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Author

Cohen, Gerald Leonard

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Author(s): Gerald Leonard Cohen

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On the origin of several medio-passive personal endings
in Indo-European

Gerald Leonard Cohen
University of Missouri-Rolla

I. AN OLD PROBLEM RECONSIDERED

A close look at the personal endings of IE verbs reveals a surprising degree of uncertainty concerning their origin and development. In spite of an extensive literature on these endings by the beginning of this century¹, Brugmann (1967: 589) was led to comment that 'the origin of the PIE personal endings... is just as difficult ('*schwierig*') as the PIE case endings'. Indo-Europeanists have continued to be puzzled by this subject², and examples of uncertainty can be readily cited. A few of them are:

- (1) Brugmann (1967: 650), commenting on *-madhi in I-I (1 pl. m.) vs. -metha in Greek, says: 'because Greek differs (from I-I), the final sound in PIE cannot be determined... Even less clear is the etymological relationship to the probably related active endings *-mes, *-mesi, *-me'.
- (2) Brugmann (1970: 596) says about 2, 3 du. m.: 'The relationship of the I-I forms to the Greek ones is unclear'. E.g. Skt. 2 du.: -ēthē (PE) vs. Greek 2, 3 du. -sthon (PE and SE).
- (3) Buck (1963: 245), commenting on 1 pl. act., says: 'The -men of Attic-Ionic, etc. agrees with Skt. -ma except for the final -n (of uncertain source)...'
- (4) Hirt (1912: 492), referring to the origin of the pl. mid. endings, says: 'The plural endings of PIE are difficult to determine'.

The inability of the leading Indo-Europeanists to solve these problems over the past century and a half has apparently led to the widespread belief that these problems are truly unsolvable, at least given the data we currently possess. I was therefore surprised to notice a possible solution to the origin of 1 pl. m. (e.g. Greek: -metha), and I now believe that an understanding of this ending may help shed light on the origin of several mid. pers. endings.

The starting point for my work on this subject was the realization that constructions of the type pojďēnte (= let's go; Russian) and -mente (1 pl. ending; Cypriot Greek)³ may furnish parallels to developments in I-I and early Greek. Pojďēnte is known⁴ to be derived from pojďēm (= let's go) and -te (2 pl. ending, e.g. pojdi-te = go; imperative pl.). The 2 pl. ending (-te) was therefore tacked onto the 1 pl. ending (-ēm), and the purpose of this development was apparently to strengthen the inclusion of 'you' in the concept of 'we'. Cypriot Greek -mente (< 1 pl. -men + 2 pl. -te) is also clearly such a blend; cf. Schwyzler (1939: 670), who speaks of a 'mixing of endings' here.

When Greek and I-I are approached with pojðēnte and -mente in mind, the following picture emerges: the mid. pers. verbal endings of Greek and I-I underwent a series of shifts whose starting point was 2 pl., and the initial shift was the addition of a 2 pl. ending onto the 1 pl. ending. The importance of this shift should be doubly underscored, because once it is grasped, most of the succeeding changes can be readily discovered.

A. INDO-IRANIAN

In the primary endings I-I presents 1 pl. m. *-madhai and 2 pl. m. *-dhwai. Hirt (1905: 82) has already suggested that the *-dh- and *-ai- of these two forms may be related, and although my treatment will follow Hirt on this point, the incompleteness of his treatment should be noted. He devotes only one paragraph to this discussion and does not explain how these forms came to be related. He is also unclear as to why *-w- is not present in *-madhai. He says only (*ibid.*): 'Since we have seen how often -w- has disappeared after a consonant in IE, we may venture to suggest that...', and he then connects the above-cited forms⁵.

I would therefore like to state specifically that 2 pl. *-dhwai was tacked onto 1 pl. *-ma, thereby yielding *-madhwai, which later became *-madhai. The only lack of correspondence here is -w- in *-dhwai vs. no -w- in *-madhai (e.g. Skt.: -mahē). Hirt, as mentioned above, tries to explain away the absence of -w- here by reference to the frequent disappearance of -w- after a consonant in IE, but there are sufficient attestations of -w- in this position to call for a specific reason for the loss of -w- in *-madhai.

An answer can be found by bringing 2 du. m. into the picture (*-wadhai), and the following hypothesis may be set forth: after 2 pl. *-dhwai was tacked onto 1 pl. *-ma producing *-madhwai, the ending *-dhwai spread from 1 pl. m. to 1 du. m. resulting in *-wadhwai. With two -w-'s present in close proximity in *-wadhwai, dissimilation occurred, and one of the -w-'s was lost. Since the first -w- was morphologically more important than the second -w- (the first -w- was a clear marker of the dual), this first -w- was maintained, and it was the second -w- that was lost. For another example of the loss of a -w- by dissimilation, cf. French Gautier, where a /-w-/ has also been lost: Walter > Gualt- > Guaut- > Gaut-. Cf. by way of contrast Guillaume < William, where /-w-/ was preserved (until the later change of French /gw/ > /g/), since the two -w-'s in Guillaume (spelled -u-) were not in close proximity.

B. GREEK

In analyzing the Greek endings I will first adopt a suggestion

found in Brugmann⁶ that 2 du. -sthon was originally a 2 pl. ending and as such corresponds formally to Skt. 2 pl. (SE) *-dhwom (except for s-, which is widely agreed to be a secondary addition). If *-dhwom is therefore accepted for Greek, and if we accept the possibility of a 2 pl. ending being tacked onto 1 pl., the following development can be discerned in Greek: 2 pl. *-dhwom was tacked onto 1 pl. *-me, resulting in 1 pl. m. *-medhwom. This form *-medhwom later appeared in the zero grade (*-medhwm), which then developed to -metha according to Greek phonological laws. Also, if *-dhwom were originally an SE, as indicated by I-I, we would deal with a levelling of the PE and SE in Greek; Greek makes no distinction between PE and SE endings for 1 pl. m.

The above discussion on I-I and Greek, if correct, would seem to solve two thorny problems connected with the ending of 1 pl. m. First, what is the origin of the final vowel (-a in Greek -metha vs. -ai/-i of I-I? Brugmann mentions (1967: 650) that the final sound cannot be reconstructed because of the difference between the Greek and I-I forms. Buck (1963: 250) says: 'Greek -metha agrees with the Skt. secondary ending -mahi... on the basis of IE *-medhō'. Other scholars do not accept Buck's view, however. The schwa that he reconstructs would now be interpreted within the laryngeal theory, but no mention is made of it by Cowgill 1965 or Burrow 1965. Burrow attempts to take a strictly noncommittal position here; after mentioning I-I *-madhai/*-madhi he says merely (p. 311): 'Closely related to these forms but different in the matter of the final vowel is Greek -metha < *-medha...'.

The solution to this problem can be summarized as follows:

Greek 1 pl. m. -metha is traceable to *-medhwm, with *-dhwm coming from *-dhwom of 2 pl. m. (possibly SE). The I-I 1 pl. m. *-madhai is traceable to *-madhwai, with *-dhwai spreading to 1 pl. m. from 2 pl. m. (PE, Perf. E.). Then *-dhwai spread to 1 du., where dissimilation occurred (the second -w- was lost), and this dissimilated form was then levelled back to 1 pl.

A second problem is finding the origin of *-dh- in 1 pl. m. Brugmann 1967, Burrow 1965, Buck 1963 et. al. pass over this point in silence. An answer to this problem can be found in the *-dh- of 2 pl.: *-dhwom, *-dhwai.

II. FURTHER DEVELOPMENTS

At this point in the analysis there are still several unanswered questions: Why did the zero grade appear in Greek *-medhwm? Why was 2 pl. Greek *-dhwom replaced by -sthe? What is the origin of Greek 1 pl. m. -mestha?⁷

The answers to these questions can be found in two further major developments in Greek: the restoration of morphological clarity

to the endings of 1 pl. (*-medhwom) and 2 pl. m. (*-dhwom), both of which now possessed a very similar ending (the last four phonemes were the same), and (2) the shift of -methon and -sthon from the pl. to the du.

A. RESTORATION OF MORPHOLOGICAL CLARITY

When 2 pl. *-dhwom spread to 1 pl., the resulting form was *-medhwom. At this point an unacceptable confusion was present in Greek: 1 pl. *-medhwom, 2 pl. *-dhwom; both forms end in *-dhwom. As mentioned above, we do not deal with just a final vowel being the same (e.g. 1 sg. -omai, 3 pl. -ontai) but with a similarity involving the last 4 phonemes (3 consonants and a vowel). The ensuing developments of analogy may be viewed as an attempt to restore morphological clarity to 1 pl. m. and 2 pl. m., viz:

- (1) In 1 pl. m. *-medhwom the final *-om was modified to its zero grade *-m, resulting (for some time at least) in two variations of 1 pl. m.: *-medhwom, *-medhwm.
- (2) 2 pl. m. was also undergoing changes aimed at reestablishing its morphological clarity:
 - (a) the *-om in *-dhwom was replaced by -e, yielding (s)the, with -e apparently being imported from 2 pl. act.⁸
 - (b) -s- was also imported, resulting in -sthe. If one assumes that this -s- was added before *-om in 2 pl. was completely crowded out by -e, an attested form -sthon would be expected. Such a form does appear viz. in 2 du., but as mentioned earlier, Brugmann and several earlier scholars believed that this 2 du. form might derive from an original 2 pl. ending. The main question to be answered now is where the -s- in -sthe came from.

1. -s- IN -STHE (2 PL. M.) AND -MESTHA (1 PL. M.)

The origin of -s- in Greek 2 pl. m. -sthe has long troubled Indo-Europeanists and is still an unsolved problem.⁹ I would like now to advance the following hypothesis on this subject:

-s- in 2 pl. m. -sthe spread there from 1 pl. m. -mestha, a form which is attested only in poetic language but whose appearance in several main dialects (Attic, Doric, Epic Greek) indicates that its use was once widespread.

The following comments may be made here:

- (1) The -s- in -mestha is currently considered to derive from the -s- in -sthe (2 pl. m.), -sthon (2 du. m.; 3 du. m. PE), and -sthān (3 du. m. SE).¹⁰ However, the origin of -s- in these latter forms is unknown, and hence one cannot be sure that -s- in fact spread from -sthe et. al. to -mestha.
- (2) The active endings are *-me (SE) and *-mes (PE, Perf. E.), but it

is possible that they may have originally been used for the middle too; cf. Brugmann (1967: 590), who underscores the possibility that the distinction of active vs. middle endings was not the original situation in PIE. Such an assumption for 1 pl. act. jibes well with my suggestion on the origin of -metha; in 1 pl. m. we see *-dhwom being tacked onto *-me yielding *-medhwom and ultimately -metha. If we assume that 1 pl. act. *-mes could also have been used in the middle, the following pattern would emerge for Proto-Greek:

1 pl. <u>*-mes</u>	<u>*-me</u>	result: <u>*-mesdhwom</u> ,
2 pl. <u>*-dhwom</u>	<u>*-dhwom</u>	<u>*-medhwom</u> ¹¹

Greek then eliminated one of these forms, viz. -mestha, as being superfluous. The choice of -metha over -mestha is explainable by the move to restore the morphological clarity of 1 pl. m. and 2 pl. m. By choosing *-medhwom for 1 pl. an additional distinction was introduced between the 2 forms: -s- in 2 pl. *-sdhwom (later: -sthe) vs. no -s- in *-medhwom.

B. SHIFT OF GREEK -METHON AND -STHON TO THE DUAL

The developments in the Greek dual are still partially unclear to me, but the following can be said about them: -sthon (as 2 du. m.) and the slightly attested -methon (1 du. m.) were originally plural forms.¹² Their shift from plural to dual was due to the following factors:

- (1) After the appearance of 1 pl. m. *-medhwom and 2 pl. m. -sthe the forms *-medhwom (1 pl. m.) and *-sdhwom (2 pl. m.) were superfluous. When fluctuation appears in language, one of two developments will eventually occur: one of the two forms will be eliminated (e.g. Russian short adjective, neuter: nóvo/novó > nóvo), or a new function will be assigned to one of the forms (e.g. Russian short adj., pl. mály/malý > mály (= small), malý (= too small)).¹³
- (2) The loss of -w- in Greek rendered 1 du. *-we-/*-wo- morphologically unclear.
- (3) *-om was already a sign of the dual (2 du. act.): *-tom (attested: -ton).
- (4) Since *-sthon as 2 pl. m. was superfluous, and since it resembled the dual form -ton (2 du. act.), *-sthon (2 pl. m.) was reinterpreted as a dual and is attested as 2 du. m.
- (5) -methon also shifted from 1 pl. m. to 1 du. m. to help alleviate the loss of morphological clarity that occurred when Greek -w- was lost. The striking thing about -methon as 1 du. m. is that this solution to the loss of morphological clarity in 1 du. m. was not accepted by Greek, and 1 du. m. was eliminated. Two factors may be discerned here to explain the failure of -methon to take root as 1 du. m.

- (a) -w- was lost in all 1 du. forms, but the use of -methon solved the problem of this loss only in the middle forms. The active forms were still left without a representative in 1 du.
- (b) It must be remembered that the problem that triggered a series of developments in the plural was the similarity at the end of the forms of 1 pl. m. *-medhwom and 2 pl. *-dhwom. In the dual we now encounter a similar situation: -methon (1 du. m.) and -sthon (2 du. m.) Just as the plural moved to eliminate this lack of morphological clarity, the dual moved too; -methon was not permitted to become firmly rooted as a 1 du. m. ending, which contributed to the category of 1 du. being eliminated.
- (6) The use of -sthon as 3 du. as well as 2 du. can be traced to the use of -on as a designation of the 3rd person (pl. act.) after the loss of -t: *-ont > -on, e.g. epheron = they carried. After -sthon (as 3 du.) arose, it influenced 3 du. act. to remodel as -ton. For an opposing view see e.g. Buck (1963: 250) who considers -ton (2, 3 du.) as the model on which -sthon (2, 3 du.) was formed.

C. *-DH- IN 2 PL. MID.

All works reconstructing the endings of I-I 2 pl. m. go back only to *-dhwom, *-dhwai, but it seems possible to go further than these standard treatments; the *-dh- in these forms can be reconstructed as coming from -t-, the same consonant as in other IE 2 pl. endings (e.g. Latin: ama-tis). The change of *-t- > *-dh- could have occurred in accordance with Bartholomae's Law, which states:¹⁴

If an IE aspirated voiced stop was followed directly by an unaspirated voiceless stop, aspiration was transferred from the beginning of the cluster to the end, and the entire cluster became voiced, e.g. IE *lubh-tos > *lub-dhos > Skt. lub-dhas (= covetous) beside lubh-yāmi (= I yearn).

According to this law, 2 pl. m. -t- would be pronounced -dh- when added to an athematic verbal root ending in an aspirated stop. It is possible that -dh- was then generalized at the expense of its allophone -t-.

III. SUMMARY

In summary, here is a chronological listing of the developments I have suggested for I-I and Greek

- (1) *-t- > *-dh- in 2 pl. m. (I-I) according to Bartholomae's Law,
- (2) addition of a 2 pl. m. ending to a 1 pl. m. ending in Greek and I-I,
- (3) a series of changes in Greek aimed at restoring the morphological clarity of 1 pl. m. as distinct from 2 pl. m.,
- (4) shift of two superfluous endings in Greek from pl. to du.

Footnotes

¹For the literature on this subject in the 19th and early 20th centuries see Brugmann (1967: 583-583) and additional references under the specific endings he discusses.

²e.g. Burrow 1965, Kurylowicz 1964, Meillet 1966, Watkins 1969. Although Indo-Europeanists do not always state directly that a given ending is of uncertain origin, it is clear that many of the problems concerning the personal endings that troubled Brugmann have not yet been solved.

³Menardos (1925: 38, 39).

⁴e.g. Vasmer (1958: under -te).

⁵He also relates the *-dh- of *-madhai and *-dhwai to the *-dh- of the imperative for 'go': Greek ithi, Skt. ihī.

⁶Brugmann (1967: 657) makes this suggestion tentatively ('perhaps'). Also, although Brugmann was the first to clearly state that Greek 2 du. -sthon might have originally been a 2 pl. ending, linguists had earlier noticed that the two forms may correspond. Misteli (1866: 331) was apparently the first to make this connection, and Hillebrandt (1892: 281) speaks of 'die alte Gleichsetzung' of Skt. *-dhvam and Gr. -sthon. Cf. also Buttman, who as early as 1819 (p. 348) had pointed out two instances of -sthon being used as 2 pl. and regarded this use of -sthon as being an archaic rather than an innovative feature of Greek.

⁷The ending -mestha appears beside -metha in Epic Greek and in the poetic language of Attic and Doric; see Hirt (1912: 492, 493).

⁸Wackernagel (1895: 59).

⁹Brugmann (1967: 651), Buck (1963: 250). For various hypotheses on Skt. *-dhwom/*-dhwai vs. Greek -sthe see Brugmann-Thumb (1913: 407) and Hirt (1912: 493).

¹⁰See e.g. Brugmann (1967: 651).

¹¹This hypothesis is based in large measure on Henry 1889. Henry speaks of -tha being added to -me, -mes, although he is unable to determine the origin of this -tha.

¹²The possibility that 2 du. -sthon was originally a 2 pl. ending was well recognized in the 19th century; cf. above, footnote 6. However, 1 du. -methon has not previously been recognized as possibly having once been a plural ending; it has been regarded as a reformation of 1 pl. -metha, with -on coming from 2 and (PE) 3 du. -sthon; cf. Brugmann (1967: 655).

¹³ Examples of semantic differentiation according to stress in Russian short adjectives are given in Cohen (1971: 164, 165).

¹⁴ Bartholomae (1885: 206).

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