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On a Possible Minor Sound Change of $\epsilon > \alpha$ in Ancient Greek

Περίληψη

Η αρχαία ελληνική λέξη σάκος 'ασπίδα' συγκρίνεται συνήθως με σανσκριτική tvac- 'δέρμα' και με χιτιτική twekka- 'κορμί'. Τέτοια σύγκριση, όμως, προϋποθέτει μια αλλαγή από Ινδο-Ευρωπαϊκό *e σε ελληνικό -α- μετά *tw- και/ή πριν *k. Εδώ εξετάζονται όλοι οι τύποι που έχουν σχέση μ' αυτή την υπόθεση. Το συμπέρασμα είναι ότι δεν έγινε ποτέ εκείνη η αλλαγή. Συνεπώς, άλλη εξήγηση των τύπων σάκος/tvac-/twekka- χρειάζεται, και προτείνεται ότι σάκος και tvac- εξελίχθηκαν από *twak- και twekka- εξελίχθηκε από *dwek- (βλ. αλβανική dukem 'φαίνομαι').

By most accounts of the historical phonology of Greek as it developed from Proto-Indo-European (PIE), Ancient Greek is fairly conservative in its treatment of the proto-language vowel system.¹ For example, for the most part, both the long and short pure vowels of PIE, *e e: a a: o o:, are all preserved as such (at least so in some Greek dialects and thus in Proto-Greek), as are the vocalic reflexes of the semivowels, *i and *u and their long counterparts (most usually from contractions of *i and *u with laryngeal consonants). Moreover, Greek preserves what appears to have been a PIE three-way distinction in the vocalized counterparts of the laryngeal consonants.² Given this general conservatism in vocalic reflexes on the part of Greek, it becomes interesting to examine instances in which an apparent conditioned sound change seems to have led Greek away from its usual maintenance of the PIE vowel quality, in order to see if positing such a change is truly warranted.

One such case is the apparent change of *e to Greek α suggested by the generally accepted³ comparison of Greek **σάκος** 'shield' with Hittite **twekka-** 'body; self' (and Sanskrit **tvac-** 'skin; hide', which helps to provide the semantic transition between the Greek and the Hittite forms, under the assumption that the meaning 'shield' is to be explained as the stretching of skin over a frame). Since e is usually taken to be the basic vowel for an Indo-European root,⁴ Greek with its -α- in this word would show, if this comparison is accurate, an innovation away from the vowel quality of the proto-form. It has been suggested elsewhere, however, in Joseph (1986), that the Greek and the Hittite forms are to be separated. Hittite **twekka-**, and its apparently related verb within Hittite, **tuqqārī** 'be visible', can instead be connected with Albanian **dukem** '(I) appear, seem', from a PIE root *dwek-. Under this assumption, the -α- of Greek **σάκος** need not derive from PIE *e, for *a is possible instead (thus *twak-).

If there were some way, however, of maintaining the claim of a conditioned change of *e to Greek α, then it would become possible to adopt once again, more securely, the connection between **σάκος** and **twekka-** (and **tvac-** as well, of course),⁵ and it must be admitted that such a move has considerable appeal from a morphological standpoint.⁶ Thus in this paper the evidence bearing on this putative sound change is assembled and reexamined more closely than in previous discussions of these words,⁷ in order to test the validity of positing an *e to -α- sound change. Ultimately, though, this case turns out to be a somewhat difficult one to judge, because the number of relevant forms that might allow one to decide for sure about this sound change is surprisingly small, even after some careful sifting.

As a starting point in the evaluation of this putative change, the necessary conditioning factors must be determined. It seems that all aspects of the surrounding segmental phonological environment would have to have played a role together, for each of the relevant individual segments, *t, *w, and *k, taken on its own, seems not to have had the effect of conditioning a change of *e to Greek α. Significantly also, none of these consonants are among those mentioned by Lejeune (1972: S256)

as promoting "l'ouverture des voyelles qui la suivaient ou la précédaient", since only p/λ/v are listed there.⁸

For example, a preceding *w by itself did not condition the change of *e to -α- in ἔπος 'word' (from *wek^w-), or in ἐμέω 'vomit' (from *wemH₁-).⁹ Similarly, a following *k (actually a pre-Greek *k, i.e. whether from PIE palatal *k' or velar *k, such a proto-language distinction being irrelevant for Greek as a "centum" language) also had no such effect, as shown by forms such as νεκρός 'corpse; dead', τέκνον 'child', πλέω 'plait', and numerous others. Moreover, there are forms such as ἑκόν 'willing' from pre-Greek *wek- (from PIE *wek'-¹⁰), where both *w and *k flank the *e, yet no change to -α- occurred, so that even the combination of these two consonants did not alter the vowel quality.

A more promising line of inquiry comes from a consideration of a number of forms that have α-vocalism and clearly had *tw- preceding the vowel.¹¹ For example, τράπεζα 'table' (from *k^wtwr-pedya, with a reduced form of the numeral 'four', *k^wetwor-, as the first member of the compound), ὀτραλέος 'quick' (from *o-twr-leyo-, so Pokorny (1959: 1100 s.v. 1. twer-), σαργάνη 'plait, braid' and its synonymous relatives σαργανίς and τωργάνη (all perhaps from an extended root form *twr-g-, so Pokorny 1101 s.v. 2. twer-), σάρξ 'flesh' (from *twrk-, cf. Schindler 1972¹² and Pokorny 1101), σαίω 'wag the tail' (from a root *twen-, presumably in the form *twŋ-y^o/o-, cf. Adams (1986: 339-340),¹³ and possibly σαίρω 'sweep', if from *twr-y^o/o-,¹⁴ all show an -α- after an cluster of *-tw-, suggesting the possibility that this consonantal sequence had an effect on the following vowel quality. However, all of these forms turn out to be irrelevant to the matter of σακός, for they all have a liquid segment in the root after the *-tw-. Thus any one of these could show the -α- as the expected vocalism in the reflex of the liquid when syllabic, i.e. in a zero-grade formation--which for each of these is not an unwarranted ablaut grade¹⁵--as indicated above in most of the reconstructions. The development of -α- vocalism is expected from a syllabic liquid whether before a pure consonant as in σάρξ, σαργάνη, etc., or before a *y, as in σαίω and σαίρω. Consequently, these forms reveal

nothing about the fate of PIE *e in the context relevant for *σάκος*.

Furthermore, running counter to the possibility of *e --> α /tw__ are forms such as *σε* 'you/ACC' (from *twe, cf. the Hesychian gloss *τρε · σε*, to be interpreted as *τρε* and presumably Pamphylian¹⁶), *σείρα* 'cord, rope' (and related forms, all from *twer-, so Pokorny 1101 s.v. 2. twer-) and *σείω* 'shake, move' (from *tweys-^o/o-, cf. Sanskrit *tveṣ-ati*).¹⁷ It may be, of course, that some of these are irrelevant to the determination of the development of *σάκος*, e.g. *σε* because it is a monosyllabic form, and *σείω* because of the following palatal semi-vowel *y in the pre-form (as opposed to the back consonant *k in *σάκος*).¹⁸ Still, especially because of *σείρα* but probably also because of these other forms, it is difficult if not impossible to accept the claim that *tw- in and of itself as a preceding cluster could have led to a change of *e to -α-. Finally, Mycenaean <o-da-twe-ta>, usually interpreted as *ὄδατφεττα* 'having teeth' (so Lejeune §70), shows *-twe- preserved as such, though it may only indicate that the putative change of *e to -α- is post-Mycenaean in date.¹⁹

What emerges after all this careful examination and sifting of potentially relevant forms is that *σάκος* is really the only good example of the putative change, and to judge from *σείρα* and other forms in which *twe- was maintained, the likelihood that *σάκος* derived by a regular sound change from a pre-form with *e-vocalism is not great. In particular, the conditions for the change would have to be *tw__k-, i.e. an environment fulfilled only by this one word. Thus, one can accept the hypothesized *σάκος*/*twekka-* (and *tvac-*) connection only at a certain "cost" in terms of explanatory adequacy, for the power of a claim of a regular sound change being responsible for the Greek vowel quality cannot truly be summoned forth successfully. Moreover, if one feels compelled to start with *twek- for *σάκος*, then it seems just as likely that the -α- is the result of analogical contamination from *σάπτ*, a form in the same semantic sphere. The need to specify a context *tw__k- for the putative change really brings this investigation into the realm of lexical change, as a change in a single lexical item, so that some sort of

analogical, i.e. lexically specific, explanation is not to be ruled out. Labelling the development to $-\alpha-$ a regular sound change requires the somewhat dubious step, from a methodological standpoint, of placing too much faith in a single example for the establishment of a sound law of the historical phonology of a language.

On the other hand, as noted above, one need not even start with $*e$ -vocalism in the pre-form at all. The suggestion to separate $\alpha\alpha\kappa\alpha\varsigma$ from *twekka-* is quite plausible--all the more so since there is no corroboration from a recognizable sound change--and is especially satisfactory since a reasonable etymology for *twekka-* and its relative *tuqqāri* can be found, via Albanian *dukem*. Moreover, we can note here the possibility that $\alpha\alpha\kappa\alpha\varsigma$ is an old loan word, inasmuch as it is labelled as "*Κρητῶν*" by certain ancient testimony.²⁰

In a sense, then, this examination leads to the need to consider an important methodological issue, namely that of how much weight to place on the evidence of one word in positing a highly specific and thus quite minor sound change, as opposed to looking for some other explanation (e.g. via analogical influence, as from $\alpha\alpha\pi\tau\varsigma$, or via a different set of etymological connections, or even via a loan-derivation). From the evidence brought forward here, the verdict would have to be against claiming a minor sound law of $*e \rightarrow \alpha$ /*tw__k* for Greek historical phonology, for there really is no strong motivation for such a sound change that would have to accompany the hypothesized $\alpha\alpha\kappa\alpha\varsigma$ /*twekka-* (and *tvac-*) connection.

Footnotes

1. Though a far more controversial point, it may be that the consonant system of Greek is maximally conservative as well, under the interpretation of Swiggers (1986).

2. For some recent discussion of the question of whether Greek preserves such a three-way distinction or instead has innovated, see Lindemann (1982) and Joseph (1984).

3. So Chantraine (1968: s.v.), Mayrhofer (1956: s.v.), and Pokorny (1959: I.1099), for example.

4. Pokorny (loc. cit.) actually reconstructs *twak-, despite the Hittite form that he includes under this entry. Melchert (1984) and Schindler (1972: 37), though not specifically taking up the connection with Greek $\sigma\alpha\kappa\omicron\varsigma$, reconstruct *twek- for Hittite **twekka-**.

5. If the connection between **twekka-** and $\sigma\alpha\kappa\omicron\varsigma$ is reinstated, then it is still possible for **tuqqāri** to be related to the Albanian form cited above, if the inner-Hittite connection between **twekka-** and **tuqqāri** is given up.

6. In particular, the occurrence of apparent zero-grade forms of **twekka-**, namely the occasional oblique forms with the stem **tukka-** (see Melchert p. 53 and Schindler p. 34), suggests that the noun originated as a root noun, which is the morphological type of the possible Sanskrit cognate **tvac-**.

7. Curiously, there seems to have been no mention made in the available literature, including Schwyzler (1939) or Lejeune (1972), of the problem with the Greek vowel in the $\sigma\alpha\kappa\omicron\varsigma$ /**twekka-**/**tvac-** connection.

8. For example, Elean Greek has the form $\text{F}\alpha\pi\pi\omicron\nu$ 'work', with $-\alpha-$ for $-\epsilon-$ next to $-\rho-$ (cf. Attic $\epsilon\pi\pi\omicron\nu$).

9. There are a few forms that at first glance are suggestive, though

not conclusively so, of a shift to α -vocalism after $*w$. For example, $\acute{\alpha}\sigma\tau\upsilon$ 'city' (cf. Mycenaean $\langle wa-tu \rangle$, Thessalian, Locrian, and Arcadian Φαστός 'citizen', and Sanskrit $vāstu$ 'site, homestead' for evidence of $*w$ -) is, as Pokorny 1170 describes, "mit unerklärtem α -Vokalismus", if it is connected with a root $*wes$ - 'live' (as in Greek $\acute{\alpha}\sigma\alpha$ 'spent the night'). For this word, however, other problems with this root connection exist, most notably the fact that $\acute{\alpha}\sigma\alpha$ and the Hittite cognate $hulš$ - 'live' point to a root form $*H_2wes$ -, from which reflexes of a Proto-Greek $*\alpha\text{Φαστ}\upsilon$, not $\acute{\alpha}\sigma\tau\upsilon$, would instead be expected. Thus it seems either that $\acute{\alpha}\sigma\tau\upsilon$ has a different etymology and thus may not contain a reflex of a proto-language $*e$, or if derived from a root $*H_2wes$ -, instead shows a development with original $*o$ -vocalism (perhaps with $*H \rightarrow \emptyset$ in the mirror-image of the context $/_\text{or}/$, where $R = r, l, m, n, w, \gamma$, as in $\tau\acute{o}\lambda\mu\eta$ 'courage' from $*tolH_2-meH_2$ versus $\tau\epsilon\lambda\omicron\mu\acute{\iota}\omega\nu$ 'strap' from $*telH_2-men$ -). Another suggestive form is the Attic $\acute{\alpha}\kappa\acute{\alpha}\delta\eta\mu\omicron\varsigma$, which corresponds to Boeotian Φακαδομῖος . In this case, too, however, it is unlikely that the $*w$ is responsible for a change in vowel quality. Rather, the Attic initial α seems to have resulted from a sporadic assimilation to the vowel quality found in an adjacent syllable, as shown by the occurrence of the reverse assimilation in the Thessalian correpondent of this form, Φακεδομῖος (cf. Lejeune §254).

10. Cf. Sanskrit \sqrt{vas} - and Locrian Φεϝοντίας for evidence of $*w$ -; as with ναρός above, the fact that this form originally had a palatal $*k$ is irrelevant for Greek and thus for the change under consideration.

11. One irrelevant form with pre-Greek $*twa$ - is $\sigma\acute{\alpha}\omega$ 'sift', for its $-\alpha-$ derives from PIE $*a$, as shown by the long vowel in the related forms $\sigma\acute{\eta}\theta\omega$ 'sift' and $\acute{\alpha}\lambda\epsilon\upsilon\rho\acute{o}-\tau\eta\sigma\iota\varsigma$ 'flour-sieve'.

12. Aeolic $\sigma\acute{\upsilon}\rho\acute{\epsilon}\varsigma$ may reflect an $*o$ -grade, and thus show the effects of a sporadic extension of the well-known Aeolic raising of $*o$ to υ before $/m/$ (as in $\upsilon\mu\omicron\iota\omicron\varsigma$ 'same, like', versus Attic $\acute{o}\mu\omicron\iota\omicron\varsigma$) to operating after other labial consonants (here $*w$, and cf. as well perhaps $\alpha\upsilon\tau\upsilon$ 'from'

(Attic $\alpha\alpha\acute{o}$) from *apo, though word-final position may be more relevant for the development of this latter form). Most likely, then, this was a noun that showed root ablaut in its paradigm, justifying a reconstruction with a zero-grade for $\alpha\alpha\phi\acute{\epsilon}$.

13. The form $\alpha\alpha\nu\nu\iota\omicron\nu$ 'penis', while no doubt related to $\alpha\alpha\acute{\iota}\nu\omega$, probably shows its $-\alpha-$ vocalism from being a creation within Greek from a Greek root $\alpha\alpha\nu-$ (as in $\alpha\alpha\acute{\iota}\nu\omega$). Adams (loc. cit.) plausibly attributes the $-\nu\nu-$ to expressive gemination.

14. Chantraine (1968: s.v.) says the etymology for this verb is uncertain, for he feels that the derivation from *twer- is not securely established. Thus this form is perhaps irrelevant for the present discussion on different grounds. He is similarly skeptical about $\alpha\alpha\acute{\iota}\nu\omega$.

15. Compare, for example, with regard to $\alpha\alpha\acute{\iota}\nu\omega$ and $\alpha\alpha\acute{\iota}\rho\omega$, the formation evident in $\beta\alpha\acute{\iota}\nu\omega$ 'come', from *g^wm-y^o/o-; regarding the likelihood of a zero-grade in $\alpha\alpha\phi\acute{\epsilon}$, see footnote 12.

16. So Lejeune S100, n. 1, for example.

17. One further form that is difficult to judge is the name of the Pamphylian city which has the form $\Lambda\alpha\pi\epsilon\nu\delta\omicron\varsigma$ in Attic but occurs as $\text{Βοτ}\text{ῒ}\text{δου}\varsigma$ and later $\text{Βοτ}\text{ῒ}\text{δου}\varsigma$ on local coins (see Lejeune S71 n. 7); since this is a toponym and may--at least as far as the $-\sigma\tau-$ ~ $-\sigma\chi-$ alternation is concerned--show effects more of "phonétique plutôt que de la phonétique grecque" (Lejeune loc. cit.), it cannot safely be used for any determination of a change from *e to $-\alpha-$ in Greek.

18. The assumption here is that a palatal consonant would be more likely to cause the retention of palatal quality in a preceding vowel, and a back consonant would be more likely to promote a change in vowel quality from palatal /e/ to back /a/.

19. Alternatively, the occurrence of $-\epsilon-$ in the Mycenaean form may be the result of the presence of a morpheme boundary between the $-t-$

and the **-w-** in **odat-went-**. If there were any conditioned change triggered already in Mycenaean times by the sequence [...twe...], the morphemic division would have permitted the restoration of the **t** of the root, or the **w** or even the **e** of the suffix. Given the absence of a morpheme boundary in **oákoç**, this Mycenaean form becomes less probative for a decision about the fate of ***-twe-**.

20. So noted by Lejeune (S100 n.4); see also Bekker (1821: 1096). The possibility of a loan-derivation for **oákoç** is initially attractive, in view of the suggestion of Burrow (1943-6: 347-8) that the presumed cognate Sanskrit **tvac-** is actually a Dravidian loan-word; however, even if originally a non-Indo-European word, **oákoç/tvac-** would still presumably have entered Indo-European fairly early on, because of the valid sound correspondences holding between the two forms.

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