jwḥt-rd.wj “the one with the moist legs”, i.e. as an epithet of Nekhbet⁵⁴, where the first ideogram was misread as wn , jwn or c_nwn . The second register is mostly not well enough preserved to discern, although the hybrid demotic-hieratic orthography $\text{𐩐} \text{𐩐} \text{𐩐} \text{tfnwt}$ “Tefnut”, of which the first two signs are

⁴⁶ OMM1263 (TM#50178), cf. Gallo 1997: 15.

⁴⁷ TMGeo#2400. Consider the Greek orthographies $\Theta\iota\upsilon\iota$ and $\Theta\eta\upsilon\epsilon\iota$.

⁴⁸ Despite being a contemporary lexeme, sntr is found with a diversity of unmorphemic innovative spellings in demotic – especially in the texts considered above, cf. 7.2.4–7.2.5.

⁴⁹ Osing (1998: 63) states that $\text{OY}\omega\text{T}$ could be read as an infinitive, adjective, or nominal sdm=f – compare P. Carlsberg 2.1 V4/10 and P. London-Leiden 9/2. 𐩐 has six distinct phonetic values, cf. KZL: 11.41.

⁵⁰ OMM1323 (TM#50179), cf. Gallo 1997: 16.

⁵¹ Osing (2016: 514) argues that the Graecised name here is evidence that the scribe of this ostrakon is not the same as for the other ostraca exhibiting Old Coptic glosses. This is, however, impossible to demonstrate.

⁵² 𐩐 has more than ten monoconsonantal phonetic values and ideographic values, respectively, cf. KZT: 7.33.

⁵³ OMM1454 (TM#50180), cf. Gallo 1997: 17–18.

⁵⁴ This reading is also noted in LGG1: 203.

unquestionably demotic in their morphology and accord to demotic orthographies of Tefnut, is glossed TQHNG⁵⁵.

OMM1098 and OMM175 were not published by Gallo, only referenced in his table of Old Coptic glosses (1997: LVII-LIX). OMM1098 exhibits two glossed hieratic orthographies:  jb.w=n “our hearts” glossed ΔIBHN ⁵⁶ and  hr.j-tp “master/magician” glossed – according to Gallo’s transcription⁵⁷ – 3PITBB . While jb is attested in Demotic, its plural form was likely obsolete or obsolescing through replacement by h3.tj “heart”, given that the lexeme itself is obsolete in Coptic. Nevertheless, jb.w, the plural form, was archaic, while the construct form was obsolete. Furthermore, this orthography also utilises biconsonantals/ideograms as well as reduplication to render the plural, and is consequently orthographically deep. The lexeme hr.j-tp is attested in Demotic, but in Roman Period Demotic this is through a host of unmorphemic innovative spellings⁵⁸. OMM175 exhibits only , glossed TWPΘ. An unlikely orthography for “hand” in hieratic, identifying the rationale behind this gloss would require a re-examination of the original.

In summary, these 10 ostraca provide evidence for the utilisation of Old Coptic at Narmouthis that albeit limited in scope, is nonetheless informative in function. Both the register of lexemes glossed and the depth of their hieratic orthographies are suggestive of the rationale behind their glossing with Old Coptic transliterations.

Firstly, the register of lexemes glossed can be analysed across the ostraca: ODN35 contains a high proportion of theonyms, while ODN40 and ODN41 contain exclusively theonyms; ODN36 contains obsolete nouns, compounds, and verbal forms, as do ODN37 and ODN38,

⁵⁵ Paralleled in Old Coptic transliteration at Soknopaiou Nesos as TQI’H’I’I’ (Ann Arbor Library P. 6124r+6124v+6121v x+2/12) (7.3.1). Consider also the demotic orthography tfny and orthographies of the personal name such as tfne, cf. TMLP#77215.

⁵⁶ Compare *ΘΠ “heart” in the compound h3h3-jb glossed $\text{h3h3}\Theta\text{Π}$ “storm(?) of the heart” (P. Carlsberg 2.1 J2/14) (6.2.2.1.1) and ΘΠ and ΗΠ “heart” in P. BM EA 10808 lines 10; 50 (5.2.2.1).

⁵⁷ Double B would certainly not be expected.

⁵⁸ Consider in particular those in the texts of 7.2.2, i.e. hr-ib-t-p-Br-Mh, and 7.2.4, i.e. hr-ib-t-tp-Br-Mh-Gb.

with the addition of hapax nouns and theonyms. Thus, Gallo's conclusion that this corpus comprises a collection of student exercises for learning hieratic is problematic⁵⁹. Not only do these ostraca not exhibit exercises, with the one case in which Gallo argued for a student correcting an 'error' being erroneous, the high proportion of obsolete lexemes, the high proportion of rare if not obsolete – and, regardless, unattested in Demotic – theonyms, toponyms, and epithets, and the high proportion of ideograms utilised in deep hieratic orthographies, implies an advanced – rather than elementary – level of learning.

Certainly, the fact that in some instances there are as many readings of the glosses and hieratic orthographies themselves as there are Egyptologists proposing readings, suggests that these ostraca were not for the elementary student. Indeed, this instead rather suggests that these ostraca are scholarly notes, compiled for reference, practice, or in anticipation of their inscription in a different context. Although appearing scrappy, notes for personal use very commonly are – and the utility of these notes for a priestly scribe motivated to record the phonetic values of the deep hieratic orthographies of such archaic constructions and obsolete lexemes is clear.

Certainly, the third, fourth, and fifth registers of ODN37, preserving the glosses to *mg̃t* <m>*h̃dtj* of *M̃—W M3ET̃* and *M̃—W M̃3T MH3T̃* *ky-dd* “another says” *M̃—W M3ET̃ M3T̃* imply – as attested elsewhere (6.2.2.1; 6.2.3) – that a scribe collected two orthographic variants in hieratic for two obsolete lexemes (or one archaic compound), and provided as many phonetic values as are known from either (a) *Vorlage*(n) or (a) colleague(s). As a scribal practice this is directly comparable to the multifaceted glossing attested on the quadrigraphic papyrus from Tebtunis, treated above (6.2.3). Furthermore, the final register of that same ostrakon seems to imply why this selection of lexemes had been compiled into a seemingly coherent corpus of notes on theonyms, epithets, and toponyms, with the decipherment and

⁵⁹ Osing (2016: 514) also argued in favour of an educational context. Similarly, Blasco Torres (2015: 355) states that the presence of ‘school texts’ in demotic and Greek as well as other Egyptian scripts with glosses is evidence of ‘a kind of “school” in the temples at Narmouthis’ – not least the attestation of *ṯ ʿn-sb̃* “the place of instruction”, conventionally translated as “school” (2015: 356).

understanding of such archaic and/or obsolete lexemes central to an understanding of astronomical and astrological texts in hieroglyphs and hieratic. Indeed, comparable to the conclusions drawn from the treatment of the glossing of the P. Carlsberg 2 corpus, the glosses would not have enabled an exclusively Demotic literate to decipher the hieroglyphic and hieratic orthographies, and thus understand the principally obsolete lexemes, without recourse to a “living lexicon”. As an informal reference work, however, this corpus of ostraca would have clarified the ambiguities of the phonetic values encoded in the deep hieratic orthographies which rendered often archaic and/or obsolete lexemes found – especially at this time – only in the highest register of Egyptian textual culture.

A question that remains, however, is why the glosses were rendered in Old Coptic, as opposed to Demotic – as predominated at Tebtunis (6.2.2.5). While the majority of the glossed hieratic orthographies did not have established demotic equivalents because the lexemes themselves, or the forms thereof, were obsolete, innovative spellings could nevertheless have been rendered for them in demotic. Interesting, then, is that with the exception of one example on ODN37, hieratic orthographies in this corpus were not glossed with innovative demotic spellings.

This situation suggests that the script conventions at Narmouthis that governed the glossing of textual culture written principally in hieratic did not permit, or at least did not encourage, the transcription of hieratic into demotic – perhaps given the potential this held for the *substitution for* demotic attested at Soknopaiou Nesos (7.3). Instead, script conventions favoured only the *supplementation of* hieratic with Old Coptic, as attested at Oxyrhynchus (5.3) and Tebtunis (6.3). This utilisation of Old Coptic, and avoidance of Demotic, in glossing accords most closely with the script conventions attested at Oxyrhynchus (5.3).

However, without papyrological sources from Narmouthis, it is impossible to tell whether this trend generalises across textual culture production there.

Finally, Bagnall’s (2005: 17) argument, that the utilisation of Old Coptic at Narmouthis is so limited that the Old Coptic and (Standard) Coptic orthographic systems cannot be related,

must be considered. Comparing Old Coptic glosses with a mid-to-late 3rd century CE letter inscribed in an Early Coptic script upon an ostrakon found at Kellis⁶⁰, Bagnall (2005: 16) contended that whether “elegant and learned” in the case of the P. Carlsberg 2 corpus, or “clumsy and lower on the educational scale” as the OMM, regarding Old Coptic “we are far from having anything that could be called a system of communication”. This conclusion is erroneous on two counts: the first is that Old Coptic was utilised as a fully-fledged “system of communication” at neighbouring Soknopaiou Nesos and also Oxyrhynchus, treated above (7.3; 5.2), in the wholesale transliteration of entire texts; the second is that just because Old Coptic was *not* utilised as a “system of communication”⁶¹, this does not mean that it was *not able to be* utilised as a “system of communication”. The treatment of the sources in the preceding chapters has been analysed as evidence of script conventions which governed the domains in which certain scripts could be used, which stages of the Egyptian language were permissible in which domains, and which spheres of textual culture could therefore be written in which scripts and language stages. While the comprehensive glossing, or transliteration, of hieratic ritual texts at Oxyrhynchus alone demonstrate that Bagnall’s conclusion is erroneous, Bagnall’s conclusion was, from the outset, too reductive by nature of being fundamentally inductive⁶².

As evident from this, and preceding, chapter(s), such a conclusion fundamentally misunderstands the rationale behind such limited utilisations of Old Coptic, where Old Coptic served principally as a *supplement*, not a *substitute*⁶³. At Narmouthis, Old Coptic served as a *supplement to*, rather than a *substitute for*, hieratic and demotic – glossing served as a reading

⁶⁰ cf. Kellis Ostrakon D/1/234 (TM#88395), cf. Gardner 1999.

⁶¹ Although this is never defined by Bagnall, the implication seems to be that Old Coptic was never utilised to transliterate spoken Egyptian, as Bigraphic Coptic was (8.2.2). Nevertheless, as was treated above (4.1), written language is a system of communication by rendering language with reference to a conventional system. Consequently, even the sparsest Old Coptic glosses communicate within such a system.

⁶² This also relates to the outcome-based assumption, treated above (4.6.2), held by Bagnall, who argued that Old Coptic was “a *coherent* attempt to create a new writing system using Greek characters” (emphasis my own) (2005: 11).

⁶³ Thus, the “enormous gulf” between the OMM and P. Carlsberg 2 corpus and the Kellis ostrakon is not because the former exhibit simply “philological experimentation” whereas the latter exhibits a “writing system” (Bagnall 2005: 17), but because the former evidences consciously-limited functionality based on distinct rationale governed by different conventions within a completely different script community to the latter.

aid, facilitating the learning or retention of obsolete lexemes and/or deep orthographies.

There, the paramount investment was not in replacing hieratic and demotic with Old Coptic, but in *retaining* functional literacy in hieratic and demotic. Thus, in criticising Frankfurter as “reductionist” for his argumentation that hieratic is glossed because of its importance in ritual, Bagnall’s (2005: 17) contradiction that “it is the obscurity of the Hieratic [sic], not its importance in a ritual, that leads to its glossing” is also reductionistic. Indeed, Quack (2017: 79) has highlighted that the vast majority of hieratic manuscripts from the Roman Period were not glossed, and therefore that there were clearly script communities to whom hieratic was not ‘obscure’. On balance, while the ‘obscurity’ of hieratic, i.e. orthographic depth of hieratic orthographies alongside the fact that hieratic wrote principally an obsolete stage of the Egyptian language, at times led to glossing, the rationale behind retaining functional literacy in hieratic was itself *in order to undertake* technical and ritual practices.

In short, examining evidence in which a script *was not* used in a particular function and concluding therefrom that a script *could not* be used in a particular function is untenable. The *conclusion* is not that Old Coptic was not a “system of communication”, the *question* is why Old Coptic was *not utilised* extensively as a “system of communication” at Narmouthis. It is, then, with reference to the unique innovative script of Bigraphic Coptic that this question can be answered.

8.2.2 Bigraphic Coptic in the OMM

As introduced above (4.2.4; 4.6.3), among the diversity of textual sources comprising the OMM, in addition to the familiar innovative script of Old Coptic, a unique innovative script is also attested. Bigraphic Coptic is a hybrid endo-exographic script, and in that sense is directly comparable to Old Coptic. Unlike Old Coptic, however, Bigraphic Coptic did not utilise signs taken from the demotic script and from the Greek alphabet. Bigraphic Coptic utilised *the*

demotic script and *the* Greek alphabet side-by-side in a mixed graphic – bigraphic – matrix⁶⁴.

Uniquely, Bigraphic Coptic exhibits the phenomenon of script-switching: the graphic matrix is a hybrid of demotic and Greek, where the Greek loan words incorporated are rendered in Greek script, written dextrograde, while the linguistic matrix is almost exclusively Egyptian rendered in demotic, written sinistrograde. That is to say, in most cases such texts are not bilingual in that they exhibit a code-switch, rather they are bigraphic in that they exhibit a script-switch⁶⁵. The difference between monolingual texts in Bigraphic Coptic incorporating Greek loanwords (8.2.2.2-8.2.2.3) and bilingual texts in Bigraphic Coptic incorporating code-switches (8.2.2.4-8.2.2.5) will be treated below.

In the cases where the bigraphic OMM are monolingual, the idiom rendered is the closest manifestation of the idiom otherwise attested as (Standard) Coptic evidenced in the 2nd century CE. As such, this idiom is significantly different from Roman Demotic, and thereby earlier stages of the Egyptian language⁶⁶. This idiom is also closer to contemporary spoken Egyptian than any other written form of Egyptian⁶⁷, the contact language that emerged as the vernacular following centuries of a superordinate language contact situation between Egyptian and Greek (3.1.1).

Regarding the divergences between Demotic and Coptic, Fewster (2002: 236) stated that “the conservatism of the demotic script ... prevent[s] our seeing much of the impact of bilingualism on spoken Egyptian before Coptic became widespread”. This statement, however, misses a

⁶⁴ The alternation exhibited between the demotic and Greek script is extraordinary, but not unique. Contrary to the assumption of Fewster (2002: 223), as noted by Quack (2017: 54), embedding Greek script within a Demotic text is also attested in the second column of P. BM EA 10588 (TM#55956) – although in a distinct written idiom.

⁶⁵ Fundamental to the appraisal that Bigraphic Coptic in most cases renders a written idiom of Egyptian resulting from a centuries-long language contact situation, is the fact that when I first studied the OMM I was literate in Demotic and Coptic, and able to read demotic and Greek script, but *not* functionally literate in the Greek language. Thus, the fact that at that time I was able to read the written idiom of Egyptian rendered in the Bigraphic Coptic of the OMM, but not the bilingual bigraphic OMM, further argues against their identification as bilingual. Notably, this was even in cases where certain code-switches occurred, because Greek inflections are hardly an obstacle to understanding – treated below (8.2.2.5).

⁶⁶ ‘At least during the Roman Period there were clear differences between quotidian language, which is attested approximately in the Narmouthis ostraca, and the literary idiom, which presumably already seemed slightly antiquated to contemporary scribes’ (Quack 2009: 4).

⁶⁷ The difficulty with, or fallacy of, utilising the Bigraphic Coptic of the OMM as evidence for spoken Egyptian, is highlighted below (8.2.2.6).

nuance: it was not the demotic script that was conservative, rather it was the fact that conventional reference to a system of communication was conservative. As has been seen throughout this study, demotic orthography was certainly innovative, although the language stage of Demotic was rarely ‘updated’ lexically and syntactically in step with spoken Egyptian, because there was rarely the need to write an idiom closer to spoken Egyptian. While literary texts drew upon earlier *Vorlagen*, administrative texts drew upon fixed formulae, and it is perhaps in the study of Demotic letters from the Roman Period, the corpus of which now numbers double figures⁶⁸, that lexically and syntactically ‘updated’ Egyptian can be identified.

When all textual production is taken into consideration, however, Demotic as a written idiom of the Egyptian language had long diverged from spoken Egyptian. Yet in literary and technical spheres of textual culture this was as unimportant then as is the distinction between the higher registers of standard English in the literary and technical domains and spoken English today. Thus, when one jumps from Demotic to Coptic sources, it is as if at some point during the mid-3rd century CE dozens and dozens of Greek verbs, nouns, prepositions, and particles flooded into the language, resulting in an idiom which also underwent syntactical changes. It was the regionalisation and institutionalisation of the written Egyptian idiom during the Roman Period which produced and perpetuated such exclusivity, coupled with – a point that is usually understated – the fact that in order to redact and/or copy existing textual culture it would have been entirely unnecessary to ‘update’ lexically and syntactically the written language. After all, while Demotic is termed ‘conservative’ and ‘traditionalist’, no-one questions that the idiom in which Jane Austen or Isaac Newton wrote is not lexically and syntactically ‘updated’ for contemporary English literates.

⁶⁸ Quack (personal communication). For the aforementioned c.151-200 CE example from Soknopaiou Nesos, cf. Lippert and Schentuleit 2010b.

Whichever script conventions had prevented the widespread incorporation of Greek lexemes into demotic, these were seemingly abandoned at Narmouthis⁶⁹. Before publication of the OMM began, scholars had few opportunities to trace the broad language changes that occurred in the first few centuries CE. Hence the infamous declaration by Bagnall that “no form of written Egyptian was in everyday use in the second century”⁷⁰ (1993: 235) – now know at least not to have been the case for priests at Narmouthis and Soknopaiou Nesos (7.1). Such a statement is complemented by the erroneous assertion that “the emergence of Coptic, as it seems, was not preceded by recorded historical development”⁷¹ (Zakrzewska 2015: 186). Addressing these two assumptions alongside the dismissive statement of Fewster (2002: 224), that the bigraphic OMM “show that some temple scribes who can write Egyptian both know some Greek words and also can write them in the Greek script, but what more can we say?”, the following section will summarise the tantalising glimpse the OMM provide into the syntactically evolving, Greek loanword rich, and dialectically representative written idiom of Egyptian rendered in Bigraphic Coptic.

8.2.2.1 Bigraphism vs Bilingualism

Of the 157 bigraphic ostraca published, as far as can be ascertained by a comprehensive study of the disparate publications and republications, only around one-quarter should be classed as bilingual, i.e. texts exhibiting a code-switch. Studies on the OMM have been hampered by the fact that such texts were published, and have been republished, as either “Demotic” or as “bilingual”⁷². This distinction has no doubt stemmed from the arbitrary Demotic-Greek and

⁶⁹ As Depauw highlights, this writing would “actually be no more than a breach in the code of conduct of Egyptian scribes, anticipating the situation in Coptic” (2012: 498).

⁷⁰ Consider the contemporary nuanced statement by Clarysse that in the 2nd century CE “demotic disappears almost completely from daily life and becomes limited to the temple environment” alongside the unnuanced statement that during the 2nd and 3rd centuries CE “an Egyptian wanting to write a letter to a fellow Egyptian had to do so in Greek” (1993: 201).

⁷¹ Bagnall’s assertion is echoed by Zakrzewska (2014: 81), who is apparently unfamiliar with Bigraphic Coptic, Old Coptic, and other sources in earlier stages of the Egyptian language, such as Late Demotic, hence the statement: “Certainly, a substantial percentage of the inhabitants of Egyptian in the third-fourth centuries [CE] must have spoken a form of Egyptian but there is no evidence of that this spoken Egyptian might have been like.” (2017: 138).

⁷² cf. Donadoni 1955; Bresciani, Pernigotti, and Betrò 1983; Bresciani and Pintaudi 1987; Pintaudi and Sijpesteijn 1989; 1993; Gallo 1997; Giannotti 2007; Menchetti 2005; Menchetti and Pintaudi 2007; 2009; Bresciani, Giannotti, and Menchetti 2009; 2010; Bresciani 2010 – all of which contain texts erroneously labelled “bilingual”, reiterated by Clarysse 1993: 187-188.

Greek-Demotic distinctions of the publication by Bresciani, Pernigotti, and Betrò (1983).

The other three-quarters of these bigraphic ostraca exhibit the use of demotic and Greek script without a code-switch and are therefore *not* bilingual⁷³. This in no way implies that many of the priests at Narmouthis were not bilingual, not least because the remaining c.600 ostraca in Greek script and language, and a similar number in demotic and Demotic, were certainly products of a Demotic and a Greek script community⁷⁴ – signifying a biliterate script community – embedded within a bilingual speech community.

Indeed, Bigraphic Coptic could *only* be the product of a bilingual speech and biliterate script community. Hence, it would be quicker and more efficient – the ideal traits of any script when writing – to render the Greek lexemes within the demotic graphic matrix in an orthography that was most familiar to the scribe. Greek lexemes are rendered in the Greek script both in (Standard) Coptic and in Bigraphic Coptic, and yet in the former case they would certainly not be designated as “bilingual” – because they form a coherent graphic matrix⁷⁵.

Furthermore, the identification of Bigraphic Coptic texts as ‘bilingual’ could only have stemmed from a certain ‘alphabetocentrism’ on the part of the investigating scholars – given that it is perfectly normal to find, for example, English-language loanwords incorporated into Japanese and Russian without their transcription or transliteration, because readers are expected to be familiar with Latin script. In short, “orthographic adaptation is not necessary to the extent that readers are familiar with the donor language’s writing system” (Haspelmath 2009: 42). Rather than laboriously transcribing Greek lexemes into demotic for the sole – unnecessary – reason of rendering a consistent graphic matrix, the priests’ bigraphic system

⁷³ Consequently, Adams (2003: 69-70), following Bresciani et al., gives examples of “switches into Greek marked by a change of script” which are demonstrably not code-switches, e.g. in the case of ΔΓΩΡΙΗ – treated below (8.2.2.2), which are consequently miscategorised as “mixed-language texts”.

⁷⁴ For texts produced in and by this script community, cf. Donadoni 1955; Baccani 1989; Pintaudi and Sijpesteijn 1993; Messeri and Pintaudi 2002; Bresciani 2010; Menchetti and Pintaudi 2007; 2009. Fewster (2002: 235) concluded that “the Greek in [the OMM] is clearly the work of people struggling – and not quite succeeding – to learn Greek. The case endings are often wrong and the sentence structure is awkward”. These philological criticisms do not, however, mean that such texts did not effectively communicate their textual content.

⁷⁵ “I went to the café” does not incorporate a code-switch and thus become a bilingual English-French sentence when rendered: “I went to the café”. This may appear a trivial comparison, yet in linguistic and orthographic terms it is neither – with the only meaningful distinction to the comparison being that while French is written in an alphabetic script, English – unlike Demotic – is not written in a logographic writing system.

made the most efficient use of their skills. Indeed, I would argue that in the way a bilingual education favours code-switching, a biliterate education would favour script-switching⁷⁶.

In addition, and not least given the considerations regarding the neuroscience of reading raised above (4.3), it cannot simply be assumed that bigraphism “demands a greater skill from the reader than writing in one script alone” (Rutherford 2010: 207). While writing a bigraphic script could be cumbersome due to issues with spacing when, for example, writing demotic right-to-left and the Greek script left-to-right, this is a matter of practice rather than complexity. Certainly, a modern Demotic-literate Egyptologist would not contend that the addition of simple alphabetic orthographies within a morphologically complex and orthographically deep Demotic text would make the text significantly more difficult to read. Indeed, I would argue that the rendering of Greek loanwords in Greek script, thus in an orthography already familiar to the writer (producer) and reader (responder) by nature of their Greek literacy, would have been orthographically shallower – hence, easier – than transcribing them into unfamiliar innovative spellings in demotic. This is, after all, directly comparable to, for example, the adoption of loanwords into Middle English from Anglo-Norman French complete with their Francophone orthographies by bilingual and biliterate scribes (Horobin 2013: 87).

Considering the integration of Greek lexemes into Egyptian, and the application of Greek lexemes in spoken and written Egyptian, the view of Fewster that the priests of Narmouthis rendered Greek lexemes with the Greek script because they heard them “as alien” (2002: 245) is erroneous for two principal reasons: (i) such loanwords would not have been unfamiliar, because the administrative and technical terminology would have been utilised by, and in communication with, the Grecophone and Greek-literate administration; (ii) the phonetic realisations of the Greek loanwords or code-switches utilised in both Bigraphic Coptic and the

⁷⁶ Therefore, I find the assessment of Pintaudi and Sijpesteijn questionable that the priests wrote in demotic and Demotic because they could not recall the correct Greek form quick enough when taking notes (1993: 13).

Greek-language texts among the OMM are significantly Egyptianised⁷⁷. Indeed, the textual content of the bigraphic OMM comprises principally drafts of administrative and legal documents as part of a correspondence between the priests of Narmouthis and the Roman administration (Gallo 1997: xlii), while the archive of Phatres “document his legal problems over a period of years” at the turn of the 3rd century CE (Rutherford 2010: 202). The rationale for this written idiom of Egyptian to include Greek lexemes as loanwords or code-switches in administrative and judicial contexts, therefore, is clear.

8.2.2.2 Unambiguous Borrowing in the OMM

A loanword, a lexical form of material borrowing⁷⁸, enters a recipient language by borrowing a source word from a donor language (Haspelmath 2009: 36-37). Conventionally, loanwords are broadly typologised as either “cultural”⁷⁹, i.e. comprising new concepts etc to the recipient language, or “core”⁸⁰, i.e. those which duplicate a lexeme in the recipient language (Haspelmath 2009: 46) – although a novel tripartite typology of borrowing promises to supplant such ambiguous categorisations with qualitative data and empirically-based conclusions⁸¹. In the context of the bilingual speech and biliterate script community at Narmouthis, however, it is important to stress that “when (almost) everyone also understands the other language, it does not really matter which words one uses – one will be understood anyway” (Haspelmath 2009: 48). That is to say, in bilingual speech communities both borrowing and code-switching feel ‘natural’.

⁷⁷ Consider in particular the recent study by Dahlgren (2016). This phenomenon was first highlighted by Donadoni (1955: 82) before being summarised by Ray: “the Greek words in these ostraca have been naturalised to Egyptian pronunciation, as several sound-changes show; they have clearly been part of the spoken language” (1994a: 258). Examples include the rendering of: γ with K, e.g. in ODN28 (OMM676) (Bresciani, Pernigotti, and Betrò 1983: 39-41) ΔΓΩΚΙΗ from ἀγωγή (3); δ with T, e.g. in ODN167 (OMM357) (Menchetti 2005: 104-105) ΔΤΙΚΙΗ from ἀδικεῖν (13); as well as a plethora of changes to the rendered vowels.

⁷⁸ As opposed to structural borrowing, cf. Haspelmath 2009: 39 with references.

⁷⁹ For the danger of circularity in the thesis that resistance to “cultural” loanwords reflects “purism”, cf. Haspelmath 2009: 47 with references.

⁸⁰ For the danger of circularity in the thesis that the adoption of “core” loanwords reflects their “prestige”, cf. Haspelmath 2009: 48 with references.

⁸¹ The World Loanword Database typologises loanwords by their impact on “the lexical stock” of the recipient language, i.e. either through “insertion” (c.39%), “replacement” (c.13.5%), or “coexistence” (20%) – with 27.5% providing “no information” (Haspelmath 2009: 49), cf. <https://wold.clld.org>.

Although “it is likely that there was never a time in which Egyptian-Coptic was not in contact with other languages”⁸² (Grossman and Richter 2015: 80), it is in Coptic that a most acute piece of evidence of language contact is exhibited, i.e. loanwords. More than 1,000⁸³ lexemes are attested, and their semantic domains depend both “heavily” and “trivially” on the genre of text⁸⁴ (Grossman 2019: 104). Nonetheless, these loanwords cover everything from substantives and verbs to adjectives, adverbs, and prepositions, and – most notably – even conjunctions, interjections, and discourse particles⁸⁵. While nouns retain their gender, adjectives are borrowed as masculine or neutral⁸⁶, while some prepositions are even integrated within “the morphosyntactic patterns of inherited prepositions”⁸⁷ (Grossman 2014: 118). The apparent flooding of the Egyptian language with Greek loanwords as attested in Coptic from the 3rd century CE onwards has been interpreted with various methodologies, and from various cultural frames of reference⁸⁸, and although Coptic has also been argued to be a “mixed language” or “bilingual language variety”⁸⁹, recent – comprehensively undertaken – investigations into borrowing patterns into Coptic have refuted the principal points utilised in constructing such theses⁹⁰. It is with reference to these investigations into the integration of Greek loanwords into Coptic that this study’s treatment of examples of the Greek loanwords utilised in the OMM can be informed and elucidated.

Having been derived from a source word in a donor language, a loanword more commonly than not has to be adapted phonologically, morphologically, and syntactically – as well as in

⁸² For a bibliography thereto, cf. Grossman and Richter 2015: 80-81.

⁸³ c.5,000 lemmata (Grossman 2014: 118). For a bibliography of estimates, cf. Zakrzewska 2017: 117.

⁸⁴ For a case study on this, cf. Behlmer 2017.

⁸⁵ For reference to “borrowability hierarchies”, e.g. names < nouns < adjectives/verbs < adverbs < conjunctions < inflections, cf. Muysken 2017: 7-9.

⁸⁶ For the borrowing of adjectives, cf. Almond 2017.

⁸⁷ e.g. ⲕⲁⲧⲁⲡⲟ= “according to”, i.e. ⲕⲁⲧⲁ+ⲉⲡⲟ=. For ⲕⲁⲧⲁ in Coptic, cf. Grossman and Polis 2017.

⁸⁸ For a study of these, cf. Oréal 1999. For an earlier treatment of Copto-Greek Vocabulary, with earlier bibliography, cf. Kasser 1991b.

⁸⁹ cf. Reintges 2001; 2004. Reintges (2001: 233) argues that, in Coptic, “language contact phenomena at all grammatical levels are not simply additions to the native grammar but represent the innovative and creative aspects of a new language form”, concluding that “Coptic can be classified as a bilingual language variety with two parent languages, Egyptian and Greek” (2004: 70).

⁹⁰ cf. those studies cited throughout this section, as well as, for example, the six-point deconstruction by Grossmann and Richter of Reintges’ (2001: 232) conclusion that Greek verb lexemes were borrowed as nouns, cf. 2017: 210-211.

writing, orthographically – in order to fit the system of the recipient language (Haspelmath 2009: 42). As has already been noted, at Narmouthis the vast majority of loanwords were not adapted orthographically to the graphic matrix of demotic⁹¹ – fewer than 10% are written in demotic, c.10% in Greek cipher script, and thus more than 80% in the Greek script⁹². However, around three-quarters of the total exhibit phonological, morphological, and/or syntactical integration into the written idiom rendered in Bigraphic Coptic, as loanwords. Although, in linguistic terms, some code-switches do occur – treated below (8.2.2.4), contrary to Rutherford (2010: 202), Bigraphic Coptic cannot simply be characterised as a “code-switching idiolect”. As noted by Quack (2006a: 192), the limited status of publication of the OMM is insufficient to allow for a representative, let alone comprehensive, study of the written idiom rendered in Bigraphic Coptic. Nevertheless, the principal features of this idiom – “linguistically more Coptic than Demotic”⁹³ (Quack 2017: 27) – can at least be summarised here⁹⁴.

Regarding the adoption of Greek verbal loanwords, the OMM reflect Grossman’s and Richter’s “Type 1” borrowing strategy in Coptic, whereby the light verb *ir̥* is combined with the infinitive form of the Greek verb⁹⁵ (2017: 214 Table 3; 215). Consider, for example, in ODN115⁹⁶: *imy w̥ḥ mtw=k ty.t-ir̥ ḥr irm n̥y=f iry.w ir̥ ΠΔΡΑΤΙΘΕΙΝ n̥y=w {d̥c} d̥cm.w*⁹⁷ “Come and have that Horus and his companions present (παρατιθεῖν) their bookrolls” (2-6);

⁹¹ An exception to this is *πῖναξ*, which may be the only Greek loanword attested in demotic and Greek script (Kade, personal communication). This suggests that *πῖναξ* entered Egyptian at an earlier stage, and was consequently integrated, cf. *pynks* (ODN82), *pngs* (ODN56; ODN85), and *pyngs* (ODN98), as well as *lwmps* (ODN66) and *lps* (ODN151) – both attested in P. London-Leiden (Griffith and Thompson 1921: 30; 54). In addition, consider Greek names which would have had a long history of being integrated into Egyptian, and thus Egyptianised, e.g. *ἄντν* (ODN122).

⁹² (Kade, personal communication).

⁹³ cf. also Quack 2006/7: 175; Grossman and Richter 2017: 231.

⁹⁴ For other treatments, cf. Ray 1994a: 256-261; Quack 1999b: 194-196; 2006/7: 175-177; 2010a: 73 n.8; Rutherford 2010: 201-206 – although Rutherford’s discussion as to how Greek loanwords could otherwise have been adopted is moot (2010: 205). None of the three volumes on the Demotic and erroneously termed ‘bilingual’ OMM treat these features collectively.

⁹⁵ For a series of examples, cf. Grossman and Richter 2017: 215-216.

⁹⁶ OMM72, cf. Menchetti 2005: 56-57.

⁹⁷ Such sentences, whose Late Demotic grammar combined with Greek loanwords is indistinguishable from (Standard) Coptic grammar, can be transliterated into Coptic script without any adaptation, cf. *ΣΔΜΟΥ ΔΥΩ ΝΓΤΡΕΩΡ ΜΗΝΕΩΡΗΥ ΕΡΠΑΡΑΤΙΘΕΙΝ ΝΕΥΧΩΩΜΕ*. While *w̥ḥ* evidences Coptic *ΔΥΩ*, it resonates orthographically more with *ΒΟΥΩ*.

in ODN114⁹⁸: ⲱⲃⲏ Ⲅⲁⲣⲁⲡⲓⲱⲛ ⲡⲗⲟϥⲧⲓⲱⲛ ⲓⲣⲓ ⲉⲓⲄⲁⲛⲕⲉⲗⲓⲛ sbk-ḥꜥpy “Sarapiōn, son of Ploutiōn, has denounced (ⲉⲓⲁⲓⲁⲓⲉⲗⲉⲓⲱⲛ) Sobekhapy” (1-4); in ODN112⁹⁹: ⲧⲱ=ⲱ ⲓⲣⲓ ⲕⲁⲧⲁⲭⲱⲡⲓⲄⲓⲛ ⲏⲛ ⲃⲏ “I register/am registering (ⲕⲁⲧⲁⲭⲱⲣⲓⲛⲉⲓⲱⲛ) some documents” (1-4).

Although “morphosyntactic integration of borrowed items is largely abrupt and categorical”, “phonological integration is often gradual and highly variable”¹⁰⁰ (Poplack 2012: 644). Notable, then, is that all of the preceding examples exhibit complete integration into Egyptian grammar, while some – such as ⲉⲓⲄⲁⲛⲕⲉⲗⲓⲛ (ⲉⲓⲁⲓⲁⲓⲉⲗⲉⲓⲱⲛ) – also reflect Egyptianised vocalisation, and thus orthography, i.e. both morphosyntactic and phonological integration.

The diachronic development of the integration of Greek verbal loanwords into Egyptian-Coptic¹⁰¹, evidenced as a shift from the “light verb strategy” of P(<ⲓⲣⲓ)+infinitive, e.g. ⲡⲕⲉⲗⲉϥⲓⲛ (ⲓⲣⲓ ⲕⲉⲗⲉϥⲉⲓⲱⲛ), through P+verbal stem, e.g. ⲡⲕⲉⲗⲉϥⲉ, to the “direct insertion strategy” comprising just the verbal stem, e.g. ⲕⲉⲗⲉϥⲉ, has been typologised by Grossmann and Richter¹⁰² (2017). In its integration of Greek loanwords, the OMM are directly comparable to Early Bohairic¹⁰³ (B4) as well as the idiom of ‘Proto-Fayumic’ (F7)¹⁰⁴, while also being a “less fixed state of affairs than early Coptic”¹⁰⁵ (Grossman and Richter 2017: 216; 230). This is because, in order to render verbal constructions, Greek substantive loanwords are also utilised, e.g. ⲓⲣⲓ ⲁⲡⲟⲣⲏⲥⲓⲱⲛ “to be in difficulty”¹⁰⁶, comparable to Demotic ⲓⲣⲓ

⁹⁸ OMM1016, cf. Menchetti 2005: 55.

⁹⁹ OMMCLX, cf. Menchetti 2005: 53-54.

¹⁰⁰ While “morphosyntactic integration occurs at, or soon after, the stage of spontaneous borrowing, phonological integration is gradual, proceeding as a function of degree of diffusion and age of attestation” (Poplack 2012: 645).

¹⁰¹ For an earlier study, cf. Almond 2010. For a contemporary study, cf. Egedi 2017; cf. Zakrzewska 2017: 119-123; Hasznos 2017. For a study across dialects, cf. Funk 2017: 371-372; 374-380; 391.

¹⁰² Illustrated in 2017: 207 Table 1; 213 Table 2. For the “intermediate place between native transitive verbs and native intransitive verbs” occupied by Greek-origin loan verbs in Coptic, cf. Grossman 2019. For a comparable case of Igbo speakers who alternate between integrating English tensed verbs inflectionally or with light verbs, cf. references in Poplack and Dion 2012: 310.

¹⁰³ For loanword integration into Early Bohairic (B4), cf. Bosson 2017.

¹⁰⁴ Noted by Almond (2010: 25).

¹⁰⁵ Notably, the integration of Greek verbal loanwords in the OMM is in accordance with Wichmann and Wohlgemuth’s “loanword integration hierarchy” of “loan-verb accommodation patterns”: Light Verb Strategy < Indirect Insertion < Direct Insertion < Paradigm Transfer – as summarised by Grossmann and Richter (2017: 212-213). That being said, although the “direct insertion strategy” is a later development in (Standard) Coptic, this did not supplant the “light verb strategy”.

¹⁰⁶ ⲱⲃⲏ=ⲱ ⲓⲣⲓ ⲁⲡⲟⲣⲏⲥⲓⲱⲛ ⲧⲣϥⲫⲟⲛ “Tryphon was in difficulty (ⲁⲡⲟⲣⲏⲥⲓⲱⲛ)” (ODN111 2-3).

bnr “to escape” – Coptic ⲡⲃⲟⲗ. What’s more, verbal constructions could also utilise Egyptian verbs other than the light verb *irī*, e.g. ty μήνυσις “(make) a denunciation”¹⁰⁷, comparable to Demotic ty ḥꜥ “to make to stand” – Coptic ⲧⲁⲗⲟ.

Greek substantive loanwords are also utilised, for example in ODN132¹⁰⁸: bn-pw Ⲭⲧⲣ(ⲁⲧⲏⲓⲓⲟⲥ) *irī* ⲡⲓ ⲁⲕⲟⲗⲟⲩⲱⲭⲟⲛ “A strategos (στρατηγός) did not do/has not done ‘the following’ (ἀκόλουθον)¹⁰⁹ (i.e. followed-up)” (8-10). Greek adjectival loanwords are also attested, utilised with *irī* as verbal loans, for example in ODN143¹¹⁰: ⲡⲓ-ḥtr *irī* ⲁⲫⲁⲛⲏⲥ “Phatres was absent (ἀφανής)” (5-6). Finally, simple constructions can utilise the Demotic definite and indefinite articles, demonstratives, or possessive articles before a Greek noun, for example in ODN119¹¹¹: tw=y tb{b}ḥ n-im=k {m}mtw=k ty n=i wꜥ γⲓⲡⲏⲣⲉⲧⲏⲥ “I entreat/am entreating you to give me a servant (ὕπηρέτης)” (1-4). On balance, while the written idiom rendered in Bigraphic Coptic did not, in the inward administrative domain at Narmouthis, need to be a fully-developed high register (literary) idiom as (Standard) Coptic, “the linguistic reality of both is the same”¹¹² (Ray 1994a: 258). Regarding other grammatical familiarities from Coptic, noted by Quack (2006/7: 178), the form *my-irī* is also found among the OMM, for example in ODN108¹¹³ – the Coptic causative imperative ⲙⲁⲣⲉ-.

Among the examples above and below, Ⲉⲓⲕⲁⲛⲕⲉⲗⲓⲛ (εἰσαγγελεῖν), ⲕⲁⲧⲁⲭⲱⲡⲓⲕⲓⲛ (καταχωρίζειν), and ⲁⲓⲱⲕⲓⲏ (ἀγωγή) exhibit Egyptianised orthographies, presumably evidencing first-language Egyptophone Grecophones who integrated loanwords

¹⁰⁷ w3ḥ=f ty wꜥ.t {n} ⲙⲏⲛⲩⲕⲓⲛ “He made a denunciation (μήνυσις)” (ODN143 1-2).

¹⁰⁸ OMM1380, cf. Menchetti 2005: 73.

¹⁰⁹ Egyptian *irī* ⲡⲓ ⲁⲕⲟⲗⲟⲩⲱⲭⲟⲛ for Greek ἀκόλουθα ποιεῖν (Menchetti 2005: 73).

¹¹⁰ OMM1371, cf. Menchetti 2005: 83.

¹¹¹ OMMCCCLXVI, cf. Menchetti 2005: 60.

¹¹² Pernigotti (1984: 788-791) argued that the OMM did not represent contemporary spoken Egyptian due to the ‘conservatism’ of demotic. However, conservative, and therefore limited, attestations of, for example, lambdacism in demotic orthographies should not be considered representative of contemporary phonetic realisations – not least given the aforementioned j-wn(.t)-wꜥr.ti or jwḥt-wꜥr.tj or jwḥt-rd.wj glossed ⲁⲟⲩⲟⲛⲟⲩⲗⲏⲧ – reflecting /l/. It should be kept in mind that morphemic and/or conventional orthographies in demotic hide phonetic realities just as historical, loaned, or morphemic orthographies in English do. Quack also notes other Fayumic and Middle Egyptian dialectal tendencies in the OMM (2006/7: 176), such as the common use of *M* ⲗⲁⲕⲱⲧⲙ.

¹¹³ OMM1447, cf. Menchetti 2005: 47-48.

into Bigraphic Coptic with an Egyptianised phonetic realisation – in speech: accent, and in writing: orthography. Grossman and Richter highlight an example of French loanword integration into German, whereby firstly the French orthography and vocalisation is retained (*Bureau* [by¹ro:]), then the orthography is Germanised while the vocalisation is retained (*Büro* [by¹ro:]), and finally the pronunciation eventually accommodates German sound patterns (*Büro* [ˈbyro/by¹ro]) (2017: 226). Although “phonological integration is a poor diagnostic for code-switching or borrowing status, precisely because it occurs variably in all of them” (Poplack 2012: 647), certain orthographic conventions in the OMM do evidence the Egyptianisation of the Greek spoken through the Egyptianised phonetic realisation of Greek borrowings. Indeed, highlighting Funk’s thesis that Coptic did utilise spoken norms (1988), Grossman and Richter stress “we are not dealing with a process that occurred in written texts *per se*, but rather a dynamic interplay between spoken and written norms of usage” (2017: 217).

As discussed above (3.1.1), borrowing *from* dominant languages usually consists of technical and official terms, while borrowing *by* dominant languages usually consists of unfamiliar concepts (Batibo 2005: 29). Thus, it is unsurprising to find that a large proportion of the Greek loanwords found in Bigraphic Coptic texts are administrative and technical terms. Citing an example from ODN21¹¹⁴: i-iry ⲉⲗⲁⲓⲛ 25 mt (n-)mny “Produce¹¹⁵ (ἔξ᾿αγειν) 25 words daily!” (1-3), Ray argued that “an everyday Greek word has taken the place of a demotic one which presumably could have been used”¹¹⁶ (1994a: 257-258). Ray also cites an example in ODN28¹¹⁷: w3h=f iri ⲁⲓⲱⲕⲓⲛ “He (has) brought a legal action (ἁγωγή)” (3) as one in which specialised Demotic lexemes, such as hp or knb.t, obsolete in Coptic, could have been prevented from obsolescing by avoiding Greek loanwords (1994a: 258). Although the utilisation of a Greek loanword in the first example has an ambiguous rationale,

¹¹⁴ OMM456, cf. Bresciani, Pernigotti, and Betrò 1983: 29.

¹¹⁵ Contrary to Bresciani, Pernigotti, and Betrò (1983: 29), the interpretation i-iri=y ⲉⲗⲁⲓⲛ “I produce” would be without the light verb iri – otherwise unattested in the OMM – and is therefore erroneous.

¹¹⁶ This would be “core” borrowing, as introduced above (8.2.2.2).

¹¹⁷ OMM676, cf. Bresciani, Pernigotti, and Betrò 1983: 39-41.

in the latter case certain Demotic lexemes were not used because such terms were simply not those utilised by the Grecophone administration to whom the litigation would have been relevant¹¹⁸. After all, it was not the choice of Egyptophones whether Egyptian-language technical terms were utilised by the Hellenic, Grecophone, and Greek-literate administration, while it is quite unlikely that *hp* or *ḳnb.t* would really have been conceptualised as synonymous. Thus, although it may be difficult to discern why some Demotic lexemes dropped *out* of use, it is clear why certain Greek loanwords came *into* use. Language contact and shift, after all, are not about the numbers of speakers or their choice(s), but about the respective power and influence of majority and minority languages (3.1.1).

8.2.2.3 Nonce-borrowing vs Established-borrowing

While the preceding section treated “unambiguous” examples of source words from the donor language of Greek integrated as loanwords into the recipient language of Egyptian, borrowing attested in the OMM exhibits an unexpected and unique characteristic. The unprecedentedly comprehensive, diachronic study of Greek loanwords in Demotic undertaken by Robert Kade¹¹⁹ has discovered that at least two-thirds, and as much as three-quarters, of all the Greek loanwords attested in the OMM are not attested in (Standard) Coptic¹²⁰. As a result, it is crucial to consider the possibility that the loanwords attested in the OMM are not “established” borrowings from Greek, but only “nonce” borrowings, i.e. attested only once because they were coined for one occasion¹²¹. “Nonce” borrowings can be distinguished from “established” borrowings by frequency of use, i.e. nonce borrowings “share all their linguistic properties with established loanwords”, but not the “non-linguistic” characteristics of “recurrence and diffusion” (Poplack and Dion 2012: 310). Indeed, one single lexeme

¹¹⁸ Fewster’s (2002: 241) conclusion that Bresciani’s claim that the priesthood was a ‘profoundly mixed culture’ is problematic should be noted, because “the texts themselves do not indicate that the priests were trying to become Greek or Hellenized but that the Romans required of them a number of regular reports written in Greek”.

¹¹⁹ I am most grateful to Robert for sharing several insights into the outcome of his research, current at the submission of this study.

¹²⁰ Of 312 lexemes with >1,000 attestations, 145 are found exclusively in the OMM, numbering 277 attestations, i.e. half of all the Greek loanwords attested in Demotic are from Narmouthis. This is to be compared to >4,000 lexemes with >100,000 attestations in Coptic as contained in the DDGLC (Database and Dictionary of Greek Loanwords in Coptic) (Kade, personal communication), cf. <https://www.geschkult.fu-berlin.de/ddglc>.

¹²¹ For advice in this direction, I am most grateful to Sebastian Richter.

borrowed on only one occasion does not mean that it does not constitute a ‘proper’ borrowing, “integration occurs abruptly, at the first mention of the nonce item” (Poplack and Dion 2012: 308), and therefore nonce borrowings behave just the same as established loanwords.

Unlike in some linguistic analyses, in delineating nonce-borrowing and established-borrowing here I also deliberately do not conflate “established” and “integrated” borrowings: established-borrowing, as nonce-borrowing, concerns the frequency of attestations of a loanword, whereas integrated-borrowing concerns the morphological, syntactical, phonological, and – when necessary – orthographic integration of a loanword into the recipient language, discussed above (8.2.2.2).

Regarding the loanwords considered in the previous section, in comparison to ΔΓΩΚΙΗ (ἀγωγή), attested as ΔΓΩΓΗ¹²², and CTPΔΤΗΓΟC (στρατηγός), attested as CTPΔΤΗΓΟC/CΔ†ΓΟΥC/CTPΔΤΗΓΟΥC¹²³, ΠΑΡΑΤΙΘΙΝ (παραιθεῖν), ΕΙCΑΝΚΕΛΙΝ (εἰσαγγελεῖν), ΚΑΤΑΧΩΡΙCΙΝ (καταχωρίζειν), ΑΠΟΡΗCΙC (ἀπόρησις), ΑΚΟΛΟΥΘΟΝ (ἀκόλουθον), ΑΦΑΝΗC (ἀφανής), ΥΠΗΡΕΤΗC (ὑπηρέτης), and ΕΞΑΓΙΝ (ἐξάγειν) are not attested in (Standard) Coptic¹²⁴. Thus, the latter examples can be described as nonce borrowings, which from the comprehensive and diachronic perspective of the Egyptian language, did not enter common usage¹²⁵. The loanwords attested in (Standard) Coptic can be described as those which became established because they “can be accessed with little or no knowledge of the other language”, i.e. unlike within a bilingual speech community such as that at Narmouthis, utilising established loanwords “do[es] not involve the *process* of mixing” (Poplack and Dion 2012: 307-308).

¹²² cf. <https://coptic-dictionary.org/entry.cgi?tla=C8080> (accessed 2019-7-25).

¹²³ cf. <https://coptic-dictionary.org/entry.cgi?tla=C10567> (accessed 2019-7-25).

¹²⁴ Thankfully, such a conclusion can now be drawn due to the integration of the DDGLC into the Coptic Dictionary online, cf. <https://coptic-dictionary.org/>.

¹²⁵ Note that in (Standard) Coptic, loans found in one dialect but not another “are relatively rare” (Funk 2017: 370).

But are such lexemes truly loanwords? Could they not simply exhibit single-word code-switching between Egyptian and Greek? Starting from the assumptions that integrated loanwords are linguistically and socially “fully integrated into recipient language discourse” and that code-switches are, by comparison, “entirely unintegrated”, Poplack, Sankoff, and Miller (1988) sought to “address the problem of distinguishing borrowing from code-switching of lone other-language items” (Poplack 2012: 644). The frequency and diffusion of such “lone other-language items” – termed “LOLIs” – were analysed alongside other criteria of “linguistic integration into recipient-language grammar”, “diffusion across the community”, “dictionary attestation”, and “age of attestation”. Poplack, Sankoff, and Miller formulated the “Nonce Borrowing Hypothesis” – NBH – as a consequence, which “capture[d] the empirical observation that speakers not only code-switch spontaneously, but may also borrow spontaneously” (Poplack 2012: 645). That is to say, there is a qualitative and quantitative difference between loaning and switching – whereby the “overwhelming majority” of LOLIs were integrated as loans, whereas only a “small minority” were not (Poplack 2012: 645). The NBH does not require that all LOLIs be considered nonce-borrowings, nor does it rule out single-word code-switches – the distinction between the two is an empirical question, and frequency is “integral” to the NBH (Poplack 2012: 645). Certainly, then, the morphological and syntactical, as well as preponderance for phonological, integration attested in the preceding examples of Greek lexemes in the OMM demonstrates that they indeed evidence nonce-borrowing rather than single-word code-switching.

8.2.2.4 Borrowing vs Code-switching

In addition to the phenomenon of nonce-borrowing, the bigraphic OMM also contain Greek lexemes that do not exhibit morphological or syntactical integration into the written idiom rendered in Bigraphic Coptic¹²⁶. That is to say, in linguistic terms some Greek lexemes do not

¹²⁶ Such a phenomenon is also attested in (Standard) Coptic.

evidence borrowing but code-switching, evident from the interference of Greek grammar and syntax on the Egyptian language frame.

Although the scribe of ODN143, introduced above, gendered the noun μήνυσις “statement/denunciation” accurately, the sentence into which μήνυσις is ‘borrowed’ reads: w3h=f ty w^c.t {n} ΜΗΝΥCIN “He made a denunciation” (1-2). The ‘borrowed’ noun thus displays an accusative inflection, expected in Greek but not Egyptian-Coptic grammar. Furthermore, in ODN99¹²⁷ the scribe reports: w3h=i ty w^c d^cm (r) ΟΥΔΑΛΗΣ ΕΠΙCΤΡΑΤΗΓΟC (ἐπιστράτηγος) “I gave a papyrus (to) Valens (the) Epistrategos” (2-5). This sentence betrays Greek syntax in the apposition of οὐάλης and ἐπιστράτηγος, which would require the definite article in both Demotic and Coptic. Here, a multiword code-switch has occurred, whereby the expression referring to “Valens” as “Epistrategos” has been extracted directly out of the Greek language and utilised in a sentence that thus expresses both Demotic grammar and Greek syntax.

In ODN109¹²⁸ the code-switch is even more pronounced: w3h=f ty d^cm ΛΟΥΚΟΥΛΛΟC | tws h.t=f και ΤΗΝ ΥΠΟΓΡΑΦΗ “I gave a document from/to Lucullus (Λούκουλλος). Here is its copy and (καί) signature (ὑπογραφήν).” (1-6). Note that while the personal name Λούκουλλος is not inflected for any case, a code-switch occurs in the middle of the sentence where the scribe refers to “its copy” in Demotic but “and signature” in Greek¹²⁹, inflecting ὑπογραφή appropriately for case following καί. Possibilities that could explain this phenomenon include that the scribe was copying directly from a Greek-language document where such was written, or perhaps that ὑπογραφή was so quotidian among this Grecophone speech community that the direct switch ‘felt natural’¹³⁰. In ODN172¹³¹ the scribe switches

¹²⁷ OMM464, cf. Donadoni 1955: 79-80; Gallo 1997: 119-120.

¹²⁸ OMM55, cf. Menchetti 2005: 49-50.

¹²⁹ Note that the copy that follows further down the ostrakon is entirely in Demotic without loanwords.

¹³⁰ A supposition stemming from anecdotal experience. I am conscious that this is a potentially vague and unevicenced deduction, however, code-switching is so ubiquitous among bilinguals that it would be easy to identify and investigate abundant examples among contemporary speech communities. Notable anecdotal examples are introduced in this section.

¹³¹ OMM1274, cf. Menchetti 2005: 109.

from an uninflected loanword to entirely Greek inflections and syntax: wḥ=w ḥṣ pṯy
 ληΔΠΟΓΡΔΦΟC r pṣ šms ΤΡΥΦΩΝ Ο CΔΡ(ΔΠΙΩΝ) “This unregistered (ἀναπόγραφος) (i.e.
 document) was given for the service of Tryphon (Τρύφων) called (ὁ καὶ) Sarapion
 (Σαραπίων)” (1-7). Certainly, ὁ καὶ seems less effortful to write than dd=w n=f, or similar,
 not least given the scribe was already writing in Greek script. Perhaps, then, this again
 evidences that the scribe was copying from a Greek-language document or was so familiar
 with saying or writing such that it ‘felt natural’ to do so.

Following on from these considerations, understanding the phenomenon of code-switching
 within the written idiom rendered in Bigraphic Coptic can only be informed by investigating
 further the distinctions between code-switching and borrowing – not a “non-issue”, as stated
 by Myers-Scotton (1993: 501 n.6), but “perhaps the thorniest issue in the field of contact
 linguistics today” (Poplack and Dion 2012: 311).

8.2.2.5 Nonce-borrowing vs Single-word code-switching

Code-switching does not necessarily result in a mixed code, but rather a mixing of utterances
 from both codes. Thus, code-switching is not a form of contact-induced language change,
 but more a contact-induced speech behaviour. Consequently, code-switching “differs sharply”
 from borrowing (Haspelmath 2009: 40). While Haspelmath (2009: 41) follows Myers-Scotton
 (1993: 191-204) in maintaining that frequent utilisations of a word from a donor language are
 loanwords, but variable utilisations are switches, this does not withstand the rebuttal of
 Poplack (2012) and Poplack and Dion (2012). Their analysis of English loanwords in French
 has demonstrated both a qualitative and quantitative difference between nonce-borrowings –
 what Myers-Scotton and Haspelmath among many others would consider “single-word code-
 switches” – and multiword code-switches. One of the most noteworthy findings is that single-
 word code-switches are attested only very rarely¹³². Despite the “surface resemblance [of

¹³² Single-word code-switches account for less than one third of a percent of all single LOLIs.

nonce-borrowings] to single-word switching, and the fact that both require active access to the other language, the grammatical treatment speakers accord them, even the same speakers, is diametrically opposed” (Poplack and Dion 2012: 309). Ultimately, Poplack and Dion (2012: 310) demonstrate that “nonce borrowings share nothing with single-word code-switches but their etymological origin”¹³³.

Haspelmath (2009: 41) rightly highlights that while loanwords undergo morphological, syntactical, phonological, and orthographic integration “code-switching by definition does not show any kind of adaptation”. By this reasoning, therefore, an adapted lexeme should not be considered a single-word switch¹³⁴, rather only a nonce-borrowing. At the same time, Haspelmath endorses Myers-Scotton (1993: 181-182) in rejecting the typologisation of nonce-borrowing because borrowing is defined “as a completed process of language change”, i.e. “borrowings are “established” by definition”, while code-switching is defined as “the use of an element from another language in speech “for the nonce”” (2009: 41). Again, following Myers-Scotton, Haspelmath (2009: 41) maintains that loanwords begin as “singly occurring switches that gradually get conventionalized”. This conclusion, however, does not prevent there from being an analytical category of loanwords that does not become established, and thus can be typologised as “nonce-borrowings”. The assumption that single-word code-switches gradually become conventionalised, and therefore there is no such thing as a nonce-borrowing, is termed by Poplack and Dion as “the diffusion assumption”, i.e. that a nonce-borrowing is simply the first stage on a continuum from a single attestation to multiple attestations of an established loanword (2012: 286). However, nonce-borrowings are to be understood as directly comparable to monolingual nonce-formations, i.e. neologisms, only the tiniest proportion of which ever ‘catch on’, while “the vast majority of which suffer the well-

¹³³ To maintain that nonce-borrowings are single-word code-switches, “two kinds of code-switches, one for single words and one for longer fragments” would have to be proposed (Poplack and Dion 2012: 311).

¹³⁴ Indeed, in most cases “code-switches can hardly be distinguished from phonologically integrated loanwords” (Haspelmath 2009: 41).

documented fate of their monolingual counterparts”, they disappear as quickly as they appeared (Poplack and Dion 2012: 287; 308).

As stressed above, in the context of the bilingual speech and biliterate script community at Narmouthis it is important to emphasise that “when (almost) everyone also understands the other language, it does not really matter which words one uses – one will be understood anyway” (Haspelmath 2009: 48). While the single-word code-switches highlighted in the preceding section are less Egyptian in a grammatical sense, they are not necessarily less Egyptian in a communicative sense. Indeed, within bilingual speech communities code-switching ‘feels natural’, and in some cases, it may be that integrating certain lexemes as nonce-borrowings seems ‘unnatural’ by comparison to single-word code-switches, or that the grammar or syntax of the speaker’s first language may, in the brain of the code-switchers, ‘naturally’ interfere.

An anecdote evidencing the first consideration, a ‘natural’ switch, is overhearing a first-language Italophone barista saying: “We are out of *panini*”. In English common usage, the plural of panini is paninis¹³⁵. Using that plural would, without question, feel ‘unnatural’ for an Italophone. An anecdote evidencing the second consideration, of a ‘natural’ interference of the grammar or syntax of the speaker’s first language, is recalling a first-language Germanophone saying “I am going to the *Deutschen* Bank”. Such an inflected form is expected in German, but in English the “Deutsche Bank” is treated as lexicalised. However, such a formulation could have stemmed from this inflection being ‘natural’ for the brain of the first-language Germanophone. In both cases, single-word code-switches occurred, producing sentences that, in linguistic terms, were not technically English, but yet involved no limitation to understanding, even to a monolingual Anglophone. Furthermore, when the donor language is well-known or the loanword has only been recently borrowed from the

¹³⁵ Compare English common usage cappuccino vs cappuccinos.

donor language, the inflection of loanwords may not be integrated into the recipient language (Haspelmath 2009: 42). A prominent example in English is the borrowing of Greek and Latin plurals, e.g. hypothesis vs hypotheses and phenomenon vs phenomena, which were, in linguistic terms, single-word code-switches before becoming common usage. Relatedly, Almond (2010: 206) highlights a point highly relevant to the OMM, that “bureaucratic terminology, particularly in verbal rather than nominal form, may not have been as readily naturalised as other lexical borrowings”. Although such a consideration is redundant in the case of the bilingual speech community at Narmouthis, it is nonetheless important to stress that such single-word code-switching does not necessarily limit understanding for monolinguals.

Poplack and Dion (2012: 281) detail that criticisms of the NBH¹³⁶ have rested upon three assumptions: (i) the “diffusion assumption” that LOLIs “introduced as nonce-borrowings typically increase in frequency and diffusion”; (ii) the “graduality assumption” that LOLIs are “introduced in donor-language phonological, morphological, and syntactic form (i.e., as code-switches), but in tandem with their increase in frequency and diffusion, they are gradually integrated into recipient-language structure (become bona fide loanwords)”; (iii) the “identity assumption” that “single-word code-switches cannot be distinguished from (nonce) borrowings” (Poplack and Dion 2012: 284). The invalidity of the “diffusion assumption”, that “nonce forms do not *generally* become widespread, as the diffusion assumption suggests” (2012: 286-287), has already been highlighted above. In the case of the “graduality assumption”, Poplack’s and Dion’s studies instead suggest that when speakers access a LOLI, “they make an instantaneous decision about whether to treat it as a borrowing or a code-switch” (2012: 296). Indeed, “based on the criterion of retaining donor-language grammar”, speakers do not code-switch when utilising LOLIs – LOLIs “tend to be *borrowed*, and borrowings are introduced already as borrowings”, even though “the vast majority of them

¹³⁶ For criticisms of methodology that does not distinguish between borrowing and switching, cf. references in Poplack and Dion 2012: 279. For criticisms that the distinction is “inherently fuzzy”, “instantiations of the same process” or “different points on the same continuum”, cf. references in Poplack and Dion 2012: 280.

will not go on to become bona fide loanwords” (Poplack and Dion 2012: 296).

Under the “identity assumption”, a typology of nonce-borrowing vs established-borrowing and unambiguous code-switching would expect that nonce-borrowing and code-switching “display parallel linguistic behavior” that differs from established loanwords which “are uncontroversially governed by recipient-language grammar”, but this is simply not the case (Poplack and Dion 2012: 297).

In short, Poplack and Dion (2012: 306-307) demonstrate that when the grammar of the recipient language is acting upon the lexeme, the process is borrowing, while if the grammar of the donor language is acting upon the lexeme, the process is switching. In the case of their study of English loanwords in French, of 7,265 tokens only two were found to be acting under French grammar, i.e. nearly 99.75% were nonce-borrowings as opposed to single-word code-switches. Thus, following the robustly defended and evidenced paradigm of Poplack et al., it is justified to refer to inflected ΜΗΝΥCIN (μήνυσις), a lexeme not attested in (Standard) Coptic, as a single-word code-switch, but integrated ΥΠΗΡΕΤΗC (ὑπηρέτης), another lexeme also not attested in (Standard) Coptic, as a nonce-borrowing.

8.2.2.6 Narmouthis’ Bilingual Speech and Biliterate Script Community and its Idiolect

The investigation of borrowing and switching attested in the OMM has demonstrated that although the idiolect rendered in Bigraphic Coptic is not always that governed exclusively by Egyptian grammar and syntax, this did not provide an obstacle to comprehension for the bilingual speech and biliterate script community writers (producers) and readers (responders) of these texts. Having taken the NBH to be robust, the following conclusions regarding the idiolect written and read at Narmouthis derive from those considerations.

When opting to borrow a lexeme, a speaker “assign[s] it all the appropriate recipient-language grammatical structure”, whereas when opting to switch, a speaker “incorporate[s] it *along with* its associated grammatical properties” (Poplack and Dion 2012: 309). Given that Poplack

and Dion (2012: 309) have identified that switching “*almost never happens with single words*”, in linguistic terms this makes the single-word code-switching evidenced in the bigraphic OMM exceptional¹³⁷. Code-switching is only attested with any frequency in “multiword switches” (Poplack and Dion 2012: 309), which are also evidenced in the bigraphic OMM and are explained as the extraction of fixed or common expressions directly out of the Greek language. Poplack and Dion (2012: 309) also highlight that their findings suggest speakers in principal “eschew code-switching single words, in the sense of switching both lexicons and grammars (as they do when engaging in multiword code-switching)” because the cognitive demands “are appreciably greater than those incurred by simply allowing the already activated grammar to continue operating”, i.e. through borrowing. On balance, then, the higher frequency of borrowing compared with switching attested in the bigraphic OMM is likely because the direct integration of loanwords, especially in writing, is less cognitively demanding than code-switching.

“From the point of view of an entire language (not that of a single speaker), a loanword is a word that can conventionally be used as part of the language” (Haspelmath 2009: 40).

As has been discussed above, once the caveats of the poor state of publication of the OMM and the fraction of textual sources preserved are accounted for, this means that many of the Greek loanwords attested in the OMM are, from the point of view of the Egyptian-Coptic language, nonce-borrowings. After all, borrowings can only ever be termed “nonce” from an analytical and diachronic perspective. Then again, “the property of uniqueness, the *sine qua non* of a nonce form, cannot be verified for the speech community as a whole” because “words that are unknown to some speakers may be familiar to others” and “words that are rare in one corpus may be frequent in another” (Poplack and Dion 2012: 286).

Thus, the lexemes treated as nonce-borrowings in the bigraphic OMM cannot certainly be described as such, due to the poor state of publication and random nature of preservation of

¹³⁷ Indeed, Poplack and Dion suggest that the comprehensive utilisation of borrowing as opposed to single-word code-switching evidences “the avoidance of single-word code-switching” (2012: 309).

the OMM – although even if they were shown to be, this still does not mean that they would have been considered nonce-borrowings from the perspective of the idiolect of Egyptian spoken at Narmouthis.

Unlike modern living languages which exist in transcribed spoken and written corpora, how established or integrated a loanword is in Egyptian can only be traced in textual sources, combined with cautious suggestions regarding the degree to which they were established or integrated into spoken Egyptian. This issue highlights that ultimately it is impossible to understand the sociolinguistic considerations of “frequency and diffusion” for dead languages, because of the lack of a living speech community (Poplack and Dion 2012: 308). A further consideration is that lexemes can obsolesce in step with the semantic field which they encompass, rather than because of the fact that they are loanwords. For example, the fact that the loanword *faxen* will obsolesce in the German language has nothing to do with the fact it is a loanword.

Nonetheless, “evidently in contrast to other scribes”¹³⁸, in Phatres’ idiolect “Greek loan verbs are quite common”, with the 13 types attested on 24 occasions comparing to c.100 Egyptian verbs (Grossman and Richter 2017: 217). Consequently, “it appears that Phatres son of Hormeinos was a linguistic innovator, one of the first Egyptian scribes to admit Greek verbs into the written language in any significant number” (Grossman and Richter 2017: 217). However, although in terms of the number of Greek lexemes adopted into written Egyptian Phatres can be considered a “linguistic innovator”, the conventions he utilised to incorporate Greek loanwords into his written Egyptian were not developed by him, but – as with all organically-evolving conventions in language – derived from common usage.

Indeed, the parallel attestations of “light verb integration” across numerous dialects of Coptic reflects a shared development in spoken Egyptian (8.2.2.2). Nevertheless, contrary to Fewster

¹³⁸ As well as in contrast to significant proportions of the population, who may have had very little exposure to Greek (Muysken 2017: 9).

(2002: 223) and Rutherford¹³⁹ (2010: 206), Grossman and Richter stress that it is not possible to attribute such innovations in writing to changes in the spoken language as this is a non-sequitur¹⁴⁰ – “one would still have to explain why and how Phatres and the other Narmouthis scribes authorized the entrance of Greek loan verbs into Demotic writing for the first time, regardless of whether they existed in the spoken language or not”. This particular break with script conventions is, after all, why the corpus of Bigraphic Coptic stands out so distinctly, even among all of the innovative scripts and spellings treated in this study.

8.3 Innovative Scripts, Script Shift and Obsolescence at Narmoute/Narmouthis

As has been seen, the OMM provide complementary evidence for the rationale behind the utilisation of the innovative script of Old Coptic as a *supplement to*, rather than a *substitute for*, hieratic and demotic in the ritual and temple domains, alongside unique evidence for Bigraphic Coptic, and the rationale behind its utilisation within the inward administrative domain alongside Demotic and Greek. Although Old Coptic was not used in the same domains as Bigraphic Coptic, contrary to Bagnall’s assertions this is not because it did not have the requisite functionality¹⁴¹ (2005: 15-17). While acknowledging the absence of substantial sources on papyrus, and the poor state of publication of the OMM, when the utilisation of Old and Bigraphic Coptic at Narmouthis is considered alongside the domains of script use from the other sites in this study, the pattern of evidence suggests that Old Coptic’s status as a supplement rather than substitute limited the potential for Old Coptic to serve as a substitute for both demotic and the Greek script. Given that Old Coptic could have been utilised to write the written idiom rendered in Bigraphic Coptic, the limited utilisation of Old Coptic instead

¹³⁹ Ray (2007: 816) also considered “traces” of the process by which the spoken Egyptian language “at last show[ed] the signs of a thousand years of Greek domination which earlier writing traditions were able to ignore”.

¹⁴⁰ Note also Almond’s (2010: 25-26) judgement that lexemes such as Phatres’ administrative and judicial loanwords would “easily and quickly penetrate everyday speech, since it was needed for any dealings the population had with social institutions in the Roman period”.

¹⁴¹ Ultimately, as with the adoption of technologies the world over, even the most intuitive options can often go un- or underutilised. By comparison, Bigraphic Coptic would not have had the utility of Old Coptic in glossing hieratic and demotic.

suggests that it was seen as a low form of writing, compared to the high forms comprising endographic Egyptian scripts¹⁴².

Furthermore, it is very much a moot point to suggest this bigraphic system was “a serious, though ultimately unsuccessful, experiment in forging a new composite script” (Rutherford 2010: 207). Just because Bigraphic Coptic was short-lived, this does not mean it was unsuccessful¹⁴³. Indeed, Bigraphic Coptic disappears from the sources at the same time as all other textual sources from Narmouthis, and thus functioned in its role within the inward administrative domain alongside Demotic and Greek. Bigraphic Coptic was not made obsolete by the advent of (Standard) Coptic, not least because Old Coptic was also known and utilised at Narmouthis. Bigraphic Coptic obsolesced only with the dissolution of the priesthood. There is nothing to suggest that Bigraphic Coptic could not have endured if the priesthood had.

At Narmouthis, while one hybrid endo-exographic script – Old Coptic – served a limited function in supplementing endographic Egyptian scripts, and yet gave rise to the Coptic script, it was another hybrid endo-exographic – Bigraphic Coptic – devised to render a written idiom closer to contemporary spoken Egyptian than any other written form of Egyptian, that instead became obsolete. Thus, the fact that (Standard) Coptic became a written idiom which could be utilised to render “solidified” varieties of the “fluid” continuum of forms of spoken Egyptian, from literary ‘heights’ to quotidian ‘lows’, is ironic given that Old Coptic appears to have been developed, conceptualised, and utilised not to (re)produce the contemporary, but rather to preserve the archaic and obsolete¹⁴⁴.

¹⁴² Given that the graphic matrix of Bigraphic Coptic is principally demotic, Bigraphic Coptic is a logographic writing system and thus endographic in comparison with alphabetic Old Coptic. Although the Coptic script was at first only taught alongside Greek, cf. Bagnall 2017: 20 with references, if scholars analyse Old Coptic, even if only by analogy to the Coptic script, in its own right, Bigraphic Coptic should also be analysed in its own right.

¹⁴³ A script is a technology, and technologies can be innovative one moment, and obsolete the next – the short-lived nature of the fax machine is no reflection on its utility, it was not “unsuccessful” in achieving its functionality just because it was surpassed within a generation by another technology which was inconceivable in the generation in which the fax machine was developed and utilised.

¹⁴⁴ Bagnall’s (2017: 21) recent reiteration of his opinion that “those responsible for the creation of the Coptic writing system”, which I understand to mean script, given that “the character of the language” is also specified

separately, “must have been educated in Greek schools” simply ignores the prior development of Old Coptic. As Quack (2017: 78) summarised in that same volume, contrary to Bagnall (2005: 12), “‘standard’ Coptic writing grew out of one of the existing versions of ‘Old’ Coptic”, leaving the majority of Old Coptic scripts as “siblings” rather than “parents” to ‘the’ Coptic script.

9 Script Conventions, Domains, Shift, and Obsolescence

as evidenced by the Innovative Scripts and Spellings of Roman Egypt

Although originating in a study of Old Coptic (1.1), this thesis has sought to touch upon all of the regional varieties and stages of the Egyptian language, as well as the scripts utilised for writing them, attested in the manuscript sources of four sites from Roman Egypt.

Indeed, the plurality of Egyptian writing and zenith of textual production in the Roman Period rather demanded such an approach. What has been seen, then, is that to understand any of the linguistic and (ortho)graphic phenomena attested in this temporal frame, all aspects of Egyptian language and writing must be considered. Yet, by the same measure, not all – and perhaps none – of these phenomena should be generalised across spatial frames, because the regionalisation and institutionalisation of Egyptian writing during the Roman Period produced a diversity of varieties of Egyptian writing, orthography, and palaeography.

From the application of theoretical frameworks novel to Egyptology, to the collation and analysis of previously unknown and unpublished texts in the Egyptian language, this study has synthesised scholarship and sources in order to produce novel conclusions by posing fresh questions about a period of Egyptian history which is often neglected by Egyptologists, or treated by many scholars from outside Egyptology as one in which Egypt was simply a province of the Roman Empire – and consequently either undervalued, or overgeneralised. In doing so, this study has not only produced novel conclusions on certain questions of interest to Egyptologists, e.g. on (ortho)graphic innovations, changing scribal traditions of textual production, and script shift and obsolescence, it has summarised the outcome of work on novel textual sources to be published in the near future, and framed the linguistic and (ortho)graphic phenomena studied comprehensively and collectively for scholars of other disciplines looking for cultural comparisons for everything from glossing and (endo-)exographic transcription/transliteration, to script shift and obsolescence in scribal cultures.

What this study has demonstrated is not only the value of studying (ortho)graphic innovations in Egyptian writing during the Roman Period for their own sake, but also that the theoretical frameworks have proven to be insightful for thinking about, and effective in analysing, certain phenomena which occur throughout Egyptian history, and thus could be applied more broadly within the field of Egyptology. This is not least by contextualising textual sources by reconstructing the sociolinguistic context of the producers and responders in the speech and script communities which produced them, but also by demonstrating how regional variations in Egyptian writing, as well as zeniths and nadirs of textual production, in other periods of Egyptian history can be understood through the reconstruction of the speech and script communities in which such changes occurred.

9.1 Revisiting Rationales and Results

Set within the temporal frame of the first two centuries of Roman Egypt, this study has compiled provenanced textual sources, both published and unpublished, in hieroglyphs, hieratic, Demotic/demotic, and Old Coptic, in order to undertake a contextualised analysis of textual sources for script conventions, domains, shift, and obsolescence at four case study sites (1.2.1). From those textual sources, the particular communities of speech, script, and practice which constituted each priesthood that produced them were reconstructed (2). Although an understanding of how those priesthoods reproduced and educated themselves across generations is hardly concrete (1.2.3), how the traditions presented in idealised manuals of temple matters inform upon the importance of literacy to different priestly ranks has at least shed light upon one of – ironically, given the quantity of textual sources – the most opaque aspects of Egyptian cultural (re)production. How the particular pressures on populations during the 2nd century CE, whether demographic, ecological, or economic, impacted this equilibrium of nearly three millennia is also informed by the most recent and revisionist scholarly understanding of such factors stemming from both the built and natural environment (1.2.2; 1.2.4). How the historical developments in spoken and written language and their scripts culminated during the Roman Period in a triglossia of spoken, First,

and Second Phase Egyptian, a bigraphia/trigraphia of hieroglyphs, hieratic, and demotic, and Egyptian-Greek bilingualism and biliteracy, is also considered (2.1.1; 2.2.1).

These considerations highlight that the situation that communities of speech, script, and practice within priesthoods during the Roman Period found themselves in was not only the most demanding with regard to the linguistic and (ortho)graphic – philological – requirements of their scribal training, but also perhaps among the most difficult for their economic situation – culminating in a perfect storm of challenging scribal and socio-economic circumstances.

Throughout the Roman Period, a plethora of factors at the Nilotic macro-level of environmental and demographic pressures, political and economic priorities, cultural and socio-economic circumstances, and linguistic and (ortho)graphic – philological – expectations, as well as at the regionalised and institutionalised micro-level of script shift and conventions, were to impact what language stages and scripts were to be written in which domains of writing. This, in turn, impacted the way in which Egyptian textual culture developed during the Roman Period – suggestive that there was some relationship between this plethora of factors, the irrevocable nadir in textual production during the 3rd century CE, and the subsequent obsolescence of the scripts of the Egyptian writing system. Thus, unlike for a particular ‘Dynasty’ or ‘Period’ of Egyptian history, studying scribal practice and textual production in Roman Egypt is not a matter of utilising an arbitrary temporal frame for heuristic or analytic reasons. Instead, it constitutes an investigation of the implicit and/or explicit processes that were taking place in the last generations of Egyptian history.

For, as has been argued, no matter ‘what remained’ of any or all aspects of Egyptian cultural production, by the middle of the 3rd century CE almost all of Egypt – including this study’s four case study sites – was devoid of Egyptian textual culture production (3.1.5). In the immediate generation(s) following this irrevocable shift, some priests could, then, have become such language rememberers as are attested cross-culturally – individuals who continued to be

limited producers of oral tradition(s). Indeed, perhaps they also served as script rememberers – individuals who continued to be limited responders to certain textual sources.

Consequently, into the second half of the 3rd century CE and perhaps even later, individuals genealogically-related to (Love 2016: 7.5.3-7.6), but perhaps never trained within, a priesthood, could have been ascribed prestige as both “heritage tradition bearers” and “ritual rememberers” (3.1.4). Thus, by analogy to the phenomenon of geolinguistic shift, a geo(ortho)graphic shift occurred whereby descendants of literates were no longer able to utilise the written language of their ancestors to full functionality.

When engaging with textual traditions, this study has also demonstrated the importance of contextualising sources within their contemporary temporal and spatial frame.

This was not, however, through the traditional Egyptological method of identifying and discussing endless parallels as if such an endeavour is itself meaningful, but by engaging at both the macro-level of *which* communities spoke and wrote language, and the micro-level of *how* language was spoken and written in those communities.

At the macro-level, sociolinguistic frameworks have enabled this study to engage with the ill-defined, and – indeed – poorly understood, catch-all term of the “priesthood”, by highlighting the shared dimensions of experience which constituted the rationale behind such communities, and also continued to reify them over generations. Thus, priesthoods are understood as communities of speech (2.1.2), script (2.2.2), and practice (2.4) – sharing dimensions of sociolinguistic, sociographic, and practicable experience in a combination that was unique to such priesthoods, while not limiting the other aspects of identity or dimensions of experience members of a priesthood may also have enjoyed. The processes which acted upon these different communities within priesthoods were then elaborated: whether the historical linguistic processes of language contact, that inevitably lead to conflict and shift, to a tip towards moribundity and death (3.1.1); or contemporary sociolinguistic processes which occur within these communities, from outwardly imposed or inwardly self-destructive language

attitudes to the lionisation of language rememberers (3.1.2-3.14).

Without listeners (responders) of a spoken language, and without writers (producers) of a written language, that spoken or written language is moribund, and therefore all but obsolete – because it is only with speakers/writers (producers) and listeners/readers (responders) that productive oral and script traditions can endure, by being transmitted intergenerationally within speech or script communities. Those outward and inward processes impacting speech communities are analogous to, and in some cases more pronounced than, those which impact script communities from the outside and/or from the inside. Certainly, the way in which domain-by-domain death or obsolescence occurs, and that many language deaths or script obsolescences can precede *absolute* death or obsolescence was highlighted (3.2.1).

Thus, the value of utilising macro-level frameworks for understanding such processes was evident when surveying the current generalised scholarly debate on script obsolescence in Roman Egypt (3.2.2.3), not least in reference to the cross-cultural comparisons of Mesoamerica and Mesopotamia (3.2.2.1-3.2.2.2). By undertaking a significant amount of framing work, this study has not only presented to Egyptology the value in, and benefit of, looking beyond Egyptological discourse in order to understand processes occurring to and within Egyptian cultural phenomena, it has also presented to fields outside Egyptology how the world's longest attested written language can inform comparative linguistic, sociolinguistic, and anthropological studies.

At the micro-level, sociolinguistic frameworks facilitated an analysis of the scripts of the Egyptian writing system (4.1), and – importantly – how the universal phenomena of the brain's decipherment and reading of writing systems (4.3) informs upon our understanding of the typological distinctions in the development of those scripts (4.2). Whether regarding the typological linguistic distinction of First and Second Phase Egyptian language or the typological (ortho)graphic distinction tentatively termed here Quadrivalent and Bivalent

Egyptian writing¹, the binary distinctions of morphemic and phonographic, endographic and exographic (4.1), and deep and shallow orthographies (4.4) or the spectra of continua connecting each, the stages of the Egyptian language and scripts of the Egyptian writing system were disentangled (4.2; 4.5-4.6). Of value to those within and outside Egyptology, these typologies contextualise the shared historical origins, while also clarifying the distinct historical trajectories, of the scripts of the Egyptian writing system (4.5.3.1-4.5.3.2).

Indeed, without doing so, the innovations in the scripts utilised in writing the stages of the Egyptian language and the spellings with which they were written during the Roman Period are too easily subsumed within generalised historical trends. Ultimately, a novel typology of Demotic orthography (4.5.3), utilising Quack's precedent, has shown demotic to be fundamentally different in orthographic conventions to hieroglyphs and hieratic and thus, given how practically distinct these historically homogenous scripts became, that the utilisation of the innovative scripts of Old Coptic and Bigraphic Coptic are not necessarily such dramatic shifts in Egyptian scribal culture after all (4.6). While hieratic exhibits a comparatively unchanged orthographic tradition, Graeco-Roman hieroglyphs developed inscrutable complexities quite contrary to orthographic trends favouring reduced orthographic depth, and demotic developed distinctively through orthographic methods which both significantly reduced, and apparently increased, orthographic depth.

The analysis of the extant sources of textual culture, and a contextualisation of these extant sources within the script communities of each respective priesthood which in turn informed upon the domains of script use and script shift, required – by necessity of the unbalanced and inconsistent nature of the textual sources preserved – an acceptance that like-for-like sources could not be compared between sites (5.1; 6.1; 7.1; 8.1). However, establishing macro- and

¹ Quadrivalent Egyptian writing being hieroglyphs and hieratic written with classified (1) monoconsonantals, (2) biconsonantals, (3) triconsonantals, and (4) ideograms; Bivalent Egyptian writing being demotic written with (1) classified monoconsonantals and (2) immutable groups (i.e. classified ligatures, classified historical-/root-groups or group-writings utilised as homeophones).

micro-level frameworks which could be applied to the extant textual sources facilitated comparisons of similar or comparable phenomena between these sites. Thus, although the source base from each site is different in its composition, the identification of the trends of script shift at each site, by nature of reconstructing script domains and conventions, also added to the value of conclusions drawn at each particular site, by highlighting which phenomena were comparable, and which were distinct, among contemporary script communities.

9.2 Site-by-site Studies

Comparison of Case Study Sites	Hieroglyphic		Hieratic		Demotic		Greek		Old Coptic		Bigraphic Coptic	
Monumental	OX	TT										
	SN	NM										
Ritual	OX		OX	TT					OX	TT		
			SN	NM	SN							
Temple		TT	OX	TT	OX	TT	OX		OX	TT		
		NM	SN		SN	NM			SN	NM		
Technical					OX	TT	OX	TT				
					SN	NM	SN	NM	SN			
Literary						TT	OX	TT				
					SN		No Sources	NM				
Administrative (Inward)			OX		OX	TT	OX	TT				
					SN	NM	SN	NM				NM
Administrative (Outward)							OX	TT				
							SN	NM				

Figure 9.2 illustrates the distribution of the scripts utilised to write stages of the Egyptian language, as well as Greek, by domain at each site: Oxyrhynchus (OX), Tebtunis (TT), Soknopaiou Nesos (SN), and Narmouthis (NM). While several trends are evident, such as the expected clustering of ‘Quadrivalent’ hieroglyphs and hieratic rendering First Phase Egyptian in the spheres of textual culture fundamental to priestly institutions, i.e. in the monumental, ritual, and temple domains, notable exceptions within those trends are also immediately visible, i.e. the utilisation of demotic in the ritual domain at Soknopaiou Nesos as compared to

Old Coptic at Oxyrhynchus and Tebtunis, and the unparalleled utilisation of Greek in the temple domain at Oxyrhynchus. Notable, then, is that hieroglyphs do not appear to have obsolesced, nor to have been superseded by another endographic script, in the monumental domain, while also in certain cases inhabiting the ritual and temple domains in equilibrium with hieratic – a coordinate script contact situation which had already endured for millennia. Likewise, the trends relating to ‘Bivalent’ demotic rendering Second Phase Demotic Egyptian are also evident, with Demotic clustering in the temple, technical, and inward administrative domains, and thereby overlapping with hieratic in the temple, but not technical, domain. Such script statuses both evidence past trends of script shift, e.g. the substitution of hieratic with Demotic in the technical domain, and suggest future trends, e.g. the potential for Demotic to substitute hieratic in the temple domain.

Despite the superordinate language contact situation during the Roman Period, there appears an equilibrium between Demotic and Greek in the technical domains, although in the literary domain Demotic was apparently substituted by Greek at some sites, and long substituted by Greek at all sites in the outward administrative domain. Notable, then, is the status of Demotic in the literary domain as either obsolete or obsolescing, given – as highlighted by Quack regarding the Oxyrhynchus corpus, the lionisation of Egyptian literature within Egyptology as supposedly fundamental to Egyptian (textual) culture². The limited utilisation of Old Coptic as attested in script domains *alongside* hieratic demonstrate its role as a *supplement to*, rather than *substitute for*, hieratic in its script domains at all sites except Soknopaiou Nesos³. There, the utilisation of Old Coptic in the technical domain – unparalleled at the other sites treated in this study – is only comparable to the so-called Old Coptic Horoscope attested in P. London 98 (Love 2016: 2.1). Indeed, the utilisation of Old Coptic as a *substitute for* Demotic/demotic at Soknopaiou Nesos follows the utilisation of Demotic/demotic at

² As highlighted by Quack, cf. 2016b: 120-121.

³ Although P. BM EA 10808 dispensed with its hieratic Vorlage (5.2.2.1), that manuscript is still attested contemporaneously with glossed and unglossed hieratic texts, and thus Old Coptic did not truly substitute hieratic at Oxyrhynchus.

Soknopaiou Nesos as a *substitute for* hieratic. An absolute outlier, then, is Bigraphic Coptic, utilised exclusively within the inward administrative domain at Narmouthis to render an idiom closer to contemporary spoken Egyptian than any other written form of Egyptian, quite contrary to the utilisation of Old Coptic to preserve archaic and obsolete forms of the Egyptian language.

9.2.1 Pemdje/Oxyrhynchus

At Oxyrhynchus, processes of script shift in the domains of Egyptian writing towards Greek are the most pronounced of any site in this study (5.1). Nonetheless, the sources from Oxyrhynchus also evidence the most pronounced efforts to utilise Old Coptic as a *supplement to* hieratic in supralinear glossing in order to facilitate the deciphering of the ritual texts written in First Phase Egyptian, and thus their recitation in ritual practices (5.2.1). Not only Old Coptic, however, but also punctuation to both linear and supralinear texts through graphic parsing with black or red points served to reduce the orthographic depth of *scriptio continua* – as *spatia* do in modern European writing (5.2.1.2). Although the above typologisation of the texts may have been suggestive of a teleological narrative of development from selective glossing without punctuation to comprehensive glossing with, this cannot be established. Nevertheless, different rationales behind their use have been suggested by the varied utilisation of those orthographic methods – rather than perhaps their development – with certain sources suggesting that comprehensive supralinear transliterations into Old Coptic rendered linear punctuation superfluous (5.2.1.4), and other sources suggesting that such supralinear transliterations in *scriptio continua* themselves became orthographically deep, hence their graphic parsing with points (5.2.1.3; 5.2.1.5).

The selective to comprehensive augmentation of linear hieratic texts with supralinear Old Coptic glosses and punctuation is consistent with the rationale of reducing the orthographic depth of predominantly obsolete lexemes, often in archaic or obsolete forms, written in hieratic, often with polyvalent graphemes. The clustering of these phenomena in 2nd century

CE sources is thus suggestive of a tip in intergenerational transmission of hieratic, and thereby the semantics of First Phase Middle/Classical Egyptian, in a generation during that century. The sources of particular note in support of this hypothesis are those manuscripts whose very layout suggests that they were compiled with the supralinear space for the comprehensive Old Coptic gloss to the linear hieratic text conceived from the outset as integral to the manuscript (5.2.1.4-5.2.1.5). Thus, bigraphic textual production became an established scribal norm at Oxyrhynchus – evidencing the wholesale *supplementation* of hieratic, and perhaps, ironically, thereby accelerating its *substitution*.

On balance, the sources from Oxyrhynchus comprise, at least in theory, evidence that an individual illiterate in hieratic, but knowing Old Coptic – and therefore also presumably Demotic and Greek, and with an understanding of the pronunciation and intonation of Middle/Classical Egyptian, could recite ritual texts transliterated into Old Coptic. Graphic parsing further reduced the orthographic depth of orthographically shallow Old Coptic transliterations⁴. Monographic Old Coptic compositions are suggestive that hieratic came to be seen as obsolete, or at least that Old Coptic texts transliterated from hieratic by others could be transmitted by non-hieratic literates (5.2.2). How effective such hypothetical individuals would have been at *responding* to these texts is problematic to establish.

Consequently, these sources are more suggestive not of a motivation to *produce* traditional Egyptian textual culture in an innovative script, but to retain an ability to *respond* to texts which were increasingly orthographically deep by nature of their (ortho)graphic form.

The potential for the continued transmission of Egyptian textual culture in Old Coptic – the continued ability to *respond*, then, is augmented by the fact that the script communities at Oxyrhynchus also appeared soft-shelled regarding the influence of Greek.

Indeed, a paraphrasing of this phenomenon would be to say that script communities at

⁴ In the same way that graphic parsing with classifiers did in logographic Egyptian writing, and as *spatia* do in modern alphabetic writing.

Oxyrhynchus prioritised semantics at the expense of Demotic through Greek translations, and prioritised phonetics at the expense of hieratic through Old Coptic transcriptions. Script communities at Oxyrhynchus may not be entirely exocentric, i.e. interested in and focused on external traditions, but they were certainly the least endocentric of any treated in this study, because the extant sources suggest that they were the least concerned with the maintenance of long-established language and script conventions. That being said, the translation into living, contemporary, and productive Greek as well as the transliteration into orthographically shallow Old Coptic could, ultimately, be argued to evidence the most productive ways in which priestly scribes can be said to have attempted to preserve their textual culture, and thus also their cultural traditions. This is in spite of the fact that such processes were ultimately at the expense of endographic Egyptian writing.

Finally, the crucial comparative value of the Oxyrhynchus corpus treated in this study is that the sources from Tebtunis and Narmouthis which exhibit similar phenomena cannot be dismissed as evidence only of the situation among ‘provincial’ priesthoods in ‘marginal’ environments. Notable, then, is that the primary source evidence for the perseverance of some priesthoods at Oxyrhynchus during the 3rd century CE is suggestive of a rapid obsolescence of endographic Egyptian writing, or retention of response despite a tip towards moribundity, perhaps unlike at other sites, before the obsolescence of the priesthoods themselves.

9.2.2 Totoun/Tebtunis

At Tebtunis, processes of script shift in the domains of the Egyptian writing system suggest a hieratic script community that consciously expended more effort to continue to transmit textual culture in hieratic than at any other site treated in this study (6.1). Only one ritual text evidences selective glossing (6.2.1), which – with reference to an entire parallel corpus of such texts from Oxyrhynchus – is informative at both the micro-level of how selectively the text was glossed, and at the macro-level that comprehensive glossing of ritual texts was, unlike at Oxyrhynchus, apparently unnecessary at Tebtunis. A close study of the P. Carlsberg 2 corpus

has demonstrated that even when augmented by both phonetic and semantic glosses utilising a host of conventional and innovative orthographic methods, as well as with linear annotations and punctuation, these textual reference works were not sufficient themselves in transmitting literacy, nor their textual content (6.2.2). Thus, education in hieratic and its corresponding textual culture had to be augmented by “living lexica” and thereby “living compendia” of knowledge – with significant implications for the understanding of intergenerational transmission. Nonetheless, a study of the orthographic methods utilised in glossing have demonstrated the ways in which innovative spellings with reduced orthographic depth, in comparison to the hieratic orthographies with polyvalent hieratic signs in deep orthographies that they were glossing, served to aid the deciphering of the glossed lemmata in that corpus.

Hieroglyphs are the capstone of the metaphorical pyramid of scribal learning, and thus the way in which the unique hieroglyphic manuscript from Tebtunis was glossed with Demotic/demotic and Old Coptic, as well as annotated with Demotic and hieratic, has much to say for the understanding of the plethora of skills at the disposal of, as well as difficulties experienced by, the most highly-educated priestly scribes at Tebtunis (6.2.3).

Where hieroglyphs were concerned, all the scripts ever attested in writing the Egyptian language were utilised in glossing the highest register of language, i.e. theonyms, epithets, and toponyms, often rendered conventionally in orthographies, such as ideograms, with considerable orthographic depth. The fragments of this intriguing manuscript evidence, at the micro-level, everything from the metathesis or complete misreading of hieroglyphic groups and glossing of ideograms because they are the deepest possible orthographies, to, at the macro-level, the continued compilation of textual variants of hieroglyphic and hieratic texts together, whether comparable or distinct, into the Roman Period. With the exact nature of this text still ambiguous, and the generations – contemporary or subsequent – in which this manuscript was glossed likely to remain so, this quadrigraphic papyrus is an enigmatic outlier among all the sources treated in this study.

Given the implications of the models of language death and script obsolescence considered in this study, it is evident that it must have been during the generation of the glossing scribe(s) that there was, following millennia of complete intergenerational transmission without any attested glossing, the need to augment textual reference works with phonetic and semantic glosses, and that this was due to incomplete intergenerational transmission. The very existence of the corpus of glossed onomastica and monographs of priestly knowledge from Tebtunis, therefore, as a phenomenon absent from the earlier textual record, can be most parsimoniously understood in the context of the slowing of intergenerational transmission of functional literacy in hieratic within the superordinate script community at Tebtunis during the second half of the 2nd century CE.

By comparison to Oxyrhynchus, where both supralinear glossing and punctuation were developed to the extent of comprehensive supralinear transliterations of hieratic texts in alphabetic Old Coptic, with morphemic and lexical units punctuated, the utilisation of Old Coptic, and to a lesser extent punctuation, at Tebtunis appears relatively limited. This is not only because demotic-derived – endographic – orthographic methods substantially outnumber those utilising Old Coptic (6.2.2.5), but also because selective vocalic glosses were often added where entire supralinear transliterations could instead have easily been rendered.

Thus, Old Coptic was utilised comparatively sparingly at Tebtunis, as a *supplement to*, rather than *substitute for*, endographic Egyptian writing – suggesting that the hieratic script community at Tebtunis was that with the hardest shell of any hieratic script communities treated in this study, consciously working to maintain the predominance of hieratic in their textual production.

9.2.3 Timoui/Soknopaiou Nesos

At Soknopaiou Nesos, the predominance of Demotic/demotic against the inroads of Greek, but at the expense of hieratic, is the most pronounced of any site treated in this study (7.1).

This macro-level process of script shift was catalysed, as well as likely having been facilitated

by, the micro-level changes to the orthographic methods that were utilised in the transcription of hieratic texts into demotic. At the micro-level, the increasing utilisation of unclassified/classified homeophones over monoconsonantals evidenced a departure from the conventions of demotic orthography when devising innovative spellings for contemporary lexemes. Indeed, although this trend emerged and developed in the rendering of obsolete lexemes, it morphed into an orthographic method that also came to be utilised increasingly in the rendering of contemporary lexemes during the 2nd century CE. These trends are in keeping with others, such as that conventional established orthographies not only became proportionally less significant, their complemented morphemic orthographies also became proportionally more significant (7.4). Such orthographic shifts perhaps even suggest that two concurrent forms of demotic writing, that of convention and that of innovation, began to diverge during the 2nd century CE.

Furthermore, script shift from hieratic to demotic in the ritual domain at Soknopaiou Nesos had significant implications for the utility of hieratic. Although demotic transcriptions were not exclusively devoid of hieratic orthographies, at least suggestive that many of those demotic texts were transcribed directly from hieratic, the *substitution* of hieratic with demotic, as opposed to the *supplementation* of hieratic with demotic and Old Coptic attested at Tebtunis, and with Old Coptic attested at Oxyrhynchus, would ultimately lead to the realisation that hieratic had become obsolete. Whether this point was reached before the obsolescence of the priesthood itself, however, is unclear.

In addition, whether transcription into demotic ensured the accurate transmission of spheres of textual culture productively across generations is also unclear. After all, homeophonic orthographies have been problematised as perhaps rendering more accurate vocalic information than monoconsonantal orthographies, and yet being orthographically deeper. Thus, whether these demotic transcriptions of First Phase Middle/Classical Egyptian ultimately constituted a reproductive tradition of texts with clearly understandable semantic

content is harder to discern, and even though demotic was utilised to produce monographic transcriptions of hieratic texts at Soknopaiou Nesos as Old Coptic was utilised to produce monographic transliterations of hieratic texts at Oxyrhynchus, neither led unambiguously to productive monographic traditions.

The utilisation of Old Coptic as a *substitute for* Demotic/demotic at Soknopaiou Nesos follows the utilisation of Demotic/demotic at Soknopaiou Nesos as a *substitute for* hieratic. Perhaps, then, if there had been subsequent generations of textual production, Old Coptic would have come to predominate in the technical domain as demotic came to predominate in the ritual domain – echoing the script shift from hieratic to Demotic that occurred in the Late Period. Comparable to at Oxyrhynchus, a paraphrasing of this phenomenon would be to say that those script communities prioritised semantics and phonetics at the expense of hieratic through Demotic/demotic, but did not utilise Old Coptic at the expense of Demotic. That being said, the utilisation of Old Coptic in the technical domain suggests that it was making inroads (7.3). Nevertheless, the Demotic/demotic script community at Soknopaiou Nesos was apparently hard-shelled in the predominance of Demotic in the inward administrative domain, although the seemingly limited utilisation of Old Coptic to gloss hieratic demonstrates at once the comparable utility of demotic to Old Coptic, while suggesting that hieratic would have become conceptualised as obsolete. Ironical, then, is the investment in translating spheres of textual culture into Demotic in order to ensure the transmission of semantic information, and the transliterating of spheres of textual culture into demotic in order to ensure the transmission of phonetic information, because both processes ensured that hieratic would become obsolete. Thereby, the script shift attested in the sources from Soknopaiou Nesos suggests the dematerialisation of Middle/Classical Egyptian literacy in hieratic, a tip in a process that could end with the obsolescence of hieratic, which had – regardless – already been substituted by demotic.

9.2.4 Narmoute/Narmouthis

At Narmouthis, with few sources on papyri, the OMM provide the only insights into the processes of script shift during the Roman Period (8.1). Despite the use of Old Coptic as *supplement to*, rather than *substitute for*, endographic Egyptian scripts, the utilisation of Bigraphic Coptic demonstrates that Egyptophones could render an idiom closer to their spoken idiom than other established written forms of Egyptian – abounding in Greek loanwords – by harnessing their bilingual and thereby bigraphic education – even though Old Coptic evidently had the utility to do the same. Consequently, it is ironic that Old Coptic, conceptualised and utilised not to produce the contemporary, but rather to preserve the archaic orthographies and obsolete lexemes of hieroglyphs and hieratic (8.2.1), gave rise to (Standard) Coptic, which became the productive written idiom of “solidified” varieties of spoken Egyptian, rather than Bigraphic Coptic (8.2.2). This, however, has more to do with the motivations of neo-script communities of Coptic literates, e.g. Christian, Gnostic, and Manichaean, which produced novel textual culture in the Egyptian language, than it does the comparable utility of Old and Bigraphic Coptic to the script community at Narmouthis.

9.3 Synthesis of Sites

In an isolated system, entropy can only increase, and while the regionalised and institutionalised script communities in Roman Egypt did interact with one another, distinct written traditions nonetheless emerged, with their accompanying language and script conventions for different domains of writing, and thus spheres of textual culture.

While certain sites, in particular Soknopaiou Nesos, housed hard-shelled communities who fostered stronger intragroup scribal traditions, supporting their institutionalised linguistic and (ortho)graphic norms through translation or transcription into Demotic/demotic, others, in particular Oxyrhynchus, housed soft-shelled communities that facilitated Greek translation and the extensive utilisation of the hybrid endo-exographic script of Old Coptic.

This regionalisation of traditions also occurred in the context of the contraction of priestly populations, and thus the reduction in the viability of intergenerational transmission of

education in literacy and textual culture in the second half of the 2nd century CE due to the absence of a critical mass of learned literates able to teach. Ultimately, despite the evident benefits of glosses, glossing first had to be undertaken by individuals who were themselves, or were under the direction of someone, functionally literate in what was being glossed. Consequently, glossing and punctuation served to bolster intergenerational transmission horizontally within the generation in which it was undertaken, but not necessarily vertically to subsequent generations.

Notable is that even at a site such as Soknopaiou Nesos, whose textual production is suggestive of a script community that can be concluded as exhibiting the most endocentric attitudes towards Egyptian script use of any site in this study, all scribal production appears to nonetheless have been at the expense of hieratic. Thus, although unlike at Oxyrhynchus and Tebtunis – and perhaps also Narmouthis – Old Coptic was not utilised at the expense of hieratic, Demotic/demotic was. Even at Soknopaiou Nesos which did not exhibit the shift towards Greek in the same number of domains or to the same extent as at any other site, I would argue that textual production in hieratic would have stalled, and ultimately ceased, due to hieratic already having been *substituted* by demotic, as hieratic was substituted by Old Coptic at Oxyrhynchus. Indeed, a by-product of such an (ortho)graphic approach could also have been – ironically – that transliterations into demotic and Old Coptic, intended to *supplement but not substitute* hieratic, in fact accelerated hieratic towards becoming redundant, and ultimately obsolete, because hieratic was no longer the sole (ortho)graphic preserve of First Phase Middle/Classical Egyptian ritual or temple texts. In fact, without effective policies of language maintenance, once a tip has occurred, retrieving functional literacy without living compendia upon which to draw is virtually impossible. Consequently, I would argue that this tip has to be located within that same generation which produced the unique textual sources evidencing the need to supplement and ultimately substitute hieratic during the second half of the 2nd century CE.

9.4 The Obsolescence and Afterlife of Egyptian Writing

While reification can compensate for the inherent limitations of participation (e.g. the inscription of ritual texts in temple contexts perpetually actualises their practice), the inherent limitation of reification (e.g. textual specialists are required to undertake such ritual practices) can only be counterbalanced by participation in so far as participation is possible (e.g. through literate learning from textual sources) or important for individuals in a particular community (e.g. either culturally through prestige, religiously through conceptualised necessity, etc.). The increasing opacity of certain spheres of textual culture must have caused cognitive shifts in priority and prestige for priestly practitioners – and it is all but impossible to conceptualise the cultural trauma of no longer being able to read the ritual text that your (grand)father practiced daily.

Artefactual and architectural continuity could do nothing to offset the vacuum left by the opacity of all aspects of textual culture that were not committed to reproductive cultural practices or individuals' memories, and thereby reproduced as oral traditions.

Indeed, such cultural and ritual traditions became intangible with the obsolescence of written Egyptian at some sites in the way that written Egyptian became immaterial with the obsolescence of Egyptian priesthoods at others. Analogous to how the emergence of writing fulfilled requirements of economic and political, and eventually also socio-cultural, ritual, and theological utility, the obsolescence of writing can be interpreted as a consequence of the absence of those same requirements. The Romans, unlike the Ptolemies, had little use for monumental hieroglyphs, and none for hieratic and Demotic, so when the priesthoods who had use of those scripts no longer fulfilled requirements for the population for whom they once had socio-cultural, ritual, and theological utility, the domains of those scripts dissolved.

In the context of demographic, ecological, and economic pressures on priestly populations, and the impacts these had on their ability to reproduce and educate themselves over generations (1.2.2-1.2.3), some of the sources treated in this study have been particularly

informative. From “Clackson’s Old Coptic Wordlist” to the P. Carlsberg 2 corpus, the utilisation of Old Coptic in certain spheres of textual production, or the augmentation of certain texts with Old Coptic, suggests that it was not quite the linguistic and (ortho)graphic complexity of Egyptian textual culture which catalysed obsolescence, but that linguistic and (ortho)graphic complexity engendered issues in intergenerational transmission, which in turn catalysed obsolescence. By complicating, and thus slowing, the way in which individuals are brought to the level of functionally literate readers (responders) *and* writers (producers), the viability of intergenerational transmission of written – as spoken – language can collapse rapidly. Given that spoken languages can become moribund in one generation, and obsolete in two, and that there are no textual sources suggesting that Egyptians could have relearned their written idioms or scripts without being taught by “living compendia”, script obsolescence could indeed also have occurred just as rapidly.

What must be stressed again in the context of Roman Egypt is that intergenerational transmission concerned not one script or language, but a triglossia of spoken Egyptian, Second Phase Demotic Egyptian, and First Phase Middle/Classical Egyptian as well as a bigraphia or trigraphia of demotic, hieratic, and hieroglyphs – their lexica and orthographic conventions, in addition to linguistically unrelated Greek language in Greek script – and its lexicon and orthographic conventions. This is all while maintaining recency and practicing recall in order to maintain those orthographic conventions and lexemes actively within continua of word knowledge. The fact that there are few contemporary or past Egyptologists who, even after decades of study, could decipher and read such a complement of trilingual and quadrigraphic textual culture without recourse to modern dictionaries and grammars, has rather significant implications for the variety of factors which must be conducive to learning and ensuring that intergenerational transmission was continually viable within priesthoods of the Roman Period.

Presumably the transmission of such linguistic, (ortho)graphic – philological, and textual knowledge intergenerationally was perfectly viable during the Ptolemaic Period, and during the Roman Period there is evidence of priests serving cults at more than one site – perhaps offsetting absent or underqualified “living compendia” in other priesthoods. However, when population pressures led to there being reduced pools of living compendia of linguistic, (ortho)graphic – philological, and textual expertise, this could well have catalysed the augmentation of textual sources into written compendia of such knowledge – attested particularly in the P. Carlsberg 2 corpus. Such sources provided a means through which responders and producers could engage with textual sources without recourse to living compendia, but only if they were functionally literate in the first instance. Indeed, given that such sources are otherwise unparalleled in Egyptian history, their very existence is strongly suggestive of having been bound up with the difficulties of intergenerational transmission during this period in Egyptian history.

In cases where priesthoods do not appear to have outlasted their textual culture production, comparisons to the situation of domain-by-domain moribundity and obsolescence in Mesoamerica and Mesopotamia can be made. With the obsolescence of institutions of which written language was their preserve, such as temple libraries housing astrological records at Babylon, written language itself became rapidly redundant, and consequently obsolete. Although this constitutes a ‘chicken or the egg’ causality dilemma, whereby the obsolescence of a priesthood could be assumed to catalyse the ceasing of intergenerational transmission of literacy, and the breakdown in intergenerational transmission of literacy could be seen as limiting the abilities of a priesthood to undertake the ritual practices which are fundamental to its rationale for existence – the sources treated in this study, and the frameworks in which they have been analysed, have been synthesised to make the case for a more nuanced interpretation.

Although throughout this study I have referred to the “irrevocable” shifts in script use and “nadirs” in textual production suggested by the extant pattern of evidence, there are two final

considerations concerning the dissolution of institutions and the loss of functional literacy: the former is that the obsolescence of a priesthood does not necessarily mean that intergenerational transmission of literacy would have ceased absolutely – there is a case to be made that textual culture produced in the technical domain, such as astrological, astronomical, and divinatory texts, and in the ritual domain, such as afterlife and magical texts, could have had continued utility to both priestly and non-priestly communities; the latter is that the breakdown of intergenerational transmission of literacy did not limit entirely the abilities of a priesthood to undertake the ritual practices that constituted the fundamental dimension of shared experience that reified their community of practice, i.e. the temple cult, due to the capacity of oral traditions and cultural memory to ensure that such ritual practices persevered. That being said, the obsolescence of the scripts of the Egyptian writing system does appear to adhere to the “general rule” summarised by Westenholz regarding the obsolescence of cuneiform textual culture: “a cultural tradition is intimately linked to its accustomed written medium and orthography”, and “normally one is not discarded without the other” (2007: 280).

Nevertheless, while this study has synthesised the sources evidencing innovative spellings attested in hieroglyphic, hieratic, and demotic, and the innovative scripts of Old and Bigraphic Coptic, within frameworks through which to interpret and understand their script conventions, domains, shift, and eventual obsolescence during the 2nd and 3rd century CE, it should not be forgotten that these phenomena ultimately occurred contemporaneously with the development of novel and distinct cultural traditions, soon to emerge through a successor script in Coptic textual culture.

Appendix – Old Coptic Scripts

Oxyrhynchus – P. BM EA 10808 (5.2.2.1) (notwithstanding a considerable margin of error)

Egyptian /h/ Coptic 2	ⲡ 3 ⲓ	Egyptian /h/ F, B, M, S, L ʁ B ⲓ A 2	6 ⲓ	Egyptian /k/ F, M, S, L, A K; 6 B K; X; 6; X	Ⲕ	Egyptian /f/ Coptic C; B	Ⲙ
Egyptian /h/ Coptic 2	3 ⲓ ⲡ	Egyptian /š/ Coptic ʁ	ʁ 6(?)	Egyptian /k/ F, M, S, L, A K; 6 B K; X; X	Ⲕ	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ⲓ; A 2	ⲓ	Egyptian /t/ F, M, S, L X B 6	-	Egyptian /g/ F, M, S, L, A 6 B X	Ⲕ		
		Egyptian /d/ Coptic X	Ⲙ				

P. BM EA 10808+EES fragment augmented with: ⲓ /s/; 6 /3/, /c/, /j/; pn “this”; wḥm in m-wḥm “repeatedly”; 3 “great”; mn (ⲓⲓⲓ) “NN/so-and-so”; a sign deriving from ⲓ ḥn^c

Tebtunis – P. Carlsberg 2.1 – Section I Synonym-Vocabulary of Verbs (6.2.2.1.1)

Egyptian /h/ Coptic 2	ⲡ	Egyptian /h/ F, B, M, S, L ʁ B ⲓ; A 2	3 ⲓ	Egyptian /k/ F, M, S, L, A K; 6 B K; X; 6; X	Ⲕ 2	Egyptian /f/ Coptic C; B	Ⲙ
Egyptian /h/ Coptic 2	9 3	Egyptian /š/ Coptic ʁ	-	Egyptian /k/ F, M, S, L, A K; 6 B K; X; X	Ⲕ	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ⲓ; A 2	ⲓ	Egyptian /t/ F, M, S, L X B 6	-	Egyptian /g/ F, M, S, L, A 6 B X	2		
		Egyptian /d/ Coptic X	Ⲙ				

Tebtunis – P. Carlsberg 2.1 – Section II Synonym-Vocabulary of Nouns (6.2.2.1.2)

Egyptian /h/ Coptic 2	ⲡ	Egyptian /h/ F, B, M, S, L ʁ B ⲓ; A 2	3 ⲓ	Egyptian /k/ F, M, S, L, A K; 6 B K; X; 6; X	Ⲕ	Egyptian /f/ Coptic C; B	Ⲙ
Egyptian /h/ Coptic 2	9 3	Egyptian /š/ Coptic ʁ	3	Egyptian /k/ F, M, S, L, A K; 6 B K; X; X	Ⲕ	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ⲓ; A 2	-	Egyptian /t/ F, M, S, L X B 6	Ⲙ	Egyptian /g/ F, M, S, L, A 6 B X	-		
		Egyptian /d/ Coptic X	Ⲙ				

Tebtunis – P. Carlsberg 2.1 – Section III Glossary of *Materia Sacra* (6.2.2.1.4)

Egyptian /h/ Coptic 2	-	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	3	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; 6; x	ʁ	Egyptian /f/ Coptic ʁ; B	ʁ
Egyptian /h/ Coptic 2	3 9	Egyptian /š/ Coptic ʁ	-	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; x	-	Egyptian /b/ Coptic B	-
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	ʁ	Egyptian /t/ F, M, S, L x B 6	-	Egyptian /g/ F, M, S, L, A 6 B x	-		
		Egyptian /d/ Coptic x	-				

Tebtunis – P. Carlsberg 2.1 – Section IV Religious Calendar (6.2.2.1.6)

Egyptian /h/ Coptic 2	-	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	ʁ 3	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; 6; x	-	Egyptian /f/ Coptic ʁ; B	-
Egyptian /h/ Coptic 2	3	Egyptian /š/ Coptic ʁ	3	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; x	-	Egyptian /b/ Coptic B	-
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	ʁ	Egyptian /t/ F, M, S, L x B 6	-	Egyptian /g/ F, M, S, L, A 6 B x	z		
		Egyptian /d/ Coptic x	-				

Tebtunis – P. Carlsberg 2.2 (6.2.2.2)

Egyptian /h/ Coptic 2	ʁ	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	ʁ ʁ	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; 6; x	ʁ	Egyptian /f/ Coptic ʁ; B	ʁ
Egyptian /h/ Coptic 2	9 3	Egyptian /š/ Coptic ʁ	3	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; x	ʁ	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	-	Egyptian /t/ F, M, S, L x B 6	ʁ	Egyptian /g/ F, M, S, L, A 6 B x	-		
		Egyptian /d/ Coptic x	ʁ				

Tebtunis – P. Carlsberg 2.3 (6.2.2.3)

Egyptian /h/ Coptic 2	-	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	-	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; 6; x	ʁ	Egyptian /f/ Coptic ʁ; B	ʁ
Egyptian /h/ Coptic 2	9	Egyptian /š/ Coptic ʁ	-	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; x; x	ʁ	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	-	Egyptian /t/ F, M, S, L x B 6	⊖	Egyptian /g/ F, M, S, L, A 6 B x	-		
		Egyptian /d/ Coptic x	-				

Tebtunis – P. Carlsberg 468+PSI inv. I 196 (6.2.3)

Egyptian /h/ Coptic 2	-	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	-	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; 6; ʁ	-	Egyptian /f/ Coptic ʁ; B	-
Egyptian /h/ Coptic 2	1 3	Egyptian /š/ Coptic ʁ	ʁ	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; ʁ	-	Egyptian /b/ Coptic B	-
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	-	Egyptian /t/ F, M, S, L ʁ B 6	ʁ(?)	Egyptian /g/ F, M, S, L, A 6 B ʁ	2		
		Egyptian /d/ Coptic ʁ	ʁ				

Soknopaiou Nesos – Ann Arbor Library P. 6124r + 6124v + 6121v (7.3.1)

Egyptian /h/ Coptic 2	-	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	ʁ	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; 6; ʁ	ʁ	Egyptian /f/ Coptic ʁ; B	ʁ B(?)
Egyptian /h/ Coptic 2	2	Egyptian /š/ Coptic ʁ	ʁ	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; ʁ	ʁ ʁ(?)	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	ʁ	Egyptian /t/ F, M, S, L ʁ B 6	-	Egyptian /g/ F, M, S, L, A 6 B ʁ	2		
		Egyptian /d/ Coptic ʁ	ʁ				

Narmouthis – OMM (8.2.1)

Egyptian /h/ Coptic 2	-	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	6	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; 6; ʁ	2	Egyptian /f/ Coptic ʁ; B	ʁ
Egyptian /h/ Coptic 2	3	Egyptian /š/ Coptic ʁ	ʁ(?)	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; ʁ	ʁ	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	3	Egyptian /t/ F, M, S, L ʁ B 6	-	Egyptian /g/ F, M, S, L, A 6 B ʁ	-	Egyptian /p/ Coptic ʁ	B
		Egyptian /d/ Coptic ʁ	ʁ				

Akoris – The Old Coptic Schmidt Papyrus

Egyptian /h/ Coptic 2	ʁ	Egyptian /h/ F, B, M, S, L ʁ B ʁ; A 2	-	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; 6; ʁ	ʁ ʁ ʁ	Egyptian /f/ Coptic ʁ; B	ʁ
Egyptian /h/ Coptic 2	3	Egyptian /š/ Coptic ʁ	ʁ	Egyptian /k/ F, M, S, L, A ʁ; 6 B ʁ; ʁ; ʁ	ʁ(?)	Egyptian /b/ Coptic B	B
Egyptian /h/ F, B, M, S, L 2 B ʁ; A 2	-	Egyptian /t/ F, M, S, L ʁ B 6	ʁ	Egyptian /g/ F, M, S, L, A 6 B ʁ	ʁ		
		Egyptian /d/ Coptic ʁ	ʁ				

Akhmim – P. London 98

Egyptian /h/ Coptic 2	9	Egyptian /ḥ/ F, B, M, S, L ʁ B ḥ; A ʒ	6 ḥ	Egyptian /k/ F, M, S, L, A K; ʕ B K; X; ʕ; X	K	Egyptian /f/ Coptic C; B	C
Egyptian /ḥ/ Coptic 2	9	Egyptian /š/ Coptic ʁ	3 6	Egyptian /ḳ/ F, M, S, L, A K; ʕ B K; X; X	K	Egyptian /b/ Coptic B	B
Egyptian /ḥ/ F, B, M, S, L 2 B ḥ; A ʒ	ḥ	Egyptian /t/ F, M, S, L X B ʕ	Ḍ	Egyptian /g/ F, M, S, L, A ʕ B X	K Ḍ(?)		
		Egyptian /d/ Coptic X	Ḍ				

Augmented with: ͡ /n/; m /n/; ͡ /s/; ͡ /t-ḥ/

Soknopaiou Nesos(?) – P. Carlsberg 2.4

Egyptian /h/ Coptic 2	-	Egyptian /ḥ/ F, B, M, S, L ʁ B ḥ; A ʒ	ḥ 3	Egyptian /k/ F, M, S, L, A K; ʕ B K; X; ʕ; X	-	Egyptian /f/ Coptic C; B	-
Egyptian /ḥ/ Coptic 2	3	Egyptian /š/ Coptic ʁ	3	Egyptian /ḳ/ F, M, S, L, A K; ʕ B K; X; X	-	Egyptian /b/ Coptic B	-
Egyptian /ḥ/ F, B, M, S, L 2 B ḥ; A ʒ	ḥ	Egyptian /t/ F, M, S, L X B ʕ	-	Egyptian /g/ F, M, S, L, A ʕ B X	ʒ		
		Egyptian /d/ Coptic X	-				

Linguistic Glossary

BILINGUAL – a functional *listener (responder)* and *speaker (producer)* of two *languages* (as opposed to a *monolingual*, a functional *speaker* of one *language*, or a *trilingual*, a functional *speaker* of three *languages*, and so forth)

BILINGUALISM – functional *response* and *production* in two spoken *languages*

BILITERATE – a functional *reader (responder)* and *writer (producer)* of two *languages* (as opposed to a *monoliterate*, a functional *reader* of one *language*, or *triliterate*, a functional *reader* of three *languages*, and so forth)

BILITERACY – functional *response* and *production* in two written *languages*

BORROWING – the transfer of *morphemes* or *lexemes* from a *donor language* to a *recipient language*

ESTABLISHED Borrowing – a *morpheme* or *lexeme* which has been *borrowed* from a *donor language* and is attested more than once in the *recipient language* is an *established borrowing* (this term also describes the process)

NONCE Borrowing – a *morpheme* or *lexeme* which has been *borrowed* from a *donor language* for only one occasion, i.e. is not attested more than once in the *recipient language* (this term also describes the process)

INTEGRATED Borrowing – the *phonological*, *morphological*, and *syntactical*, as well as – in cases of written language – *orthographic*, adaptation of a *loanword* into the *recipient language* (this term also describes the process)

COMMUNITY – a group in which there is a significant dimension of shared experience

CLOSED Community – the levels of contact a community has with the outside world, and consequent degree to which a community is focused on its own internal norms

HARD-SHELLED Community – a community exhibiting strong boundaries, which allow only minimal interaction between outgroup and ingroup members, thus serving to preserve community norms

LANGUAGE Community – a linguistic community which shares a lexicogrammatical code of communication

OPEN Community – the levels of contact a community has with the outside world, and consequent degree to which a community is interested in outward norms

Community of PRACTICE – a group in which individuals undertake a practice through mutual engagement in a shared enterprise (for a certain purpose), with a shared repertoire. These practices are negotiated (through continuous interaction with them), participated in (through social networks and social enterprises), and reified (where meaning is projected in the process and product)

SOFT-SHELLED Community – a community exhibiting weaker boundaries, which facilitate interaction between outgroup and ingroup members, thus catalysing the breakdown of community norms

SCRIPT Community – a community which can read, write, and transmit *literacy* in (a) *script(s)* and/or *writing system(s)* intergenerationally

TERMINAL Script Community – the last community able to read and write a *script* and/or *writing system*, and first unable to transmit *literacy* intergenerationally

SPEECH Community – a sociolinguistic community which shares a language

BILINGUAL Speech Community – a *speech community* in which *bilingualism* is the norm

CONSISTENCY

FEEDBACK Consistency – sound-to-spelling consistency or inconsistency, e.g. consistency in <igh> in <fight> [faɪt], <light> [laɪt], and <right> [raɪt], or inconsistency in /i/ in <reef>, <thief>, and <leaf>

FEEDFORWARD Consistency – spelling-to-sound consistency or inconsistency, e.g. consistency in <d> in <dead> [dɛd] or inconsistency in <t> in <whistle> [ˈwɪsl]

DEPTH

ORTHOGRAPHIC Depth – the transparency of the *grapheme* to *phoneme* correspondence in a *written language*, i.e. the degree to which spelling reflects pronunciation

MORPHOLOGICAL Depth – a level of *orthographic depth*: *lexemes* which are morphologically deep are closely related derivatives of a shared morphology, but phonologically dissimilar, e.g. <heal> [hi:l] and <health> [helθ]

DIGLOSSIA – a situation in which a *speech community* speaks, or *script community* writes, two distinct forms of the same *language* – a *high form* learned formally and used in certain *domains* and a *low form* learned informally and used in certain other *domains* (e.g. High German (*Hochdeutsch*) and Swiss German (*Schwyzerdütsch*), Modern Standard Arabic (*Fusha*) and Egyptian Arabic (*Masri*)

DIGRAPH – a sequence of two *graphemes/signs* corresponding to one or two *phoneme(s)*

In consonants, for example: <ch> in <choice> renders /tʃ/, <sh> in <shop> renders /ʃ/, and <th> in <think> renders /θ/

In vowels, for example: <ea> in <feat> renders /i:/, while <ee> in <feet> also renders /i:/, whereas <ea> in <near> renders /ɪə/ and in <read> and <read> renders /i:/ and /ɛ/

DIPHTHONG – a sequence of two vowels pronounced as one syllable, e.g. /aɪ/ in <lied> and <light>

ECOLOGY – interrelationships and interdependences between components within a system

SCRIPT Ecology – the interrelationships and interdependences between a *script/writing system*, its *writers (producers)* and *readers (responders)*, its *script domain(s)*, and its contemporary and historical contexts

LANGUAGE Ecology – the interrelationships and interdependences between a *language*, its *speakers (producers)* and *listeners (responders)*, its *language domain(s)*, and its contemporary and historical contexts

EGYPTIAN

Egyptian SPEAKER – an *Egyptophone*

SPOKEN Egyptian – the *agraphic* Egyptian which was spoken contemporaneously with the temporal frame under discussion

WRITTEN Egyptian – a stage of the Egyptian *language* as it was written, i.e. those stages which are commonly termed Old, Middle, Late, and Classical Egyptian, Demotic, and Coptic

GLOSSING – the process of adding *transliterations*, *transcriptions*, or explanations above, i.e. supralinear to a linear text, or in the margins of an inscribed text, in order to explain phonetic values and/or to provide *semantic* clarifications or variations in that text

PHONETIC SUPRALINEAR Glossing – supralinear *transliterations* or *transcriptions* of an aspect of the linear text

An example of a supralinear phonetic gloss to the linear text is that in an inquiry of the lamp, instructing the practitioner to recite “Eseks • the great-one” (e-s-e-k-s \eCēz/ • p̄-ʕ-e \ΠOē/) (P. London-Leiden 6/20)

PHONETIC INTERPOLATED LINEAR Glossing – linear *transliterations* or *transcriptions* of an aspect of the linear text which have subsequently been compiled within the linear text during *textual transmission*

An example of phonetic gloss interpolated into the linear text is that in an inquiry of the lamp, instructing the practitioner to recite “Efkheten • another says; Khetium” (iw=f-ḥtn • ky-dd ḥt-iwn) (P. London-Leiden 6/20)

SEMANTIC SUPRALINEAR Glossing – supralinear *semantic* clarifications or variations of an aspect of the linear text

An example of a supralinear *semantic* gloss to the linear text is that in a spell for causing favour, instructing the practitioner to add to their ape of wax “first-quality lotus oil \another says: tšps/ or moringa oil” (sšn tp \ky-dd tšps/ nge nhḥ n bk) (P. London-Leiden 11/22)

SEMANTIC INTERPOLATED LINEAR Glossing – linear *semantic* clarifications or variations of an aspect of the linear text which have subsequently been compiled within the linear text during *textual transmission*

An example of a *semantic* gloss interpolated into the linear text is that in a hieratic copy of a Book of Breathing which Isis made for her brother Osiris, describing to the deceased: “Hormerty guards your body – another says: your tongue” (ḥr.w-mr.tj ḥr sšw d.t=k kj-dd ns=k) (P. BM EA 9995 2/8-9)

-GRAPHIA – a combining form in nouns relating to the phenomenon of writing

Agraphia – the state of being unwritten, e.g. *spoken Egyptian* was *agraphic*

MONO-/BI-/TRI-/MULTIgraphia – a situation in which one, two, three, or many *scripts* are utilised to write the same (stage of a) *language*

-GRAPHIC – a combining form in adjectives relating to the phenomenon of writing

ENDOgraphic – a *script* which developed within a particular community

EXOgraphic – a *script* which developed outside of a particular community

-GRAM – a combining form in nouns relating to something written

PHONOgram – a *grapheme/sign* which represents a phonetic unit

LOGOgram – a *grapheme/sign* which represents a *semantic* unit

GRAPHEME – a character in writing, common usage for a *sign* in *phonographic writing systems*

HETERO- – a combining form in nouns relating to something different

HeteroGRAPH – a *lexeme* with a different *orthography* and *semantic* value, but the same phonetic value, e.g. <meet> and <meat> [mi:t]

HeteroPHONE – a *lexeme* with a different phonetic and *semantic* value

HeteroNYM – *homographs* whose phonetic values vary with their *semantic* values, e.g. <desert> [dɪˈzə:t] and [ˈdezət], <live> [lɪv] and [laɪv], <read> [ri:d] and [rɛd]

HOMO- – a combining form in nouns relating to something the same

HomoGRAPH – a *lexeme* with the same *orthography* but different phonetic and *semantic* values, e.g. <bow> [bəʊ] and [baʊ], <wind> [wɪnd] and [waɪnd], <tear> [tɛ:] and [tɪə], <wound> [wu:nd] and [waʊnd]

HomoPHONE – a *lexeme* with a different *orthography* but the same phonetic value, but a different *semantic* value, e.g. <break>/<brake> [breɪk], <bare>/<bear> [breɪk]

HomoNYM – *lexemes* with the same phonetic, but different *semantic*, values, i.e. a *homophone* and *heteronym*, e.g. <bark>, <kind>, <mean>, <rock>, <spring>, <tire>, <well>

HOMEO- – a combining form in nouns relating to something similar but not the same

HomeoPHONE – a *lexeme* with a similar phonetic, but a different *semantic*, value

INNOVATIVE – adjectival form from innovate “to bring in or introduce novelties” and innovation “the introduction of novelties; the alteration of what is established by the introduction of new elements or forms” (OED)

INTER- – a combining form in nouns denoting “between” and “among

InterLINGUAL – between *languages*, i.e. *interlingual translation* comprises recasting a text from one *language* into another, e.g. Demotic into Greek or Latin into Early Modern English

InterSCRIPT – between *scripts* of the same *writing system*, i.e. *interscript transcription* comprises recasting the graphic matrix of one text from a particular *script* into an unrelated *script*, e.g. demotic into Greek or Old English runes into Latin script

INTRA- – a combining form in nouns denoting within and inside of

IntraLINGUAL – within stages of the same *language*, i.e. *intralingual translation* comprises recasting a text from one stage of a language into another, e.g. Middle Egyptian into Demotic or King James English into Modern English

IntraSCRIPT – within *scripts* of the same *writing system*, i.e. *intrascript transcription* comprises recasting the graphic matrix of one text from a particular script into another script of the same writing system, e.g. hieratic into demotic

ISOMORPHIC – in the case of grapheme-phoneme correspondences, those which are simple, consistent, and complete are *isomorphic*

LANGUAGE – a lexicogrammatical code of communication

Language ATTITUDE – the opinion of, and/or loyalty towards, a *spoken language* by its *speakers* or *written language* by its *writers*

ABILITY IMPACTING Language Attitude – the higher the achievement, proficiency, ability in a *language*, the more favourable the *language attitude* (likewise attitudes impact ability – an unyielding, condemnatory purism is the worst possible scenario for language survival)

Language CONTACT – any situation in which members of one *speech community* regularly interact with members of another

COORDINATE Language Contact – a situation in which two *languages* share equal status and prestige in their diglossic relationship within a particular *domain*

SUPERORDINATE Language Contact – a situation in which two *languages* exhibit different status and prestige in a dominant-minority diglossic relationship within a particular *domain*

DEAD Language – a *language* which is no longer spoken

DONOR Language – the *language* from which a *loanword* is *borrowed*

Language DEATH – the processes by which a *language* progresses from being vital, through the *tip* of being *moribund*, to no longer being spoken

Language MAINTENANCE – the conscious processes through which a *language* which might otherwise be expected to *tip* into being *moribund* is avoided

MORIBUND Language – the *language* is no longer transmitted intergenerationally and consequently no longer spoken by the generation of child-bearing age

Language MURDER = LINGUICIDE – as opposed to *language suicide*, *language death* as a consequence of factors external to the *language/speech community* (from politically- and institutionally-sanctioned *language shift* to the murder of its *speakers*)

Language PRODUCERS – a *producer* of *spoken language* is a *speaker*, while a *producer* of *written language* is a *writer*

PRODUCE Language/Language PRODUCTION – relating to functionally speaking (orally) or writing a *spoken* or *written language*

RECIPIENT Language – the *language* into which a *loanword* is *borrowed*

REGIONAL Language – a *spoken* or *written language* variety confined to a particular region

SUPRAregional Language – a standard *spoken* or *written language* variety no longer confined to a particular region

Language RESPONDER – a *responder* to a *spoken language* is a *listener*, while a *responder* to a *written language* is a *reader*

RESPOND Language/Language RESPONSE – relating to functionally understanding (aurally) or reading a *spoken* or *written language*

Language SHIFT – the process by which the *language* traditionally spoken and/or written in one *domain* is abandoned in favour of the *target language*, as a result of a *coordinate* or *superordinate language contact* situation

GEOLINGUISTIC Language Shift – a process after which individuals are no longer able to functionally *produce* and *respond* to the *spoken language* of their ancestors

GEOSCRIPT Language Shift – a process after which individuals are no longer able to functionally *produce* and *respond* to the *written language* of their ancestors

SPOKEN Language – a/the spoken form of a particular lexicogrammatical code of communication

Language SUICIDE – as opposed to *language murder* = *linguicide*, *language death* as a consequence of factors internal to the *language/speech community* (from the choice of that community being to abandon their language to the language losing its resonance within that community)

TARGET Language – the *language* shifted to from the *traditional language* in a *coordinate* or *superordinate language contact* situation

Language TIP – the moment at which a *language* becomes *moribund*

WRITTEN Language – a/the written form of a particular lexicogrammatical code of communication

-LECT – a combining form in nouns relating to *regional* or social variety in a *language*

DIAlect – a form or variety of *spoken* or *written language* particular to a specific region

GRAHPOlect – a form or variety of *orthography* particular to a specific region (by analogy to dialect)

IDIOlect – a form or variety of *spoken* or *written language* particular to one individual

SOCIOlect – a form or variety of *spoken* or *written language* particular to one community

LEXEME – an item of vocabulary (a *word* in the abstract sense that it is meaningful without an assigned grammatical role)

-LINGUAL – a combining form in adjectives and nouns relating to *spoken* and *written language*

MONO-/BI-/MULTIlingual – an individual who can functionally *respond* and *produce* in one, two, three, or many *spoken language(s)*

LITERACY – functional *response* and *production* in a *written language*

-LITERATE – a combining form in adjectives and nouns relating to *written language*

MONO-/BI-/TRI-/MULTIliterate – an individual who can functionally *respond* and *produce* in one, two, three, or many *written language(s)*

LINGUA FRANCA – Italian “Frankish language”, a *language* adopted as a common *language* between *speakers* whose *vernaculars* are different

MORPHEME – a unit smaller than a *word* which grammatical or lexical meaning

MORPHOLOGY – concerning the grammatical structure of lexemes and their categorisation

ORTHOGRAPHY – a bivalent term

At the macro-scale *orthography* describes the relationship between a language and its script

At the micro-scale *orthography* describes the conventional spelling of a particular *word*, e.g. the orthography of the *word* colour in British English is <colour>, whereas in American English is <color>

PHONEME – the smallest distinct sound unit in a given *language*

PHONOLOGY – concerning the sound system of a given *language*

POLYVALENCE – having many functions, forms, or facets (multivalent)

PHONETIC Polyvalence – a *grapheme/sign* which has multiple phonetic values, i.e. phonetically polyvalent

SEMANTIC Polyvalence – a *grapheme/sign* with which has multiple *semantic* values, i.e. *semantically* polyvalent

READER – the *responder* to a *written language*

SCRIPT – conventional *graphemes/signs* within a conventional *orthography* rendering in writing a *spoken* and/or *written language*

ENDOGRAPHIC Script – a *script* which has developed within the *script community* in question

- EXOGRAPHIC Script** – a *script* which has developed outside of the *script community* in question
- HYBRID Script** – a *script* resulting from the combination of two or more historically distinct scripts, usually one *endographic* and one *exographic script* – making many hybrids endo-exographic
- Script OBSOLESCENCE** – the processes by which a *written language* progresses from being written (*produced by*) and read (*responded to*) through the *tip* of being *moribund*, to no longer being written or read
- SCRIPTIO CONTINUA** – Latin “continuous writing”, i.e. writing without regard for *word boundaries*
- SEMANTICS** – concerning meaning
- SIGN** – a character in writing, common usage in Egyptology for a *grapheme* in the *logographic writing system* of Egyptian
- DETERMINATIVE/CLASSIFIER** – a *sign* at the end of a group-writing marking the *semantic class* of that *lexeme*
- MONO-/BI-/TRI-CONSONANTAL Sign** – a *sign* rendering one, two, or three consonants
- IDEOGRAPHIC Sign** – a *sign* rendering an entire *semantic unit*
- SPEAKER** – the *producer* of a *spoken language*
- FORMER Speaker** – a once fluent *producer* of a *language* who has since lost functionality as a result of disuse
- SEMI-/IMPERFECT Speaker** – a *producer* functional in only a reduced, i.e. non-fluent, form of the *spoken language*
- LANGUAGE REMEMBERER** – an individual who has never learned a *spoken language*, but may know some *words* and *phrases*
- TERMINAL Speaker** – an individual exhibiting limited acquisition or advanced attribution in the functional utilisation of a *spoken language*
- SOCIAL NETWORK** – the aggregate of interrelationships and interdependences between individuals within a *community*
- DENSE Social Network** – one in which individuals interact regularly with each other
- LOOSE Social Network** – one in which individuals interact rarely with each other
- SWITCH(ING)** – changing from one thing to another
- CODE-Switch(ing)** – changing from one *language* to another
- SCRIPT-Switch(ing)** – changing from one *script* to another
- SYNTAX** – concerning the grammatical relations between *morphemes* and *lexemes* in a sentence
- TEXTUAL CULTURE** – the corpus of written sources produced by a particular society, e.g. Egyptian Textual Culture constitutes textual sources written in any stage of the Egyptian language
- TIES** – interrelationships and interdependences within a *social network*
- FIRST-ORDER Ties** – an individual’s direct contacts, e.g. *strong ties* with family or friends and *weak ties* with acquaintances and colleagues
- MULTIPLEX Ties** – where individuals engage with each other in more than one way

SECOND-ORDER Ties – an individual's indirect contacts through which information, goods, and services are accessed

UNIPLEX Ties – where individuals engage with each other in only one way

TRANSCRIBE – the setting of the *grapheme(s)* of a *logographic script* into those of another *logographic script*, e.g. a *transcription* of hieratic in demotic

TRANSLITERATE – the setting of the *grapheme(s)* of a *logographic script* into those of an *alphabetic script*, e.g. a *transcription* of hieratic in Old Coptic

VERNACULAR – a *language* acquired osmotically, rather than artificially

VORLAGE(N) – German “draft/model”, i.e. the precedent/precedents manuscript(s)/text(s) from which a particular manuscript/text was copied

WORD – generally the smallest lexical unit with standalone *semantic* value

LOANword – a *word* which is *borrowed* into a *recipient language* from a *donor language*

SOURCE word – a *word* which is *borrowed* from a *donor language* into a *recipient language*

WRITER – the *producer* of a *written language*

WRITING – a set of conventional *graphemes/signs* utilised within a system of conventional reference to a *spoken* or *written language* to render that *language* upon a medium in a graphic form

Writing SYSTEM – conventional *graphemes/signs* within a conventional *orthography* rendering in writing a *spoken* and/or *written language* – sometimes comprising more than one script, e.g. hieroglyphic, hieratic, demotic, and Coptic, and thereby the superordinate category to which more than one related *scripts* belong

LOGOGRAPHIC Writing System – lexigraphy, in which *graphemes/signs* represent *lexemes* or *morphemes* and thus significant segments of speech

PHONOGRAPHIC Writing System – phonography, in which *graphemes/signs* represent sounds which are ordinarily less significant elements of speech – comprising syllabography, i.e. syllabic writing, in which *graphemes/signs* represent syllables, and alphabetography, in which *graphemes/signs* represent units of speech smaller than syllables, conventionally typologised as consonants and vowels

Egyptological Glossary

DOMAIN(S)

ADMINISTRATIVE Domain – the *domain of textual culture* comprising documentary and legal texts in both state and private contexts

INWARD Administrative Domain – the *administrative* texts which circulated principally within a particular institution, e.g. within a temple institution

OUTWARD Administrative Domain – the *administrative* texts which circulated principally outside of a particular institution, e.g. within the state administration outside of a temple institution

LITERARY Domain – the *domain of textual culture* comprising poetry, historical narratives, tales, prophetic and wisdom texts

MONUMENTAL Domain – the *domain of textual culture* of texts conventionally inscribed upon the walls of temples and tombs – overlapping considerably with *temple* and *temple ritual textual culture* (including annals, building inscriptions, military and royal records in temples and royal monuments, e.g. obelisks, and (auto)biographies, votives, and funerary inscriptions in non-royal monuments, e.g. tomb (chapels))

RITUAL Domain – the *domain of textual culture* of texts with which practitioners interacted with deities in order to bring about desired outcomes

AFTERLIFE Ritual Domain – texts with which practitioners interacted with deities in order to bring about outcomes desired of/for a deceased individual

MAGICAL Ritual Domain – texts with which practitioners interacted with deities in order to bring about outcomes desired of/for a living individual

TEMPLE Ritual Domain – texts with which practitioners interacted with deities in order to bring about outcomes desired of/for the king and thereby Egypt

TECHNICAL Domain – the *domain of textual culture* comprising astrological, astronomical, divinatory, educational, mathematical, and medical texts

TEMPLE Domain – the *domain of textual culture* comprising priestly manuals, monographs, hymns, and liturgies which circulated principally within the temple priestly milieu

EGYPTIAN

CLASSICAL Egyptian – an ambiguous designation for First Phase, i.e. Old and Middle, Egyptian written at any time after the Middle Kingdom, i.e. broadly after the shift from Middle to Late Egyptian, even when exhibiting limited or substantial influences of Second Phase Egyptian, i.e. Late Egyptian or Demotic

(STANDARD) COPTIC – a historical stage of the Egyptian language evidenced from the late Roman Period until its obsolescence, encompassing a number of dialects

“Standard” is placed in brackets in order to provide a conventional reference from which the reader can distinguish clearly between what is typologised as “Old Coptic”, “Early Coptic” – and its multitude and diversity of differing dialects and conventions, and “Coptic” as a subsequent ‘more standardised’ written idiom as it would be broadly understood by a Coptologist/Coptist

DEMOTIC – a dialect as well as historical stage of the Egyptian language evidenced during the Late Period until its obsolescence in the late Roman Period, eventually becoming predominant in all except the monumental domain

FIRST PHASE Egyptian – the principally synthetic form of the Egyptian language attested in Old and Middle Egyptian grammar

LATE Egyptian – a dialect as well as historical stage of the Egyptian language evidenced during the New Kingdom and Third Intermediate Period as predominant in all except the monumental and ritual domains

MIDDLE Egyptian – a dialect as well as historical stage of the Egyptian language evidenced from the First Intermediate Period as *the* written stage until the New Kingdom

OLD Egyptian – “a dialect as well as a historical stage” of the Egyptian language evidenced from the 4th Dynasty as *the* written stage in all domains until the First Intermediate Period (Allen 2015: 1) with “specific features that differ from Middle Egyptian” (Vernus 2016: 8) – albeit most of these differences would not have been resistant to pure orthographic change (Quack 2010a: 79; 2013a: 44, with references)

SECOND PHASE Egyptian – the principally analytic form of the Egyptian language attested in Late Egyptian, Demotic, and Coptic grammar

Egyptian OF TRADITION – an idiom and “linguistic practice” “includ[ing] features that are linguistically obsolete with respect to the time of the text’s writing” aimed at “the more or less comprehensive imitation” of First Phase, i.e. Old and Middle, Egyptian. This was at a time during which First Phase Egyptian had long obsolesced, and particularly from the Late Period onwards, while containing elements of Second Phase Egyptian, e.g. Late Egyptian and Demotic (Vernus 2016: 2; 5). For a deconstruction of this designation, cf. 2.1.1.

TEXT(S)

AFTERLIFE RITUAL Texts – texts with which practitioners interacted with deities in order to bring about outcomes desired of/for a deceased individual, e.g. Opening of the Mouth Ritual

LITERARY Texts – comprising poetry, historical narratives, and tales, e.g. Setne I and II, and prophetic and wisdom texts, e.g. the Demotic Chronicle, Oracle of the Potter, and Lamb of Bocchoris and Great Demotic Wisdom Book and Teaching of Onkhsheshonqy, respectively

MAGICAL RITUAL Texts – texts with which practitioners interacted with deities in order to bring about outcomes desired of/for a living individual

TECHNICAL Texts – comprising astrological, astronomical, divinatory, education, mathematical and medical texts

TEMPLE REFERENCE Texts – comprising priestly manuals and monographs, e.g. Book of the Temple, of Thoth, of the Fayum, of Nut, The Mythological and The Priestly Manual, the Statutes of the Temple, The Manual of the Priesthood of Sekhmet

TEMPLE NARRATIVE Texts – comprising cultic and mythological narratives, e.g. Myth of the Sun’s Eye

TEMPLE RITUAL Texts – texts with which practitioners interacted with deities in order to bring about outcomes desired of/for the king and thereby Egypt

TEXTUAL CULTURE – the corpus of textual sources evidencing the production, practice, and reification of a particular culture

TEXTUAL TRANSMISSION – the processes by which a particular text is attested in more than one copy over a particular temporal frame

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