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THE EVOLUTION OF VELAR, PALATAL AND DENTAL STOPS IN COPTIC

BY W. H. WORRELL

The confusion between \varkappa and σ in Coptic is a serious obstacle to an equal mastery of Boheiric and Sahidic. The relationship between words in the two dialects and in Egyptian does not at once appear. Tables have to be consulted, tables which are not easily rationalized.

This confusion exists, partly because the problem is itself complicated; partly because discussion of it so often fails to consider sounds, and so often stops with being merely descriptive. *E.g.*: the table on p. 16 of Steindorff's *Koptische Grammatik* (2nd ed., 1904) equates symbols, not sounds, and is merely descriptive. So also the various sections therein referred to. We do not learn the true, or hypothetical, values of the conventional symbols in terms of precise phonetics. The terminology is vague. What is a "guttural"? Evidently a velar, since here we find κ and σ . But on p. 7 we read that σ has the phonetic value of "tsch, jetzt sch": therefore not velar after all. Of course, the velar value is derived from the observation of Sahidic orthography, while the palatal value comes from the actual pronunciation of modern Boheiric (probably) as observed and set down by Stern (*Koptische Grammatik*, 1880, 16). The beginner in Coptic pays little attention to this section of grammar, and proceeds to learn the usual pronunciation, which is really Boheiric applied to Sahidic. The resulting conventional pronunciation is fatal to all reasoning about the sounds involved. Arabic transliteration shows that the probable values of κ π τ \dagger are nearer to *g b d di* than to the *k p t ti* assigned to them on pages 6-7. Not to know that they are partly voiced (mediae) or fully voiced, again blocks the way to any rationalization of the history of sound-changes. On the other hand, any attempt at rationalization must be based upon the unimpeachable observations begun by Lepsius (*Standard Alphabet*, 1868, *Zeitschr. f. äg. Spr.*, v, 71), and continued by Stern and Steindorff (*op. cit.*).

The sounds to be discussed are represented in the conventional transcription of Egyptology by the symbols k g t d \underline{d} , and the first step is to decide if possible upon actual phonetic values for them.

About three of these sounds there can be little doubt: *k g t* were at one time equivalent to the Semitic sounds represented by κ γ τ , and were therefore *k g t*.

Two of the sounds are more doubtful. They are said on the whole to correspond to the Semitic sounds represented by the letters κ and τ , whose values are not certainly known; and in reality the correspondences are more complicated than that. Too much reliance should not be placed upon transliterations of Semitic words into Egyptian by practical scribes as late as the New Empire. Such a scribe would represent an unfamiliar sound by its nearest equivalent according to his local dialect. Did not the Greeks write $\Psi\epsilon\nu$ - for $\pi\psi\epsilon\nu$ - and $\Sigma\epsilon\nu$ - for $\tau\psi\epsilon\nu$ - and $\Sigma\eta\theta$ for $\tau\eta\theta$; and do they not still write $\mu\text{παλκόνι}$ for *balcone*, simply because they have no characters for the strange sounds? The letters κ and τ may have stood for simple *k* and *t* respectively, followed by a glottal explosion, '^2 , the oldest

“emphatic” sounds, still heard in Abyssinian Semitic and in certain Hamitic languages; or they may have been “emphatics” of the Arabic kind: the first having become a voiceless velar stop, *q*, and the second a voiceless velarized dental, *ṭ*. In either case they stood for *unaspirated* stops, in contrast to the normal aspirated, *k t*. We cannot tell whether the nearest sounds in Egyptian at that time were likewise *q* and *ṭ*, or merely the half-voiced, unaspirated, stops *ġ* and *ḍ*. As there is already a *g*-sound in the language, with its own sign, but no *d*-sound with its own sign, we may suppose that a voiceless uvular stop, *q*, did exist alongside of *k* and *g*; but no “emphatic” sound alongside of *t*. It would be strange to find *p* and *b*, *k* and *g*, and not *t* and *d*. If a velarized sound *ṭ* ever existed, it had been absorbed by *d*, as there is no separate character for it. The velar stop *q* survived, with a special character, because it is not the same as a velarized dental, and does not share the same history. Probably all the “emphatics” of this kind had disappeared from Egyptian by the time of written fixation. There is only one other, *ḍ*, that is commonly supposed to be an “emphatic,” and reasons for rejecting that supposition will be found in the next paragraph.

The last two sounds in the list, *ṭ* and *ḍ*, are most difficult of all to identify. To equate them with **Ḍ** and **Ḍ̣** does not help; for, though the value of **Ḍ** is *s*, the possible values of **Ḍ̣** are many. It is hard to make any scheme of sound-change without supposing that *ṭ* and *ḍ* are voiceless and voiced counterparts, otherwise identical, as any experimenter will soon discover. But **Ḍ** and **Ḍ̣** are certainly not such counterparts.

Erman, in his elementary *Hieroglyphen* (1912, 24), defines *ṭ* and *ḍ* cautiously as “varieties” of *t* and *d* respectively. They could not well have been “emphatics”; for in that case *ṭ* would have been the voiceless member of the pair; and, because “emphatic,” would have been incapable of aspiration in Boheiric. Both its dental and palatal descendants are aspirated in Boheiric. The commonest “variety” of dental is the palatal, and the palatal may develop out of the dental or out of the velar. Supposing then that *ṭ* and *ḍ* are palatals, we immediately find support in the fact that *-ṭ* and *-ṭn*, Egyptian pronominal suffixes, are parallel to the oldest Semitic forms *-kī* and *-kinā*. The velar *k* became the palatalized velar *ḳ*, and finally the palatal, *ṭ*, under the influence of the palatalizing vowel, *i*. We may reasonably suppose then that *ṭ* and *ḍ* were *ṭ* and *ḍ*.

In summary: *k ḳ g t ṭ d ḍ* may be given the values *q k g t ṭ d ḍ*.

Four changes took place in this stock of sounds: (1) Palatals became dentals, (2) The uvular became velar, (3) Velars became palatals, (4) Voiced and voiceless became confused. The first three are due to one tendency: shifting the point of articulation forward.

(1) As early as the Middle Kingdom the palatals, *ṭ ḍ*, in most cases became dentals, *t d*. It would be desirable to know what were the determining factors in the exceptional cases. This change is reflected in writing.

(2) Later than the above, because not reflected in the writing, the voiceless uvular, *q*, seems to have become the voiced velar, *g*, and then to have been indistinguishable from the *g*: a common change in Arabic dialects.

(3) Still later, certainly after *q* had become a velar, the velars, *k g*, became partly or wholly palatalized, *ḳ ġ* or *ṭ ḍ*, in some cases. Again it would be desirable to know the determining factors. Here the northern and southern dialects diverge. In the north the new sounds seem to have become completely palatal, and therefore indistinguishable from the old palatals, *ṭ ḍ*. In the south they remained merely palatalized velars, *ḳ ġ*, distinct from *ṭ ḍ*.

(4) At some time or other the voiced and voiceless sounds became partly or wholly indistinguishable. In the north the voiceless sounds, *k t̃ t*, apparently lost their normal aspiration and became mediae, *ḡ ḏ ḏ̃*, except when protected by a strong accent or the proximity of certain semi-vocalic sounds. The voiced sounds, *g ḏ̃ ḏ*, apparently lost their normal voicing and became mediae everywhere. In the south all (voiced and voiceless) stops became mediae without exception.

The outstanding feature of Boheiric is confusion between palatalized velars and palatals; of Sahidic, confusion between voiced and voiceless.

For practical purposes the Coptic letters involved should be pronounced as follows: *In both dialects*: *κ* as though half-way between *cold* and *gold*, or exactly as south-German *Kanne*. *τ* as though half-way between *tin* and *din*, or exactly as south-German *Tinte* (also spelled *Dinte*). *χ* as though half-way between *chin* and *gin*—though that would be merely a convenient approximation. *In Boheiric*: *σ* approximately as *chin*. *ϣ* as *cold*. *ϥ* as *told*. *In Sahidic*: *σ* approximately as though half-way between *cure* and “*gure*.”

Manuscripts, and particularly unliterary documents, show irregularity in the operation of the principles above discussed, as though phonetic decay had left the Copts at last with many more letters than they knew what to do with.

The table which follows sums up the results.

TABLE.

<i>Boheiric</i>						<i>Sahidic</i>					
1	2	3	4			1	2	3	4		
q	q	g	g	ḡ	κ	q	q	g	g	ḡ	κ
			ḏ	ḏ̃	χ				ḡ	ḡ	σ
k	k	k	k	ḡ	κ	k	k	k	k	ḡ	κ
			k		ϣ						
			t̃	ḏ̃	χ				k̃	ḡ	σ
			t̃	t̃	σ						
g	g	g	g	ḡ	κ	g	g	g	g	ḡ	κ
			ḏ	ḏ̃	χ				ḡ	ḡ	σ
t	t	t	t	ḏ	τ	t	t	t	t	ḏ̃	τ
			t		ϥ						
t̃	t̃	t̃	t̃	ḏ̃	χ	t̃	t̃	t̃	t̃	ḏ̃	χ
			t̃		σ						
	t	t	t	ḏ̃	τ		t	t	t	ḏ̃	τ
			t		ϥ						
d	d	d	d	ḏ̃	τ	d	d	d	d	ḏ̃	τ
ḏ̃	ḏ̃	ḏ̃	ḏ̃	ḏ̃	χ	ḏ̃	ḏ̃	ḏ̃	ḏ̃	ḏ̃	χ
d	d	d	d		τ	d	d	d	ḏ̃		τ