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Group Writing

الكتابة الجماعية

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GROUP WRITING

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Gruppenschrift
Écriture syllabique

Group Writing emerged during the New Kingdom and has often been assumed to include information about the vocalization of transcribed words and names. Scholars, however, have struggled to identify the exact rules governing it. As a result, a rich academic debate has ensued, and various interpretations have been suggested over the past century. Group Writing, as a phenomenon, also has sociocultural and sociohistorical dimensions that have so far attracted much less scholarly attention. In order to comprehensively explore both these sides, the study of its uses, function(s), and origins, as well as of the proposals put forward to interpret it merit discussion in detail.

ظهرت "الكتابة الجماعية" خلال عصر الدولة الحديثة وغالبًا ما يُفترض أنها تتضمن معلومات حول نطق الكلمات والأسماء المكتوبة. ومع ذلك، عانى العلماء لتحديد القواعد الدقيقة التي تحكم ذلك. ونتيجة لذلك، نشأ نقاش أكاديمي ثري، وخلال القرن الماضي تم تقديم اقتراحات مختلفة لتفسيرها. الكتابة الجماعية لها أبعاد ثقافية وتاريخية جذبت اهتمام قِلة من العلماء. يتطلب فهمنا للكتابة الجماعية دراسة استخداماتها ووظائفها وأصولها، بالإضافة إلى المقترحات المقدمة لتفسيرها.

Group Writing (also, known as Syllabic Orthography) is an orthographic subsystem that became widespread in the New Kingdom and was shaped by and intertwined with various complex sociohistorical realities. In contrast to the traditional hieroglyphic orthography, which transcribed only consonants, Group Writing may have directly or indirectly also noted some vowels. Group Writing is not a full writing system (like hieroglyphics or Demotic) and it was never used to write entire Egyptian texts (although there are a few rare cases of texts in foreign languages fully written in it). Rather, it was a spelling subsystem that complemented the standard orthography and was employed to spell certain words and names *within* texts written in standard orthography. Many of such terms had foreign origins, but this is not an absolute rule: purely Egyptian words could also be written in Group Writing.

Group Writing can thus be seen as a phenomenon characterized by two distinct dimensions: a technical one, based on the questions "What is it?" and "How does it work?," and a sociohistorical one corresponding to the questions "In which contexts was it used?," "What was it used for?," and "Where does it derive from?" The first

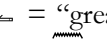
dimension has been variously discussed over the years, while the latter has received far less attention.

Group Writing or Syllabic Orthography?

Group Writing (e.g., Hoch 1994: 5) is also known as Syllabic Orthography (e.g., Schenkel 1972). Here the former designation will be used, both because the syllabic nature of the system is still a working hypothesis rather than a certainty, and because even though most of the basic graphic units of Group Writing (i.e., the groups) might indeed correspond to syllables, they cannot be understood as simple abstract syllabic phonograms. In fact, many of the groups (although certainly not all) seem to reflect a rebus-based approach, where monosyllabic words are employed to represent segments of the word or name being transcribed (Peust 1999: 218-220; Kilani 2019b: 14-15, and see in particular p. 14, note 16, for discussion of a very similar phenomenon in Chinese). The name Group Writing is thus preferable because, being more neutral and descriptive, it is also more accurate.

The Groups

Groups are not typologically uniform and present some clear structural differences; the following distinct categories can be recognized (for an overview of different types of groups, see Helck 1989; note, however, that his classification is different from that proposed here, as his classification is partially shaped by his own interpretation of how Group Writing worked, while the one presented here aims at being primarily descriptive, and thus independent from any interpretations of the functioning of the system):

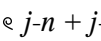
1) Various groups are derived from monosyllabic words or morphemes. This can be inferred from their spellings, which can be complemented by classifiers (e.g.,  = "[to be] high") or can include the single stroke indicating logographic readings (e.g.,  = "mouth"). These types of groups can derive from nouns, adjectives, and verbs (e.g.,  = "name";  = "great";  = "to see"), pronouns (e.g., = "us"), grammatical morphemes (= stative ending), and particles (e.g.,  = vocative particle). They derive either from words with two, or very rarely three, full consonants (e.g., = *h-d*, = *j-d-n*) or from words with a structure C-*ɜ* and C-*w* (C = any consonant: e.g., = *s-ɜ*; = *r-w*). Some groups derive from loanwords (e.g., = *ḳ/k-p* = "palm," "hand" < Semitic *k-p* = "palm": see Hoch 1994: 318, no. 457) and occasionally even from words that are not independently attested in the surviving texts. This looks to be the case for the group : its consonants and its classifier point to a link with the West-Semitic verb √*š-w-b* = "to return" (so Hoch 1994: 258, no. 364), which, however, is not attested as an independent word in Egyptian. This observation is intriguing, because it suggests that at least this group may have developed in a scribal/writing milieu that is not fully represented in the sources available to us.

2) Other groups are made of phonograms with no classifier or logogram. Two categories can be distinguished. First, we have two-consonant phonograms having a C-C, or C-*ɜ* and C-*w* structure. They can be used alone (e.g., = *m-n*; = *š-ɜ*), or can be reinforced by phonetic complements (e.g., = *m-n*; = *š-ɜ*). C-C groups can be occasionally extended with an extra *w* (e.g., = *k-p* + *w*). A few C-C groups composed of two one-consonant signs also exist (e.g., = *j-s*). The second category, in contrast, consists of groups formed by one-consonant signs combined with a weak consonant *ɜ* or *w* (e.g., = *n-ɜ*; = *b-w*).

The absence of classifiers and logograms does not exclude, *per se*, the possibility that some of these groups also derive from monosyllabic words, and does not imply that they are all abstract phonograms. Rather, the situation is often ambiguous. For instance, should the groups , , and be understood as deriving from the pronouns *sw* and *pw*, and the particle *js*, respectively, or should they be understood as purely phonetic? Considering the predominance of groups clearly derived from monosyllabic words, one might prefer the

first option. Irrefutable proofs, however, may be difficult to find.

3) Groups can also be composed of one-consonant signs followed by the double stroke  = *y* (for this transliteration see Kilani 2019b). The function of this has been interpreted in various ways, discussed below. The relation of these groups with monosyllabic words is also often ambiguous: Does a group like derive from the monosyllabic words *dy* = "there," or is it an abstract combination, which in turn was used to spell this Late Egyptian word? It is difficult, if not impossible, to say.

4) Some groups can appear in fixed combinations with other groups or with one-consonant signs. They can be defined as "compound groups," as they behave as single graphic units transcribing only one full consonantal segment. Compound groups are not common and only the following are well attested:  *j-n* + *j-w* ⇒ *n-w*;  = *n* + *ỉr* ⇒ *l* (other groups with consonant *r* can also be used as the second element of this compound group); and  *b* + *p-ꜣ* ⇒ *b*$_2$-*ꜣ*. The sequence  in = "throne" (Hoch 1994: 37), instead of the more common spelling,  , might also be a compound group that would be read as *b-w* + *p-w* ⇒ *b*$_2$-*w*.

5) Finally, there are a very small number of exceptional groups. The first is . This is the only group in which precedes the other signs. = *y* can also be mentioned here, as it is regularly used in Group Writing, even though at first sight it looks more like a one-consonant sign, rather than a group.

Hybrid Spellings

Words are usually written fully in Group Writing. However, there are cases of hybrid spellings combining Group Writing with the purely consonantal traditional orthography. In some cases, words in traditional orthography are extended with affixes in Group Writing. For example,  = "to do" [infinitive], but = "Do!" [imperative], with the Group Writing verbal prefix attached to a verbal base in traditional orthography. In others cases, traditional orthography and Group Writing are combined within the same word—see, for example, = "Baal" in Papyrus Chester Beatty I v. B9 (Hoch 1994: 93, no. 115), in which the first part is purely consonantal, while is a group.

The Sociocultural Dimension: Contexts of Use and Function(s)

We can observe that words and names spelled in Group Writing are more common in some contexts than in others. Yet, so far there has been no systematic study of their distribution. While not constituting a full reassessment of the question, a few preliminary observations may perhaps serve as a starting point for future research.

First, Group Writing could be used to transcribe whole sentences composed in foreign languages. Such examples, however, are rare: most of them are magical or religious spells (see Pap. BM EA 10042, Ostracon CG 25759, Pap. BM EA 10059, Pap. BM EA 75025r, and the "Supplementary Chapters" 162-167 of the Book of the Dead), but there are also a possible hymn in a "Libyan" language in an unpublished text from Turin (CGT 54030; Cat. 2106/380), a Semitic sentence in Pap. Anastasi I (Pap. Anastasi I 23:5), and possibly a Puntite sentence in the inscriptions at Medinet Habu (Hölscher 1951: 20-21, 28-29, pl. 203; 46-48, pl. 213). Ostracon TT99 (fig. 1) can also be mentioned here, as it records two lists of foreign words written in Group Writing and apparently organized according to two distinct alphabetic orders (Haring 2015; Fischer-Elfert and Krebernik 2016; Schneider 2018).

Quack (2010: 78, 87-88) observed that most of these attestations appear in medical/magical contexts and suggested that concerns about the accuracy of the pronunciation of the (magical) words being uttered may have been a "driving factor" in the development of such an orthographic subsystem. It is clear that magical and ritual practices—where the way words are

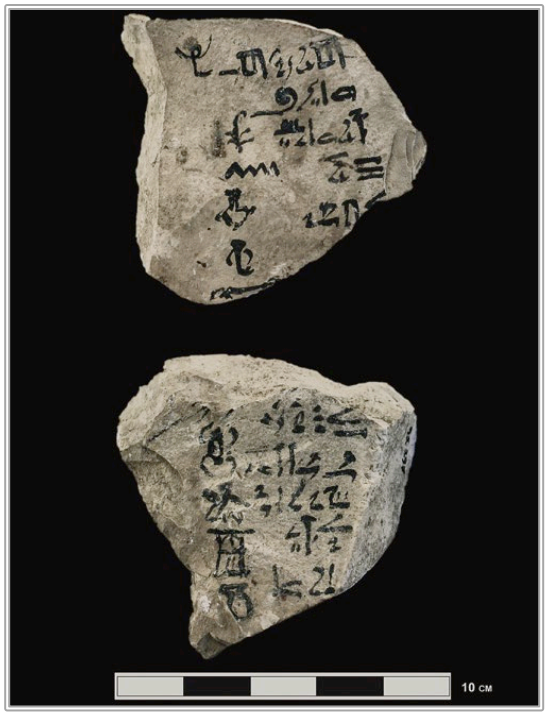


Figure 1. Ostracon TT99, obverse (top) and reverse (bottom), showing two lists of foreign words written in Group Writing.

pronounced is perceived as crucial—would be obvious contexts in which to deploy orthographic subsystems ensuring more accurate renditions of words (see also Kilani 2021: 16-18 for similar considerations). However, it is advisable to exercise caution in drawing conclusions here. In particular, if the magical context was the main reason to spell foreign sentences in Group Writing, then we could expect foreign sentences attested outside magical contexts to be spelled in less distinctive ways. This is not the case: even the (few) instances of non-magical foreign sentences are spelled in Group Writing (see, e.g., the Canaanite sentence in Pap. Anastasi I 23:5, mentioned above). This might suggest that the use of Group Writing was primarily dictated by some features related to the foreign origin of the utterances being transcribed, rather than by their magical v. non-magical nature.

Additionally, words and names spelled in Group Writing are common in New Kingdom and later texts of any kind written in Late Egyptian (administrative documents, letters, didactic compositions, literary compositions, etc.), while they are remarkably rare in those New Kingdom and later literary and funerary texts written in Middle Egyptian/*égyptien de tradition*. Regarding the latter, however, it is interesting to observe that Group Writing spellings, or at least isolated groups, can appear in the foreign-language passages of the "Supplementary Chapters" of the Book of the Dead, attested since the 20th Dynasty (Zibelius-Chen 2005), and very occasionally also in the names of the deceased (for example, the group  in the name of Ani in his copy of the Book of the Dead; fig. 2; Von Dassow and Wasserman 1994), as well as in the spellings of other words (see, for example, the group  in the spelling , instead of the traditional spelling  , in Ch. 110 of the Book of the Dead of Ani: Von Dassow and Wasserman 1994: pls. 34-35).

One may thus be tempted to conclude that during the New Kingdom Group Writing was primarily a Late Egyptian phenomenon, largely

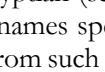
Figure 2. The name  Ani is spelled with the group  in his copy of the Book of the Dead (two columns at far left).

incompatible with texts composed in Middle Egyptian. The situation, however, was more complex than that.

Personal names and toponyms spelled in Group Writing were also common in New Kingdom non-funerary religious compositions (hymns, prayers, etc.) and in celebratory texts, both royal (annals, victory stelae, etc.) and non-royal (biographies, etc.), which were usually written in Middle Egyptian, though variously influenced by Late Egyptian (see Aḥituv 1984 for a corpus of place names spelled in Group Writing also deriving from such texts; while for personal names see Schneider 1992). Foreign names were also usually written in Group Writing in topographical lists (fig. 3), common in royal monuments of the time (Simons 1937). Therefore, in principle Group Writing is not intrinsically incompatible with Middle Egyptian.

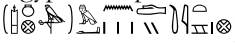
Figure 3. Two Levantine toponyms written in Group Writing, from the topographical list of Thutmose III at Karnak.

Intriguingly different, however, is the treatment of regular words—that is, words that are not name designations. While regular words spelled in Group Writing are remarkably rare in celebratory texts dating to the 18th Dynasty, they become common in similar texts in the 19th Dynasty and in later periods. It is also clear that this is not only a question of "new words" entering the language, since there are examples of well-attested words that were spelled in traditional orthography in 18th Dynasty documents but appear mostly in Group Writing in later periods (see, e.g., the spellings of *jsb*(*t*) "throne" and *jspt* "quiver": Hoch 1994: nos. 30 and 34).

A diachronic dimension stretching before the New Kingdom is perceptible also in the evolution of the spellings of well-known foreign place names. For instance, the name of the city of Byblos (Horn 1963) was usually spelled in purely consonantal orthography (as  , and similar) from the Old Kingdom through the 12th Dynasty. It was written in Middle Kingdom Group Writing (discussed further below) using a two-consonant sign (as  , and similar) from the beginning of the 12th Dynasty through the 18th Dynasty, and in New Kingdom Group Writing in the 18th Dynasty and later (occasionally as  , and similar, in the 18th Dynasty and mostly as  , and similar, from the 19th Dynasty onward). Of note are the transition periods (12th and 18th Dynasties) in which both old and new spellings coexisted.

From these few observations it is clear that the use of Group Writing cannot be linked to any single factor, but rather it varies depending on the types of terms being spelled (names v. regular words) and correlates with at least three distinct features of the texts: their language, their genre, and their dating. This suggests that less obvious social factors may have been at work. Perhaps the presence or absence of Group Writing spellings reflects different curricula or traditions in scribal schools (administrative; court-oriented; religious; other?), or it may have been influenced by some form of decorum (see Baines 1990, 2007), which may have changed over time and which made Group Writing spellings acceptable (or even required) in some texts, but not in others. These issues still wait to be explored in detail.

These observations also raise the question of the reasons underlying such uses: What were the purposes and functions of Group Writing? What were the Egyptians using it for, exactly? Since Group Writing is regularly used to spell foreign words and names, it has often been

assumed that its primary function was specifically to write such foreign terms. However, as noticed by various scholars, the evidence tells a different, more complex story. Although foreign words and names indeed constitute the lion's share of terms spelled in Group Writing, it is undeniable that a large number of purely Egyptian terms were also regularly transcribed in Group Writing (Quack 2010: 81; Winand 2017: 506-507), including Egyptian place names (e.g., "Ermont" ), particles (e.g.,  = "focalizing particle"), prepositions (e.g.,  = "with"), pronouns (e.g., = "who"), verbal morphemes (e.g. prefix ), negations (e.g.,  = "there is not": see fig. 4), and even words attested in traditional orthography in previous periods (e.g.,  = a kind of goose, attested in the Old Kingdom as ). The use of Group Writing was thus not (only) dictated by an Egyptian v. non-Egyptian opposition.

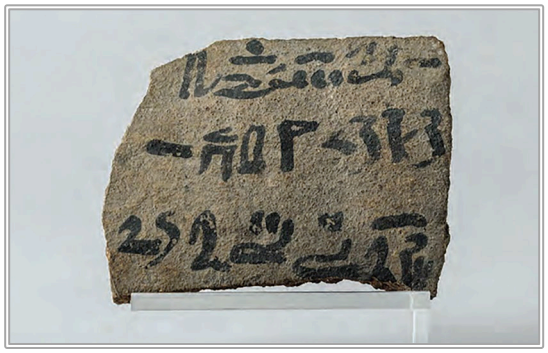


Figure 4. Ramesside ostracon with oracular question (O. Turin CGT 57227). The negation  in the first line is written in Group Writing.

By contrast, as observed above, a stronger correlation exists between Group Writing and Late Egyptian, both in the sense that texts written in Late Egyptian are more likely to contain words spelled in Group Writing than funerary or literary texts written in Middle Egyptian, and in the sense that specifically Late Egyptian words and morphemes are often written in Group Writing. This considered, a better explanation is perhaps that Group Writing was used to transcribe names, words, and morphemes that did not have an established spelling in traditional Middle Egyptian orthography, at least not in the scribal traditions from which these texts come (e.g., Quack 2010: 82; Vernus 2011: 112). This would obviously include foreign words and names (Quack 2010: 73), but it may have also included new, specifically Late Egyptian forms, new pronunciations of old words or conservative/archaizing pronunciations of words that may have developed distinctive forms in Late Egyptian (on a possible example of the latter see Quack 2010: 82), as well as Egyptian words stemming from different dialects or registers of the language that were excluded from classical Middle Egyptian.

This idea may also help explain the sudden increase in the number of words spelled in Group Writing in royal and non-royal celebratory texts between the 18th and 19th Dynasties: perhaps these words stemmed, at least in part, from a northern dialect, which would have influenced the language of the court after the centers of powers moved from the south (Thebes and Amarna) to the Delta (Pi-Ramesse). Specific dialectal influences have been suggested for other linguistic features in various phases of Late Egyptian (see Winand 2016, with references). If correct, the scenario sketched here might be another example of such interferences.

Finally, a note about materiality. Group Writing can be found in both hieratic and hieroglyphic texts of various genres and written on various support—from monumental royal inscriptions in hieroglyphs on temple walls to short notes in hieratic on ostraca. Yet, considering its strong association with Late Egyptian and common use in administrative documents, and at the same time its rarity in religious texts written in Middle Egyptian/*Égyptien de Tradition* (usually written in hieroglyphs rather than hieratic), one might reasonably wonder if the system originates from a non-religious milieu in which hieratic was the dominant form of writing. If so, this might have been one of the factors that led to its distinctive group-based nature, as scribes at the time might have been increasingly conceptualizing hieratic as being composed of fixed ligatures and groups rather than single

distinct signs. The question certainly deserves further study.

Historical Origins of Group Writing

Finally, where does Group Writing come from? It has often been claimed that Group Writing developed from earlier orthographic subsystems used to transcribe foreign place and personal names. In fact, Egypt has been in contact with different cultures and languages since prehistory, and foreign names (e.g., Byblos) are attested in Egyptian sources since the earliest times. In the Old Kingdom and often in the Middle Kingdom foreign names were simply written consonantally, according to the orthographic principles applied to any other Egyptian word. However, starting from the late Old Kingdom, such names also began to be transcribed according to a new subsystem, which Hoch calls Middle Kingdom Group Writing (Hoch 1994). Primarily attested in the so-called Execration Texts, but known also through scattered attestations in other sources (Sass 1991: 5-6; Hoch 1994: 490-497; Quack 2010: 74), this subsystem has received relatively little scholarly attention. Its functioning, however, has been discussed by Sass (1991: 10-27) and Hoch (1994: 488-491; see also Quack 2010: 74), who recognize in it three distinct features:

1) one-consonant and two-consonant signs are regularly employed to transcribe consonants;

2) a few signs can be used to indicate vowels (Sass 1991: 21): = ***u*** ; = *i*, *e* and occasionally *a* (in some texts seems to work as a variant of). There are a few rare cases in which *w* seems to unexpectedly correspond to a vowel different from *u* (Sass 1991: 21). The apparently vocalic use of these signs is more frequent in some texts and positions than in others. It is worth noting that these signs appear to work somewhat similarly to *matres lectionis,* i.e., consonants that are used to approximately indicate the presence of a vowel in scripts originally developed for West-Semitic languages;

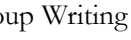
3) very occasionally, monosyllabic words (recognizable as such by the presence of classifiers) are employed to spell specific syllables.

As pointed out by Hoch (1994: 497), the most striking features of this subsystem are its simplicity, its coherence, and its transparency.

Essentially, Middle Kingdom Group Writing works almost as a Semitic *abjad* (a consonant-based "alphabet" in which vowels are either omitted or only approximately marked through *matres lectionis*), characterized by a restricted set of purely phonetic signs used to transcribe the consonants, a few monosyllabic words used to spell out specific syllables, and a couple of *matres lectionis* that could be employed (but not systematically) to mark relevant vowels where they were pronounced.

Due to the apparent (partial) overlap in function of Middle Kingdom Group Writing with New Kingdom Group Writing—both subsystems were used to transcribe foreign names and both might have encoded vowels in some way—many scholars have assumed that New Kingdom Group Writing was a direct descendant of Middle Kingdom Group Writing. Most of its formative phases would have taken place in the Second Intermediate Period and early 18th Dynasty (Quack 2010: 77). It has even been argued that the transition took place in the Delta, possibly in a "Hyksos" milieu (Albright 1934: 12; 1954: 224-225; Mourad 2021: 86). In particular, it has long been noticed (Hoch 1994: 499; Mourad 2021: 86) that while some names from Hyksos contexts are spelled according to Middle Kingdom Group Writing (e.g.,  , ), others, especially later in the Hyksos Period, include features anticipating New Kingdom Group Writing (e.g.,  ,). Moreover, the name of the king Khay(l)an seems to be attested both in Middle Kingdom Group Writing ( probably to be read as ***ḫ-y-r/l-n,*** see Hoch 1994: 499 and Mourad 2021: 86), and also with a spelling closer to that of New Kingdom Group Writing (see Mourad 2021: 86,  = ***ḫ-y-rɜ-n***). Mourad has gone even further (2021: 86), suggesting that the emergence of New Kingdom Group Writing could have been favored by the multicultural reality of the eastern Delta at the

time, as Egyptian scribes might have found themselves in need of a new orthographic subsystem to transcribe an increasing number of foreign names and words. But we should be cautious in drawing such a conclusion. On the one hand, the evidence from the Second Intermediate Period and early New Kingdom is scanty at best, and does not allow for any direct assessment of the transition between the two subsystems or of any potential relation between them. On the other hand, the direct derivation of New Kingdom Group Writing from that of the Middle Kingdom raises important issues that still lack a satisfactory explanation.

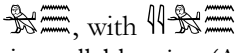
First of all, it is clear that New Kingdom Group writing shared features, elements (including specific groups: see Sass 1991: 23-24), and even functions with its Middle Kingdom predecessor. However, besides these superficial similarities, the two systems are structurally significantly different. Among the main distinctive features of Middle Kingdom Group Writing, Hoch (1994: 488-491) mentions the fully consonantal value of ***ꜣ*** (= Semitic ***r/l***), the use of the sign  as a *mater lectionis* for the vowel *i*, and the predominant use of pure phonograms instead of monosyllabic words or *Consonant + Weak Consonant* signs and groups, which implies a remarkable difference in the underlying conceptualization of the two systems (see also Sass 1991: 5). To these, I would add a functional difference: while New Kingdom Group Writing is used for any kind of word, including ordinary nouns, verbs, and even grammatical elements, the Middle Kingdom system appears to be attested mostly (although not exclusively) by names (see also Quack 2010: 77). Significant here is the case of the Levantine loanword ***jspt*** = "quiver" (Hoch 1994: 4, 10, no. 34). This word appears to be spelled in traditional Egyptian orthography in its earliest attestations in the 12th Dynasty (as ), as well as, usually, in the 18th Dynasty (as  and similar), but after the 18th Dynasty it appears mostly written in New Kingdom Group Writing (as  and similar).

Moreover, the idea that New Kingdom Group Writing developed in a milieu in which Middle Kingdom Group Writing was already in use leaves an important question unanswered: Why would scribes who were familiar with a compact, efficient, and almost alphabetical system like Middle Kingdom Group Writing have felt the need to switch to a (at least partially) rebus-based system like New Kingdom Group Writing, which was conceptually very different, intrinsically more complicated, and potentially more ambiguous (no matter how one interprets it)? The lack of explanation should caution us from drawing any too firm or too simple conclusion, and should make us consider other possible scenarios.

One may wonder if New Kingdom Group Writing emerged independently in a scribal tradition distinct from that employing Middle Kingdom Group Writing (perhaps, for example, in different scribal schools, or in different regions), possibly during the Second Intermediate Period. The two systems may then have coexisted in parallel for a while, before making contact and somehow influencing each other in the late Hyksos Period. Finally, Group Writing may have become the new standard in the early New Kingdom, possibly prompted more by socio-political developments than by any real linguistic or orthographic superiority. Such a scenario would parallel the cases of Demotic and Abnormal Hieratic, which developed, respectively, in two distinct regions and coexisted for a time before Demotic became the standard for the whole country under the Saitic kings (Martin 2007, with references). Without a systematic reassessment of Middle Kingdom Group Writing and of the Second Intermediate Period material in its entirety, and lacking new, more compelling evidence, the question of the origin and initial development of New Kingdom Group Writing remains open.

Group Writing after the New Kingdom

Words and toponyms written in Group Writing can still be found in royal (see, for example, Sheshonq's topographical list) and non-royal documents of the 21st and 22nd Dynasties, while after this period and with the concomitant emergence of Demotic, Group

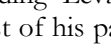
Writing seems to fade away. Not everything, however, disappeared: some groups survived in Demotic, where they were used as one-consonant signs with no associated vowels. Moreover, the use of Egyptian monosyllabic words to transcribe specific segments of foreign names can still be found in Egyptian transcriptions of Carian names dating to the mid-first millennium—for example, in the Carian name *šarkbiom*, transcribed as  , with = "sea" rendering the Carian syllable *–iom* (Adiego Lajara 2007: 32-33).

How Group Writing Works: A Review of the Scholarship

The idea that Group Writing encoded vowels was first suggested by Erman (1876), and it has divided scholars ever since (for a historical overview of the research, see Peust 1999: 220-221). The first approach scholars took to try to understand its functioning (i.e., what the groups were truly meant to represent, and if and how vowels were recorded) is best illustrated by an important work published by Albright (1934). In this study, Albright collected dozens of words and names spelled in Group Writing and compared them with their corresponding forms in Levantine languages. He believed that the groups indeed transcribed syllables and that their vocalic values could be inferred from the vocalization of the corresponding Levantine words and names. While most of his parallels came from Semitic languages, his corpus also included words and names from Hittite and Hurrian, and a few Egyptian terms (ibid.: 28). Selected examples of Albright's readings are provided in Table 1 at the end of this discussion.

Albright's work has been extremely influential and has shaped the discussion for decades, especially from a methodological perspective. His results, however, were ambiguous: while he could identify regular equivalences for some groups, many other groups appeared to correspond to several distinct Levantine syllables. Albright explained this issue in two ways: on the one hand, he suggested that some groups could have multiple values and could be employed to transcribe two or even three distinct vowels. On the other hand, he claimed that Group Writing was more accurate in representing vowels in earlier periods, and less so in the late New Kingdom, because the system "degenerated" over time (Albright 1934: 13-14).

The lack of systematic, univocal correspondences in Albright's results led some scholars to conclude that vowels were not recorded in Group Writing, or were recorded only sporadically (see, e.g., Edgerton 1940; Gardiner 1957: §60; Edel 1966: 61-64, 87-88; Vycichl 1990: 211-212; Schneider 1992; see also, before Albright: Bondi 1886; Sethe 1899: I §66, §76; Erman 1933: §§32-38). Others, in contrast, tried to improve his results in various ways. None of these follow-up studies, however, managed to produce a coherent set of *group:vowel* correspondences, since vowels matched for some words, but not for others. Three of these works need to be mentioned here, due to their impact on the debate.

The first is Schenkel's entry (1972) in the *Lexikon der Ägyptologie*. Here Schenkel argued that groups could have multiple values (see, in particular, columns 118-119), and each group could be interpreted according to one of three principles: 1) the Devanagari principle, according to which groups have the default value of [consonant + a/ə/no_vowel], but can be combined with the vocalic markers = *i*/e,  = *u*, = *e*, and  = *o* to represent syllables with the same consonant but different vowels; 2) the cuneiform principle, according to which groups have a fixed [consonant + vowel] or [consonant + vowel + consonant] value; and 3) the standard hieroglyphic principle, according to which the consonants *ꜣ, w,* and the sign should be ignored and groups should be understood as having only consonantal values.

Schenkel's model did not solve the issue of discordant vowels but provided an elaborate yet arbitrary framework through which matches can be emphasized and mismatches ignored, as there is no way to predict which principle will apply to which group in which word. Schenkel did not publish any corpus to assess the validity of his model.

Helck studied Levantine words and names in Group Writing and developed a system (1989; see also 1971: 507-535 for his main corpus) similar to (and based on) Schenkel's, but with two main differences: he argued that each group had only one reading and thus corresponded to only one vowel, and he suggested that only stressed vowels were transcribed in a systematic way. A sample of his readings is presented in Table 1.

Helck's readings, however, often did not match the vocalizations attested in other sources (e.g., cuneiform documents). He explained away these inconsistencies by arguing that the Egyptians modified the pronunciation of these words in various ways upon adopting them, including through relatively frequent metatheses of vowels. This of course is methodologically problematic, as any mismatch can be justified as reflecting a different and otherwise unattested Egyptian pronunciation.

Hoch's study of Semitic words in Egyptian sources (1994) resulted in a new assessment of Group Writing. His conclusions, based on an extensive corpus counting multiple attestations of over 500 words, were similar to those of Albright: according to Hoch, groups represent consonant-vowel or consonant-vowel-consonant syllables, and while various groups transcribe only one vowel, several others can correspond to multiple vowels. Therefore, the same issues affecting Albright's proposal re-emerged in Hoch's. A sample of words taken from Hoch's work is given in Table 1.

A new and different approach was suggested by Zeidler (1993), who pointed out that Levantine forms can be a misleading starting point from which to infer the vocalization of Group Writing groups, both because their specific source-languages/dialects (and thus their vocalization) are unknown and because we do not know how the Egyptians perceived and adapted their vowels. In order to bypass this issue, he suggested an alternative perspective that derives from Coptic rather than Levantine forms. The concept is simple: since some of the words attested in Late Egyptian Group Writing survive in Coptic, we can try to infer the vocalization of their groups through an *internal*, i.e., inter-Egyptian, analysis that compares the spellings in Group Writing with the vocalization of their Coptic descendants. However, according to Zeidler, two issues need to be taken into account. First, the comparison is limited to the stressed vowel, as unstressed vowels are mostly reduced or lost in Coptic. Secondly, the pronunciation of most vowels has changed between Egyptian and Coptic. To solve this latter problem Zeidler suggested comparing the Group Writing spellings with the corresponding pre-Coptic vocalization reconstructed on the basis of Coptic, rather than with the Coptic forms themselves.

Zeidler applied his method to a corpus of around 250 words. His results "[appeared] disappointing and encouraging at the same time" (Zeidler 1993). His study did not solve the main ambiguities of previous works, for even with his approach several groups seem to correspond to multiple vowels. However, his data did point to the existence of some patterns. Among his most significant observations, he noticed that groups with the semi-vowel *w* correspond to either the pre-Coptic vowels **a* or **u*, but never to the vowel **i*. By contrast, groups including the sign 𓄿 seem to correspond to the vowels **a* and **i*, but never to the vowel **u*. Unfortunately, Zeidler did not publish his whole corpus—he merely presented a short selection of words containing a few specific groups. Some of his readings are presented in Table 1.

A new assessment of Group Writing was recently offered by the present author in Kilani (2019b). The approach underlying this work was inspired by Zeidler's, but also presents some important conceptual differences. Following Zeidler, this study's starting point comprises those words that survive in Coptic. However, the corpus is limited to nouns, as the vocalization of verbs is more complex and less well understood, and could thus be misleading. Moreover, this approach is built on the assumption that it is not enough to compare the Egyptian forms with a generic pre-Coptic vocalization, as Zeidler (1993) does. In fact, while some of the Middle Kingdom vowels seem to remain unchanged until at least the first millennium, others might have appeared in

their Coptic forms already during the New Kingdom. It is thus argued that Group Writing spellings should be compared with the vocalization reconstructed specifically for the period of each attestation, rather than with a generic "pre-Coptic vocalization" (also implicitly suggested by previous scholars, for example, Quack 2010: 81). Additionally, both the assumption that Group Writing should render the 3 vowels *a-i-u* (as assumed by Zeidler and most scholars preceding him) and that  is a vowel marker are called into question, as neither has been truly demonstrated on the basis of the evidence.

These considerations are then combined with those of previous works on the so-called "*w*-extended orthography," i.e., the so-called *w* "space fillers" common in some Late Egyptian texts, that the present author has suggested may function as some sort of vowel markers (see Kilani 2017, 2021). As a result, it is concluded that Group Writing encoded only two vocalic classes: a Back-Vowel Class (transcribed as *U*) corresponding to Late Egyptian **u*, ** ū, *o*, and **ō*, and a Non-Back-Vowel Class (transcribed as *A*) corresponding to all other cases (including the absence of any vowel). As a result, it is suggested that:

1) The sign is not a vowel marker (Kilani 2019b: 22-23). Rather, should be interpreted as a diacritic modifying the values of the consonant or group to which it is associated. For instance, the consonant *ḫ* of the group  corresponds mostly to Sahidic Coptic ϩ and only occasionally to Sahidic ϫ, while and its Demotic equivalent  corresponds systematically to Sahidic ϫ. This suggests that is used to indicate a secondary pronunciation of *ḫ* (indicated as *ḫ*$_2$ in Kilani 2019b: 2). As noticed by other scholars, could also be used to indicate that a consonant sign had to be pronounced according to its full consonantal value. This applies especially to the consonants = *w*, = *t*, = *r*, which were often lost or reduced to ʔ in Late Egyptian (see Kilani 2019b: 23 with references).

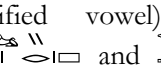
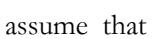
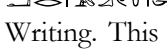
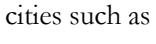
2) The Back-Vowel Class, transcribed as *U*, was directly or indirectly marked by the presence of the semiconsonant *w* (spelled either as , or as the second consonant of biliteral signs, such as the *w* in = *rw*), while all other cases correspond to a Non-Back-Vowel, transcribed as *A*. With two exceptions, = *dy* and = *kɜ* are both characterized by a Back Vowel. It is also suggested that a vowel *a*/*ā* next to *k* may have been perceived as a Back Vowel already in Period 1 (i.e., 18th Dynasty through the reign of Ramesses II: see Table 1). Finally, the approach suggested in Kilani 2019b follows the suggestion advanced by previous scholars and assumes that = –*r* and = –*n* correspond to *r* and *n* that were *not* followed by a vowel—i.e., *r* and *n* either directly followed by a consonant or located at the end of a word (in spite of this apparent irregularity, there is a general consensus on these readings, especially for = –*r* (see, e.g., Albright 1934: 31 X.D.; Helck 1989: 125; Hoch 1994: 509). However, in contrast to previous scholars, according to the model presented in Kilani (2019b) these groups should be understood as being connected and thus forming a cluster with following consonants, rather than as a coda of the previous syllable.

3) It is also suggested that the marker *w* = *U* is always written at the end of a group, but:

• In the case of two-consonant groups, the corresponding back vowel has to be read between the two consonants; i.e. = *kp* + *w* must be read as *kUp* (for example, in = Gubla, the Lebanese city known in Greek as Byblos; see Kilani 2022: 191), while = *sb* + *w* should be understood as *sUb*.

• In the case of one-consonant groups, the back vowel could be located either before or after the main consonant: i.e., could reflect both *rU* or *Ur*.

Point 3 may appear counterintuitive, but as pointed out in Kilani (2019b), one can point to various clues supporting it. First, other scholars had also noticed that occasionally the *w* seems transposed or misplaced, but they interpreted such instances as scribal errors and/or transpositions, or as true metathesized pronunciations (see, for example, Albright 1934: 49; Helck 1989: 133-134; Hoch 1994,

nos. 56, 125, 219, 224, and notes 205, 351, 359, 519, 563). Moreover, there are a few divergent spellings of the same words that can be reconciled with each other and with their Coptic descendants only by assuming that the Back Vowel could be read also *before* its associated consonant. A good example is provided by Coptic ⲁⲗⲱⲗⲉ = "stones," "rocks," "pebbles" < **ʕVlˈōlV* (after the reign of Ramesses II, the *V* represents an unspecified vowel), attested as both  and  : the best (and perhaps only) way to reconcile these spellings with each other and with the vocalization reconstructed from Coptic is to assume that both  and transcribe the segment **-lˈōl-* , and this in turn implies that the group = *rw* can be read as both *rU* (= *n+rU-r* = *lUr*) and as *Ur* (= *n+r(A)-Ur* = *lUr*). Another interesting case is Coptic (Sahidic) ⲃⲣⲟⲟⲩⲧ = "chariot" < **mVrkˈobtV* (21st Dynasty and possibly earlier: see the discussion in Kilani 2019b), corresponding to West Semitic **markˈabt(V)*. Both the Levantine and Coptic evidence point to a stressed vowel **a* > **o before* the *b*, but the word is systematically spelled as  (and similar) in Group Writing. This spelling can be reconciled with the Coptic and Levantine evidence only by assuming that the group = *b* + *w* had to be read as *Ub*, thus pointing to the presence of a Back Vowel *before* the *b*, rather than after it. Moreover, this example also excludes the metathesis hypothesis, as one would have to assume a chain of two metatheses, one as **-kˈabt-* > ***-k(V)bˈUt-* from Levantine **markˈabt(V)* to a hypothetical Late Egyptian ***mark(V)bˈUt(V)*, then a second one in the reversed direction as ***-k(V)bˈUt-* > ⲥⲟⲟⲩⲧ (= *-kjˈowt*) from such hypothetical Late Egyptian ***mark(V)bˈUt(V)* to Coptic ⲃⲣⲟⲟⲩⲧ that would function to restore the initial *-CˈVCC-* pattern of the segment. This is obviously rather unlikely. Names of Levantine cities such as  = *ʔ(A)-Uk-rA-tA* = "Ugarit," with that seems to stand for *Uk* rather than *kU*, and = *kUp-n*A = "Gubla (= Byblos)," with that seems to stand for *kUp* rather than *kpU* (note that the name of the city is also spelled as = *kU-b-nA*, which supports the reading with a *U* after the *k*), also support this idea, as does the group = *sb+w* = *sUb,* likely derived from West Semitic √*š-w-b* = "to return" and employed to represent the syllable **sub* in the name = *tA-sUb* = "the Hurrian god Teshub" (see discussion of the Canaanite expression = *tU-pA-r y-Ud-ʿA* = "excellent scribe" in Kilani 2019a: 181-182; 2019b: 68).

Finally, the *–w* in *w*-extended orthography may have worked in a similar way and may have been somehow related (Kilani 2019b: 16-17; see also 2017, 2021): there as well the = *w* is written at the end of the word, but may represent a back vowel anywhere *within* the word. Table 1 presents a selection of relevant readings discussed in Kilani (2019b).

The model presented in Kilani (2019b) has the advantages of assigning one vocalic value (Back-Vowel v. Non-Back-Vowel) to each group and of allowing the reconciliation of divergent spellings. Moreover, the resulting readings seem to agree with the reconstructed vocalization throughout the New Kingdom and with the contemporary Canaanite vocalization for those words having a Levantine origin.

At the same time, it must be stressed that the approach presented in Kilani (2019b) is primarily descriptive. The model coherently reconciles the spellings of the corpus with the expected contemporary vocalizations, but it is not meant to explain *why* Group Writing would work this way, nor does it claim to reflect how the Egyptians truly perceived New Kingdom Group Writing. These questions remain open.

A few observations can be made on the basis of the comparative table following this discussion (see Table 1). First, the fact that various authors have not discussed several of the words listed demonstrates how different their published corpora are, and how difficult comparing their results can be. Similarly, it also appears that divergent spellings are often

ignored (see nos. 7, 9, 13, 16, 18, 22), or in the case of Albright, dismissed as "decadent" (nos. 2, 9, 11, 24). Table 1 also shows that, while in several cases the various models agree on the reading of specific spellings (nos. 1, 3, 7, 8, 10, 15, 19, 21, 23), in other cases the models lead to readings that are completely divergent (nos. 4, 11, 12, 13, 20), or agree on some attestations but not others (nos. 9, 16), or dismiss or ignore divergent spellings (nos. 2, 5, 18, 22, 24), or result in vocalizations that cannot be reconciled with the data from other sources (no. 4, where a reading *kU* is irreconcilable with the *ug-* of *Ugarit*, and no. 17, where Hoch's reading *qa* cannot be reconciled with the contemporary vocalization **q'iʕ(V)* suggested by both the Coptic and the Semitic forms). Finally, nos. 6 and 14, and nos. 12 and 14, are examples of how some of the suggested solutions resort to attributing multiple values to the same groups in order to explain apparently problematic spellings (i.e.  as *ši/šə* in 6 v. *ša* in 14; and  as *ḫu* in 12 v. *ḫa* in 14).

Conclusions

Far from being just an orthographic subsystem, Group Writing is a complex sociohistorical phenomenon that in many respects is still understudied, especially in its sociocultural dimension. It is clear that due to the fragmentary nature of the sources, especially in the earlier phases, some of the questions mentioned here may never be conclusively answered. However, a greater focus on the sociocultural dimensions of Group Writing, and further studies that better contextualize it within the historical and linguistic landscape and within the scribal practices of the periods and realities in which it was used, are likely to provide valuable new insights on its function, its functioning, and its significance in New Kingdom Egypt.

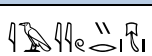
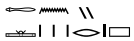
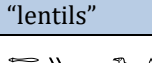
Bibliographic Notes

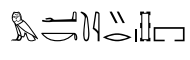
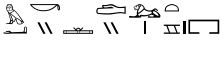
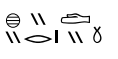
The main works presenting hypotheses for how Group Writing might have worked include Albright (1934), Helck (1989), Kilani (2019b), Schenkel (1972), and Zeidler (1993). For a general sociocultural contextualization of Group Writing, see Quack (2010).

Table 1. Readings by Albright (1934), Helck (1971: 507-535), Hoch (1994), Zeidler (1991), and Kilani (2019b, 2022), collected for comparison.

Abbreviations: Am = Amarna Letters; Ass = Assyrian Akkadian; B = Bohairic; Cnf = Cuneiform sources; Cpt = Coptic; Dem = Demotic; G = Gauthier (1925 – 1931); Heb = Hebrew; LP = Late Period; O = Old Coptic; pln = place name; S = Sahidic; V = unidentified/any vowel; WSem = West Semitic prototype.

Date of the attestations (Kilani 2019b): P1 = Period 1 (18th Dynasty – Ramesses II); P2 = Period 2 (19th Dynasty post-Ramesses II – end 20th Dynasty); P3 = Period 3 (21st Dynasty – 22nd Dynasty).

ID	Definition	Vocalization	Vocalized forms attested in other sources (Coptic, Cuneiform, etc.) according to:				
Date	Attestations	*Reconstructed for the period (Kilani 2019b)*	Albright (1934)	Helck (1971: 507-535)	Hoch (1994)	Zeidler (1991)	Kilani (2019b, 2022)
1	"stag," "ram"		ⲉⲓⲟⲩⲗ (Cpt S); *ɜywr* (Dem); **ʕayyal(V)* (WSem)				
P3		**ʔVy'o:rV*	—	*ʾe-ju-l* (1)	*ʾa=yu=-r* (1)	—	*ʔA-yU-r* (III.1)
2	"Ashdod" (pln, G I.107)		*ʔašdōd* (Heb)				
P3		**ʔašd'o:d*	Decadent (p. 32)	—	—	—	*ʔAs-dU-Ud* (p. 67)
3	"a (type of) jar"		ⲁⲕⲱⲛⲉ (Cpt S); **ʔagga(:)n(nV)* (WSem); *a-ku-nu* (Cnf Am)				
P1		**ʔ(V)k'o:n(V)*	*ʾ-ku-na* (XVII C.1)	—	*ʾ=ku=na* (36)	—	*ʔA-kU-nA* (I.1)
4	"Ugarit" (pln, G I.110)		*u2-ga-ri-it/tV* (Cnf Am)				
P1		**ʔukarit(V)*	*ʾa-ku-ri-ta* (X B.2)	—	—	—	*ʔ(A)-Uk-rA-tA* (pp. 48-49)
5	"pebble"		ⲁⲗ (Cpt S)				
P2		**ʕ'ul*	—	—	—	—	*ʕ(A)-U(r)r*
P2		**ʕ'ul*	—	—	—	—	*ʕ(A)-Unr*
P2		**ʕ'ul*	—	—	—	—	*ʕU.nrA* (II.3)
P3		**ʕ'el*	—	—	—	—	*ʕA.nr* (III.3)
6	"lentils"		ⲁⲣⲱⲓⲛ (Cpt S); *ᶜršn* (Dem); **ʕad(a)ši:n* (pl.) (WSem)				
P2/3		**ʕVršʾi:nV*	*ᶜa-ar-ši-na* (X D.4)	*ᶜá-r-šə-n(a)* (36)	*ᶜa=r=ši2=na* (84)	—	*ʕA-ršA-nA* (II.5, III.4)
7	"wagon," "chart"		ⲁⲅⲟⲗⲧⲉ (Cpt S); *ᶜklt* (Dem); **ʕagalt(V)* (WSem.)				
P2		**ʕVg'altV*	*ᶜa-ga-ra-ta* (V A.10)	*ᶜá-ga-la-tá* (42)	*ᶜa=ga=ra=ta* (100)	—	*ʕA-gA-rA-tA* (II.6)
P2		**ʕVg'altV*	—	—	*ᶜa=ga=-r=ta* (100)	—	*ʕA-gA-rtA* (II.6)

ID	Definition	Vocalization	Vocalized forms attested in other sources (Coptic, Cuneiform, etc.) according to:				
Date	Attestations	Kilani	Albright	Helck	Hoch	Zeidler	Kilani
8	"beans"		ϕϵλ (Cpt B); **pu:l(V)* (WSem)				
P2		**p'ul*	—	*pu-l* (74)	*pu2=-r* (150)	*pul* (p. 588)	*pU-r* (II.13)
9	"stronghold"		ⲙⲉⲑⲧⲟⲗ (Cpt B); *mktr* (Dem);**mi/agda:l(V)* (WSem)				
P1		**mVkt'al*	*ma-k-ta-ra* (VIII A7)	*ma-k-tá-l* (129)	*ma4=k=ta=ra* (224)	—	*mAk-tA-rA* (I.9)
P2		**mVkt'al*	*ma-k-ta-ar* (VIII A7)	—	*mak=ta=-r* (224)	—	*mAk-tA-r* (II.20)
P3		**mVkt'ol*	Decadent (p. 32)	—	*mak-ti(!)-rw* (224)	—	*mAk-dU-Ur* (III.9)
10	"husband"		ϩⲁⲓ (Cpt S); *ḥj* (Dem)				
P1/2		**h'iy*	—	—	—	*ḥỉj* (p. 586)	hA-yA (I.10; II.22)
P3		**h'ey*	—	—	—		hA-yA (III.10)
11	"vinegar"		ϩⲛⲓϫ, ϩⲙϫ (Cpt S); *ḥumṣ(V)* (WSem)				
P2/3		**ḥ'u:mVḏ(V)* **ḥ'umḏ(V)*	Decadent (p. 32)	*ḥà-m-ṣa* (169)	*ḥu4=ma=ḏa* (316)	*ḥumḏV'* *ḥūmVḏ* (p. 589)	*ḥU-mA-ḏA* (II.25, III.11)
12	"lamp"		ϩⲛⲃⲥ (Cpt S), ϩⲛⲃⲥ (Cpt B), ϩ(ⲉ)ⲃⲥ (Cpt S); *ḫbs*(Dem)				
P2		**ḫ'u:bVs(V)* **ḫ'ubs(V)*	*ḫu-ba-sa* (XIII A.4)	—	—	*ḫūbVs* *ḫubsV'* (p. 585)	*ḫ(A)-Ub-sA (II.27)*
13	"veils," "purse"		ϣⲟⲣⲧ (Cpt S)				
P3		**ḫ2'ord(V)*	—	—	*ḫi=-r=di* (353)	*ḫardV'* (p. 587)	*ḫʸ(A)-Urd* (III.15)
LP		**ḫ2'ord(V)*	—	—	*ḫi=ru2-d* (353)	—	*ḫʸ(A)-Ur-dA* (III.15)
14	"Hashabu" (pln, G IV.163)		*ḫa-ša-bu* (Cnf Am)				
P1		**ḫašabu*	*ḫa-ša-bu* (XV A.3)	—	—	—	—
15	"wool"		ϲⲟⲣⲧ (Cpt S); *šaʕrat(V)/šaʕart(V)* (WSem)				
P1		**sVʕ'artV*	*sa-ᶜa-ra-ta* (V A.13)	*śá-ᶜá-rə-tá* (188)	*sa=ᶜa=ra=ta* (359)	—	*sA-ʕA-rA-tA* (I.16)

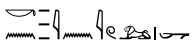
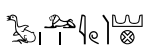
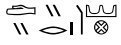
ID	Definition	Vocalization	Vocalized forms attested in other sources (Coptic, Cuneiform, etc.) according to:				
Date	Attestations	Kilani	Albright	Helck	Hoch	Zeidler	Kilani
16	"leaf," "lotus"		ⲥⲁⲣⲡⲟⲧ (Cpt O), ⲥⲁⲣⲫⲁⲧ (Cpt B); *srpt* (Dem)				
P1		**sVrp'a(:)t(V)*	—	*ś(a)-r-pá-tá* (197)	—	—	*sA-rpA-tA* (I.17)
P3		**sVrp'o(:)t(V)*	—	—	—	*sVrpatʾV'* (p. 588)	*sA-rpU-tA* (III.16)
17	"shield"		ⲟ(ⲁ)ⲗ (Cpt S); *glʿ* (Dem); **qilʕ(V)* (WSem)				
P1		**q'ilʕ(V)*	—	—	*qa=ra=ᶜa* (432)	—	*qA-rA-ʕA* (I.22)
18	"Byblos" (pln, G V.197-8)		*gub-lV* (Cnf Am)				
P1		**kubn/lV*	*ku-b-ni* (XII C.4)	—	—	—	*kU-b(A)-nA*
P2/3		**kupn/lV*	—	—	—	—	*kUp-nA* (2022, 191)
19	"a (type of) musical instrument"		ⲕⲓⲛⲛⲣⲁ (Cpt S); **kinna:r(V)* (WSem); *kinnôr* (Heb)				
P2		**kin'u:r(V)*	*kn-nu-ru* (IX C.6)	*kin-nù-rú* (253)	*k=-n=nu2=ru2* (467)	—	*kAn-nU-Ur* (p.73)
20	"finger-ring"		ⲕⲥⲟⲩⲣ (Cpt S); *kswr* (Dem)				
P2		**gVs'o:r(V)*	*ga-sa-ru* (XIV A.16)	*ga-śá-rú* (275)	*ga=sa=ru* (523)	—	*gA-s(A)-Ur* (II.43)
21	"oven"		ⲧⲣⲓⲣ (Cpt S); *trry* (Dem); **tV(n)nu:r(V)* (WSem)				
P2		**tVr'u:r(V)*	*ta-ru-ru* (X C.18)	*tá-rú-rú* (277)	*ta=ru2=ru2* (531)	*tVrūr(V)* (p. 590)	*tA-rU-Ur* (II.45)
22	"Sile"/"Tjaru" (pln, G VI.67)		ⲥⲉⲗⲏ (Cpt S); *sí-lu-ú* (Cnf Am)				
P1		**ṯir'u:*	*ṯi-ru* (XX A.11)	—	—	—	*ṯA-rU*
P2		**ṯir'u:*	*ṯi-ru* (XX A.11)	—	—	—	*ṯA-rU*
P3		**ṯir'u:*	—	—	—	—	*ṯA-rU-U'* (p. 71)
23	"shrine," "naos"		ⲧⲁⲃⲓⲣ (Cpt S); *dəbīr* (Heb)				
P3		**dəbi:r*	—	*d(a)-bí-r* (301)	*d=bi4=-r* (561)	—	*d(A)-bA-r* (III.23)
24	"Dor" (pln, G VI.87)		*du-u'-ru* (Cnf Ass); *doʔr ~ dōr* (Heb)				
P3		**do:r/*doʔr*	Decadent (p. 32)	—	—	—	*dU-r* (P3, p. 69)

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Image Credits

Figure 1. Ostracon TT99, obverse (top) and reverse (bottom), showing two lists of foreign words written in Group Writing. (Photographs by Nigel Strudwick, from Schneider 2018: 105.)

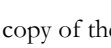
Figure 2. The name  Ani is spelled with the group  in his copy of the Book of the Dead (two columns at far left). (Von Dassow and Wasserman 1994: pl. 36.)

Figure 3. Two Levantine toponyms written in Group Writing, from the topographical list of Thutmose III at Karnak. (Photograph © CFEETK-Karnak, from Kilani 2022: 189.)

Figure 4. Ramesside ostracon with oracular question (O. Turin CGT 57227). The negation  in the first line is written in Group Writing. (Photograph © Museo Egizio, Turin/N. Dell'Aquila, in Kilani 2022: 190.)

Table 1. Readings by Albright (1934), Helck (1971: 507-535), Hoch (1994), Zeidler (1991), and Kilani (2019b, 2022), collected for comparison. (Table rendered by the author.)