

1st sg. middle *-H₂

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1. The athematic secondary indicative 1st sg. middle ending is *-i* in Indo-Iranian, e.g. Vedic *námśi*, Gathic *aojī*, Old Persian *adaršiy*. I think that this ending continues PIE. *-H₂ (cf. 1979a, p. 67). The 1st sg. middle forms *akri* (RV. X 159,4 = 174,4) < **e-k^wrH₂* and *ajani* (RV. VIII 6,10) < **e-ǵnH₁H₂* have nothing to do with the 3rd sg. passive aorists *akāri* < **e-k^wori* and *ajani* < **e-ǵonH₁i*. The latter are probably uninflected neuter *i*-stems which were incorporated into the verbal system.

2. In spite of the fact that the corresponding thematic ending is *-*ai* in Indo-Iranian, Meillet suggested already that the 1st sg. middle ending *-i* may be an alternant of the long vowel in the Greek secondary ending *-mān* (1964, p. 234). If this is correct, the Indo-Iranian thematic ending must be due to analogical reshaping.

3. Conversely, Petersen assumed that the athematic secondary ending *-i* was due to analogy on the basis of the 1st pl. forms: impf. *āsi* : pres. *āse* = impf. *āsmahi* : pres. *āsmāhe* (1936, p. 162). This is an unnatural type of analogic change. The 1st sg. form is generally reshaped on the basis of other sg. forms, not on the basis of the 1st pl. form. Besides, it remains unclear why the proposed analogy affected neither the optative ending *-a* nor the thematic endings, where both the model and the motivation for analogic change should be the same. Moreover, the 1st pl. ending *-māhe* is of analogical origin itself. A subsequent analogic development would be expected to replace the secondary endings *-i* and *-mahi* with ***-a* and ***-maha* on the basis of 3rd sg. *-(t)a*, primary *-(t)e*, cf. also the subjunctive 1st pl. ending *-mahai* on the basis of 1st sg. *-ai*.

4. Following Meillet, Ruipérez assumes that the 1st sg. ending *-i* continues PIE. **-ə* and concludes that the Indo-Iranian thematic ending *-*ai* is analogical (1952, p. 23). In his opinion, this **ə* yielded **a* before and after nonsyllabic **i* in the primary

ending **-ai* and the optative ending **-īya*. The latter development can no longer be maintained, especially since Hoffmann's discussion of the athematic optative (1968, p. 5). A vocalized laryngeal never yielded anything different from *i* in Indo-Iranian. We must therefore assume that both the primary ending **-ai* and the optative ending *-a* are of analogical origin.

5. Kuryłowicz shares Petersen's view that the ending *-i* is analogical (1964, p. 59). He states that it replaced earlier **-a < *-H₂o* without specifying the motivation for the replacement or giving evidence for the reconstruction of the earlier ending. Conversely, earlier *-i* could easily have been replaced by *** -a* in Indo-Iranian on the basis of 3rd sg. *-(t)a*. Ruipérez pointed out already that the Hittite 1st sg. ending *-ha* may have taken its vowel from the other persons (1952, p. 24).

6. Cowgill has given a detailed account of his views on the 1st sg. middle ending in Indo-Iranian (1968). Like Kuryłowicz, he starts from a PIE. ending **-H₂o*. He explicitly rejects Ruipérez's suggestion that Hittite *-ha* represents PIE. **-H₂* plus analogical *-a* from the other persons because in that case **H₂* "would be the only Indo-European person marker that functioned equally in both voices, without the need of a specific voice marker in the mediopassive" (1968, p. 26). I conclude that we have to separate the laryngeal of the perfect and the middle from the one in the thematic present ending **-oH* and that it cannot be regarded as a person marker. Elsewhere I have identified the laryngeal in the 1st sg. endings of the perfect and the middle with the one in 2nd sg. **-tH₂e/o* and 1st pl. **-medhH₂* and the laryngeal of the thematic 1st sg. ending **-oH* with the one in 2nd sg. **-eH₁i* (acute tone in Lithuanian) and 2nd pl. **-etH₁e* (aspiration in Indo-Iranian); if there ever was a laryngeal in the other 1st and 2nd person endings of these paradigms (**-m(H₂)e*, **-(H₂)e*, **-dh(H₂)ue*, **-om(H₁)om*), it was lost phonetically in the available material (1979a, p. 68).

7. The reconstruction **-H₂o* brings Cowgill into major difficulties because **H₂* appears not to have affected the timbre of a neighbouring **o*, so that the Greek and Tocharian 1st sg. middle endings *-mai*, *-mān*, A *-mār*, B *-mar*, *-mai* cannot be derived from **-H₂o-*. The postulate of an ablauting voice marker

*e is unmotivated and offers no explanation, as Cowgill points out. His suggestion that *-o- was analogically replaced with *-a- lacks a motivation if *o was characteristic of the middle: the converse development would be expected. In fact, there is no evidence at all for o-vocalism in the 1st sg. middle ending of the proto-language.

8. Cowgill sees the motivation for the introduction of -i in the athematic paradigm in the confusion of 1st sg. *-H₂o and 3rd sg. *-o after the loss of postconsonantal laryngeals. It is unclear why the same confusion continued to be tolerated in the primary ending and in the perfect, where 1st sg. *-H₂e and 3rd sg. *-e merged at the same stage. In the perfect, the homonymy was even extended to the middle endings and, in classical Sanskrit, to those cases where the 1st and 3rd sg. forms had not merged phonetically as a result of Brugmann's law.

9. The reconstruction *-H₂o forces Cowgill to assume a substantial amount of remodelling in cases where I see phonetically regular forms (1968, p. 30f.): "akri (X 159, 4 = 174, 4), probably not to be read akuri, must be analogic, while āvr̥ṇi (X 33, 4) can be explained as regular only by reading āvr̥ṇi < *āvr̥ṇiyi ← *āvr̥ṇiya < *ēw̥lnH₁AO", where I reconstruct *e-kwrH₂ and *e-ūlnH₁H₂. Also, "huvé, hinvé, vr̥ṇe, tasthe, etc. ought to be *hūve, *hinuue, *vr̥ṇiye, *tasthiye if they were faithful continuations of *ǵhuHAoy, *ǵhinuAoy, *w̥lnH₁AOy, *stestAoy", whereas in my opinion these forms reflect dissyllabic *ǵhuH₁H₂, *ǵhinuH₂, *ūlnH₁H₂, *stestH₂H₂ with primary -e for secondary -i < *-H₂. "Similarly Gatha Avestan has dadē (Y. 28, 4) and vərəmē (Y. 46, 3)", where I read |dadai| and |vr̥nai| with primary *-ai for secondary *-i in dissyllabic *dhedhH₁H₂ and *ūlnH₁H₂. Thus, I disagree with Cowgill's view that "it is not likely that the difference between 1st sg. tatane RV. VII 29, 3 and 3rd sg. tatne RV. X 130, 2 is due to the laryngeal originally present in the ending of the former": these forms reflect PIE. *tetonH₂e and *tetone with substitution of the Indo-Iranian primary middle ending *-ai for *-a and introduction of zero grade into the root.

10. In his article on the origin of the Sanskrit passive aorist, Insler adopts Petersen's view that the 1st sg. middle ending -i was created on the analogy of the 1st pl. ending (1968, p. 323).

He regards this 1st sg. middle ending as the only possible origin of the 3rd sg. passive ending *-i* and reconstructs a complicated chain of analogic developments to account for the different root vocalism and accentuation. Here I shall not enter upon a discussion of his theoretical constructs, which are not strictly relevant to the subject of the present article, but I want to draw attention to the distribution of the 3rd person middle endings which Insler establishes and which can be summarized in Table I (cf. 1968, p. 327).

Table I: Vedic endings

	3rd sg.	3rd pl.
deponent roots:		
pres.	<i>-e, -te</i>	<i>-re, -ate</i>
impf.	<i>-a(t), -ta</i>	<i>-ra(n), -ata</i>
aor.	<i>-a(t), -ta, -i</i>	<i>-ra(n), -ata</i>
transitive roots:		
trans. pres.	<i>-te</i>	<i>-ate</i>
trans. impf./aor.	<i>-ta</i>	<i>-ata</i>
pass. pres.	<i>-e</i>	<i>-re</i>
pass. aor.	<i>-i</i>	<i>-ra(n)</i>

It must be noted that the 3rd pl. passive ending *-ran* is limited to three roots: *adrśran* 'have been seen', *ayujran* 'have been yoked', *asrgran* 'have been discharged'. The endings *-a* and *-ra* were apparently confined to deponent roots at an earlier stage. In Avestan, the form in *-i* is limited to the passive of transitive roots: *vāci* 'was spoken', *srāvi* 'was heard/tried', *jaini* 'was slain', *ṛnāvi* 'was allotted' (Insler 1968, p. 320). This was probably the earlier distribution. In the root aorist of the Sanskrit deponents we find 3rd sg. *-ta* after a root ending in a short vocalic element versus *-i*, replacing earlier *-a*, after a root ending in a consonant (including laryngeal), e.g. *amṛta*, *apādi*, *ajani*. The older ending was preserved in the form *-at* in *ādat* 'took', *akhyat* 'looked', and *ahuvat* 'called'. Unlike Insler, I think that this formal distribution is secondary and that we must assume a semantic opposition for the proto-language: PIE. 3rd sg. **-o*

and 3rd pl. *-ro in deponents versus 3rd sg. *-to and 3rd pl. *-ntro in transitive middles.

11. Watkins' view is the exact opposite of Insler's: he assumes that the 3rd sg. passive aorist ending -i replaced earlier *-Ho in the 1st sg. middle aorist and imperfect, the older ending being preserved in the optative (1969, p. 138f.). Here again, both the model and the motivation for the analogic change lack sufficient justification. The 1st sg. middle and 3rd sg. passive forms did not belong to the same paradigm and differed in ablaut and accentuation. It remains unclear how and why the 1st sg. ending -i appeared in the imperfect and the transitive middle aorist, where the 3rd sg. ending was -a or -ta. In order to account for the ablaut difference Watkins changes *avri* [*avuri*] into ***avari* (RV. IV 55,5) and assumes that the zero grade in RV. *ayuji* (V 46,1), *akri* (2x), *avṛṇi* is analogical. Thus, the only example in the Rgveda which can have served as a model is *ajani* (VIII 6,10), which is ambiguous for the determination of the original ablaut grade.

12. In his excellent article on the Vedic passive aorist in -i Migron shows that this form is impersonal in the sense that it serves any person and number without generally specifying the agent, "not because the agent is unknown, but because it is either unimportant or too well-known to require mention" (1975, p. 299). He demonstrates that it really is a passive perfect, "i.e. that its aspectual rôle is to focus the hearer's attention on the moment at (or since) which the 'Einwirkung' has been accomplished, has become a fact of some consequence to him", e.g. *viśvam jivāṃ tāmāso nīr amoci* 'Every living thing has been released from darkness' (RV. X 107,1). It follows from his observations that the connection between the "passive aorist" and the causative and the *ya*-passive is even closer than was hitherto assumed. I think that the latter were simply derivatives from a deverbative noun of the type **kʷori*, which could itself be used predicatively in the sense of a passive perfect, e.g. 'This is a construction' = 'This has been constructed', cf. English *revolutionize* as a factitive of *revolution*. There are remnants of this type in other languages, e.g. Slavic *bolĭ* 'sick', *navĭ*

'dead', factitive *naviti* (cf. Vaillant 1974, p. 23), and Gothic *muns* 'thought' (with zero grade taken from the verb *munan*).¹

13. Elsewhere I have presented my reconstruction of the PIE. verbal endings, a part of which is reproduced in Table II (cf. 1979 a, p. 67).

Table II: Proto-Indo-European endings

	secondary active	transitive middle	intransitive middle
1st sg.	<i>-m</i>	<i>-mH₂</i>	<i>-H₂</i>
2nd sg.	<i>-s</i>	<i>-stHo</i>	<i>-tHo</i>
3rd sg.	<i>-t</i>	<i>-to</i>	<i>-o</i>
3rd pl.	<i>-nt</i>	<i>-ntro</i>	<i>-ro</i>

The 1st sg. transitive middle ending **-mH₂* yielded **-ā* after a consonant and **-mi* after a vowel in Indo-Iranian. Thus, it was eliminated because it merged with the 1st sg. active ending of the thematic and athematic present, respectively. The corresponding intransitive middle ending survived as *-i* after a consonant. This ending was extended to the thematic flexion (subjunctive), where the 1st sg. active and intransitive middle endings had merged phonetically into **-ā*. The 2nd sg. middle endings **-stHo* and **-tHo* merged after an obstruent. They also merged with the 3rd sg. transitive middle ending **-to* if that obstruent was an aspirate. This was the motivation for remodelling these endings on the basis of the corresponding active forms. The 3rd pl. transitive middle ending **-ntro* lost its **r* on the analogy of the active endings.

14. In the optative, which had intransitive middle endings, the 1st sg. ending yielded Indo-Iranian **-aiyi* < **-aiHi* < **-oiH₁H₂* in the thematic flexion and **-ī* < **-iH* < **-iH₁H₂* in the athematic flexion, cf. Vedic nom. acc. du. *devī* < **daiviH* < **deiṽiH₂H₁*, which cannot be analogical. The 3rd sg. ending yielded **-aiya*

¹ I think that it is also the origin of the Germanic weak preterit, e.g. Gothic 2nd sg. *nasidēs* '(you) saved' < **nosi dhēs*. Cf. also Old Irish *-suidgedar* < **sodī sagītro*. This type of nouns must not be confused with those *i*-stems which have lengthened grade in the root and continue suffixless deverbative nouns in Slavic, e.g. *rěčī* 'speech' (Vedic *vāk*), *tvarī* 'creation' (cf. Vaillant 1974, p. 28).

and *-iya, respectively. The latter form was regularized to *-īya and substituted for the seemingly endingless 1st sg. form. Finally, the thematic 1st sg. ending was replaced with *-aiya.

15. When the 3rd person endings *-a and *-ra received additional clarity by the addition of the secondary active endings -t and -n, this created a problem in the optative, where the 3rd pl. active ending was *-iHat < *-iH₁nt. The resulting ambiguity led to the substitution of 3rd sg. middle -ta for *-a and the creation of a 3rd pl. active ending *-iHr̥ on the basis of the corresponding middle form. The ending *-r̥ for earlier *-at < *-nt also spread to the athematic aorist and the reduplicated imperfect. Gathic created 3rd pl. *-ar for *-at, as is clear from /āhar/ and /ādar/.² This ending was eventually replaced with *-an. The 3rd pl. perfect ending *-r̥ was of course inherited from Proto-Indo-European.

16. The primary middle endings were created in Indo-Iranian on the basis of the secondary endings: *-ai : -a = *-tai : -ta = -ti : -t. The 2nd sg. ending *-sai was apparently modelled after the primary 3rd sg. ending *-tai, not after the secondary 2nd sg. ending *-(s)tha. The thematic secondary 1st sg. ending *-ai came to be used as a primary ending both in the thematic and in the athematic flexion. It was replaced with *-āi in the subjunctive in order to differentiate this mood from the indicative. I think that the Vedic 3rd sg. and pl. subjunctive endings -ate and -anta replace earlier *-a and *-ara, respectively.³

² Thus, I regard /āhar/ as an imperfect, not as a perfect. The examples are the following: *yā zī ānharō yāscā henti* 'those who were and those who are' (Y. 33, 10), *huxšathrā daēvā ānharō* 'were the gods good rulers' (Y. 44, 20), *yōi zī jvā ānharōcā bvainticā* 'those who are alive, and those who were, and those who shall be' (Y. 45, 7), *yōi ānharōcā henticā* 'those who existed and exist' (Y. 51, 22). The preterital meaning of /āhar/ in these instances contrasts with the "fact of some consequence" which the perfect denotes elsewhere in the Gathas, e.g. *yā zī vāvərəzōi pairī.cithi* 'may keep in mind what has been performed' (Y. 29, 4). In Vedic, -an was substituted in *āsāt < *é-H₁snt on the basis of the present tense, cf. 3rd sg. *ās* < *é-H₁st. The accentuation of 3rd pl. *āsúr* shows that the latter form belongs to the perfect and does not represent the imperfect with *-r̥ for *-nt.

³ On the coexistence of primary and secondary endings in the Indo-Iranian subjunctive paradigm see now Beekes 1981.

17. In Greek, the 1st sg. transitive middle ending $*-mH_2$ yielded $*-mā$ after a consonant and $*-ma$ after a vowel. The first variant was generalized and received an additional $*-m$ for the sake of clarity. The corresponding intransitive ending $*-H_2$ yielded $*-a$ after a consonant and lengthening after the thematic vowel. It was eliminated because it merged phonetically with the perfect and thematic present endings, respectively. The 2nd sg. intransitive middle ending $*-tHo$ merged with the 3rd sg. transitive middle ending $*-to$, and after obstruents also with the 2nd sg. transitive middle ending $*-stHo$. This was the motivation for the replacement of the 2nd sg. endings with $*-so$, which was created on the analogy of the active endings. The 3rd person intransitive middle endings were lost, and the $*r$ in the 3rd pl. transitive middle ending $*-ntro$ was eliminated on the basis of the active endings.

18. As in Indo-Iranian, the primary middle endings were created on the basis of the secondary endings in Greek: $-mai : *ma = -soi : -so = -toi : -to = -ti : *t$, etc. This development cannot have been a shared innovation of Greek and Indo-Iranian because it depends crucially on the different vocalization of the syllabic resonants.⁴ The dialectal Greek rise of $-sai$ and $-tai$ on the basis of 1st sg. $-mai$ can be compared with the generalization of $-ai$ in the Vedic subjunctive.

19. In Italic and Celtic, the 3rd pl. transitive middle ending $*-ntro$ lost its $*r$ on the analogy of the active endings. The 2nd sg. transitive middle ending was remodelled in the same way: $*-so : -s = *to : -t$. On the other hand, $*nt$ was introduced as a 3rd pl. marker into the intransitive middle ending, which became $*-ntro$. At this stage, the final $*-ro$ of this ending was reinter-

⁴ Thus, the difference between the presence of a nasal in Greek $-mai$ and its absence in the corresponding Sanskrit ending $-e$ reflects ultimately the different vocalization of the syllabic nasal before $*H$ in these languages, just as the difference between Greek $-a-$ and Sanskrit $-i$ reflects the different vocalization of the syllabic laryngeal. Similarly, the difference between the Sanskrit 2nd sg. ending $-thās$ on the one hand and Iranian $*-sa$ and Greek $-so$ on the other reflects the different development of PIE. $*tt$, which yielded $-tt-$ in Sanskrit and $-st-$ in Iranian and Greek. The s in Sanskrit $-se$ betrays the more recent origin of this ending.

preted as a voice marker and spread to the other intransitive middle endings: 1st sg. *-ōro (thematic ending), 2nd sg. *-toro, 3rd sg. *-oro. Analogy created another 3rd sg. form: *-tro: *-to = *-ntro: *-nto. The addition of *-ro to the 3rd sg. and pl. transitive middle endings yielded passive forms of transitive verbs in *-toro and *-ntoro. Thus, we arrive at the verbal system which is presented in Table III.

Table III: Italo-Celtic endings

	secondary active	transitive middle	passive	intransitive middle
1st sg.	-m	-ma		-a, -ōro
2nd sg.	-s	-so		-to, -toro
3rd sg.	-t	-to	-toro	-o, -oro, -tro
3rd pl.	-nt	-nto	-ntoro	-ntro

The 2nd sg. transitive middle ending has been preserved in Latin, the 3rd sg. ending in Venetic *doto*, *donasto* 'gave' and in the Old Irish imperfect and imperative endings, and the 3rd pl. ending also in the latter paradigms, as I will argue elsewhere. The passive and intransitive middle (deponent) endings have all been preserved in Old Irish with the exception of 1st sg. *-a and 3rd sg. *-o, which was replaced with *-to in the deponent imperative.⁵ The passive endings are also found in Latin. From the intransitive middle paradigm, the 1st sg. ending *-ōro is preserved in Latin *-ōr* and the 3rd person endings are attested in Umbrian *ferar* 'feratur', Oscan *sakarater* 'sacratur', Mar- rucianian *ferenter* 'feruntur'. It is beyond doubt that the *r* spread from the 3rd pl. ending because it is absent from the Latin 2nd sg. and pl. forms and from the entire deponent imperative paradigm in Old Irish with the exception of the 3rd pl. form (cf. already Pedersen 1938, p. 105).

20. The only Germanic 1st sg. middle form is Old Norse *heite* 'am called', which belongs to the same paradigm as Old English

⁵ The final *-o of 1st sg. *-ōro and 2nd sg. *-toro explains the absence of palatalization in the absolute forms, cf. Kortlandt 1979b, p. 49. The palatalization in *-ther* originated from the syncope of a preceding front vowel.

3rd sg. *hätte* and Gothic 2nd sg. *haitaza*, 3rd sg. *haitada*, 3rd pl. *haitanda*. These forms point to a Proto-Germanic middle present set of endings 1st sg. **-ai*, 2nd sg. **-asai*, 3rd sg. **-aθai*, 3rd pl. **-anθai*, which was apparently created on the basis of a paradigm **-a*, **-asa*, **-aθa*, **-anθa* by the addition of **-i* from the athematic primary active endings. The vocalism of the 3rd sg. ending betrays the PIE. intransitive middle ending **-o*, which was apparently extended with **-to*. The new ending **-oto* served as a model for the creation of 2nd sg. **-oso* and 3rd pl. **-onto*, and for the optative endings **-oiso*, **-oito*, **-ointo*, Gothic *-aizau*, *-aidau*, *-aindau*, and the imperative 3rd person endings **-otōu* and **-ontōu*, Gothic *-adau*, *-andau*, which can be compared with Vedic *-tām*, *-ntām*, Greek *-tō*, *-ntō*, Irish *-d*, *-t*, all from the PIE. transitive middle endings with lengthening of the final vowel before the added particle **u*.⁶ The fact that the 1st sg. form was not remodelled in the same way suggests that it did not end in **-o* at that stage. Thus, it offers additional support for the reconstruction **-H₂*. If the latter yielded **-a*, it follows that **a* and **o* had not yet merged at the stage under consideration.

21. The Tocharian primary endings 1st sg. A *-mār*, B *-mar*, 2nd sg. A *-tār*, B *-tar*, 3rd sg. AB *-tār*, 3rd pl. AB *-ntār* suggest a Proto-Tocharian paradigm **-mar*, **-tar*, **-tr*, **-ntr*. The secondary endings 1st sg. A *-e*, B *-mai*, 2nd sg. A *-te*, B *-tai*, 3rd sg. A *-t*, B *-te*, 3rd pl. A *-nt*, B *-nte* point to Proto-Tocharian **-ai*, **-tai*, **-to*, **-nto*. The terms “primary” and “secondary” have given rise to misunderstanding among Indo-Europeanists. The Tocharian primary active endings (which are found in the present, subjunctive, optative, and B imperfect) represent the PIE. primary and secondary active endings: 1st sg. AB *-m* < **-mi*, B *-u* < **-ō*, 2nd sg. AB *-t* < **tu* (cf. Pedersen 1944, p. 5), which was added to the zero ending from PIE. **-(e)s*, 3rd sg. A *-s* and B *-m* are pronominal clitics which were added to the zero ending (which has been preserved in the B imperfect and optative) from PIE. primary **-e* and secondary **-(e)t*, 3rd pl. A

⁶ Latin *-tō* is apparently a merger of 2nd sg. active **-tōd* (Vedic *-tāt*) and 3rd sg. transitive middle **-tō*. Greek created a new set of 3rd person middle imperatives on the basis of the 2nd pl. ending (cf. Chantraine 1967, p. 271f.).

-ñc < *-nti, B -m < *-nt. The Tocharian secondary active endings (which are found in the preterit and usually in the A imperfect) correspond to the PIE. perfect endings: 1st sg. A -ā, -wā, B -wa replace *-a < *-H₂e, 2nd sg. A -st, B -sta replace *-ta < *-tH₂e, 3rd sg. AB zero from PIE. *-e, 3rd pl. AB -r = PIE. *-(ē)r, B -re reflects *-ro. Thus, the endings were originally differentiated according to the voice (active or perfect) of the verb form. In the same way, the primary and secondary middle endings continue the PIE. transitive and intransitive middle endings, respectively.

22. Unlike Italic and Celtic, Tocharian extended final *-ro to the 3rd sg. ending *-to of the transitive middle paradigm: *-tro : *-t = *-ntro : *-nt. The 3rd person intransitive middle endings *-o and *-ro were subsequently replaced with *-to and *-nto after the model of the active and transitive middle endings. The 2nd sg. ending *-(s)to, which lost its *s after an obstruent (cf. in this connection Melchert 1977), adopted the vowel of the 1st sg. endings *-ma < *-mH₂ and *-a < *-H₂. Tocharian appears to have developed real primary and secondary endings in the intransitive middle (mediopassive) paradigm: *-toi : *-to = *-ti : *-t, etc. Thus, we arrive at the system of verbal endings which is presented in Table IV.

Table IV: Proto-Tocharian endings

	secondary active	transitive middle	secondary mediopassive	primary mediopassive
1st sg.	-m	-ma	-a	-ai
2nd sg.	-s	-ta	-ta	-tai
3rd sg.	-t	-tro	-to	-toi
3rd pl.	-nt	-ntro	-nto	-ntoi

At this stage, the perfect and mediopassive endings spread to the active and transitive middle aorist, respectively. The merger of the perfect with the aorist yielded a preterit paradigm with perfect endings, as in Latin. The middle preterit received the secondary 3rd person mediopassive endings *-to and *-nto, but the primary 1st and 2nd sg. mediopassive endings *-ai and *-tai

in order to avoid homonymy with the active preterit (perfect) endings $*-a < *-H_2e$ and $*-ta < -*tH_2e$.⁷ The 3rd person transitive middle endings $*-tro$ and $*-ntro$ lost their $*-o$, which became a marker of the preterit, and their $*r$ was introduced into the 1st and 2nd sg. endings of the paradigm. Finally, the mediopassive adopted the transitive middle flexion.⁸

23. In Anatolian, the spread of $*nt$ in 3rd pl. middle forms led to the coexistence of the endings $*-nto$, $*-ntro$, and $*-ntoro$. The introduction of final $*-ro$ into the 3rd sg. forms in $*-o$ and $*-to$ gave rise to the endings $*-oro$ and $*-toro$. The 1st sg. middle ending $*-H_2$ received a final $*-o$ from the other members of the paradigm. Eventually $*-ro$ became an optional clitic in all persons and was remodelled to $-ri$ in the present and $-ru$ in the imperative on the basis of the corresponding active forms. The

⁷ This distribution is also reminiscent of Latin. I assume that the 1st sg. perfect ending $*-ai$ in Latin served for differentiation from the deponent ending $*-a$, which was subsequently replaced with $-\bar{o}$. Similarly, the Slavic ending $-\acute{e} < *-ai$ in *vědě* 'I know' indicates the previous existence of a middle ending $*-o < *-H_2o$ (with added $*-o$ from the other persons). The introduction of the final $*-o$ from $*-ro$ into the 3rd pl. perfect ending $*-ēr$ in Latin and Tocharian was of course anterior to the introduction of $*nt$ into the 3rd pl. intransitive middle ending. It did not affect the corresponding zero grade ending $*-r$, which is preserved in the Tocharian *s*-preterit, because the perfect and intransitive middle endings would otherwise have become homonymous.

⁸ The new tense markers $*-o$ and $*-r$ were extended to the 1st pl. ending $*-meta < PIE. *-medhH_2$, which was replaced with $*-meto$ (A $-mät$, B $-mte$) in the preterit and with $*-metr$ (AB $-mtär$) in the present system. I think that the 2nd pl. ending of the middle preterit, which is A $-c$ and B $-t$, is the phonetic reflex of PIE. $*-dhue$, cf. A *sparcwätär*, B *sporttotär* 'turns' from the Proto-Tocharian active stem $*spartwe-$ with the thematic 3rd sg. middle ending $*-otr$. The final $-r$ of the corresponding present ending A $-cär$, B $-tär$ was apparently added in the separate Tocharian dialects, cf. also the active ending B $-cer$ next to A $-c < *-te$. The expected $*-tt < *-twe$ in the B middle ending seems to have been extended to the 1st pl. endings $-mtte$, $-mttär$. The 1st pl. active ending A $-mäs$, B $-m$ reflects PIE. $*-me(s)$ with a pronominal clitic in the former dialect (cf. Pedersen 1941, p. 143). The 2nd pl. ending AB $-s$ of the active preterit represents a clitic which was taken from the imperative and added to the zero ending that corresponds to the Sanskrit perfect ending $-a$.

vocalization of the 1st sg. middle ending $*-H_2$ after a consonant yielded $*-a$, to which the regular ending $*-ho$ could be added. Restoration of the laryngeal yielded an ending $*-ha$, which could be extended to $*-haho$. Thus, the assumption that the PIE. 1st sg. middle ending was $*-H_2$ rather than $*-H_2o$ explains the origin of the surprising Hittite ending $-hahari$.

24. I conclude that the Indo-Iranian 1st sg. middle ending $-i$ is the phonetic reflex of PIE. $*-H_2$ and that the correctness of this reconstruction is supported by evidence from Greek, Germanic, Tocharian, and Hittite. The primary middle endings originated as a result of parallel developments in the separate languages, as is clear from the formal and functional incongruities. The motivation for these parallel developments lies in the absence of a distinction between primary and secondary endings in deponent paradigms, the presence of a clear present tense marker in the athematic active flexion, and the asymmetrical status of $*r$ in the PIE. 3rd pl. endings. Since the early substitution of $*-nto$ for the transitive middle ending $*-ntro$ is common to Indo-Iranian, Greek, Italic, Celtic, and Germanic, it may be a dialectal Indo-European development which was not shared by Tocharian and Anatolian. On the other hand, I suspect that the spread of $*r$ in the transitive middle paradigm and its elimination from the intransitive middle paradigm in Proto-Tocharian were common to a larger dialectal area which included Armenian and probably Balto-Slavic. Thus, I think that Armenian, like Irish, preserves the transitive middle flexion in the imperfect and the middle imperative and the mediopassive flexion in the middle aorist: 2nd sg. $-r < *-ro$, 3rd sg. $-(w)r < *-tro$, 2nd pl. $-ruk^c < *-ro-$, aorist 3rd sg. $-w < *-to$, 3rd pl. $-n$ (without loss of the preceding vowel) $< *-nto$, 2nd pl. $-\check{y}ik^c < *-dhue-$. The active and mediopassive endings merged in the present tense as a result of the apocope. The prohibitive imperative in $-r < *ra$ belongs to the present system and cannot be connected with the middle aorist imperative ending $-r$. Phrygian seems to have shared the Anatolian development: *addaketor* = *addaket* 'afficit'.

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- Note added in proof: See also *Ériu* 32 (1981) p. 16–21 on Celtic, *AArmL*. 2 (1981) p. 29–34 on Armenian, and my forthcoming article on PIE. Syntax in *JIES*. 10 (1982).

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