On Coptic Sounds

Leo Depuydt

Introduction

0. The present paper examines aspects of Coptic sounds in light of the theory that, in the Coptic sound system, and probably already in the Late Egyptian and Demotic sound systems, the two-way distinction between sounds that are only sonantic (S) and sounds that are either sonantic or consonantic (S/C) eclipsed the sharp distinction between vowels and consonants characteristic of the Old and Middle Egyptian sound system.

Vowels are defined here as sounds produced with unimpeded flow of air. By contrast, *consonants* are sounds characterized by various degrees of constriction of the vocal tract. Vowels and consonants also exist in Coptic, but the distinction between them is not as prominent from the point of view of the sound *system* as in earlier Egyptian. Rather, in Coptic, and already earlier, the distinction between, on the one hand, purely sonantic sounds, and on the other hand, sounds that can be either sonantic or consonantic came to prevail.

Sounds are *sonantic* when they serve as the apex of syllables and *consonantic* when they do not. A distinction is made here between the noun "consonant", the counterpart of "vowel", and the adjective "consonantic", the counterpart of "sonantic": consonants are *sounds*, but to be consonantic is a *function* of sounds within the syllable.

1. The Twenty-one Sounds of Sahidic

a. The Two Main Classes: Sounds S (5) and Sounds S/C (16)

1. There are different ways of classifying sounds in Sahidic[1]. But according to function in the syllable, Sahidic sounds by and large belong

[1] On classifying sounds and selecting criteria to do so, see already K. Brugmann – B. Delbrück, *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen* vol. 1.1 (Strassburg 1897) 49 § 33. Note that "ein bestimmtes Gruppierungsprincip, das

to two main cl ·s[2]. It will be assumed that the letters of the Coptic alphabet more or less represent the inventory of Sahidic sounds. It is obvious that by "sound" we mean what is also called "phoneme", that is, a meaningful unit of sound[3].

The inventory of Coptic letters or graphemes is probably fairly close to the inventory of sounds or phonemes, as scripts generally do not record how languages sound, but rather assign a symbol to each meaningful unit of sound or phoneme. What matters in representing language in writing is not the precise pronunciation of these units, but rather how many there are and how they relate to one another in a system, conveying differences in meaning[4]. It is reasonable to assume that most everything meaningful in the sounds of Coptic was represented in the Coptic script. The sounds will therefore be represented below consistently by Coptic letters.

2. It will also be assumed, in accordance with modern phonological theory, that all syllables have an *apex* and that one sound in each syllable functions as the apex. Sounds functioning as apex will be called *sonantic* ("sounding"). Sounds that do not function as apex will be called *consonantic* ("sounding along")[5]. Phonologists may disagree about the definition of the apex or about its name (an alternative is "vocalic point"), but its existence seems to be widely accepted. The apex generally has the greatest acoustic prominence and the greatest aperture (that is, opening of the mouth) in the syllable. The sounds that most typically function as apex are vowels, but in Coptic as in many languages, to function as apex of a syllable is, as we will see, a feature by no means limited to vowels.

By syllable we mean what most everyone else means by it, though Kasser's *caveat*, that "the problems posed by Coptic syllabication are very

in der einen Sprache von grosser Wichtigkeit ist, kann in einer andern ganz belanglos sein" (ibid.).

[2] This attempt at a survey is much indebted to the works of F. Hintze, R. Kasser, H. J. Polotsky, J. Vergote, and W. H. Worrell. I am also grateful to H. Quecke for commenting on an earlier draft of this paper.

[3] The history of phonology is surveyed, for example, in E. Fischer-Jørgensen, *Trends in Phonological Theory* (Copenhagen 1975); C. Baltaxe, *Foundations of Distinctive Feature Theory* (Baltimore 1978); S. R. Anderson, *Phonology in the Twentieth Century* (Chicago and London 1985). For the field of Coptic Studies, see, recently, Kasser, "Phonology" and "Syllabication", in: *The Coptic Encyclopedia* (New York 1991) vol. 8, 184-86 and 207-14.

[4] Cf. Hintze, "Zur koptischen Phonologie", *Enchoria* 10 (1980) 23-91 at 25.

[5] Only the *adjectives* "sonantic" and "consonantic" will be used here, referring to properties sounds can have. For the *nouns* "sonant" and "consonant" used in the same meaning, see, for example, Brugmann–Delbrück, *Grundriss* vol. 1.1, 46-47 § 30.

complex, and those who have dealt with them are far from being at one", should be heeded[6].

3. When one thinks of dividing sounds into two main classes, the distinction between vowels and consonants comes to mind. Traditionally, the term "vowel" denotes sounds produced without obstruction of the flow of air in mouth or nose. By contrast, sounds produced with even the slightest constriction of the vocal tract are consonants.

These definitions are physiological. As such, they can be used to classify the sounds of any language. However, when sounds are classified from the point of view of their function in the sound system, the distinction between absence and presence of obstruction of the vocal tract is not always appropriate. The physiological distinction between vowels and consonants roughly corresponds to distinctions in function in language such as classical and koine Greek and especially in Old and Middle Egyptian[7], but the same distinction is far less suitable for the description of the Coptic sound system, as has been acknowledged more than half a century ago by the authors of the sole monograph exclusively devoted to the sounds of Coptic[8]. This does not mean that Coptic does not exhibit the distinction between vowels and consonants in the physiological sense, but rather that this distinction does not coincide with the principal distinction within Coptic sounds as elements of a system.

What follows is an attempt to describe the sounds of Sahidic without using the distinction between vowels and consonants. An advantage of the classification presented here is that expressions such as "semi-vowel", "vowels functioning as consonants", and "consonants functioning as vowels" can be avoided.

4. It has been mentioned above that each syllable has an apex and that the apex is expressed by a single sound. Sounds functioning as apex are sonantic, those that do not are consonantic. It is a salient feature of Coptic that, as far as the written remains of the language allow us to perceive, two main classes exist, sounds that *must* be sonantic and those than *can* be:

[6] Kasser, *Copt. Encycl.* vol. 8, 213.

[7] The term "consonant" ("sounding along") also implies a statement about the function of sounds in syllables, but as such, it only applies to languages such as Latin and Greek, for which the term was, after all, originally designed.

[8] See W. H. Worrell, *Coptic Sounds* (Ann Arbor 1934) 11, with an appendix (151-76) by H. Shohara on "Some Biological Factors Involved in Coptic Sound-changes", at 153.

(1) sounds that are always sonantic, 5 in number (abbreviation = S):

ⲁ	ⲉ	ⲏ	ⲟ	ⲱ
a	*e*	*ē*	*o*	*ō*

(2) sounds that are either sonantic or consonantic[9], 16 in number (abbreviation = S/C):

ⲃ	(ⲉ)ⲓ	ⲕ	ⲗ	ⲙ	ⲛ	ⲡ	ⲣ	ⲥ	ⲧ	(ⲟ)ⲩ	ⲱ	ⲫ	ⲯ	ⲭ	ⲍ
b̥/b	*i/y*	*k̥/k*	*l̥/l*	*m̥/m*	*n̥/n*	*p̥/p*	*r̥/r*	*s̥/s*	*t̥/t*	*u/w*	*š̥/š*	*f̥/f*	*h̥/h*	*č̥/č*	*c̥/c*

The sonantic function of sounds S/C is marked in transcription by a sublinear circle, except for (ⲉ)ⲓ and (ⲟ)ⲩ, for which the orthography of European languages provides the symbols *i* and *u*. In context, sounds S/C are either sonantic or consonantic. This may be represented symbolically by using bold face, raised letters, or parentheses. Sounds S/C with sonantic function may be symbolized as S/C, S^{c}, or S/(C); sounds S/C with consonantic function, as S/C, C^{s}, or (S)/C.

5. The double function of the 16 sounds S/C may be illustrated by the following examples. 14 of the 16 examples are verbs with reduplicated stems. The syllable division of such stems seems guaranteed. The first syllable is accented, the second unaccented. Examples are chosen in which the syllable does not begin with a sonorant, since ⲉ appears as a rule in such syllables (see § 40), as in ⲛⲟⲃⲉⲃ "reproach". The double function of (ⲉ)ⲓ and (ⲟ)ⲩ is illustrated by different types of examples.

b/b̥	ⲧⲟⲃⲧⲃ̄	*tob/tb̥*	"invent"
y/i	ⲥⲧⲟⲓ / ⲥ†-	*stoi / sti*[10]	"smell"
k/k̥	ⲕⲟⲕⲕ̄	*hok/hk̥*	(meaning unknown)
l/l̥	ⲥⲟⲗⲥⲗ̄	*sol/sl̥*	"comfort"
m/m̥	ⲃⲟⲙⲃⲙ̄	*com/cm̥*	"taste"
n/n̥	ⲧⲟⲛⲧⲛ̄	*ton/tn̥*	"liken"
p/p̥	ⲥⲟⲡⲥⲡ̄	*sop/sp̥*	"entreat"
r/r̥	ⲫⲟⲣⲫⲣ̄	*šor/šr̥*	"destroy"
s/s̥	ⲕⲟⲥⲕⲥ̄	*kos/ks̥*	"bend"

[9] "An und für sich ist es eine Eigentümlichkeit des Koptischen, dass es in unbetonter, insbesondere nachtoniger, Silbe schlechthin *jeden* Konsonanten als Silbengipfel erträgt" (Polotsky, "Zur koptischen Lautlehre", *ZÄS* 69 [1933] 125-29 at 128; reprinted in *Collected Papers* [Jerusalem 1971], hence abbreviated *CP*, 358-62 at 361). Similarly, but with reservations, Vergote and Kasser (*Copt. Encycl.* vol. 8, 209), and Worrell, *Coptic Sounds* 15-16.

[10] The first form is the absolute form. The second is the bound form.

t/ṯ	ⲡⲟⲧⲡ̄	*pot/pṯ*	"fall away"
w/u	ⲥⲟⲟⲩⲧⲛ̄ / ⲥⲟⲩⲧⲱⲛ	*sow/tṉ / su/tōn*	"stretch"
š/ṣ	ϭⲟϣϭ ϣ̄	*coš/cṣ̌*	"sprinkle"
f/ḟ	ϣⲟϥϣϥ̄	*šof/šḟ*	"spread, burrow (?)"
h/ḥ	ⲧⲁϩⲧϩ̄	*tah/tḥ*	"mix"
č/ǩ	ϭⲟϫϭ ϫ̄	*coč/cǩ*	"slaughter"
c/ç	(ⲧⲟϭⲧϭ̄)[11]	*toc/tç*	"press firmly"

6. Students of Coptic might benefit from disregarding the traditional distinction between vowels and consonants from the beginning, even if this involves a departure from a bias received in previous education. Instead, devoting time to the study of syllables might be useful. Unfortunately, ancient Coptic syllabaries cannot serve as a model, too influenced as they are by the phonological structure of Greek, in spite of the use of the typically Coptic consonants; the use of ⲩ as a "vowel" and the inclusion of the consonants ⲣ, ⲋ, and ⲍ demonstrate this. For example, in the Sahidic school tablet Inv. 765 kept at the University of Michigan[12], one finds series of seven syllables consisting of three letters each, ϣ plus one of the 7 Greek vowels plus one of the "consonants". But ϣⲩⲕ, ϣⲩⲗ, ϣⲩⲗ, and ϣⲩⲍ can hardly be called Coptic syllables, and nor are they Greek for that matter.

An example of a series that is closer to the reality of Sahidic is as follows (type: C^s + S or S^c): ϣⲁ, ϣⲉ, ϣⲏ, ϣⲟ, ϣⲱ, ϣϧ̄ ϣⲓ, ϣϫ̄, ϣⲓⲓ̄, ϣⲛ̄, ϣⲡ̄, ϣⲟⲩ, ϣⲥ̄, ϣϣ̄, ϣϥ̄, ϣϩ̄, ϣϭ̄, ϣⲛ̄, ϣⲧ̄, ϣϫ̄, ϣϭ̄ (for the order of the second sound in each syllable, see § 13). Sounds S/C with sonantic function, except (ⲉ)ⲓ and (ⲟ)ⲩ, are marked by superlinear strokes (see §§ 32-34). In this series, each sound of Sahidic features as second sound. Though some of the syllables listed above may in actuality not occur, the series is quintessentially Sahidic.

7. This leaves us in need of terms denoting the 5 sounds S and the 16 sounds S/C. It seems that this terminological problem is "partly responsible for our inability to recognize"[13] certain basic features of the organization of Coptic sounds.

For the 5 purely sonantic sounds, the term "vowel" might be redefined as "a sound that can only function as apex of a syllable". But this would cause confusion with the traditional meaning of "vowel". "Purely sonantic sounds" will be used below.

For the 16 sounds S/C, "resonant", a term used in Indo-European linguistics, might be considered[14]. De Saussure uses "sonantic coefficient" (§ 30). The symbol S/C will be used as a rule below; the slash forming part of this symbol has the advantage of expressing the double function of the sounds.

8. The total number of purely sonantic sounds and sounds that are both sonantic and consonantic is 21. As there are 30 letters in the Sahidic alphabet, these 30 letters account for 21 different sounds as follows.

(a) 6 of the 30 letters are monograms equivalent to sequences of two sounds also expressed by other letters. The six monograms are ⲫ, ⲑ, ⲭ, ⲯ, ⲍ, and ⳑ, which are equivalent to ⲡ+ⲋ, ⲧ+ⲋ, ⲕ+ⲋ, ⲡ+ⲥ, ⲕ+ⲥ, ⲧ+ⲓ respectively. This leaves 24 letters for 24 sounds.

(b) Of these 24 letters, three occur mostly in Greek words, namely ⲣ, ⲋ, and ⲍ. ⲣ also occurs in Coptic words but always as a variant of ⲕ, as in the second person masculine singular of the conjugation base of the conjunctive, ⲛ̄ⲧⲣ-. This means that ⲕ and ⲣ generally do not alternate in the same position but complement each other as the expression of a single unit. In phonological terms, they are allophones or phonetic variants of a single phoneme. ⲕ and ⲣ will therefore be considered together as a single sound, which may be represented as "ⲕ/ⲣ", or as "ⲕ (variant ⲣ)", or simply as "ⲕ". Likewise, ⲥ and ⲍ may alternate; an example is the variation between ϩⲛⲥϧⲉ and ϩⲛⲍϧⲉ "school". This leaves 21 letters for 21 sounds.

(c) With two exceptions, each of the 21 sounds corresponds to a single letter. The first exception is the sound written either with ⲩ, a single letter, or with ⲟⲩ, a combination of two letters. This sound may therefore be represented as (ⲟ)ⲩ.

The second exception is the sound written either with ⲓ, a single letter, or with ⲉⲓ, a combination of two letters. This sound may therefore be represented as (ⲉ)ⲓ[15].

[11] The stative ⲧⲉϭⲧⲱϭ is attested.

[12] See A. E. R. Boak, "A Coptic Syllabary at the University of Michigan", *Aegyptus* 4 (1923) 296-97. For Coptic school texts, see also E. M. Husselman, "A Bohairic School Text on Papyrus", *JNES* 6 (1947) 129-51.

[13] Worrel, *Coptic Sounds* 11.

[14] See, for example, W. Lehmann, *Proto-Indo-European Phonology* (Austin 1955) 8 § 2.1a.

[15] For variations in the orthography of the sonorant (ⲉ)ⲓ, see H. Quecke, "Zur Schreibung von i/j", in: *Studien zu Sprache und Religion Ägyptens* vol. 1 (Göttingen 1984) 289-326. (ⲉ)ⲓ may also be an equivalent of *ey* or *e/i*, that is, *two* sounds, the sound ⲉ followed by the sound (ⲉ)ⲓ. Unambiguous writings of *ey* or *e/i* are ⲉⲓ̈ (with trema) and ⲉⲉⲓ.

b. Sounds S/C (16): Sonorants (7), Fricatives (4), Stops (4), Affricates (1)

9. The 16 sounds S/C may be divided further in two groups, (A) 7 sonorants and (B) 9 obstruents[16].

(A) *Sonorants* are, as mentioned above, voiced sounds made with a relatively free flow of air. The sonorants are ⲃ, (ⲉ)ⲓ, ⲗ, ⲙ, ⲛ, ⲣ, and (ⲟ)ⲩ[17].

(B) *Obstruents* are sounds involving a constriction which impedes the flow of air through the nose or mouth. It is a remarkable property of Coptic that all obstruents are voiceless and can therefore also be called *surds*.

The 9 obstruents may be divided further in three groups: (1) 4 fricatives, (2) 4 stops, and (3) 1 affricate.

(1) *Fricatives* are sounds, all voiceless in Coptic, made when two organs come so close together that the air moving between them produces audible friction. The 4 fricatives are ⲥ, ⲫ, ϥ, and ϩ[18].

(2) *Stops* are sounds, all voiceless in Coptic, produced with a complete closure of the vocal tract. The 4 stops are ⲕ, ⲡ, ⲧ, and ⲿ. ⲿ is a palatalized ⲕ (roughly *ky*).

(3) *Affricates* are sounds produced when the air-pressure behind a complete closure in the vocal tract is gradually released. They therefore possess properties of both stops and fricatives. The sole africate in Sahidic is ⲝ (pronounced *ch* as in "*ch*oose"). The duration of the fricative portion of the affricate may occasionally be extended to the point that ⲝ is an equivalent of ⲧ plus ⲫ. When used so, ⲝ is a monogram and should be classified with monograms like ⲑ, ⲯ, and ⲭ (see § 8[a]).

10. Whereas the difference between the 5 purely sonantic sounds and the 16 sounds S/C is defined on the basis of *function in the syllable*, the *degree to which the flow of air is impeded* has been used in § 9 as a criterion to distinguish subgroups among the 16 sounds S/C. It is likely, however, that the difference in degree of obstruction of the air flow corresponds to a difference in function in the syllable, in that the four groups seem to exhibit different degrees of proneness to be sonantic. Sonorants

[16] The definitions of sound types are based on D. Crystal's *A Dictionary of Linguistics and Phonetics* (Oxford 1985), which is often quoted verbatim.

[17] Vowels are also sonorants. But the latter term will be limited here to sounds S/C.

[18] Light friction also characterizes most sonorants (S/C). But "fricative" will be limited here to voiceless sounds of the type S/C, in which friction is also generally more audible. A term encompassing vowels, sonorants, and fricatives (as opposed to stops) is *continuants*.

are more prone to be sonantic than fricatives and fricatives are more prone to be sonantic than affricates and stops[19]. Or, the less the flow of air is impeded, the more prone a sound S/C will be to function as S/C.

c. Aleph: Twenty-second Sound of Sahidic?

11. As R. Kasser points out, aleph "occupies a very special place in the Coptic phonological inventory"[20]. There are three aspects to the problem of aleph: (1) physiological, (2) graphic, and (3) phonological.

(1) Few would doubt that aleph was a feature of spoken Sahidic, and probably of all Coptic dialects[21]. For example, there is reason to believe that words beginning or ending in a vowel in writing often began or ended with aleph in pronunciation. In what follows, this aleph will only be represented if it is necessary for the argument.

(2) Aleph is not often expressed in writing. It is not represented by an individual letter, or as in the case of (ⲉ)ⲓ and (ⲟ)ⲩ, by a single letter or a combination of two letters, though exceptionally, the dialect of Papyrus Bodmer VI occasionally uses a special symbol for aleph. On the other hand, in dialects like Sahidic, aleph does find graphic expression *indirectly*, and then only *when it follows one of the 5 purely sonantic sounds (S)*. It is rendered by doubling the purely sonantic sound. Sonantic sound plus aleph appear as ⲁⲁ, ⲉⲉ, ⲏⲏ, ⲟⲟ, and ⲱⲱ (that is, *a'*, *e'*, *ē'*, *o'*, and *ō'*). The second letter of each pair may be taken to represent aleph[21a].

12. (3) That aleph is only rarely written raises questions about its status in the sound system of Sahidic. The principal question is whether aleph is a phoneme, which would make it the twenty-second sound of Sahidic. Many would believe that it is. The issue is of some complexity and can not be treated at length here. It is only suggested that, with the decline of the contrast between vowels and consonants as the main organizing principle of the Egyptian sound system (see below), the phonemic

[19] Cf. Shohara in Worrell, *Coptic Sounds* 155-56; Brugmann–Delbrück, *Grundriss* vol. 1.1, 46 § 30. Brugmann cites English *præktkl* "practical" as an example of sonantic *t*.

[20] Kasser, "Aleph", *Coptic Encycl.* vol. 8, 27-30 at 27.

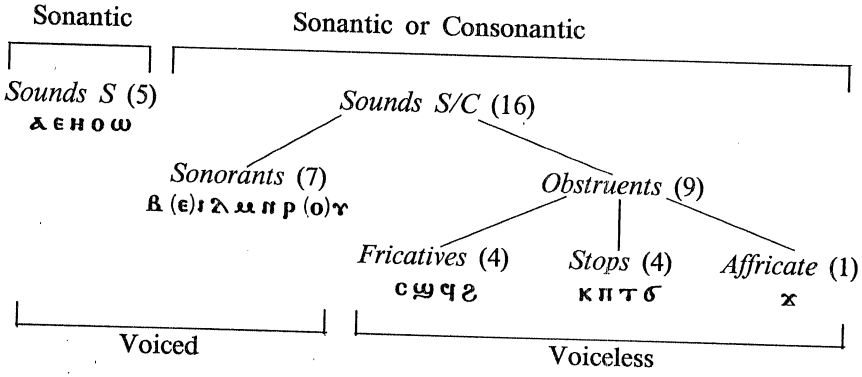
[21] The evidence is presented by Kasser, ibid.

[21a] That a vowel represents aleph is not surprising if one realizes that, when aleph is pronounced immediately after a vowel, the mouth cavity is still in the position of that preceding vowel. The voiced release following the glottal stop therefore has the same color as that vowel. The effect is that of an "echo" (Kasser, *Copt. Encycl.* vol. 8, 210). It is the color of this "echo" that is rendered by repeating a vowel. See also Kasser, "Gemination, vocalic", *Copt. Encycl.* vol. 8, 131-33.

status of aleph may have been partly eroded so that *presence of aleph* as a phonemic feature was to a certain extent replaced by *absence of a consonant*.

d. The Sounds of Sahidic

13.



2. The Evolution of the Egyptian Sound System

14. In the classification of Sahidic sounds presented above, a distinction is made, according to function in the syllable, between sounds S and sounds S/C, and this distinction is said to be more suitable as a main classificatory principle for Sahidic than the distinction between vowels and consonants. In this respect, the Coptic sound system and probably also those of Late Egyptian and Demotic differ markedly from the sound system of Old and Middle Egyptian, in which the distinction between vowels and consonants is quite prominent. The general trend in the evolution of the Egyptian sound system during the period documented in written sources is outlined below.

15. Sounds can be described as physical and physiological phenomena. But the concern of the present paper is the way in which sounds are part of systems, that is, networks of relationships between the sounds themselves and between sounds and the meanings they express. In such systems, the physiological aspect of sounds obviously plays a role.

Two characteristics of sounds as part of a system are (a) that they convey meaning and (b) that they function in various ways in the syllable.

It is a most striking feature, then, of the sound system of Old and Middle Egyptian that there is an overall *correlation* between three binary distinctions, pertaining to (1) articulation, (2) meaning, and (3) function in the syllable.

(1) The distinction in articulation is that between sounds produced without obstruction of the air flow and sounds produced with various degrees of obstruction. These are the traditional meanings of the terms "vowel" and "consonant".

(2) The distinction in meaning is that between expression of primary meaning and expression of various sub-meanings.

(3) The distinction in function within the syllable is that between sounds which function as apex of syllables and sounds that do not.

16. The correlation between these distinctions in Old and Middle Egyptian is as follows.

As for the relation between (1) and (2), there is a hierarchy between consonants and vowels as expressions of meaning which is also characteristic of the classical Semitic languages and which must therefore have been a feature of the common Hamito-Semitic language from which Semitic and Egyptian sprang forth. In earlier Egyptian as in Semitic, the consonantal skeleton of a word very often denotes a primary meaning, while vowel patterns indicate secondary meanings. For example, the sequences *sš* in Middle Egyptian and *ktb* in Semitic denote the concept of writing, but the vowel patterns added to these consonantal skeletons differentiate between sub-meanings such as "to write" and "scribe".

As for the relation between (1) and (3), vowels (V) as a rule serve as the apex of syllables, whereas consonants (C) do not. Examples of syllables are CVC (with a short vowel) and CV (with a long vowel).

In conclusion, the correlation between distinctions (1), (2), and (3) is that, by and large, (1) consonant, (2) basic meaning, and (3) consonantic function are jointly contrasted with (1) vowel, (2) sub-meaning, and (3) sonantic function.

17. The major trend in the evolution of the Egyptian sound system may be described as a breakdown or dissolution of the correlation described above[22]. This process must have begun in Late Egyptian and

[22] For example, W. F. Edgerton notes that the set of rules he postulates for the structure of syllables in earlier Egyptian "breaks down completely when Late Egyptian is substituted for O[ld] E[gyptian] and M[iddle] E[gyptian]" ("Stress, Vowel Quantity, and Syllable Division in Egyptian", *JNES* 6 [1947] 1-17).

even earlier. At the end of the documented evolution, in Coptic, one finds that the Egyptian sound system has changed in a fundamental way.

As regards distinctions (1) and (2) in § 16, it is very common to find basic grammatical or lexical meanings differentiated in Coptic by means of contrast between sounds produced with unimpeded flow of air. Examples are the distinctions between ϩⲟ "face" and ϩⲉ "manner", and between ϩⲁ "under" and ϩⲓ "on". Such distinctions are untypical of Old and Middle Egyptian or classical Semitic languages such as Hebrew and Arabic.

As regards the correlation of distinctions (1), (2), and (3) in § 16, there are many instances in Coptic in which basic meanings are differentiated by contrast between sounds produced with unimpeded flow of air and sounds produced with impeded flow of air, both functioning as apex of syllables. An example is the distinction between the verb forms ⲁⲛϥⲥⲱⲧⲙ̄ "he heard", ⲉⲛϥⲥⲱⲧⲙ̄ "while he is hearing", and the conjunctive ⲛ̄ϥⲥⲱⲧⲙ̄. Basic meanings are also distinguished by ⲁ, ⲓ, and ⲛ̄ in ϩⲁ "under", ϩⲓ "on", and ϩⲛ̄ "in". Other examples are the accented syllables in the three "minimal pairs" ϣⲁ̀ϩ "twig"/ϣⲁϩ "flame", ϩⲣ̄ⲃ̀ "form"/ϩⲱⲃ̀ "thing", and ϩⲙ̄ⲥ "ear (of corn)"/ϩⲁⲥ "dung". Also these kinds of contrasts are untypical of Old and Middle Egyptian.

18. Since language is "un système où tout se tient" (A. Meillet), trends do not occur in isolation but can be associated with other trends. In fact, there are two tendencies of Egyptian that can be related to the trend described in § 17. The first is one towards analytic forms in the morphological system. The second is the weakening and elimination of vowels due to the influence of the stress accent.

(1) As Egyptian evolved, an ever increasing number of grammatical features came to be expressed by separate morphemes rather than by distinct vowel patterns. A striking example of this phenomenon is the rise of verbal auxiliaries in Late Egyptian, replacing earlier distinctions made by different vowel patterns.

Verb forms with auxiliaries are called *analytic*, a term derived from the Greek verb meaning "to dissolve (into its component parts)", because the element expressing the grammatical meaning, for example, past tense, is a morpheme separate from the element expressing the lexical meaning, which is often the infinitive. But verb forms in which the vowel pattern is the distinctive mark are called *synthetic*, a term derived from the Greek verb meaning "to put or place together", because the grammatical meaning, as expressed by the vowel pattern, and the lexical meaning, as expressed by the lexical root, are intertwined. This evolution from synthesis

to analysis is a well-known feature of the history of Egyptian and it characterizes the histories of many languages. As it took place, the hierarchy between consonants and vowels in the expression of primary meanings and sub-meanings became less and less prominent.

(2) At the same time, the stress accent borne by the principal vowel began weakening and eliminating vowels in unaccented syllables. This tendency may have evolved to a large extent unopposed because many vowels were no longer as crucial to the meaning as a consequence of the tendency described in (1) above. The stress accent therefore removed much vocalic debris of vowel patterns that had served a function in the earlier stage of the language. Often, only the stressed vowel of a word was preserved. But even the stressed vowel occasionally disappeared and a neighboring consonant became the apex of the syllable, shifting from consonantic to sonantic function. As has been mentioned above, no consonant seems to have escaped this tendency in Coptic, though some sounds of the type S/C are much more prone to be sonantic than others[23].

As a result, the distinction between sounds with unimpeded flow of air and sounds with impeded flow of air no longer coincided with the distinction between sounds with sonantic function and sounds with consonantic function.

But traces of the hierarchy between vowels and consonants that once dominated Egyptian syllabic structure remain. An example in Coptic is the contrast between the infinitive ⲥⲱⲧⲙ̄ "choose" and the stative ⲥⲟⲧⲙ̄ "chosen". Another consequence of the change of the Egyptian sound system is that, in Coptic, it is no longer optimal to classify words in a dictionary according to root consonants only; a classification according to both vowels and consonants becomes feasible, though the remnants of the earlier sound system are then ignored.

The analytic tendency and the stress accent contributed to changing the way in which the Egyptian sounds combined to express meaning and to function as part of syllables. Whereas, in earlier Egyptian, the overriding division is that between consonants and vowels in the traditional sense of the terms, in Coptic, the dominant arrangement of sounds is along a different axis, from sounds that only have sonantic function along a succession of sounds with both sonantic and consonantic function marked by decreasing proneness to sonantic function.

[23] Biological and physiological aspects of the stress accent are discussed by Shohara in Worrel, *Coptic Sounds* 157-62.

3. The Seven Sonorants ⲃ, (ⲉ)ⲓ, ⲗ, ⲙ, ⲛ, ⲣ, and (ⲟ)ⲩ as a Group

19. A crucial feature of the classification suggested above is the distinction between the group ⲁ ⲉ ⲏ ⲟ ⲱ, consisting of 5 sounds, and the group ⲃ (ⲉ)ⲓ ⲗ ⲙ ⲛ ⲣ (ⲟ)ⲩ, consisting of 7 sounds.

It might have been argued that series of words such as the following advocate grouping the 7 sounds ⲁ ⲉ (ⲉ)ⲓ ⲏ ⲟ ⲟⲩ ⲱ together: ⲕⲁϩ "earth", ⲛⲉϩ "oil", ⲙⲓⲛ "mouse", ϩⲏⲧ "heart", ⲥⲟϭ "fool", ⲛⲟⲩϩ "rope", and ⲧⲱϣ "destiny". But to these one might add the following series of five words exhibiting the same structure: ⲧⲃⲧ "fish", ϣⲁϩ "twig", ϩⲱⲱⲕ "vinegar", ⲭⲛⲧ "worm", and ϩⲣⲃ "form".

The result is a group of 12 sounds, ⲁ ⲉ (ⲉ)ⲓ ⲏ ⲟ ⲟⲩ ⲱ ⲃ ⲗ ⲙ ⲛ ⲣ, that have sonantic function and bear the stress in the monosyllabic words listed above. These same 12 sounds can also function as syllables by themselves, as in the following series of words: ⲁⲡⲉ *a/pe* "head", ⲉⲙⲟⲩ *e/mu* "cat", ⲉⲓⲃⲉ *i/be* "thirst", ⲏⲡⲉ *ē/pe* "number", ⲟⲙⲉ *o/me* "clay", ⲟⲩⲛⲟⲩ *u/nu* "hour", ⲱⲛⲉ *ō/ne* "stone", ⲃ̣ϣⲉ *ḇ/še* "sleep", ⲗ̣ϩⲱⲃ *l̥/hōb* "steam", ⲙ̣ⲧⲟⲛ *m̥/ton* "rest", ⲛ̣ⲧⲱⲣⲉ *n̥/tō/re* "goddess", and ⲣ̣ⲡⲉ *r̥/pe* "temple". Another feature that these 12 sounds share and that distinguishes them from the obstruents is that they can bear the word accent.

What singles out the sounds ⲃ (ⲉ)ⲓ ⲗ ⲙ ⲛ ⲣ (ⲟ)ⲩ is their ability to be both sonantic and consonantic, depending on the context. This ability is especially striking when the sonantic and consonantic functions of these 7 sounds alternate within two forms of a single word. Thus ⲃ̣ϣⲉ *ḇ/še* "sleep", but with definite article ⲧⲉⲃϣⲉ *teb/še*; ⲗ̣ϩⲱⲃ *l̥/hōb* "steam", but ⲡⲉⲗϩⲱⲃ *pel/hōb*; ⲙ̣ⲧⲟⲛ *m̥/ton* "rest", but ⲡⲉⲙⲧⲟⲛ *pem/ton*; ⲛ̣ⲧⲱⲣⲉ *n̥/tō/re* "goddess", but ⲧⲉⲛⲧⲱⲣⲉ *ten/tō/re*; ⲣ̣ⲡⲉ *r̥/pe* "temple", but ⲡⲉⲣⲡⲉ *per/pe*; ⲟⲩϩⲟⲣ *u/hor* "dog", but ⲡⲉⲩϩⲟⲣ *pew/hor*. For (ⲉ)ⲓ, compare ⲉⲓⲟⲧⲉ *yo/te* "parents" with ⲛⲉⲓⲟⲧⲉ *ni/o/te*.

20. Four other phenomena in Sahidic, Bohairic, and Akhmimic provide additional definition to the 7 sonorants as a group.

(1) In Sahidic, ⲁ is occasionally inserted between ⲃ, (ⲉⲓ), ⲗ, (ⲙ), ⲛ, ⲣ, or (ⲟ)ⲩ and ϩ at the ends of words[24]. Examples are ⲧⲱⲃⲁϩ "entreat", ⲙⲟⲓⲁϩ a measure of fodder (variant of ⲙⲟⲉⲓϩ), ⲙⲟⲩⲗⲁϩ "wax", ⲱⲛⲁϩ "life", ϭⲱⲣⲁϩ "night", and ⲥⲱⲟⲩⲁϩ "gather" (variant of ⲥⲱⲟⲩϩ).

[24] W. Till, *Koptische Dialektgrammatik* (Munich ²1961) 11 § 53; L. Stern, *Koptische Grammatik* (Leipzig 1880) 43-44 § 76. Till and, judging from his examples, also Stern limit this observation to ⲃ ⲗ (ⲙ) ⲛ ⲣ. I have not found an example for ⲙ, as words do not seem to end in ⲙϩ in Coptic.

(2) In Sahidic, an anaptyctic ⲉ (ⲁ before ϩ) often develops between the second and third radical of triradical roots of which the second radical is a sonorant[25]. Examples are ϩⲟⲃⲉⲥⲟ "clothe him", ϭⲟⲗⲉⲡⲟ "reveal him", ⲟⲙⲉⲕⲧ "swallow me", ⲟⲩⲟⲡⲁϩⲟ "reveal him", ⲧⲟⲣⲉⲡⲟ "rob him", and ⲥⲟⲟⲩⲁϩⲟ "gather it". There are no examples for (ⲉ)ⲓ, probably because there are no triradical verbs with this sonorant as second radical in Coptic.

(3) In Bohairic, aspirated ⲭ ⲫ ⲑ, instead of ⲕ ⲡ ⲧ, appear consistently before the 7 sonorants. Examples of the definite article before nouns beginning with ⲃ ⲓ ⲗ ⲙ ⲛ ⲣ ⲟⲩ are ⲫⲃⲁⲗ "the eye", ⲫⲓⲱⲧ "the father", ⲫⲗⲁⲥ "the tongue", ⲑⲙⲁⲩ "the mother", ⲫ(ⲛⲟⲩ)ⲧ "God", ⲫⲣⲏ "the sun", ⲑⲟⲩⲓⲙⲁⲙ "the right hand".

(4) In Akhmimic, the sequence C^s plus sonorant is followed at the ends of words by ⲉ whereas, in other dialects, it is not. The sound C^s may itself be a sonorant; or it may be a glottal stop. Examples are ⲟⲩⲁⲁⲃⲉ *wa'/be* "be holy" (stative), ϩⲉⲓⲉ *he'/ye* "fall" (cf. Fayyumic ϩⲏⲓ *hē'i*), ⲥⲁⲗⲥⲗⲉ *sal/sle* "comfort", ⲥⲱⲧⲙⲉ *sōt/me* "hear", ⲟⲩⲁⲉⲓⲡⲉ *way/ne* "light", ϫⲁⲣϫⲣⲉ *khar/khre* "destroy" (Sahidic ϣⲟⲣϣⲣ̄) and ⲉⲩⲉ *e'/we* "do them" (from ⲉⲓⲣⲉ "do", with pronominal state ⲉⲉ= *e'*)[26].

21. The alternation between sonantic and consonantic function is also illustrated by the contrast between slow and fast pronunciation, which may result in two different syllabifications of the same word[27]. For example, the fast pronunciation of ⲟⲩⲱⲙ "eat" (as, for example, in daily speech) contains one syllable (*wōm*), the slow pronunciation (for example, when dictating a text in a scriptorium) consists of two syllables (*u/ōm*). In fast pronunciation, the sonorant ⲟⲩ is consonantic (*w*); in slow pronunciation, it is sonantic (*u*). This phenomenon does not occur in languages in which *u* and *w* are separate phonemes. For example, however slowly one pronounces the word "water", *u/a/ter* is not likely to emerge as a pronunciation.

22. As a confirmation of the unity of the two functions of the sonorants, each sonorant is represented by and large by a single letter or combination of two letters. As for (ⲉ)ⲓ, there is fluctuation between ⲉⲓ and ⲓ

[25] This phenomenon was first observed and explained by Polotsky, *ZÄS* 69, 126-28 (= *CP* 359-61).

[26] Another example is ϩⲟⲟⲩⲉ "day" (see § 52).

[27] The contrast between tachysyllabication and bradysyllabication was postulated by Kasser in his "Syllabation rapide ou lente en copte", *Enchoria* 11 (1982) 23-58, 12 (1984) 15-26 (see also Kasser, *Copt. Encycl.* vol. 8, 208). On speed of pronunciation as a factor differentiating between Coptic dialects, see A. Erman, "Unterschiede zwischen den koptischen Dialekten bei der Wortverbindung", SPAW 1915, 180-88.

in Sahidic. Though ⲉⲓ often expresses consonantic function and ⲓ sonantic function, there is no overall consistency in this regard[28]. In Bohairic, sonantic and consonantic function are both always written ⲓ.

As for (ⲟ)ⲩ, it is true that ⲩ in ⲁⲩ, ⲉⲩ, and ⲏⲩ as a rule expresses sonantic function. But in choosing these writings above ⲁⲟⲩ, ⲉⲟⲩ, and ⲏⲟⲩ, the creators of the Coptic script may have been inspired by the existence of the Greek diphthongs αυ and ευ, and not by a desire to assign a separate grapheme to the sonantic function of the sound *u/w*.

23. The versatility of the alternation between the sonantic and consonantic functions of sounds supports the unity of those sounds and the legitimacy of sounds S/C as a category. Or, in phonological terms, the unity of a phoneme is supported by the conditioned alternation of its allophones or phonetic variants. What follows, then, are additional examples of the alternation of sonantic and consonantic function between different forms of a single word.

In the following examples, sonantic and consonantic function of ⲃ ϩ ⲙ ⲛ ⲣ alternate twice within two forms of the same word.

ⲃ	ⲧⲟⲃⲧⲃ̄ *(tob/tḇ)* "invent"	ⲧⲃ̄ⲧⲱⲃⲟⲩ *(tḇ/tō/bu)* "invent them"
ϩ	ⲥⲟϩⲥϩ̄ *(sol/sl̥)* "comfort"	ⲥϩ̄ⲥⲱϩⲟⲩ *(sl̥/sō/lu)* "comfort them"
ⲙ	ⲥⲟⲙⲥⲙ̄ *(čom/čm̥)* "taste"	ⲥⲙ̄ⲥⲱⲙⲙⲟⲩ *(čm̥/čō/mu)* "taste them"
ⲛ	ⲧⲟⲛⲧⲛ̄ *(ton/tn̥)* "liken"	ⲧⲛ̄ⲧⲱⲛⲛⲟⲩ *(tn̥/tō/nu)* "liken them"
ⲣ	ⲭⲟⲣⲭⲣ̄ *(šor/šr̥)* "destroy"	ⲭⲣ̄ⲭⲱⲣⲟⲩ *(šr̥/šō/ru)* "destroy them"

24. The alternation between sonantic and consonantic (ⲟ)ⲩ is illustrated by the following Sahidic examples.

The indefinite article is often sonantic before nouns (ⲟⲩ *u* "a"). But when it is preceded by prefixal elements such as certain conjugation bases and prepositions, it is consonantic: ⲉⲩ- "to a ..."; ⲁⲩ- (conjugation base of the perfect); ⲉⲩ- (circumstantial converter), and so on. The corresponding independent form is ⲟⲩⲁ *wa* "one".

Consonantic and sonantic function alternate between two forms of the same verb in the following examples.

[28] See Quecke, *Studien zu Sprache und Religion* vol. 1, 289-326.

SONANTIC FUNCTION *(u)*	CONSONANTIC FUNCTION *(w)*
absolute state	*status pronominalis*
ⲥⲁϩⲟⲩ *sa/hu* "curse"	ⲥϣ̄ⲟⲩⲱⲣ= *sh̥/wōr* "curse"
infinitive	*stative*
ⲙⲟⲩ *mu* "die"	ⲙⲟⲟⲩⲧ̄ *mo/wṭ* "be dead"
ⲟⲩⲣⲟⲧ *u/rot*[29] "become glad"	ⲣⲟⲟⲩⲧ̄ *ro/wṭ* "be glad"
ⲟⲩⲃⲁϣ *u/baš* "become white"	ⲟⲩⲟⲃϣ̄ *wo/bš̥* "be white"
ⲟⲩⲙⲟⲧ *u/mot* "become thick"	ⲟⲩⲟⲙⲧ̄ *wo/mṭ* "be thick"
ⲟⲩⲭⲁⲓ *u/čai* "become safe"	ⲟⲩⲟⲭ *woč* "be safe"
causative derivation	*basic form*
ⲧⲟⲩⲛⲟⲥ *tu/nos* "raise"	ⲧⲱⲟⲩⲛ̄ *tō/wn̥* "rise"
ⲧⲟⲩⲓⲟ *tu/yo* "remove"	ⲟⲩⲉ *we* "be distant"

The alternation also occurs between the abolute and construct forms of the following nouns: ⲛⲁⲩ *naw* "hour" and ⲛⲟⲩ- *nu*, ϣⲁⲩ *šaw* "worthy" and ϣⲟⲩ- *šu*, ⲫⲧⲟⲟⲩ *ftow* "four" and ⲫⲧⲟⲩ- *ftu*.

25. Examples of alternation between sonantic (ⲉ)ⲓ and consonantic (ⲉ)ⲓ are as follows: ϣⲓⲙⲉ *shi/me* "woman" vs. ϣⲓⲟⲙⲉ *hyo/me* "women"; ϣⲓ *hi* (before nouns) vs. ϣⲓⲱⲟ= *hyō'* (before pronouns) "on"; ⲫⲓ *fi* "carry" vs. ⲫⲁⲓ- *fay* ("participium coniunctum") "who carries".

4. Coptic (ⲟ)ⲩ and (ⲉ)ⲓ

a. Are the Sonorants (ⲟ)ⲩ and (ⲉ)ⲓ Vowels, Consonants, or Semi-vowels?

26. Answers to this question have varied[30]. In view of what has been said above, it would appear that the question itself is biased and can only be asked by speakers of languages in which the contrast between consonants and vowels is dominant. The question would not be as evident to ancient Sahidophones, to whom (ⲟ)ⲩ and (ⲉ)ⲓ functioned much more as units.

[29] From **rwot*.

[30] Quecke notes tendencies to treat them always as vowels or to treat them always as consonants (*Studien zu Sprache und Religion* vol. 1, 289 n. 1).

In German, *k* appears before front vowels, as in *Kind* "child", and before back vowels, as in *Kuchen* "cake". Though front and back *k* differ in pronunciation, speakers of German think of *k* as a unit, and in writing, it is represented by a single letter. In phonological terms, *k* is a phoneme and front and back *k* are allophones or phonetic variants[31].

The physiological difference between sonantic ⲟⲩ and ⲉⲓ and consonantic ⲟⲩ and ⲉⲓ is not much more significant than that between front and back *k* in German, as appears from a diagram by M. Grammont showing the difference between *i* and *y* in French[32]. What matters, however, is not the difference in pronunciation between these sounds but that this difference was probably irrelevant to ancient Copts, just as that between front *k* and back *k* is irrelevant in German[33]. But speakers of other languages who study Coptic will tend to give the difference between sonantic and consonantic ⲟⲩ and ⲉⲓ too much importance, because the difference matters in their own languages.

The question posed at the outset of this section is therefore imprecise at best. If asked by an English speaker, it could be rephrased as follows: To what range of sounds of English do the Sahidic speech units or phonemes ⲟⲩ and ⲉⲓ correspond? The answer would reveal that this range covers both sounds that are traditionally thought of as vowels and sounds that are thought of as consonants in English.

27. It follows from the above that only individual instances of ⲟⲩ and ⲉⲓ can be transcribed, using either *i* or *j* and *u* or *w*. There are no single symbols in European languages corresponding exactly to Coptic ⲟⲩ and ⲉⲓ.

Quecke uses i/j for the sonorant ⲉⲓ, with a slash separating the two main allophones of the sonorant[34]. The counterpart for ⲟⲩ would be u/w. Hintze's /w/ seems biased towards the consonantic pronunciation[35], but this transcription is probably based on theoretical presuppositions: Grammont, for example, theorized that, even when semi-vowels are pronounced as vowels, "phonologiquement elles sont et restent des spirantes"[36].

[31] On German *k* see, for instance, N. S. Trubetzkoy, *Grundzüge der Phonologie* (Göttingen ²1948) 35, 59.

[32] M. Grammont, *Traité de phonétique* (Paris ¹1933) 77 Fig. 95.

[33] According to Trubetzkoy, the phoneme *k* is the totality of the features that *all* pronunciations of *k* have in common, in spite of being different in other respects (*Grundzüge der Phonologie* 35). For phonemes with sonantic and consonantic allophones, see ibid. 168-69.

[34] *Studien zu Sprache und Religion* vol. 1, 289-326.

[35] *Enchoria* 10, 40.

[36] *Traité de phonétique* 77.

b. On the Unity of ⲟⲩ and ⲉⲓ

28. It is a well-known fact that ⲱ does not occur after ⲙ or ⲛ in Sahidic and other dialects. In phonological terms, ⲟⲩ is a phonetic variant or allophone of ⲱ after ⲙ and ⲛ[37]. Examples are ⲙⲟⲩⲣ "stay" and ⲙⲟⲩⲧⲉ "call", which may be compared to ⲥⲱⲣ "scatter" and ⲕⲱⲧⲉ "surround".

Moreover, those who study the evolution of the Egyptian sound system will rightly point out that ⲉⲓ may derive from the long vowel *ī* in earlier Egyptian and that, in general, ⲟⲩ and ⲉⲓ may derive from different sounds or combinations of sounds in earlier Egyptian[38].

The question arises whether it is necessary, in light of the data obtained from synchronic and historical phonology, to distinguish between more that one ⲟⲩ and more than one ⲉⲓ.

As an answer to this question it needs to be noted, first, that observations such as the ones just mentioned do not contradict the distinction between the two types S and S/C. For example, the fact that ⲟⲩ may be an allophone of ⲱ is not in contradiction with defining ⲟⲩ as a sound S/C. And also as allophone of ⲱ, sonantic ⲟⲩ appears in the same type of contexts as other instances of sonantic ⲟⲩ that are not allophones of ⲱ.

Second, there are levels of detail in classifying the sounds. The present concern is to find a basic distinction that is empirically and synchronically satisfying, and it seems the distinction between sounds S and sounds S/C fits this requirement.

29. With regard to the behavior of sonorants, there is a striking similarity between Sahidic Coptic and the Proto-Indo-European postulated by linguists. It will therefore be worthwhile to discuss sonorants in Proto-Indo-European.

[37] See, for example, Hintze, *Enchoria* 10, 40. ⲟⲩ is also remarkably frequent before ⲣ. Examples are ⲃⲁϣⲟⲩⲣ "saw", ⲕⲣⲟⲩⲣ "frog", ϫⲟⲩⲣ "ring", ⲕⲟⲩⲣ "deaf", and ⲉϩⲣⲟⲩⲣ "be content". See W. Vycichl, "Etymology", *Copt. Encycl.* vol. 8, 123 ("Influence of Final r").

[38] Among "Paleo-Coptic" accented vowels, long *ū* and short *u* and short *i* shifted to other qualities in Coptic, whereas long *ī* as a rule remained *ī* (W. Schenkel, *Einführung in die altägyptische Sprachwissenschaft* [Darmstadt 1990] 86-90). As regards posttonic syllables, the rules (1) **-aw* > *u*, (2) **-ay* > *i*, and (3) **-a'* > *Ø* (ibid. 91) may probably be specified as (1) **-aw* > *Øw* (loss of vowel) > *u* (sonantic allophone of *w*), (2) **-ay* > *Øy* (loss of vowel) > *i* (sonantic allophone of *y*), (3) **-a'* > *Ø'* (loss of vowel) > *Ø* (loss of final aleph).

5. Sonorants in Coptic and Proto-Indo-European (PIE)

30. Sonorants were brought to the fore in Indo-European linguistics by K. Brugmann, who distinguished between a "nasalis sonans" (Sahidic ⲛ̄) and "nasalis consonans" (Sahidic ⲛ) and showed the various ways in which the sonantic nasal evolved in Indo-European languages[39]. At the suggestion of H. Osthoff, Brugmann assumed the existence of sonantic *n̥* also for PIE[40].

It was de Saussure, then, who, in his celebrated *Mémoire*, described sonorants in PIE rather as units capable of assuming sonantic and consonantic function, therefore defining the sonorants *avant la lettre* as phonemes with sonantic and consonantic allophones[41]. He called these units "sonantic coefficients". These "coefficients" are the "most famous" aspect of de Saussure's *Mémoire*[42] and marked a giant stride forward for Indo-European linguistics.

Moreover, de Saussure added the sonorants *u/w* and *i/y* to the nasal and liquid sonorants postulated by Brugmann and Osthoff, suggesting the unity of these sounds by representing them by the same symbol in their two functions, *i* and *u* respectively. One of de Saussure's examples is the two forms *sreu* and *sru* of a single root. In *sreu*, *u* functions as a consonant (*srew*); in *sru*, *u* functions as a vowel.

In other words, de Saussure did not postulate separate vowels *i* and *u*, considering them to be one of two variant pronunciations of units of which the other variants were *y* and *w*, and he was followed, for example,

[39] K. Brugmann, "Nasalis Sonans in der indogermanischen Grundsprache", in: *Studien zur griechischen und lateinischen Grammatik*, edd. G. Curtius – K. Brugmann, vol. 9 (Leipzig 1876) 285-338.

[40] Brugmann, *Studien* vol. 9, 304, 304 n. 2.

[41] *Mémoire sur le système primitif des voyelles dans les langues indo-européennes* (Leipzig 1879 [appeared in December 1878]), reprinted in *Recueil des publications scientifiques de Ferdinand de Saussure* (Geneva 1922), 9. De Saussure published the *Mémoire* at the age of 21. He had himself, in his high school years, and independently from Brugmann, assumed the existence of a nasal sonorant in Indo-European.

[42] Anderson, *Phonology in the Twentieth Century* 20. "That I[ndo-]E[uropean] *i* and *y*..., *u* and *w*..., were to a large extent positional variants of each other", states F. Edgerton (Indo-Europeanist and brother of the Egyptologist W. F. Edgerton [see n. 22]), "has long been recognized", and he mentions F. Bechtel and J. Schmidt as the last two distinguished Indo-Europeanists "who tried to stem the tide" ("The Indo-European Semivowels", *Language* 19 [1943] 83-124 at 83, 83 n. 4).

Mocking Osthoff's and Brugmann's postulation of Proto-Indo-European sonants, J. Schmidt concludes his critique of the *Sonantentheorie* with the statement, "Sollte wirklich jemand glauben, dass ein *u̯nn̥nu̯nt̥s* in 'der klaren luft der greifbaren wirklichkeit und gegenwart' [Brugmann] sprechbar und, worauf es vor allen dingen ankommt, deutlich hörbar sei?" (*Kritik des Sonantentheorie* [Weimar 1895] 187). But if transposed into Sahidic Coptic, with proper superlineation, as ⲟⲩⲛ̄ⲛ̄ⲛ̄ⲟⲩⲛ̄ⲧ̄ⲧ̄ⲥ, *u̯nn̥nu̯nt̥s* would not strike Coptic scholars at all as unusual, even if this specific sequence of syllables does not occur in Sahidic.

by Meillet in this respect[43]. It is this view that has been suggested for Coptic (ⲟ)ⲩ and (ⲉ)ⲓ above.

31. Two salient features of PIE are the sonantic and consonantic function of sonorants, discussed above, and the phenomenon known as *Apophonie* or *Ablaut*[44]. Ablaut is the use of vowels, including the absence of vowels, to differentiate between forms of a stem: stems are said to have "o-grade forms", "e-grade forms", and "zero-grade forms", and so on. An example of Ablaut from modern English is the sequence *swim, swam, swum*. Ablaut is often, but not always, accompanied by a difference in meaning. It may also be the result of a shift of the word accent.

Both features are to a certain extent also characteristic of Coptic. The difference between sonantic and consonantic function of sonorants has been discussed above. An example of *Ablaut* is the contrast between ⲥⲱⲣ "scatter" (absolute form of infinitive) and ⲥⲏⲣ "scattered" (stative). The difference between ⲥⲱⲧⲡ̄, ⲥⲉⲧⲡⲉ-, and ⲥⲟⲧⲡⲏ-, the absolute, nominal, and pronominal forms of the verb meaning "choose" is an example of Ablaut due to the shifting position of the word accent.

The history of Egyptian documents how a sound system that is closer to that of PIE derived from a sound system that is closer to that of Hamito-Semitic. The hypothesis of the common origin of PIE and Proto-Hamito-Semitic (PHS) is a highly speculative one, but has found its proponents[45]. In this respect, the documented evolution of the Egyptian sound system shows how certain features of the PIE sound system might have developed, if they did, from a common PIE and PHS system in which vowel patters added sub-meaning to primary meanings expressed by consonantal roots[46]. As such, it provides a typological parallel to the postulated derivation of the PIE sound system from a "Nostratic" or common PIE-PHS sound system. Features of Ablaut may be interpreted as *remnants* of the hierarchy between consonants and vowels that once dominated an earlier state of the sound system.

[43] A. Meillet, *Introduction à l'étude comparative des langues indo-européennes* (Paris 1937) 98-126.

[44] Cf. C. Watkins' introduction to *The American Heritage Dictionary of Indo-European Roots* (Boston 1985). For *Ablaut* see, for example, J. Kuryłowicz, *L'apophonie en indo-européen* (Warsaw 1956).

[45] Among the earliest advocates of common origin were A. Cuny and H. Möller. In the field of Egyptology, a comparison between the Egyptian stative and Semitic suffix conjugation, on the one hand, and the Indo-Germanic Medium/Perfect, on the other hand, has shown that common origin cannot be excluded as a possibility (see Schenkel, "Das altägyptische Pseudopartizip und das indogermanische Medium/Perfekt", *Or* 40 [1971] 301-16).

[46] For a survey of the first decades of research on the relation of Proto-Indo-European to other language families, see Cuny, *Recherches sur le vocalisme, le consonantisme et la formation des racines en "Nostratique"* (Paris 1943).

It has been noted that PIE sonorants have disappeared in most Indo-European languages, though they often reappeared secondarily in later times[47]. An example of a language in which sonorants have disappeared is Classical and Koine Greek. It is the script denoting this language, whose sound system is dominated by the distinction between vowels and consonants, that was adopted to write Coptic, a language in whose sound system the distinction between vowels and consonants is much less prominent. This created specific problems which Sahidic scribes solved in their own way, as we will see in the next section.

6. Marking the Sonantic Functions of Sounds S/C

32. Superlineation in Sahidic results from the adoption of a script suitable for a language in whose sound system the contrast between vowels and consonants is dominant for a language in whose sound system that contrast is secondary[48].

In the sound system of Classical and Koine Greek, sounds produced with unimpeded flow of air are always sonantic (S) and sounds produced with impeded flow of air are always consonantic (C). The first five words of the Gospel of John, ἐν ἀρχῇ ἦν ὁ λόγος, could therefore be rendered as follows: SCSCCSSCCSCSCSC (*enarkhēēnhologos*). The distinctness of the apexes minimizes ambiguity and hence confusion on the part of the reader as to how words ought to be divided and understood in manuscripts that do not have word division.

But in Sahidic, sonantic and consonantic functions are not distributed over specific sounds; all sounds can be sonantic. Worrell's hypothetical example[49] ⲛⲧⲛⲛⲧⲙⲛⲧϩⲛⲁⲟ, "and we bring old age" may be represented as follows: S/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S. The correct analysis, in this instance, is S/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S/C S ⲛ̄ⲧⲛ̄ⲛ̄ ⲧⲙ̄ⲛ̄ⲧϩⲛⲁⲟ).

33. In reading words and strings of words in texts lacking word division, the Sahidic readers must make multiple decisions as to the sonantic or consonantic function of sounds. One way of resolving a sound S/C as either S/C or S/C is to consider the preceding and following sounds, but in Coptic many of these phonemes are themselves S/C and therefore ambivalent. The number of possible syllabifications therefore quickly accumulates, especially if one considers that the sonorants can form syllables by themselves.

Needed to resolve ambiguity are special signs marking either the apex of syllables in which a sound S/C is the apex or the partial or total extent of such syllables. Superlinear strokes perform both functions. There are therefore different systems of superlineation[50].

Ambiguity can be eliminated to a certain extent by other means than superlineation. First, there are phonological restrictions: for example, stops like ⲕ ⲡ ⲧ will tend to be sonantic only when the other sound in the syllable is also a stop, as in ⲡⲧ̄ of ⲡⲟⲧⲡⲧ̄ "fall away", or a fricative, as in ϩⲧ̄ of ϩⲟⲧϩⲧ̄ "inquire", and so on. Second, Coptic readers already know the language and will recognize many words without help. This may explain why, even in the best manuscripts, superlineation may not be fully marked.

34. The placing of superlinear strokes in Sahidic manuscripts was in all likelihood not based on any explicit phonological theory. Rather, the designers of the orthographic system of superlineation must have followed a common sense observation that served as a "rule of thumb". In what follows, I would like to suggest such a rule.

It is a fact that, in good manuscripts, at least an attempt is made to mark with a superlinear stroke *the type of syllable that does not occur in Greek*, and only these. These are the syllables that *do not have a vowel in the Greek sense of the word*[51]. The orthographical conventions of Sahidic were established by a school of scribes among whom proficiency in Greek was not uncommon. These scribes must have noticed the differences between Sahidic syllables that do occur in Greek and those that do not, and it must have been relatively easy to mark, without a conscious phonological theory, those that do not.

Excursion: The Arabic Use of the *Činkim* (§§ 35-36)

35. Just as the admixture of Coptic language and Greek script produced superlineation in Sahidic as well as the "Coptic use" of the *činkim*

[47] See already de Saussure, *Mémoire* 19, 19 n. 1.

[48] On the phonology of Classical Greek in general, see L. Lupaş, *Phonologie du grec attique* (Paris and The Hague 1972).

[49] *Coptic Sounds* 11.

[50] Fundamental for the orthography and function of the superlinear stroke remain Polotsky's observations in *ZÄS* 69, 125-29 and *OLZ* 52 (1957) 221-25 (= *CP* 358-62, 227-29) and Worrell's in *Coptic Sounds* 11-16.

[51] Syllables like *fnēw* in ϥⲛⲏⲩ "he is coming" and ⲕⲛⲁ- *kna* in ⲕⲛⲁⲥⲱⲧⲙ̄ "you will hear", and even ⲡⲡⲉ- *ppe* in ⲡⲡⲉⲧⲟⲩⲁⲁⲃ "the holy one", do have a vowel and therefore as a rule do not bear superlinear strokes in the better manuscripts.

in Bohairic, so the amalgam of Arabic speech, Coptic language, and Greek script gave birth to the "Arabic use" of the *činkim*[52].

As a reader's sign in the form of a point placed above a letter, the *činkim* was used in two cases in the Coptic use. It marked single vowels and ⲓ and ⲩ functioning as syllables (e.g. ⲁ̀ⲡⲟⲙⲓⲁ̀, ⲓ̀ⲧⲟⲛ). In the Arabic style *činkim* system which became dominant at the end of the fourteenth century and which is an expansion of the Coptic use, encompassing all instances of the earlier Coptic use.

The expanded portion of the Arabic style as a rule affects clusters of consonants that Arabic does not tolerate, just as Sahidic superlinear strokes mark syllables that Greek does not permit. As is well known, Arabic does not tolerate two consonants at the beginning of syllables and resolves such clusters by a prothetic aleph with vowel, even in foreign words, as in *'Iflāṭūn* "Plato".

For all practical purposes, the function of the Arabic style *činkim* was probably similar to that of the prothetic aleph in Arabic. Examples of the Arabic use are ⲥ̀ⲯⲓⲓ "woman" (pronunciation probably close to *'is/hi/mi*; cf. *'If/lā/ṭūn*) and ⲡ̀ϣⲏⲣⲓ "the son" (pronunciation probably close to *'ip/šē/ri* or *'ib/šē/ri*). The prothetic vowel is here randomly represented by *i*.

It is also reasonable to assume that the *činkim*, in its Arabic use, was perceived as having a single function and that instances of the Coptic style *činkim* were reinterpreted in light of the Arabic use. ⲓ̀ⲧⲟⲛ thus came to be pronounced as *'im/ton*, since standard Arabic does not exhibit sonantic sonorants. And when placed on vowels, the *činkim* must in effect have been the equivalent of aleph, as Arabic words never begin with vowels.

In essence though, the function of the *činkim* does not differ in the Coptic and Arabic uses. In both uses, it surmounts single letters denoting syllables. But in the Coptic use, these letters denote syllables according to

[52] The Coptic and Arabic uses of the *činkim* were distinguished, defined, and dated by Polotsky, "Une question d'orthographe bohaïrique", *BSAC* 12 (1949) 25-35 = *CP* 378-88; cf. Kasser, "Djinkim", *Copt. Encycl.* vol. 8, 111-12.

Polotsky distinguishes six different categories in the use of the *činkim*, two for the Coptic use and six (the two of the Coptic use plus four) for the Arabic use. To this may be added a seventh category for the Arabic use, as exemplified by the *činkims* on ω in ⲡ̀ⲱⲟⲩ "the glory" and on ο in ⲥ̀ⲟⲙⲓ "she resembles". Neither *činkim* appears in the Coptic use. For examples of ⲡⲱⲟⲩ (Coptic use, without *činkims*!), see 1 Corinthians 15:40 (*bis*), 41 (*ter*), 43, ed. O. H. E. Burmester, *Le Lectionnaire de la Semaine Sainte* (Patrologia Orientalis 24/2; Paris 1933) 204. The two examples of the seventh category mentioned above are cited by Polotsky (*BSAC* 12, 25-35 = *CP* 378-88), but not classified as a separate category. In fact, the seventh category may be considered as a side effect of Polotsky's fourth and fifth categories (see below). Remarkably, this seventh category concerns *činkims* on *vowels* (vowel in the Greek sense of the word), whereas all other instances of *činkim* belonging exclusively to the Arabic use concern *činkims* on consonants.

Coptic syllabification whereas, in the Arabic use, they denote syllables according to Arabic syllabification. This means that, in Arabic use, the syllables begin with an additional, unwritten, aleph.

36. Arabic influence has been suspected with regard to the expanded use of the *činkim*[53]. It may therefore be useful to review arguments that make it extremely likely that Arabic influence is the proper explanation for the transition from the earlier use to the later use of the *činkim*.

(1) The expanded use as a rule affects consonant clusters foreign to Arabic.

(2) The expanded use became dominant at the end of the fourteenth century[54], when knowledge of Coptic, be it as a living or a dead language, declined strongly, as is evident from the emergence of Arabic grammars of Coptic and of Arabic glosses in Coptic manuscripts.

(3) The expanded use often contradicts the syllabification as expressed by the Coptic consonants. For example, the aspiration of ϫ before a sonorant in ϫⲛⲁϥ "you see" shows that ϫ formed a single syllable with the following phonemes[55]. But the *činkim* surmounting ϫ in ϫ̀ⲛⲁϥ in Arabic use seems to indicate that ϫ denotes a separate syllable. The single writing ϫ̀ⲛⲁϥ therefore exhibits two conflicting syllabifications. Apparently, an earlier syllabification has been replaced by a later one. Since Coptic had become extinct when the change took place, the replacement cannot be ascribed to the sound changes that normally occur in any living language. This makes adaptation of late Bohairic to Arabic phonological structure the most probable cause of the change.

(4) Arabic influence can also explain the fact that, when Bohairic "weak" definite articles precede words of which the first letter is a vowel, there are as a general rule *no činkims* on the first two letters in manuscripts

[53] Kasser describes the Arabic use of the *činkim* as "probably influenced by Arabic" (*Copt. Encycl.* vol. 8, 111).

[54] Polotsky, *BSAC* 12, 26 = *CP* 379. For earlier instances of *činkim* marking the first of two consonants of a cluster, see Quecke, *Untersuchungen zum koptischen Stundengebet* (Louvain 1970) 367.

[55] This phenomenon is often called "close connection", following Polotsky, who adopted the term from P. de Lagarde ("enge Verbindung") and expanded its meaning (Polotsky, *BSAC* 12, 29 = *CP* 382).

In cases like ϫⲛⲁϥ "you see", the first letter is always aspirated, showing that it always forms a syllable with what follows. Fluctuation between absence and presence of aspiration, as in ⲁⲧ- and ⲁϑ-, ⲙⲉⲧ- and ⲙⲉϑ-, and ⲉⲕⲛⲁ- and ⲉϫⲛⲁ (circumstantial of the first future) reflects fluctuation in syllabification: for example, ⲉⲕⲛⲁ- is to be syllabified as *ek/na*, with "implosive" (de Saussure) *k*; ⲉϫⲛⲁ- is to be syllabified as *e/khna*, with the "explosive chain" *khn* (cf. Polotsky, *BSAC* 12, 34-35 = *CP* 387-88).

copied before *c.* 1400 AD, but in manuscripts later than *c.* 1400, exhibiting the Arabic use of the *činkim*, there are *two*. For example, ⲡⲱⲟⲩ "the glory" (Coptic style) is contrasted with ⲡ̀ⲱⲟⲩ (Arabic style).

This contrast is ultimately a consequence of the fact that the noun ⲱⲟⲩ begins with a glottal stop and ⲡⲱⲟⲩ *p'ō/u* therefore with a cluster of two consonants. The glottal stop is graphically not expressed but its presence can be assumed on the following grounds.

(a) If ⲱⲟⲩ began with a vowel and not with aleph, both Coptic style ⲡⲱⲟⲩ and Arabic style ⲡ̀ⲱⲟⲩ would be exceptional in the orthographies of their respective time periods. And their exceptional character would pertain precisely to the fact that ⲱⲟⲩ begins with a vowel.

On the one hand, Coptic style ⲡⲱⲟⲩ would be an exception to the rule that ⲫ, rather than ⲡ, precedes stressed vowels in Bohairic. On the other hand, Arabic style ⲡ̀ⲱⲟⲩ would be an exception to the rule that Arabic style *činkims* can only be explained as resolving clusters of two consonants. Instead of assuming two lone exceptions, it seems preferable to incorporate both exceptions into the respective rules and assume the presence of a glottal stop.

(b) "Weak" definite articles form syllables with the initial sound or sounds of the nouns to which they are prefixed[56]. If ⲱⲟⲩ began with a vowel and not with a glottal stop, ⲡⲱⲟⲩ "the glory" and ⲫⲱⲟⲩ "theirs", would have the same syllabic structure and be distinguished only by absence or presence of aspiration. But aspirated and unaspirated occlusives are not phonemes but allophones in Bohairic.

It may be assumed then that Arabic style ⲡ̀ⲱⲟⲩ receives the *činkim* on ⲡ, marking it as a separate syllable and resolving a cluster of two consonants. As a consequence, ⲱ also forms a separate syllable, and therefore also receives a *činkim*. The resulting approximate syllabification is *'ip/'ō/'u* (likewise ⲧ̀ⲁⲫⲉ *'it/'a/phe* "the head").

(5) The pronunciation of Arabic style *činkims* suggested above agrees with present-day Coptic church pronunciation[57]. Since ancient and modern pronunciation differ, the change must have occurred some time before the modern era. In view of the above, it is convenient to date it to the Middle Ages, perhaps the fourteenth century.

[56] See Polotsky, *BSAC* 12, 25-35 = *CP* 378-88; Hintze, "Bemerkungen zur Aspiration der Verschlusslaute im Koptischen", *Zeitschrift für Phonetik* 1 (1947) 199-213 and *Enchoria* 10, 50.

[57] J. D. Prince uses the notation "ĕ" for prothetic vowels represented by *činkims* ("The Modern Pronunciation of Coptic in the Mass", *JAOS* 23 [1902] 289-306).

7. Does Sahidic Have a Long Definite article ⲡⲉ- ⲧⲉ- ⲛⲉ-?

37. Grammars of Sahidic teach that the definite article exhibits two forms, which will be called here the short form and the long form.

	masculine singular	*feminine singular*	*plural*
short form	ⲡ-	ⲧ-	ⲛ-
long form	ⲡⲉ-	ⲧⲉ-	ⲛⲉ-

The distribution of these two forms has long been established[58]. The short forms appear (1) before a "vowel"[59] and (2) before a "consonant" followed by a "vowel" (including ⲟⲩ and ⲉⲓ functioning as "consonants"). An example of (1) is ⲡⲏⲣⲡ "the wine"; examples of (2) are ⲧⲥⲱⲛⲉ "the sister", ⲛ̄ⲉⲓⲟⲧⲉ "the parents" (*n̥/yo/te*), and ⲛ̄ⲟⲩⲏⲏⲃ "the priests" (*n̥/wē'b*). The long forms precede nouns beginning with two "consonants"[60], including the Greek letters ⲑ, ⲝ, ⲫ, ⲭ, and ⲯ, which are equivalent to ⲧ+ϩ, ⲕ+ⲥ, ⲡ+ϩ, ⲕ+ϩ, and ⲡ+ⲥ.

Examples are ⲡⲉⲥⲛⲟⲩ "the blood", ⲧⲉⲯⲩⲭⲏ "the soul", ⲡⲉϩⲓⲟⲙⲉ "the women" (*neh/yo/me*?), and ⲡⲉϩⲟⲩⲟ "the abundance" (*peh/wo*?).

38. A cursory examination of other dialects of Coptic reveals that, judging from the Scheide and Glazier codices, which contain Matthew and the first half of Acts[61], Middle Egyptian exhibits the same distribution as Sahidic[62].

Fayyumic also shows contrast between short forms and long forms. But Till described Fayyumic usage as "random"[63]. Stern thought it

[58] See already Stern, *Kopt. Gramm.* 108 § 228.

[59] Probably more precisely, "before vowels preceded by a glottal stop". See § 36(4) and Kasser, "Syllabication", *Copt. Encycl.* vol. 8, 207-14 at 210.

[60] An exception is the sequence ⲧⲣ in the causative infinitive (e.g. ϩⲁ̄ ⲡⲧⲣⲉϥϣⲁϫⲉ) and certain other cases (e.g. ⲡⲧⲣⲉϥⲧⲟⲟⲩ "the fourth part"), as noted by W. Till, *Koptische Grammatik* (Leipzig ^{4}1970 = ^{2}1961) 59 (§ 88) n. 2 (cf. §§ 175, 348).

On the other hand, one finds ⲛⲉⲧⲣⲓⲣ "the oven" and ⲛⲉⲧⲣⲁ "the ligaments, the strings" (Colossians 2:19). H. J. Polotsky also notes ⲛⲉⲕⲣⲁⲣⲁ "the murmuring", which indicates that "die beiden ersten Konsonanten *kr* ein 'chaînon explosif' bilden" (*OLZ* 52 [1957] 223-24 n. 4 = *CP* 228*b*). The difference may be in syllabification, with *p. / n* either belonging to the *same* syllable (*absence* of *e* in *ptref/ša/če*) or to a *different* one (*presence* of *e* in *pet/rir* or *pe/trir*, *net/ra* or *ne/tra*, and *pek/rm̥/rm̥* or *pe/krm̥/rm̥*).

[61] Both texts have been edited by H.-M. Schenke, *Das Matthäus-Evangelium im mittelägyptischen Dialekt des Koptischen (Codex Scheide)* (TU 127; Berlin 1981) and *Apostelgeschichte 1,1-15,3 im mittelägyptischen Dialekt des Koptischen (Codex Glazier)* (TU 137; Berlin 1991).

[62] The usage of the long definite article in Schenke's Matthew is described by A. Shisha-Halevy, "'Middle Egyptian' Gleanings: Grammatical Notes on the 'Middle Egyptian' Text of Matthew", *CdÉ* 58 (1983) 316.

[63] Till, *Dialektgramm.* (Munich ^{1}1931) 16 § 19 a *1*.

agreed "generally" with Sahidic usage, though with many exceptions[64]. Since most Fayyumic manuscripts are relatively late (sixth to eighth centuries, as opposed to fourth to sixth centuries), it is possible that random alternation results from deteriorating scribal traditions. A separate investigation might reveal whether or not there is more regularity in earlier Fayyumic manuscripts than in later ones[65]. In this connection, it may be observed that instances of irregular usage are also found in later Sahidic manuscripts such as the Pierpont Morgan codices[66]. This may be due to influence from Fayyumic, the Morgan codices having been copied in Fayyumic scriptoria, or again, to a decline in standards, or to both.

In other dialects, long forms of the definite article like ⲡⲉ- are very rare or totally absent.

39. There is no established theory as to how the extra ⲉ of the long article ought to be accounted for. In what follows, a line of argument will be presented which, I believe, deserves consideration.

It has been maintained on good grounds that definite articles are in "close connection" with the noun to which they are attached[67]. In practical terms, this means that, as regards rules of syllabification, a definite article and the noun to which it is prefixed may be treated together as if they were a single word. It follows that, when the article forms an unaccented syllable with the first sound of the noun to which it is prefixed, we may study these unaccented syllables in light of previous observations on such syllables.

The basic rules of the unaccented syllable were laid down by H. J. Polotsky[68]. The Polotsky rules are based on the testimony of what are considered good, early, manuscripts. What we find in these manuscripts is a standardized orthographical tradition based on the amateur phonological analysis of ancient scribes or scribal schools[69].

[64] "Auch fehlt es nicht an beispielen ungeregelten gebrauchs" (Stern, *Kopt. Gramm.* 109 § 228).

[65] Such an investigation would be complicated by the fact that sources in Fayyumic are many fewer than in Sahidic and Bohairic, that texts "are published in the most widely dispersed places", and that there are many subdialects (Kasser, "Fayyumic", *Copt. Encycl.* vol. 8, 124-31 at 124).

[66] For the Pierpont Morgan Coptic collection, see L. Depuydt, *Catalogue of Coptic Manuscripts in the Pierpont Morgan Library* (Leuven 1993).

[67] For Bohairic, see Polotsky, *BSAC* 12, 25-35 = *CP* 378-88. "[D]er enge Anschluss der einkonsonantigen Morpheme ... gilt auch für das Sahidische" (Polotsky, *OLZ* 52, 224 n. 1 end = *CP* 228).

[68] Polotsky, *ZÄS* 69, 128-29 = *CP* 361-62. For corresponding behavior of conjugation bases, see id., "The Coptic Conjugation System", *Or* 29 (1960) 392-422 at 413-15 = *CP* 238-68 at 259-61. Cf. Shisha-Halevy, "Sahidic", *Copt. Encycl.* vol. 8, 194-202 at 196.

[69] Polotsky, *OLZ* 52, 221 = *CP* 227.

Obviously, there is no direct testimony of the syllabification of a dead language like Coptic. It is therefore not known to what extent orthographical traditions pertaining to the unaccented syllable reflected actual pronunciation. It may be assumed that, to a certain extent, they did. But it is also plausible that at least part of the orthographical rules are based on conventions. It remains worthwhile, however, to study the careful habits of the ancient Coptic scribes.

40. A basic distinction within the unaccented syllable is that between absence and presence of ⲉ, determined (1) by the nature of the phonemes beginning and ending the syllable, which may be either surds like ⲡ ⲧ ⲕ ϥ ⲥ or sonorants like ⲃ ⲗ ⲙ ⲛ ⲣ, and (2) by the position of the unaccented syllable, which may appear either before or after the stressed syllable. Polotsky observed the following regularities in well executed, earlier, Sahidic manuscripts.

Posttonic syllables without sonorants do not have ⲉ (e.g. ⲥⲟⲧⲡϥ "choose him") but those beginning with a sonorant do have ⲉ (e.g. ⲥⲟⲧⲙⲉϥ "hear him"). On the other hand, in *pretonic* syllables, the same two types both have ⲉ (e.g. ⲥⲉⲡⲥⲱⲡϥ "implore him" and ⲡⲉϩⲛⲟⲩϩ "shaken together"). But when a pretonic syllable *ends* in a sonorant, the syllable is marked by a superlinear stroke (e.g. ⲱⲣ̄ⲃⲱⲣϥ̄ "destroy it").

41. A possible phonetic explanation for these regularities in orthography is as follows.

Syllables without sonorants such as ⲡϥ̄ in ⲥⲟⲧⲡϥ̄, if at all pronounced as written, must have been entirely voiceless. And this applies to all such syllables without sonorants, because it is a striking characteristic of Coptic that all non-sonorants are voiceless. Coptic does not have voiced stops.

That ⲡϥ̄ could have reflected a pronunciation without vowel is confirmed by Shohara's observation that "[t]o one who is familiar with the physiological conditions of phonetic change it seems unlikely that the accentual conditions in Coptic stopped short at merely 'weakening' the accented vowel, without also bringing about its complete loss, since such physiological conditions involved processes which, once set into action, continue to function, unless inhibited by opposing conditions developing later. There is no evidence in Sahidic of the existence of such opposing conditions"[70]. And according to Shohara, this applies especially to posttonic syllables[71].

[70] Shohara, in Worrell, *Coptic Sounds* 157. Shohara also describes how a voiceless syllable like ⲡϥ̄ would be pronounced.

[71] "[I]n many languages (e.g. English, German, Latin, and Coptic) the vowel following

Whereas posttonic syllables without sonorants, for example ⲛ̄ⲕ in ⲥⲟⲧⲡ̄ⲕ̄, do not contain ⲉ, pretonic syllables without sonorants do. An example is ⲥⲉⲡⲥⲱⲡ̄ⲕ̄. This also seems to occur in other languages. Shohara notes that "in English the vowel following the accent more frequently disappears than that preceding the accent"[72].

As for syllables containing sonorants, pretonic and posttonic syllables beginning with sonorants such as ⲙⲉⲕ in ⲥⲟⲧⲙⲉⲕ and ⲛⲉϩ in ⲛⲉϩⲛⲟⲩϩ begin with a *voiced* sound. Since ⲙ in ⲙⲉⲕ is voiced, the flow of the air released after the explosion, however slight and whatever its color, is voiced in character and qualifies as a vowel and it may therefore have prompted the appearance of ⲉ in writing. It is important to note that ⲙ itself cannot be the apex of the syllable because, like ⲡ in ⲡⲕ̄, it is *explosive* (as in *ma*) and not implosive (as in *am*). Only implosive sounds can serve as apex of a syllable[73].

Finally, unaccented syllables ending with a sonorant, such as ϣⲣ̄ in ϣⲣ̄ϣⲱⲣⲡ̄ⲕ̄ do not have ⲉ, apparently because here, the final sonorant can serve as apex, whereas an initial sonorant cannot. This also seems to apply to posttonic instances, for example ⲥⲟⲧⲡⲛ̄ "choose us" (Ephesians 1:4) and perhaps also to instances in which the syllable not only ends but also begins with a sonorant: one example is Pierpont Morgan M611, f. 19v *a* ϭⲟⲟⲗⲛ̄ *co'/lṇ* "envelop us".

42. If these rules regarding pretonic unaccented syllables within single words are applied to the behavior of definite articles, the presence of ⲉ in the syllables ⲧⲉⲡ, ⲡⲉϩ, and ⲡⲉⲥ in ⲧⲉⲯⲩⲭⲏ (*tep/su/khē*) "the soul", ⲡⲉϩⲟⲩⲟ (*peh/wo*) "the excess", and ⲡⲉⲥⲡⲟⲩ (*pes/nof*) "the blood" would be regular in pretonic unaccented syllables beginning with and ending in surds[74].

---

the stressed syllable often disappears entirely, and is always much reduced in intensity and altered in quality" (Shohara, ibid. 158).

[72] Shohara, ibid. 158.

[73] "[L'explosion] est toujours si rapide qu'elle reste une quantité irrationnelle pour l'oreille; c'est pour cela aussi qu'elle ne donne jamais l'impression vocalique" (de Saussure, *Cours de linguistique générale* [Paris 1916] 91). Note that initial ⲛ̄ in the conjunctive ⲛ̄ⲧⲉⲥⲱⲧⲙ̄ is implosive as a condition for its sonantic function.

[74] The syllabic points of P. Chester Beatty 2018 suggest the syllabification *ne/pro/ph[ē/tē]s* at 18,8 (A. Pietersma, S. T. Comstock, H. W. Attridge, *The Apocalypse of Elijah based on P. Chester Beatty 2018* [Society of Biblical Literature, Texts and Translations 19; Chico 1981]). But see also *neš/tor/tr* "the disturbances" (5,13), *pes/[ta]w/ros* "the cross" (12,16), *m/pem/to* "in the presence (of)" (13,13), and *n/neh/b[ē/we]* "the deeds" (13,14). Examples such as *pe/khrē/ma* "the wealth" (11,4), *te/khma/lō/si/a* (1,12) "captivity", and *ne/thro/nos* "the thrones" are not conclusive because *kh* and *th* are written as the monograms ⳉ and Ⳑ; the syllabic divisions *-k/h-* and *-t/h-* are therefore not graphic possibilities. As regards *ne/pro/ph[ē/tē]s* mentioned above, sequences of two consonants of which the second is a sonorant may form a special case. For example, Latin *patris* "of the father" is syllabified either as *pat/ris* or as *pa/tris*. P. Chester Beatty

Fluctuation occurs, however, when the unaccented syllable ends in a sonorant. According to the rules stated above one would expect the sonorant to be sonantic, typically marked by a superlinear stroke. An example is the use of the article with ⲡ̄ⲡⲉ "temple". ⲡⲉⲣⲡⲉ is standard in good manuscripts, but the expected ⲡⲣ̄ⲡⲉ also occurs.

43. In instances like ⲡⲉⲣⲡⲉ, one might consider *analogy* as a possible factor. That analogy may have played a role in orthographical habits concerning unaccented syllables, regardless of actual pronunciation, appears from the behavior of unaccented syllables in certain paradigms[75].

One such paradigm is that of the possessive pronouns. The four forms ⲛⲉⲕ- "his (singular)", ⲛⲉⲛ- "ours (singular)", ⲛⲉⲩ- "his (plural)", and ⲛⲉⲛ- "ours (plural)" display the four possible combinations of surds and sonorants in unaccented syllables, but there is no contrast in this paradigm between absence and presence of ⲉ such as exists in other unaccented syllables. As a result, ⲧⲛ̄ⲧⲱⲛ (*tṇ/tōn*) coexists with ⲛⲉⲛⲥⲟⲛ (*pen/son*) "our brother". Other examples of paradigms are the verbal conjugations. In the paradigm of the negated perfect, for example, all forms are characterized by absence of ⲉ (e.g. ⲙ̄ⲡⲕ̄-, ⲙ̄ⲡⲛ̄-).

44. Analogy may have played a role in the writings of the definite article, but it also may have occurred among the forms of the article. After all, singular ⲡ and ⲧ are surds and plural ⲛ is a sonorant, and ought therefore to behave differently. A rare example in which this seems to be the case is ⲣ̄ⲣⲟ "king". In good manuscripts, one finds ⲡⲣ̄ⲣⲟ "the king" but ⲛⲉⲣⲣⲱⲟⲩ "the kings"[76]. But then, one should consider that the form ⲡⲣ̄ⲣⲟ may itself be due to analogy with forms like ϩⲗ̄ⲗⲟ "old man", ϣⲙ̄ⲙⲟ "strange", and ⲧⲃ̄ⲃⲟ "purify".

45. Another factor that may have played a role in the behavior of unaccented syllables is a desire for *differentiation.* Thus, in standard early orthography, the plural definite article ϩⲛ- is distinguished from the preposition ϩⲛ̄ "in"[77].

---

as a rule exhibits the type *pa/tris* (2,6; 2,19; 8,16; 9,13; 11,15; 15,15; *pekrōm* "the fire" is without dots at 1,16). P. Chester Beatty 2018 often seems to display slow pronunciation: is the type *pa/tris* more characteristic of slow pronunciation and *pat/ris* more typical of fast pronunciation? For slow and fast pronunciation, see n. 27. Finally, the peculiar syllabification *pe/mhit* "the north" (5,10) should be noted (but compare, for example, *m/pem/to* at 13,13).

[75] On analogy as a possible influence, see also G. Steindorff, *Lehrbuch der koptischen Grammatik* (Chicago 1951) 34 § 57.

[76] See Luke, ed. Quecke, *Das Lukasevangelium saïdisch* (Papyrologica Castroctaviana, Studia et Textus 6; Barcelona 1977) 58. Cf. also Quecke, *Or* 42 (1973) 462.

[77] On differentiation, see also Steindorff, *Lehrbuch* 30 § 47.

46. Two tentative conclusions may be drawn from the above. First, the orthography of unaccented syllables was probably the result of a mixture of influences such as phonetic grounds, analogy, and differentiation.

Second, there may not have been a long definite article in Sahidic. The forms ⲡⲉ- ⲧⲉ- ⲛⲉ- are perhaps a modern abstraction, convenient for beginner's manuals. Indeed, if the "close connection" between definite article and noun is treated in the same way as single words, the ⲉ does belong neither to the preceding definite article ⲡ- ⲧ- ⲛ- nor to the first sound of the following noun, but owes its existence to the fact that the two form a syllable. In grammars, the ⲉ following definite articles therefore belongs in the chapter on syllabification rather than in the chapter on articles.

8. ⲙⲡⲉⲙⲧⲟ "in the presence (of)" in Sahidic and Bohairic

47. The writing ⲙⲡⲉⲙⲧⲟ "in the presence (of)" is standard in both Bohairic and Sahidic. ⲡⲉ- in Sahidic ⲙ̄ⲡⲉⲙⲧⲟ is traditionally interpreted as the long definite article. But this interpretation cannot be applied to the Bohairic writing because the definite article never assumes the forms ⲡⲉ- ⲧⲉ- ⲛⲉ- in this dialect. A different explanation is therefore in order for the appearance of the letter ⲉ between the weak definite article ⲡ- and the noun ⲙ̀ⲧⲟ in Bohairic ⲙ̀ⲡⲉⲙⲧⲟ.

In fact, ⲙ̀ⲡⲉⲙⲧⲟ in Bohairic is just one instance of a larger phenomenon[78]. Whenever one of a set of morphemes comprising (1) the weak definite articles ⲡ- and ⲧ-[79], (2) the relative particle ⲉⲧ-, and (3) the preformatives ⲕ-, ϥ-, and ⲥ-, is prefixed to a word beginning with sonantic ⲙ̀ or ⲛ̀, the consonant of the morpheme forms a syllable with the initial sonantic sonorant, and ⲉ appears. For phonetic reasons not fully clear and no longer accessible to observation, Bohairic *always* develops an ⲉ in pretonic and posttonic syllables beginning with a surd and ending in a sonorant.

Examples are ⲡⲉⲙⲕⲁϩ (*pem/kah*) "sadness", ⲉ̀ⲧⲉⲙⲙⲁⲩ (*e/tem/mau*) "that, those (literally, which is/are there)", and ⲕⲉⲙⲙⲁⲩ (*kem/mau*) "You are there". In conclusion, ⲉ belongs neither to the first nor to the second word, but results from their "close connection".

48. Can Sahidic ⲙ̄ⲡⲉⲙⲧⲟ be explained along the same lines? The fact is that, in Sahidic, in unaccented syllables beginning with a surd and ending with a sonorant, the sonorant is as a rule sonantic. The standard Sahidic equivalents of Bohairic ⲉ̀ⲧⲉⲙⲙⲁⲩ (*e/tem/mau*) and ⲕⲉⲙⲙⲁⲩ (*kem/mau*) are ⲉⲧⲙ̄ⲙⲁⲩ and ⲕⲁ̄ⲙⲁⲩ. According to this rule, one would have expected *ⲙ̄ⲡⲙ̄ⲧⲟ as the normal form. The presence of ⲉ in ⲙⲡⲉⲙⲧⲟ therefore remains unexplained. Perhaps, here too, analogy played a role.

[78] *BSAC* 12, 25-35 = *CP* 378-88.

[79] Plural ⲛ is very rare. See Polotsky, "The 'Weak' Plural Article in Bohairic", *JEA* 54 (1968) 243-45.

9. Long Articles Preceding Nouns Denoting Time Divisions

49. The long definite article is also prefixed to certain words denoting divisions of time. Remarkably, the article does not need to be followed by two "consonants" though, in two instances, it is.

preceding a "consonant" followed by a "vowel"[80]

ⲡⲉϩⲟⲟⲩ	"the day"
ⲧⲉⲣⲟⲙⲡⲉ	"the year"

preceding (ⲟ)ⲩ

ⲡⲉⲩⲟⲉⲓϣ	"the time" (*pew/oyš*?)

preceding two "consonants" (including (ⲟ)ⲩ *and* (ⲉ)ⲓ *functioning as "consonants")*

ⲧⲉⲩⲛⲟⲩ	"the hour" (*tew/nu*)
ⲧⲉⲩϣⲏ	"the night" (*tew/šē*)

50. Middle Egyptian, the only dialect outside Sahidic in which the alternation between the long and the short forms of the definite article is regular, also agrees with Sahidic usage as to the behavior of definite articles preceding nouns denoting divisions of time. The five words listed in § 49 are also found in the Scheide and Glazier codices, but no instance of ⲣⲁⲙⲡⲉ "year" occurs with the definite article. Instances of the four other words are as follows: ⲡⲉϩⲁⲩ, ⲡⲉⲟⲩⲁⲉⲓϣ, ⲧⲉⲩϣⲏ, ⲧⲉⲩⲛⲟⲩ.

[80] Steindorff, *Lehrbuch* 72 § 137 also notes ⲡⲉϭⲱⲣϩ "the night", though without references. The word is rare in Sahidic and hardly ever occurs with a definite article, like the words ⲣⲟⲩϩⲉ "evening" and ϩⲧⲟⲟⲩⲉ "morning"; C. Schmidt inappropriately restores it, in my opinion, at *Pistis Sophia* [Copenhagen 1925] 145,9: ... ⲉⲧⲉ ⲡⲧⲟϥ ⲡⲉ ϭⲱⲣϩ "that is, (the) night". I have not been able to confirm Steindorff's claim of the use of the long definite article before this word. In a variant of Luke 21:37 (J. Balestri, *Sacrorum bibliorum fragmenta copto-sahidica Musei Borgiani* vol. 3 [Rome 1904] 200), I found it preceded by the short definite article: ϥⲛⲏⲩ (for ⲉϥⲛⲏⲩ) ⲉⲃⲟⲗ ϩⲛ̄ ⲛ̄ϭⲱⲣϩ "When he was going out at night (literally, in the nights)".

51. The only attempt to explain this phenomenon is, to my knowledge, a mere hint by Steindorff, in § 137 of his *Lehrbuch der koptischen Grammatik*, to § 118 of Erman's *Neuägyptische Grammatik*[81].

Coptic definite articles, like the definite articles of many other languages, derive from demonstrative pronouns. The Old and Middle Egyptian etymological predecessors of the Coptic definite articles, *p3*, *t3*, and *n3*, still often exhibited demonstrative meaning. But by the time of Late Egyptian, *p3*, *t3*, and *n3* had come to function mainly as definite articles.

Now in § 118 of his Late Egyptian grammar, Erman notes that the original demonstrative meaning of *p3*, *t3*, and *n3* survives vestigially in Late Egyptian when they precede nouns denoting spans of time. Examples are *m p3 hrw* "today" (literally, "on this day"), *r š3ʿ p3 hrw* "until today", *m p3 grḥ* "tonight", *m t3 rnpt* "this year", and *m t3 wnwt* "immediately" (literally, "at this hour").

It is to be doubted, however, that the Late Egyptian phenomenon noted by Erman is related to the appearance of long definite articles before nouns denoting spans of time in Sahidic Coptic.

First, as regards Sahidic, long definite articles are used in *all* occurrences of the five words denoting divisions of time listed above. There is no association between Sahidic long definite articles and vestigial demonstrative meaning.

Second, as regards Late Egyptian, Erman's remark pertains to the *meaning* of the definite article, not to its form. There is no evidence that the Late Egyptian definite articles *p3*, *t3*, and *n3* had distinct, let alone longer, forms when exceptionally retaining their original demonstrative meaning.

These first two objections may be summarized as follows. The Late Egyptian phenomenon involves a special meaning without a special form. The Sahidic phenomenon involves a special form without a special meaning.

Third, of all occurrences of words denoting spans of time in Coptic, it is precisely the Sahidic descendants of Late Egyptian phrases noted by Erman such as *m p3 hrw* "today" and *r š3ʿ p3 hrw* "until today", namely ⲙ̅ⲡⲟⲟⲩ and ϣⲁ ⲡⲟⲟⲩ, that do *not* feature the long definite article. In ⲡⲧⲉⲩⲛⲟⲩ "immediately", the Sahidic successor of Late Egyptian *m t3*

[81] Steindorff, *Lehrbuch* 72 § 137: "Vgl. Näg. § 118", referring to A. Erman, *Neuägyptische Grammatik* (Leipzig ²1933) 51-52 § 118.

Less specific is M. Chaîne's observation that, "by a law of usage" ("par une loi d'usage"), a "certain number of words" in Sahidic expressing notions of time receive the long definite article ("la forme pleinement écrite") in spite of the fact that they begin with only a single consonant (*Éléments de grammaire dialectale copte* [Paris 1933] 121 § 252).

wnwt, the long definite article can be explained as an instance of the regular use before nouns beginning with two "consonants" (see below).

52. As regards a possible *phonetic* explanation, it should be noted that, in two of the three words in which long definite articles precede a "consonant" followed by a "vowel", an original *r* has been lost, namely in ϩⲟⲟⲩ from *hrw* and in ⲟⲩⲟⲉⲓϣ from *wrš*. Egyptian *r* often develops into a glottal stop in Coptic[82]. An example is ⲧⲟⲟⲧϥ̅, from *ḏrt.f* "his hand".

To include the instances of the long definite article preceding ϩⲟⲟⲩ and ⲟⲩⲟⲉⲓϣ into the rule that long definite articles precede words beginning with two "consonants", one would have to assume (a) that *r* survived as a glottal stop in the words ϩⲟⲟⲩ and ⲟⲩⲟⲉⲓϣ and (b) that the glottal stop immediately followed *h* or *w* (*h'ow* and *w'oyš*).

Hintze did argue that a glottal stop survived in the Bohairic word for "day" but concludes that it follows *o* (*eho'u*): the assumption is that, since *o* does not change into *ō* in this word, as it always does before *w* in Bohairic (compare *B* ⲉⲣⲱⲟⲩ "towards them" with *S* ⲉⲣⲟⲟⲩ), something must have intervened between *o* and *w* in Bohairic ⲉϩⲟⲟⲩ "day"[83].

The presence of a glottal stop is confirmed by the Akhmimic form ϩⲟⲟⲩⲉ. According to a well-known rule, ⲉ follows sequences of a consonant and a sonorant in this dialect (e.g. ⲥⲱⲧⲙⲉ). In the case of ϩⲟⲟⲩⲉ, the consonant must be the glottal stop, hence *ho'/we*[84].

But all this does not yet account for the behavior of the third noun ⲣⲟⲙⲡⲉ[85]. It cannot be excluded, however, that evidence might emerge that will make it possible to strengthen the case for a phonetic explanation.

53. A different explanation is analogy. It may be argued that the three nouns ϩⲟⲟⲩ "day", ⲣⲟⲙⲡⲉ "year", and ⲟⲩⲟⲉⲓϣ "time" receive the long definite article before a "consonant" followed by a "vowel"

[82] See, for example, Kasser, "Syllabation rapide ou lente en copte: II. Aleph et 'voyelle d'aleph'", *Enchoria* 11 (1982) 39-58.

[83] Hintze, *Enchoria* 10, 49 (for *B* ϩⲟⲟⲩ read ⲉϩⲟⲟⲩ).

Hintze mentions three instances in which he assumes a glottal stop immediately follows the first consonant of a word. But, unfortunately, it is not possible to observe how the definite article would behave before these words because (1) ⲡⲏⲣⲉ *p'ēre* "quail" (Hintze, *Enchoria* 10, 59) is, to my knowledge, not attested with a definite article; (2) ⲟⲩⲟⲡ *ou'op* (ibid. 30) begins with a sonorant which can "function as a vowel" (as in ⲡⲟⲩⲟⲡ [*pu/op*] "the holiness" Jeremiah 3:16); and (3) ⲧⲱⲃⲉ *t'ōbe* (ibid. 50) is the name of a month and does not occur with the definite article.

[84] See Till, *Dialektgramm.*² 11 § 51. For *ho'u*, see also W. Vycichl, "Etymology", *Copt. Encycl.* vol. 8, 118-24 at 123.

[85] Unless one assumes that it behaves by analogy to the four other words denoting time.

(ⲡⲉϩⲟⲟⲩ, ⲧⲉⲣⲟⲙⲡⲉ, and ⲡⲉⲩⲟⲉⲓϣ) *due to analogy with* ⲧⲉⲩⲛⲟⲩ (from ⲟⲩⲛⲟⲩ "hour") and ⲧⲉⲩϣⲏ (from ⲟⲩϣⲏ "night").

In ⲧⲉⲩⲛⲟⲩ and ⲧⲉⲩϣⲏ, the long definite articles can be explained as instances of the regular use before two "consonants" (*tew/nu, tew/šē*)[86].

This instance of analogy may have occurred in the spoken language and hence reflect a feature of the pronunciation of Sahidic and Middle Egyptian. But then, one should also consider the possibility that it originated in scribal schools which established the orthographical traditions for translating the Bible into those two dialects. It is therefore not impossible that the present instance of analogy is only a feature of written Sahidic and Middle Egyptian.

54. The following eight points may be considered in connection with the above hypothesis.

(a) Analogy is universally recognized as a principal factor in the evolution of most if not all languages[87]. An example is what happened to French *il preuve* "he proves", which existed for a long time alongside *nous prouvons* "we prove", while in modern French, both *il prouve* and *nous prouvons* are standard. The singular form *preuve* therefore changed by analogy to plural forms like *prouvons.*

(b) Importantly, it is not always the more numerous forms that influence those fewer in number. Just a couple of forms occasionally suffice to create a new general form[88]. In the case at hand, the behavior of two nouns may have influenced that of three others.

(c) Analogy occurs in disregard of reigning grammatical rules. Analogical formations, when they are still relatively young, are therefore often perceived as "errors" by prescriptive grammars[89]. According to the above hypothesis, the extra ⲉ in ⲡⲉϩⲟⲟⲩ violates the rule that ⲉ appears before two "consonants".

(d) It is difficult to imagine, as an alternative for the above hypothesis, *semantic* grounds for the appearance of the long definite article with five Sahidic nouns referring to divisions of time. An example of a semantic rationale would be a nuance which the extra ⲉ in ⲡⲉϩⲟⲟⲩ adds to the Sahidic equivalent for "the day", in addition to definiteness. Steindorff's

[86] T. Lambdin, for example, notes that, as far as the use of the "fuller" forms of the definite article is concerned, "ⲟⲩⲛⲟⲩ and ⲟⲩϣⲏ fall under the two-consonant rule" (*Introduction to Sahidic Coptic* [Macon, Georgia 1983] 3). For Sahidic, see also Steindorff, *Lehrbuch* § 137, and for Middle Egyptian, Shisha-Halevy, *CdÉ* 58, 316.

[87] See, for instance, de Saussure, *Cours* 221-37.

[88] See ibid. 222-23.

[89] On this perception of analogy, see H. Frei, *La grammaire des fautes* (Paris and Geneva 1929) 43-54.

suggestion discussed above (§ 51) would imply that the long definite article ⲡⲉϩⲟⲟⲩ had vestigial demonstrative meaning, which is not the case. No other suggestions have been made, to my knowledge.

(e) The consistent use of long definite articles before five words expressing time divisions occurs only in the two dialects exhibiting the forms ⲡⲉ- ⲧⲉ- ⲛⲉ- before consonant clusters[90]. In no other dialect, and as far as hieroglyphic writing allows us to see, in no previous stage of the language, do nouns denoting time display such behavior[91]. Since two of the five words can easily be subsumed under the cluster rule, it is tempting to bring the three remaining exceptions into the fold.

(f) The conditions for analogy are favorable because the five words listed above all denote extensions in time, and as such they often appear in similar contexts or in close vicinity to one another. This applies especially to ⲡⲉϩⲟⲟⲩ and ⲧⲉⲩϣⲏ in the frequent expression "day and night"[92].

In the expressions ⲁ̅ⲛⲟⲟⲩ "today" and ϣⲁ ⲡⲟⲟⲩ "until today", the loss of ϩ may have occurred in earlier stages of Egyptian. It may also be noted that the counterpart of "today" is ϩⲛ̅ ⲧⲉⲓⲟⲩϣⲏ "tonight".

Interestingly, ⲟⲩⲟⲉⲓϣ is as rule preceded by the *short* definite article when it follows ⲡⲣⲟⲥ and ⲡⲁⲣⲁ, as in ⲡⲣⲟⲥ ⲡⲟⲩⲟⲉⲓϣ[93]. Did analogy with ⲡⲣⲟⲥ ⲟⲩⲟⲩⲟⲉⲓϣ, also spelled ⲡⲣⲟⲥ ⲟⲩⲟⲉⲓϣ, play a role?

(g) Other words denoting time such as ⲡⲁⲩ "time, hour", ⲥⲛⲩ "time, season", ⲥⲟⲙ "occasion, time", and ⲧⲉ "time, season" do not receive the long definite article. If the above hypothesis is correct, the reason seems to be that they do not refer to extensions in time, rather to points in time or time as an occasion, that is, time as the right or proper time to do something (Greek καιρός). As such, they appear in different contexts than words referring to extensions in time and therefore are not exposed to the influence of analogy[94].

[90] Fayyumic remains to be investigated (see n. 65).

[91] One of the usages of ⲡⲓ- ⲧⲓ- ⲙⲓ-, as established by Polotsky (*OLZ* 52, 230 = *CP* 231), is before nouns denoting time. But they also occur elsewhere and are in fact demonstrative pronouns.

[92] Mark 4:27, 5:5; Luke 2:37, 18:7; Acts 9:24; 1 Thessalonians 2:9, 3:10; 2 Thessalonians 3:8; 1 Timothy 5:5; 2 Timothy 1:3; Revelation 4:8, 7:15, 12:10, 14:11. See M. Wilmet, *Concordance du Nouveau Testament sahidique*, 3 vols. (Leuven 1957, 1958, 1959) s.v. ⲟⲩϣⲏ.

[93] This fact has been noted by J. Vergote, *Grammaire copte* vol. 2a (Leuven 1983) 116. Examples are 1 Thessalonians 2:17, 2 Timothy 4:2, and Hebrews 11:11. The short article also occurs before ⲟⲩⲟⲉⲓϣ in a few instances in other contexts.

[94] Among other words denoting time, ϩⲧⲟⲟⲩⲉ "morning" and ⲣⲟⲩϩⲉ "evening" do not as a rule occur with the definite article; ⲡⲣⲱ "winter" is preceded by the long definite article and ϣⲱⲙ "summer" by the short definite article, in accordance with the general rule.

(h) The word ⲉⲃⲟⲧ "month", though referring to an extension in time, does not receive the long definite article. On the other hand, the word begins with the letter ⲉ. As such, it already resembles other words denoting extensions in time preceded by the long definite article, as in the following sequence of words in Revelation 9:15: ⲡⲉϩⲟⲟⲩ ⲙ̄ⲙ̄ ⲡⲉⲃⲟⲧ ⲙ̄ⲙ̄ ⲧⲉⲣⲟⲙⲡⲉ "the day and the month and the year".

55. Against the above hypothesis and in favor of a special long definite article preceding words of time, it might be argued that ⲟⲩⲛⲟⲩ "hour" and ⲟⲩϫⲏ "night" begin with ⲟⲩ as an equivalent of *u*, and that, when ⲧⲉ- is prefixed to these words — as to other words denoting divisions of time — ⲟⲩ turns into *w* because it appears after ⲉ of the long definite article: *te* + *u/nu* (three syllables) therefore naturally becomes *tew/nu* (two syllables).

56. Two objections could be raised against this argument.

(a) First, the argument disregards the behavior of certain other Sahidic words beginning with (ⲟ)ⲩ. Take, for example, ⲟⲩϩⲟⲣ "dog" (*uhor*) which, like ⲟⲩⲛⲟⲩ "hour" and ⲟⲩϫⲏ "night", begins with ⲟⲩ followed by a "consonant". If it is assumed that ⲟⲩϩⲟⲣ "dog" primarily begins with *u*, there would be no reason for this word to receive the long article, as it apparently does not begin with two "consonants" and as it is not a word denoting time (if we assume, for argument's sake, that words denoting time are preceded by long definite articles). One would always expect to find the form ⲡⲟⲩϩⲟⲣ (*puhor*). But what one does usually find for "the dog" is ⲡⲉⲩϩⲟⲣ (plural ⲛⲉⲩϩⲟⲣ "the dogs").

Instances like ⲡⲉⲩϩⲟⲣ show, therefore, that the long definite articles in ⲧⲉⲩⲛⲟⲩ "the hour" and ⲧⲉⲩϫⲏ "the night" *can* at least be taken to follow the general rule that long forms precede words beginning with two "consonants".

(b) Second, the line of argument in § 55 assumes that (ⲟ)ⲩ in ⲟⲩⲛⲟⲩ "hour" and ⲟⲩϫⲏ "night" is somehow primarily pronounced as *u* and only secondarily turns into *w*. However, words do not occur in abstract isolation, outside the chain of speech. Rather, the forms ⲡⲉⲩϩⲟⲣ "the dog" (*pew/hor*), ⲟⲩⲟⲩϩⲟⲣ "a dog" (*u/u/hor*), and ⲟⲩϩⲟⲣ "dog" *coexist* in Coptic. Consequently, neither *whor* nor *uhor* is necessarily primary.

And obviously, the forms in which words appear in the entries of modern dictionaries (e.g. ⲟⲩϩⲟⲣ, pronounced *uhor*) have no claim to primacy. Dictionary entries are abstractions and even differ from the occurrences of nouns without articles (e.g. after (ⲙ̄)ⲙⲙ̄ "there is no").

57. In general, there is much fluctuation between the presence and absence of ⲉ before nouns beginning with (ⲟ)ⲩ followed by a "consonant"[95]. For example, those listed in Wilmet's *Concordance* of the Sahidic New Testament can be subdivided in two groups, those that receive the short definite article and those that receive the long definite article[96].

Receive the short definite article

ⲟⲩⲛⲁⲙ "right hand" (Demotic *wnm*) e.g. ⲧⲟⲩⲛⲁⲙ
ⲟⲩϫⲁⲓ "health, safety" (Demotic *wḏ*) e.g. ⲡⲟⲩϫⲁⲓ
ⲟⲩⲣⲟⲧ "gladness" (Demotic *rwt*) e.g. ⲡⲟⲩⲣⲟⲧ

Receive the long definite article

ⲟⲩϩⲟⲣ "dog" (Demotic *whr*) e.g. ⲡⲉⲩϩⲟⲣ
ⲟⲩϣⲁⲡ "loan" (Demotic *wšp*) e.g. ⲡⲉⲩϣⲁⲡ
ⲟⲩⲛⲟⲩ "hour" (Demotic *wnwt*) e.g. ⲧⲉⲩⲛⲟⲩ
ⲟⲩϫⲏ "night" (Demotic *wḫ*) e.g. ⲧⲉⲩϫⲏ

Other sources show that fluctuation is not uncommon with a single word: for example, ⲡⲉⲩϫⲁⲓ[97], ⲡⲟⲩϣⲁⲡ, and ⲡⲟⲩϩⲟⲣ are also attested. It appears that, also in this respect (see §§ 19-25), the sound (ⲟ)ⲩ can be classified with the sonorants.

Brown University
Department of Egyptology
Box 1899
Providence, RI 02912 (USA)

[95] Cf. Vergote, *Gramm. copte* vol. 2a, 116. Words beginning in ⲟⲩ derive from hieroglyphic words beginning with the consonant *w* (written  or). In ⲟⲩⲣⲟⲧ "gladness", from *rwd* (Demotic *rwt*), metathesis has occurred.

[96] For the etymologies, see W. Westendorf, *Koptisches Handwörterbuch* (Heidelberg 1965/77).

[97] E.g. Luke 3:6, ed. Quecke, *Lukasevangelium* 63.