Type IV is limited to the extreme northern tip of Loudoun County, a German settlement having close relations with similar people adjoining them in the State of Maryland. *"au"* is used in all positions, a type of speech quite foreign to Virginia.

Type V is found in three distinct areas: (1) among the Quakers of western Loudoun County and in the two northernmost counties west of the Blue Ridge; (2) in the Scotch-Irish settlement of Augusta, Rockbridge, Bath and Alleghany; (3) in the south-west Piedmont counties, Bedford, Campbell, Pittsylvania and Henry.

This type is like type I, except that the first principal member has lower tongue position *w*0, rather than *w*u.

Type VI is found in the German settlements of Warren, Page, Shenandoah, Rockingham and north-west Highland counties. This area lies between the two northernmost counties west of the Blue Ridge and the Scotch-Irish counties, previously mentioned. This type is also found south of the Scotch-Irish communities in Botetourt, Roanoke and Floyd, and east of the Blue Ridge in the extreme south-west Piedmont counties, Franklin, Patrick.

The first principal member *œ*0 stands before voiceless sounds. The second principal member *œ*u stands before voiced sounds and in final position.

Type VII is found in the entire south-west mountain area of the State, lying west of the counties last mentioned.

*œ*u stands in all positions.

It should be noted in connexion with types V, VI and VII that old-fashioned speakers west of the Blue Ridge frequently tend to substitute for the sound closer to *au*.

The comparative uniformity of speech within a given area seems to indicate that the approximate boundaries between different areas have been established for generations. Type V appears to be the result of the mingling in early days of types IV, VI and VII on the one hand with type I on the other. Aristocratic influences and settlers spread from Eastern Virginia into the two northernmost counties west of the Blue Ridge. Whether the Scotch-Irish communities preserve original speech conditions, or were simply more open to Virginian influences than the Germans, it is difficult to say. The south-west Piedmont was settled both by people from west of the Blue Ridge and by people from the east.

Type VI survives in areas more resistant to or more remote from Virginian influences.

Type IV remains thoroughly un-Virginian.

Type VII also appears to be a survival of original northern speech, remote from Virginian influences. There were, however, many later North Carolina settlers in this region.

It is interesting that the political boundary between Virginia and North Carolina on the south is not a speech boundary. North Carolinians, in general, employ type VII, except in the extreme east where type VI is found. However, the Virginian type of speech penetrates a few miles already east of the political boundary. People born in this section of North Carolina always say that they were born "on the line". Their speech, likewise, bears evidence that their cultural associations have been with Virginia.

An explanation of the difference between type I and type II, where practically all settlers are of seventeenth-century English stock, is a more difficult matter. One can assume that they result from the mixture of the dialects of various parts of seventeenth-century England.

Although the older counties, James City and Charles City, have been classified as belonging to type II, in reality they have certain special characteristics which make them appear ancestral to both. In slow or careful or emphatic speech a form *"au"* is likely to be substituted for the more rapid *au*. This variation does not exist in the section of type II on the Rappahannock which was settled about the middle of the seventeenth century or in the section south-west of the James which was occupied by gradual expansion from older settlements until about 1740 without many newcomers.

The portions of Tidewater which employ type I appear to be those which are rather remote from the early settlements on the James, and which therefore had many new settlers from England after 1660. These new settlers may have come from somewhat different parts of England, or the speech of England may have changed in two generations. These late seventeenth-century settlers were chiefly bondservants who were sold for four to seven years' labour, and thereafter given small holdings of their own. Although type I may have originated from people of a lower class, it is interesting to note that in the present time, perhaps on account of the growth of cities within its area, seems to be the most approved type of Virginia speech.


The languages I wish to discuss here are the Nilotic languages in the sudd area of the Southern Sudan—Shilluk, Dinka and Nuer. These tribes live for the most part in the swamps south and east of the junction of the White Nile and Sobat rivers, and to the west along the Bahr el Ghazal and adjoining rivers.

The Nilotic languages have a very complicated vowel and diphthong system, and it has so far been impossible to determine the principal vowel phonemes, as other factors, like length, intonation and voice quality, contribute to confuse the issue and are difficult to eliminate. I have recorded the following vowels, which I shall illustrate with examples from Bor Dinka:
In the following examples "breathy" voice is indicated by the diacritic placed below the vowel. This is the mark used in CALZIA- 
LARA's Nuer Grammar. My examples do not always tally with his, 
as the dialect he describes is Western Nuer. No diacritic is used 
for "squeezed" voice.

1. Differentiation of totally unrelated words:
   - mär (relations) mær (thunder) kén (they) kén (egrets)
   - bl (to taste) bļl (blacksmith) kča (divorced woman)
   - ćéga (first-born)

Note also in the Rek dialect of Dinka:
   - rgor aci lo roor. The men have gone to the forest.
   - kćc kćk aci kćk. The rest of the people have left the district.

2. Use in the inflexion of nouns:
   - læk pl. lęgk (fish—Nile perch) bęgsl pl. bel (dura)
   - kak pl. kągk (field) ręč pl. ręć (fish)
   - keer pl. kę (gourd) ćiño pl. ćiño (meat)

and in Dinka:
   - Ḟąż pl. Ḟąż (sir) 
   - wał pl. wal (medicine)

3. Use in the inflexion of verbs:
   - kąp (put on head) kąp (sb.)
   - ket (sing) kęt (sb.)
   - yop (take care of) yop (sb.)
   - rįg (run away) ąįg (run towards)
   - cą je bĕl. I licked it (trans.) cą bĕl. I licked (trans.)
   - cą je dęm. I caught it (trans.) cą dęm. I caught (trans.)

and in Bor Dinka:
   - an ci ȁwa thāt. I cooked for my father (trans.).
   - an ci ȁth. I cooked for anybody (quasi-intrans.).
   - apí. He pushes it towards the speaker.
   - apí. He pushes it away from the speaker.

As regards the physiological aspect of these two forms of voice production, while I was in Hamburg last year Prof. PANCONELLI 
CALZIA examined and photographed my mouth and pharynx while I 
imitated these sounds. The most noticeable aspect of the "squeezed" 
voice was the pinching together of the pillars of the fauces and 
the lowering of the velum (without, however, allowing access to 
the nasal cavity). In the "breathy" voice the velum was raised, 
and the fauces furled back. The larynx was also lowered perceptibly.
The result was an increased resonance cavity at the back of 
the mouth. I was unable to examine the glottis itself, but gather 
from subsequent investigation that its shape is as for whispered 
voice production.

These physiological data, however, count for very little, and must 
be regarded as giving only a vague idea of the actual process. Until
one can obtain an actual Nilote, and then train his vocal organs to
withstand our apparatus, we shall not know the true nature of these voices.

But one thing stands out at this stage, viz. that voice quality alternation is as important a language aspect here as alternation in vowel quality or length or pitch, and that there should be a means of noting it, both in scientific works and, possibly, in everyday orthography for natives in schools.


It is the task of the science of historical phonology to describe phonemes (strictly speaking diaphonemes), to trace lines of chronological continuity and to ascertain phonetic changes in the phonemes described. The most interesting of these changes are those involving the bifurcation of any one phoneme of a given language at an earlier stage of its history into two phonemes existing at a later date, or, vice versa, the gradual convergence and eventual fusion of two phonemes into one. Certain phenomena of the latter sort have recently been observed and analysed in Ancient Egyptian and Coptic by Prof. Smieszek, of the University of Warsaw. The results of his researches into the phonemic distribution and redistribution of the Egyptian and Coptic vowel-sounds are embodied in his work, Notes on the Presumable Vowel System of Primitive Egyptian and its Coptic Reflexes. Having had the honour of translating that work into English, I have requested and obtained the author's permission to make his discoveries the subject of a paper to be read to the Second International Congress of Phonetic Sciences. The present paper is duly authorized by Prof. Smieszek, and the phonological theory outlined in it is developed more at length in his aforementioned work, which is to be published shortly by the Polish Academy of Sciences. My own contribution to this paper does not extend beyond the necessary work of abridging, summarizing and presenting the subject-matter in its phonetic aspect, including the use of the International phonetic alphabet.

The vocalization of weakly stressed and unstressed syllables is fairly simple. According to Prof. Smieszek's theory of Egypto-Semitic accentuation, the accent was in those languages prominently dynamic, expiratory. In every polysyllabic word of the parent language the secondary stresses were separated from one another and from the main stress by one unstressed syllable. Hence, in Pre-Egyptian, the accent scheme of a word of four syllables was like this:

\[ \_ \_ \_ \_ \]

Somewhat later the unstressed vowels dropped out. The vowels bearing secondary stress in the Pre-Egyptian period became then unstressed and were levelled under one neutral vowel-diaphoneme, which appears in the two southern dialects of Coptic (S., or Sahidic, and A., or Akhmimic) as \( a \), and in the two northern dialects (B., or Bohairic, and F., or Fayyumic) as \( i \), when final. The treatment of

Pre-Egyptian weakly stressed and unstressed vowels is seen in the Pre-Egyptian feminine

\[ *nfratu \quad *nfr \]

\[ S. nofr \quad B. nofra \quad (=nofra, nofri). \]

The history of the Egyptian and Coptic stressed vowels is much more varied. When studying these vowels, we are handicapped at the outset by the complete absence of vowel-symbols in the Egyptian writing. It is only toward the end of its long history, in the Coptic era, that the Egyptian language emerges in fully vocalized texts written in the Greek alphabet. In his attempts, therefore, to ascertain the more ancient stages of the chronological evolution of the Egyptian vowel-phonemes, Prof. Smieszek had to fall back upon records written outside Egypt. Such remnants are extant in the fairly numerous Egyptian words occurring in Babylonian cuneiform texts of the fourteenth century B.C., in Assyrian cuneiform texts of the seventh century B.C., in the Hebrew Bible, and in the historical literature of the Greeks.

Tasting for granted that Egyptian and Semitic are cognate languages, and that there must have been some prehistorical period when both Parent Semitic and Pre-Egyptian branched off from a common parent tongue, Prof. Smieszek starts from the hypothetical vowel-system of Parent Semitic. Comparative Semitic philology assumes for the parent language a triangular vowel-system, like this:

\[ *i, *u, *a \]

This is the vowel-scheme assigned by scholars to Parent Semitic, and at the same time also to Pre-Egyptian. In the latter language, however, two peculiar tendencies affecting the vowels of stressed syllables made themselves felt at an early period, differentiating the Egyptian and Semitic vowel-systems.

The first of these tendencies may be described as a trend towards retracted tongue-position in the open vowel-phoneme \( a \), which accordingly became \( *a(i) \), or, with open lip-rounding, \( *a(u) \).

The second peculiarity of the Egyptian vowel-system was a tendency to make the short vowels more open than the corresponding long ones, and, vice versa, the long vowels closer than their short counterparts.

Owing to the working of these tendencies, the triangular vowel-scheme common to Parent Semitic and Pre-Egyptian was modified in Egyptian as shown in the following diagram:

\[ *i, *u, *a \]

The symmetry of the original phonematic scheme was now disturbed, the back vowels being twice as numerous as the front vowels. The language got rid of this superabundance of back vowels by a