Dialect variation is the result of numerous spontaneous changes that have sprung up in limited areas. They may have remained restricted to their places of origin, but may also—for social and historical reasons—have intruded into the idioms of neighbouring or even more remote areas. In the course of time very complicated patterns will result from such spontaneous changes and their mutual influence in all directions.

In an area like the Egyptian Nile Valley, however, we may expect a less confusing pattern to result. The Nile Valley is not, in this respect, two-dimensional, but rather one-dimensional. Influences on a given idiom are not exerted from any direction, but rather from either north or south; in this particular case there will be influence from one direction only at the southern extremity, since this is the end of the Egyptian speaking area.

In the following paper I want to discuss phonetic divergences only, these being the result of local sound-changes and their eventual spreadings. I shall leave apart morphology, syntax, and lexis. In particular, the aim of this paper is to discuss the possibilities of determining a date for some of these sound changes on the basis of historical studies in the Egyptian language (for the most important of recent contributions to this subject see Osing 1976: esp. 1, 10 ff.)

1. The date of the most recent sound-change can be narrowed down to a certain time range in the shift from x to h in LSMF, but not in the extreme South (esp. A) and North (esp. B): $\gamma^\circ \text{yn} : \rho^\gamma \text{yn}$. According to Spiegelberg 1915:9 (18) the use of Demotic h signs for etymological h or $b_z$ (i.e. $h$ in words that did not undergo the shift from $x$ to $h$ in LSMF, like $S \gamma^\circ \text{pyy} \text{y ‘voice’}$) is attested in Roman period Demotic only. Other evidence may be gained from one of the Old Coptic texts, the Michigan horoscope (pMichigan 6131, see W.H. Worrell 1941). Although this text of the 2nd cent. A.D. is evidently written is $F$, it has the $b \gamma$ sign as opposed to $\gamma$. This means that—in the $F$ speaking area—the shift $x > h$ was not yet manifest in the 2nd cent. A.D. It may, however, by then have originated in another area, e.g. in the reliefs of later L and (or) S. In the $F$ speaking area, the shift $x > h$ must have occurred about the end of the 2nd cent. or the beginning of the 3rd cent. A.D., since we find it already in the oldest $F$ texts.

2. Another very important feature separates B from all other major dialects: B is the only idiom that has preserved the two categories of Egyptian stops, whereas in the other dialects they have collapsed. The two categories of Egyptian stops are generally thought to be voiced vs. voiceless, although there is an heretic tradition that would prefer to distinguish the two categories by the criterion of aspiration (see esp. Roessler 1971). In the Coptic dialect of B, however, the two categories are distinguished by absence vs. presence of aspiration. Spiegelberg 1925:10 f. (no 24) points out that Egyptian $d$ and $t$ were distinguished in Aramaic transcriptions (circa 6th to 3rd cent. B.C.) of Egyptian proper names by using ב $\text{tet}$ and מ $\text{tau}$, respectively.

In Roman period Demotic, “voiced” signs are occasionally used for “voiceless” signs and vice versa, although a complete merging is not attested. My guess, therefore, is that the couples $d$ and $t$, as well as $g (= \hat{g})$ and $\hat{t} (= \hat{c})$, $g'$ and $k'$, and $g$ and $k$, ceased to be distinguished in the Valley dialects (excluding perhaps the Memphis area: see Satzinger, forthcoming, note 12) around the 1st cent. B.C. (Note that $b$ could not, as a rule, merge with $p$, since it had become a voiced fricative ([β] or [v]) at a very much earlier date.)

3. The pre-Coptic palatalization comprises in fact two steps or degrees:

1) postpalatals > palatals ($k > k'$, $x$ to $\varsigma$)
2) palatals > palato-alveolars ($k' > \varsigma, \varsigma$ to $\varsigma$)
<table>
<thead>
<tr>
<th>Centuries:</th>
<th>Dialects:</th>
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</thead>
<tbody>
<tr>
<td>2nd A.D.?</td>
<td>x x x h h h h x &lt; b, h₁</td>
</tr>
<tr>
<td>1st B.C.</td>
<td>t t t t t t t th &lt; t</td>
</tr>
<tr>
<td>5th/4th B.C.</td>
<td>k' x k' k' k' k' k' k' k' ēk' &lt; ḡ₂k₂</td>
</tr>
<tr>
<td>7th/6th B.C. (Upper lg:)</td>
<td>e a e a e a &lt; š ě</td>
</tr>
<tr>
<td>6th/5th B.C.)</td>
<td>a a o a a o &lt; ţ</td>
</tr>
<tr>
<td>8th 7th B.C.??</td>
<td>r r r 1 r &lt; r</td>
</tr>
<tr>
<td>10th/9th B.C.?</td>
<td>o: o: ẽ o: o: &lt; ā</td>
</tr>
<tr>
<td>14th B.C.</td>
<td>ș ș ș ș a' &lt; š'</td>
</tr>
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</table>

Note: innovations undirected

Fig. 1

and development is different with stops and fricatives.
Stops: the first step we find in all dialects although the extreme South seems to be reluctant in this: cf. Kasser 1980: 75 (dialect A); Satzinger 1980: 86 i. [non-literary dialect of Elephantine]. The second step is accomplished in B only: ALSMF k' 1 šām, 6ōm 'power'; B ẽ, ēch ( XOM 'power', 6ōm 'garden').
Fricatives: the first step is not accomplished in A; it is attested by two minor idioms (I, P) whereas all others have taken the second step: A x ( ſōtte ); I P ẽ (? ) ( ſōtte, šōtte ); LMSFB 5 ( ſōtte, šōtte, šōtte ). (cf. Kasser 1980–81: 2275)
This palatalization cannot be dated but indirectly: see the following.
4. Short stressed vowels assumed a relatively backward articulation in some pre-Coptic idioms that are reflected in S and B, among the major dialects; ă remained an A sound in ALSMF can 'brother', but became an O sound in SB con 't' and 'mū', which had merged in 'c', remained E sounds in ALSMF, cf. 6ēl, but became A sounds in SB, cf. ḥal.
For a historical explanation of this patterning see Satzinger, forthcoming: my belief is that this sound-change originated in the Delta and (or) Memphis area. One such new a/0-dialect — it was most probably, for historical reasons, that of the capital Memphis — was imported into Upper Egypt as a socilect of the ruling class. It may have been from the continuous contact of this socilect with the indigenous dialect of the (later) L-speaking area that historical S emerged.
The shift from ŝ to ţ is already attested in Neo-Babylonian transcriptions of Egyptian proper names, for the first time in the reign of Cambyses (529–522 B.C.); see Edel 1980: 43. The corresponding shift from ţ to ţ is attested for the first time in Greek transcriptions in the work of Herodotus (ca. 450 B.C.; see Edel, loc. cit.), whereas earlier cuneiform transcriptions constantly have a (cf. Edel, loc. cit.; Zadok 1983: 73 ff.; Vittmann 1984: 65 ff. [note that Ḥar-el-š-su is misread; so Edel in personal communication]; Satzinger 1984: 89). The alternative in cuneiform would, however, have been an U grapheme, which is perhaps not a very suitable device for rendering a sound that may have been similar to what is noted as [ Ž ] (cf. also Edel, loc. cit., who thinks of a transitional
pronunciation, which he renders a). Actually, both shifts are part of one phenomenon, namely a backward movement of the articulation area, and it may be assumed that they occurred at the same time, though not suddenly, but rather in a lengthy development. This may have commenced in the Saite period, 7th to 6th cent. B.C., and may have ended in the early Persian period, mid-5th cent. B.C. (cf. Sutzinger, 1986). The Coptic dialects prove, however, that it affected the idiom of some regions only, while the others adhered to the older articulation of e and a, respectively.

Dialects S and B show that those shifts did not occur when consonants like光滑,光滑,光滑,光滑 followed, e.g.:

\[ S \text{ oyash} = \ast \text{wāch} \quad \text{S oyash} = \ast \text{wāḥ} \]

\[ B \text{ qepe} = \ast \text{pāhr} \quad \text{B qepe} = \ast \text{pāhr} \]

\[ \text{C} \text{ qepe} = \ast \text{sdı̂j} \quad \text{C} \text{ qepe} = \ast \text{sdı̂j} \]

\[ \text{S ma} = \ast \text{pāl} \quad \text{S ma} = \ast \text{pāl} \]

Now this is true even in cases where光滑 has become palatalized in Coptic, i.e.光滑: e.g.:

\[ S \text{ oyaash} = \ast \text{wāh} \quad \text{S oyaash} = \ast \text{wāh} \]

\[ S \text{ anaash} = \ast \text{nāḥ} \quad \text{S anaash} = \ast \text{nāḥ} \]

This proves beyond doubt that even the first step of the pre-Coptic palatalization was taken later than the backward shift of short stressed vowels occurred. As both phenomena seem to have spread from the North to the South, it is to be assumed that they originated in more or less the same area. Therefore, palatalization cannot have influenced S and B a considerable time span later than it had eventually come into existence somewhere else. Of course one may as well assume that palatalization did not affect stops and fricatives in the same time. If so, they display the second degree of palatalization in most dialects, whereas stops show the first degree, except in B (Osing 1980: 986; however, claims that the stops were palatalized much earlier, namely between the New Kingdom and the Late Periods).

5. The most conspicuous feature of F is its "lambdazism". I think I have found evidence of the date of its origin, though in one word only: S oyapop 'dog' has no Egyptian etymology, but it is attested as a component of Egyptian proper names of the Late Period. Yetzikk 1951: 21 has added a Berber etymology for this word, and this is why we may assume that it was introduced into Egypt during the Libyan Period, XXII to XXIV dynasties, or 10th to 8th cent. B.C. Unfortunately no true F attestation of this word seems to have been noted, but S dialectal forms with × seem to prove that there existed a F "oyasλ" (cf. Sutzinger 1982: 223). This would mean that F lambdazism was effected after Berber -whar spread into Egypt (and changed its meaning from 'tox' to 'dog'), hence rather after, than before, 9th cent. B.C. But it may quite well be much younger, as this is a post quem argument. More accuracy may be achieved by scrutinizing studies in the Greek transcriptions of Egyptian proper names.

6. Another very conspicuous vowel shift must have occurred between the time of Ramesses II (13th cent. B.C.) and the first Neo-Assyrian renderings of Egyptian proper names (8th cent. B.C.):

\[ a > ã; ã > ã \]

These shifts are attested in all Coptic idiom. In F, however, unconditioned Egyptian光滑 is not realized as光滑, but rather as光滑, which is duly thought to render long open光滑 [ɔ] in this case. Thus, F is the most conservative of all Coptic dialects in this case. If, on the other hand, a long stressed vowel is followed by a glottal stop, F has光滑,光滑 (like most other dialects), whereas光滑 is the most progressive dialect by going one step further: it has光滑,光滑,光滑 in this case.光滑,光滑,光滑,光滑,光滑,光滑 respec-

7. A typical feature of AL seems to go back to the beginning of the New Kingdom since it is claimed to be attested in the cuneiform of the Armara Letters. Unlike ME, AL has光滑 instead of光滑 in connection with vowel-doubling and at the end of a word; cf.光滑 'hand',光滑 'face'. Thus, AL vocalism coincides with S and B in these cases. But whereas the光滑 of SB goes back to the shift光滑 >光滑 of the 7th-6th cent. B.C. (which did not affect AL!), the shift under discussion has its origin at a much earlier date. It is conditioned by the presence of a following glottal stop (deriving from Egyptian sounds like光滑,光滑). Unfortunately, the evidence is based on one single word. The Coptic month-name of光滑 is derived from the Egyptian festival光滑-光滑 (which is to be vocalized光滑). For the XVIII dynasty, a pronunciation光滑 may be expected for this. Nevertheless, the cuneiform transcription光滑 rather points to an Egyptian光滑 (see Osing 1976: II 348) which would display a shift光滑 >光滑 under influence of the glottal stop. Actually, the forms光滑 found in A and L texts have an光滑 vowel in the first syllable, just like S and B, whereas
F καίφε has preserved the A sound; cf. ALS toot' with F tahet'.

Some observations.
1. It seems quite interesting to note from what parts of the country phonetic innovations have sprung up and spread at a given period.

a) In the Saite and Persian periods (7th to 4th cent. B.C.), the Delta and (or) Memphis created innovations that were to influence the South: stressed vowels a, o instead of e, a; palatalization of post-palatal stops and fricatives. There can be no doubt that Memphis and the Delta were, at that time, the areas of political and social importance. Thebes had been the stronghold of Kushite resistance up to 655 B.C., and with the collapse of their rule it lost its rank. It is not astonishing to note that innovations of the North influenced the South, and not vice versa.

b) In the late Ptolemaic period it was in Upper Egypt and (or) Middle Egypt that the two categories of stops merged. In the Roman period, Middle Egypt was obviously the area where the articulation of x was generally weakened, with the result of a merging with h. Still, Memphis and the Delta were of much greater political and social importance than the South; but the spirit of this society was not that of traditional Egypt. During a period of foreign rule, of paramount Hellenistic influence, when the enchoric Egyptian language was deprived of its role as a main medium, innovations of this language could not issue any more from the centres of power and economy. It seems that the South had become, by then, the refuge of traditional and traditionalist—Egyptian society. It was from there that phonetic innovations of the indigenous language radiated.

2. Apart perhaps from the F lambadazim, all major Coptic dialect variation goes back to a time not earlier than the 7th-6th century B.C.; many significant differentiations are even considerably later. A very conspicuous feature—the merging of x h—is of such a late date that it cannot possibly have antedated the origin of any one of the historical dialects. This may explain why the Coptic dialects do not considerably differ from each other. On the other hand, we have evidence for much more dialect variation in earlier times (see Oising 1975: 1074 f.; Vycichl 1958: 176). The comparably uniform character of Coptic is most probably the result of the rule of the Saite dynasty and its social and political effects on the entire Egyptian territory.

Not much indeed of the evidence presented here is, in fact, new. What I want to show is, in the main, that the prehistory of the Coptic dialects can be based on historical phonology only. Structural analysis of Coptic phonology is an indispensable tool for this task, but it cannot, by its very nature, yield historical results.

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