

**Reconstructing the medio-passive participle
of Proto-Indo-European**

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Contents

Acknowledgments	iii
I. Introduction to the PIE Medio-Passive Participle	1
II. The Laryngeal Hypothesis	9
III. <i>*-mn-/*-men-/*-mon-</i> Alternation	19
IV. The Indo-Iranian Athematic Participle in <i>-āna-</i>	26
V. Balto-Slavic <i>*-mo-</i> , <i>*-men-</i> in the Bigger Picture, and Conclusions on the Medio-Passive Participle	33
References	41

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I. Introduction to the PIE Medio-Passive Participle

1. The Indo-European linguistic community has not yet reached a consensus on the reconstruction of the medio-passive participle¹. As the issue stands in even some of the most recent scholarship, there existed a suffix **-men-* or **-meh₁n-* (also proposed as **-meHn-* or **-meXn-*), which was added to a verbal root, with or without a thematic vowel, and formed the medio-passive participle. The mysterious consonant which is reflected in reconstructions of the form **-meXn-* is present to account for vowel irregularities which have been deemed instances of compensatory lengthening. The reconstruction of **-men-* or **-meXn-* is of particular difficulty and interest because both options neatly reflect the data in some instances, yet break down in others. Some scholars have remained agnostic (or at least not strongly committed to one hypothesis or the other) about how to reconstruct the medio-passive participle, and thus the two options are mentioned side-by-side². Despite the widespread propagation of the **-me(X/H/h₁)n-* theory, there are multiple indications that the data deserve a fresh look:

- 1) If indeed the consonant represented by *X* is *h₁*, there are no instances which unambiguously demand the reconstruction of a laryngeal. That is, every IE medio-passive participle which could demonstrate a laryngeal reflex has the potential to be explained

¹ Fortson 2004: 97-98; Meier-Brügger 2003: 186; Szemerényi 1996: 9.6.1.3; Weiss 2009: 437; Beekes 1995: 18.9.1; Klingenschmitt 1975 in Rix (ed.): 161-163; Ringe 2006: 193.

² Fortson 2004: 97-98; Meier-Brügger 2003: 186.

otherwise. Moreover, there are specific data which almost certainly cannot contain a laryngeal reflex.

- 2) The alleged instances of compensatory lengthening are otherwise explicable by fairly standard morphological processes.
- 3) On the phonotactic level, a suffix which ends in a laryngeal/nasal sequence is otherwise unattested³. Furthermore, there are no securely reconstructed PIE morphemes of the shape **(C)CeHN*.
- 4) There is a large and unambiguous body of evidence for a deverbal suffix **-men-*. It seems logical to propose a link between this suffix and the medio-passive participle, since participles are by definition deverbal adjectives. In examining the **-me(X/H/h₁)n-* hypothesis, we should keep in mind that this proposed reconstruction is extremely close in form, meaning, and function to the productive and well-attested **-men-* suffix. Therefore, operating under Occam's razor, the acceptance of a **-me(X/H/h₁)n-* suffix is appropriate only if it is demonstrably essential to include the additional consonant.

2.1. Before launching into a specific argument for the reconstruction of the medio-passive participle, it is necessary to give a full review of the attested forms. At this time, the dataset is confined to only participial usages, but more inclusive views of the **-men-* suffix will follow later.

³ Save for when **HN* constitutes the entire morpheme, as in a \emptyset -grade Hoffmann suffix **-Hn-* (cf. **h₂iu-Hn-es* > Vedic *yúnas* 'young' gen.). See Fortson 2004: 6.35; Hoffmann 1955: 35-40.

2.2. The Greek medio-passive participle is perhaps the most straightforward of the data and is quite productive⁴. The suffix *-μενος* attaches to a verbal stem (followed by the accented thematic vowel in the case of thematic present stem) to form participles of the shape *φερ-ό-μενος* ‘carrying oneself’ or ‘being carried’ (< PIE **bher-*). In the case of athematic verbs, medio-passive participles are formed with the suffix added directly to the verb root: *τι-θέ-μενος* ‘placing oneself’ or ‘being placed’ (< PIE *dheh₁-*), *ι-στά-μενος* ‘standing’ or ‘being stood’ (< PIE *steh₂-*), *δι-δό-μενος* ‘being given’ (< PIE *deh₃-*). The suffix *-μενος* also occurs outside the present system, and can be added to aorist stems, as in *παυ-σά-μενος* (from *παύω* ‘to stop’), *λιπ-ό-μενος* (from *λείπω* ‘to leave’), and *θέ-μενος* (from *τίθημι* ‘to put, place’). We also see *-μενος* suffixed onto future stems, as in *θη-σ-ό-μενος* (from *τίθημι*), and perfect stems, as in *πε-παυ-μένος* (from *παύω*). Here it should be noted that none of the Greek forms gives any indication that the PIE medio-passive participial suffix is anything other than **-men-o-*.

2.3.1. Sanskrit has a productive medio-passive participle in *-māna-* (thematic), which operates similarly to its Greek analog⁵. In the present tense, *-māna* can be suffixed onto any thematic verb, such as in *bhav-a-māna-* ‘being’ (from deponent root *bhū-*), Vedic *madyá-māna-* ‘rejoicing’ (from *-ya-* class *mad-*, which can appear as a deponent), and *bhár-a-māna-* ‘carrying (for oneself)’. Like the Greek suffix, *-māna-* can attach to forms outside the present tense, as in future participles *yak-syá-māna-* ‘going to offer’ (Vedic, from *yaj-*), *bhav-iṣya-māna-* ‘going to be’ (from deponent root *bhū-*), and *yot-sya-māna-* ‘going to fight’ (from deponent root *yudh-*).

⁴ For more on Greek, see Rix 1992.

⁵ See Macdonell 1968, Whitney 2003, and Whitney 1988.

Derivational stems can also form participles in *-māna-*, as in causative *yāt-āya-māna-* ‘reaching’ (from *yat-* ‘to stretch’) and denominative *ojāyá-māna-* ‘exhibiting strength’ (from *ojas-* ‘vigor’). True passive participles, marked with the suffix *-ya-*, also use *-māna-*, as in *dad-yá-māna-* ‘being given’ and *han-yá-māna-* ‘being slain’. Here it can be noted that an internal reconstruction relying only upon this Sanskrit data would point us toward a PIE suffix **-mon-o-*. While the long vowel in *-māna* could possibly represent the loss of a consonant **X*, there is no direct evidence here for a laryngeal⁶.

2.3.2. Sanskrit also possesses an athematic medio-passive participle, but unlike Greek, it is not ostensibly formed with a **-m(e)(X/∅)n-* type suffix. The athematic participles take a suffix *-āna-*, which attaches directly to the stem. Thus we see *kr̥ṇv-āná-* ‘doing (for oneself)’ (later *kurv-āna-*), *dád̥h-āna-* ‘placing (for oneself)’ (from *dhā-* < PIE *dheh₁-*), and *dád-āna-* ‘giving (for oneself)’ (from *dā-* < PIE *deh₃-*). Vedic also forms root aorist participles in *-āna-*, as in *dr̥ś-āná-* ‘seeing’, *píś-āná-* ‘adorning’, *budh-āná-* ‘knowing’, and also perfects, as in *cakr-āná-* (from *kr-* ‘to do’) and *pap-āná-* (from *pā-* ‘to drink’). Again, these forms display no direct laryngeal reflexes and, by internal reconstruction, would yield a PIE suffix **-on-o-*⁷.

2.4. Avestan shows a medio-passive participle in *-mna-*, yielding *barə-mna-* ‘carrying (for oneself)’ (from PIE **bher-*) and *saya-m(a⁸)na-* ‘lying down, sleeping’.

The suffix *-mna-* clearly contains no evidence for a laryngeal in between the two

⁶ There do exist a number of forms in Middle Indic which, according to some arguments, directly support the presence of a vocalized laryngeal. See footnote 19; Beekes 1988, 191; Mayerhofer 1981.

⁷ There is the possibility here that *-āna-* contains (or was analogically styled after) a Hoffmann suffix **-Hon-*. This hypothesis and others are addressed in section IV on Indo-Iranian *-āna-*.

⁸ Misra 1979: 308 cites an optional *a* in a number of thematic participles, although Stanley Insler (personal communication) suggested to me that such variants are misinterpretations of the orthography.

nasals, and would seem instead to be the result of a PIE **-mn-o-*. Avestan, like Sanskrit, also has an athematic participial ending *-āna-*, which is more common in later texts (only one such participle is attested in the *Gathas* proper⁹): thus *say-āna-* ‘lying down, sleeping’, *daθ-āna-* ‘placing’, aorist *srav-āna-* ‘hearing’, and perfect *mamn-āna-* ‘thinking’.

2.5. Tocharian also displays middle participles (though usually indeclinable) which appear to be cognate with the Greek and Sanskrit data, eg. Tocharian A/B *nasmām/nesamane* ‘being’ and *sālpamo/sālpamane* ‘burning’¹⁰. The long vowel in the Tocharian A suffix *-mām* has been cited as evidence for lengthening due to laryngeal loss¹¹.

2.6. There are few Latin forms which sometimes are mentioned in the discussion of the medio-passive participle, though the suffix is by no means productive in Italic: *Vertumnus* (as if from *vertō* ‘to turn’), *alumnus* ‘nursling, pupil, foster-son’ (from *alō-* ‘to nourish’), and *fēmina* ‘woman’ (from PIE **d^heh₁(i)-* ‘to give suck’¹²) These words seem to illustrate a **-m(e)(X/∅)n-* type suffix, but whether or not to call them frozen participles is a matter of debate¹³.

2.7. Balto-Slavic offers an interesting set of passive participles which are traceable back to **-mo-*, and which are likely connected to the **-m(e)(X/∅)n-* medio-passive suffix¹⁴: Lithuanian *vēda-ma-s* ‘being led’, Latvian *vēdams*, Old Church Slavonic *vedomъ*; Lith. *bāriamas* ‘being scolded’, Latv. *baŗams*, OCS. *boŗemъ*. As

⁹ Beekes 1988: 191.

¹⁰ Melchert 1983: 25.

¹¹ Klingenschmitt 1975: 159 ff.

¹² Weiss 2009: 437.

¹³ Melchert 1983: 24.

¹⁴ Endzelīns 1971: 249-250; Schmalstieg 2000: 364-368; Schmalstieg 1974: 223-224.

intransitive verbs in Sanskrit and Greek can take *-māna-* and *-μενος* respectively, Balto-Slavic intransitives can also take the **-mo-* suffix, as in Lith. *nèdegamas* ‘incombustible’ and Latv. *piètiēkams* ‘sufficient’. Balto-Slavic also shows future passive participles in **-mo-*, e.g. Lith. *vesimà* ‘betrothed, to be wed’, *dirbsimas dárbas* ‘work which will be done’. While these **-mo-* participles are undeniably similar in form and function to the medio-passives of Indo-Iranian and Greek, it is unclear exactly how the two are related. A possible clue may lie in a *hapax legomenon* from Old Prussian, *poklausīmanas* ‘heard’, the only participle in Balto-Slavic which appears to use the **-m(e)(X/∅)n-* suffix.

2.8. The **-mo-* suffix is present in Anatolian as well¹⁵, as seen in Cuneiform Luvian *kīšammi-* ‘combed’ and *šarlaimmi-* ‘exalted’, though **-m(e)(X/∅)n-* participles are distinctly absent from Hittite. However, Hittite does show exhibit productive participles in **(e)nt-*, by which many of the Indo-European daughter branches form present active participles: Hittite *kunānt-* from PIE **g^{wh}en-* ‘to slay’. However, *kunānt-* does not mean ‘slaying’, but rather ‘(having been) slain’. Thus in Hittite the regular suffix for the present active participle is used for the past passive (indicated by **-tó-* in most of the daughter branches).

2.9. Given the distribution of **-m(e)(X/∅)n-* participles and what we know about the relative chronology of the Indo-European daughter branches, it would seem that this participial usage is a fairly late feature of PIE. Due to its productivity in Greek and Indo-Iranian, it is reasonable to assume that by the so-called Greco-Aryan stages of PIE, **-m(e)(X/∅)n-* was set as the medio-passive participle

¹⁵ See Szemerényi 1996, 9.6.1.3, which derives Luvian *-mmi-* from PIE **-men-*.

suffix¹⁶. To place this ending any earlier than the Greco-Aryan stage is not as secure. The Balto-Slavic and Tocharian evidence may indicate a more archaic usage, but both these branches offer problems. Firstly, **-mo-* is not exactly **-m(e)(X/∅)n-*, and any argument which seeks to equate the two must explain the phonological development of **-mo-*. On the Tocharian side, if the indeclinable middle participle does come from **-m(e)(X/∅)n-*, it is unclear whether it represents a frozen form of an older system or a fledgling development which has not yet taken on a full paradigm. If **-m(e)(X/∅)n-* participles came from older verbal adjectives, it seems likely that the Tocharian participle at one time had a full declension. If Latin does exhibit archaic medio-passive participles, it would not be unreasonable to date the usage to at least middle-PIE, but whether *alumnus* represents a true participle or simply a **-men-* stem adjective is debatable and necessitates further investigation. In any case, it seems clear from Hittite that these **-m(e)(X/∅)n-* participles cannot be as deeply Indo-European as the present active forms in **-(o/e)nt-* or the past passive participles in **-tó-*.

2.10. To sum up, unambiguous medio-passive participles in **-m(e)(X/∅)n-* are present only in Greek and Indo-Iranian. We therefore can assess the usage to be at least as old as the late stages of PIE. Tocharian seems to exhibit a middle “participle” in **-m(e)(X/∅)n-*, but its lack of a declension raises doubts about its antiquity. Balto-Slavic **-mo-* participles are seemingly connected, but how they figure into the larger picture of PIE is not fully understood. Latin may or may not exhibit archaic and unproductive medio-passive participles. It should be noted

¹⁶ Fortson 2004: 9-11

though that in none of these branches is there anything which necessitates the reconstruction of a laryngeal in the suffix. The case for the laryngeal depends wholly on the differences in vowel quality between Greek $-\mu\epsilon\nu\omicron\varsigma$ and Sanskrit $-māna-$, as well as Tocharian A $-mām$. Additionally, the only piece of evidence for specifically positing an $*h_1$ is that $*h_2$ or $*h_3$ would produce the wrong vowel in Greek. I hope to demonstrate that this is not sufficient evidence to reconstruct a laryngeal in the suffix, and that there is a far more compelling case to be made for an ablauting $*-m(o/e/\emptyset)n-$. This solution will prove more accurate in its reflection of all the available data in the daughter branches, and will also clarify many of the problems which exist in the classical view of the inherited medio-passive participle in $*-m(e)(X/\emptyset)n-$.

II. The Laryngeal Hypothesis

1.1. The first reconstruction of the PIE medio-passive participle in $*-m(e)h_1no-$ is attributable to Klingenschmitt 1975¹⁷. Much of the attractiveness of this reconstruction lies in its ability to account for the differences in vowel length between the Greek participle in $-\mu\epsilon\nu\omicron\varsigma$ and the Sanskrit in $-māna-$. By regular sound change, the theory traces the two participles thus:

PIE $*-m(e)h_1no-$ > Proto-Greek $*-mh_1no-$ (\emptyset -grade) > Greek $-\mu\epsilon\nu\omicron\varsigma$

PIE $*-m(e)h_1no-$ > Proto-Indic $*-meh_1no-$ (e-grade) > Sanskrit $-māna-$

In the case of the Greek, the suffix is \emptyset -grade, leaving the laryngeal to vocalize and surface as an epsilon uniformly across the Greek dialects. In Sanskrit, the loss of the laryngeal triggers compensatory lengthening and the vowel surfaces as long \bar{a} .

Klingenschmitt also derives the long vowel in Tocharian A $-mām$ from $*h_1$.

1.2. Additionally, Klingenschmitt's proposal makes a neat account of the development of Sanskrit's athematic medio-passive suffix $-\āna-$:

PIE $*-m(e)h_1no-$ > Proto-Indic $*C-mh_1no-$ > Sanskrit $-\āna-$

¹⁷ See Rix 1975 for Klingenschmitt's original proposal, which stands to date without any serious emendation, as far as $*-m(e)h_1no-$ theories go. Meier-Brügger 2003 also notes Matthias Fritz's suggested reconstruction of the medio-passive participle in $*-mh_1eno-$, such that "the two competing zero grade suffix variants $*-mh_1no-$ and $*-mno-$ may be combined via the full grade $*-mh_1eno-$, provided that the laryngeal in the suffix disappears when the suffix is added to a root or stem with a non-syllabic final position preceding the full vowel e . The non-laryngeal full grade form $*-meno-$ would then have the newly constructed zero-grade form $*-mno-$." This theory, however, has not garnered much support in the field, nor does it have the advantage of explaining the lengthening present in the Sanskrit data. Therefore, and because of all the forthcoming arguments against the presence of a laryngeal in the suffix, I find Fritz's suggestion to be unmotivated.

In this scenario, the **m* vocalizes in between the final consonant of the stem and the **h₁*, and is subsequently lengthened by the loss of the laryngeal. Whether the vocalized **m* becomes an *a* before the loss of the laryngeal and subsequently is lengthened to *ā*, or the **m* was lengthened and then became *ā*, the surface result is the same and the intermediate steps have little bearing on the reconstruction of the original participial suffix.

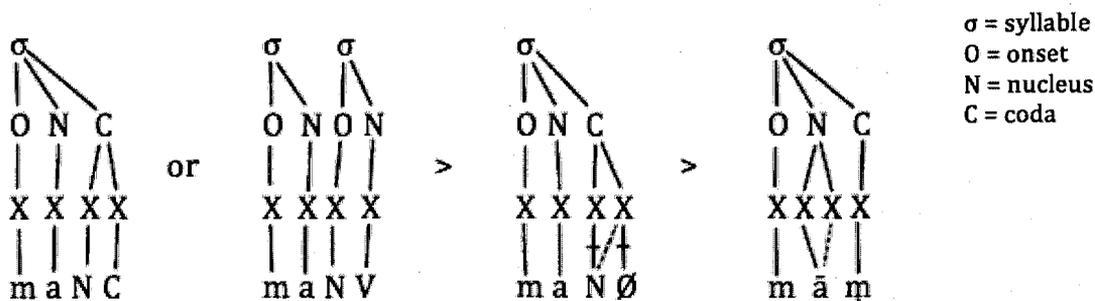
2.1. Without a doubt, this hypothesis is quite appealing on the surface. It provides a simple explanation to a problem which has troubled scholars for many years. However, despite its elegance, the laryngeal theory is fundamentally flawed in multiple ways.

2.2. First, the only evidence for the laryngeal comes from alleged compensatory lengthening. This point alone is not enough to reject the theory; there are many securely reconstructed forms which posit a laryngeal based on lengthening, but it should be noted that in these cases, a laryngeal is the linguist's last recourse, and the only possible explanation. In the absence of any direct evidence (ie. vowel coloring, unambiguous vocalization, direct Anatolian correspondence), we must be even more careful to respect the entirety of the data. In this case, the instances which reflect lengthening in the suffix vowel are very limited: we have the two Sanskrit suffixes *-māna-* and *-āna-*, the Avestan athematic participle in *-āna-*, and the Tocharian A suffix *-mām*. These forms represent the only possible evidence for compensatory lengthening after laryngeal loss in the medio-passive participle suffix. Moreover, the long vowel in Tocharian A is easily explicable by means other than the loss of a laryngeal. In comparison to the

Tocharian B form in *-mane*, it seems that phonological material has been lost at end of the *-mām* suffix. Whether the lost segment was a thematizing vowel or an inflectional ending such as *-s*, long *ā* could have resulted in both cases according to either Szemerényi's Law or an equivalent lengthening¹⁸.

2.3. Furthermore, there exist no medio-passive participles (or anything that appears to have been at one time a participle, verbal adjective, or agent noun in **-men-*) in any of the daughter languages which show a direct laryngeal reflex. If a laryngeal were present in the suffix, we might expect to see, for instance, a Vedic Ø-grade ending **-mīna* or **-mina*, according to the regular Indic outcome of syllabic laryngeals (cf. PIE **d^hh₁-tó-* > Sanskrit *hi-ta-*, and Vedic *a-dhī-mahi* aor. 1st pl.). An archaic medio-passive participle in **-mīna* or **-mina* would be especially plausible given Klingenschmitt's assertion that the athematic suffix was Ø-grade. Thus a form

¹⁸ While Szemerényi's explanation, which technically only applies to lengthening from consonant loss, is sufficient to account for the lengthening in question (*Introduction to Indo-European linguistics* 1996: 6.2.7.1), the best explanation is made by means of autosegmental phonology (see Hayes 1989). Accordingly, the lengthening seen in Tocharian A's *-mām* suffix could be described as such:



It makes no difference whether the final timing slot is occupied by a vowel or consonant, since when that segment is lost, the nasal delinks and shifts its association rightward to fill the empty X. After this movement, the vowel is free to spread, and a long *ā* surfaces.

like **kṛṇu-mīna* ‘doing (for oneself)’ could be anticipated to have surfaced at some point alongside the regular form *kṛṇv-āna*¹⁹.

On the Greek side, the existence of a hypothetical medio-passive participle in **-μηνος* might be enough for give serious consideration to Klingenschmitt’s hypothesis. Though he claims that the Greek participles are built on a \emptyset -grade suffix, there exists enough ablaut variation diachronically and across the Greek dialects that a **-μηνος* participle would not seem totally unplausible. However there simply exists no attestation of such a form, productive or frozen. There are some compounds which have a final member *-μηνος*, yet in all of these, *-μηνος* represents *μείς, μηνος* (gen.) ‘month’, cf. *διχό-μηνος* ‘dividing the month’.

2.4. Alongside the non-existence of medio-passive forms in Sanskrit **-mīna* or **-mina* and Greek **-μηνος*, we also see clear \emptyset -grade formations in both languages which appear to be archaic participles, or at least have some sort of deverbal sense. For instance, it requires no stretch of imagination to interpret Greek *βέλε-μνον* ‘missile’ as literally ‘the (being) thrown thing’, a form of the verb *βάλλω* ‘to throw’ (cf. *βέλος* ‘missile, shot’, *βελόνη* ‘needle’, Arcadian *έσ-δέλλω = εκ-βάλλω* ‘cast out’²⁰) plus the \emptyset -grade participial suffix. Sanskrit can also supply similar forms: cf. *nr-mṇa-* ‘manhood’ with \emptyset -grade suffix from the PIE root **h₂ner-* ‘man’ or perhaps ‘to be a man’ and *pat-man-* ‘flight’ from the root *pat-* ‘to fall, fly’ (Latin *petō*, Greek *πίπτω*). In the case of *nr-mṇa-*, clearly there is no laryngeal reflex. In *pat-man-*, if

¹⁹ There do actually exist a number of forms in Middle Indic in *-mina-* and *-mīna-*, which have been cited in the past in support of the laryngeal (Beekes 1988, 191). Perhaps more weight has been given to these forms than they deserve. Since they are not paralleled in Sanskrit at any stage, an alternate explanation is more likely. One possibility is that they were analogically created from the anomalous Vedic participle of the root *ās-* ‘to sit’: *āsīna-* (alongside regular *āsāná-*) (Stanley Insler via Jay Fisher, personal communication). For more on Middle Indic *-mīna-*, see Mayerhofer 1981.

²⁰ See Beekes 2010.

the suffix is full grade with a laryngeal, its vowel ought to be long. Conversely, if the suffix is \emptyset -grade with a laryngeal, short *a* would be an unexpected outcome.

Sanskrit also exhibits adjectives with a thematized *-man-* suffix, such as *lakṣ-maṇa-* ‘with auspicious signs or marks’ from the verb root *lakṣ-* ‘to perceive, mark’. In this case, if the suffix is \emptyset -grade with laryngeal, short *a* would again be the laryngeal’s vocalized reflex, a dubious proposition.

2.5. Another objection to the laryngeal reconstruction is that it looks fairly strange on the level of morpheme structure and phonotactics. As is currently the consensus of the field, most of the root and suffix morphemes in PIE were monosyllabic, each with its own onset, nucleus, and coda. If the medio-passive participle suffix is not an exception (there seems to be little reason to think it is), then a structure **-m(e)h₁n-* poses some problems. An **h₁n* (more generally, **HN*, see footnote 3) cluster at the right edge of a morpheme is unattested elsewhere in PIE, presumably since it violates the sonority hierarchy which applies to most roots and suffixes. Thus we find laryngeals far more often at the extreme edges of roots, but less often medially. One might try to give PIE **meh₁n-* ‘moon’ as a counter example, but it fails because a morpheme boundary is present between the laryngeal and the nominal suffix **-n-* (thus we take **meh₁-n-* ‘moon’ from **meh₁-* ‘to measure’).

3.1. Additionally, the potential presence of a laryngeal raises some questions about the suffix’s development. I believe that these questions are unanswered by the laryngeal theory and ought to point in the direction of a competing hypothesis.

3.2. The first of these questions arises from the differing behavior of the Greek and Indo-Iranian athematic participles. According to Klingenschmitt’s

hypothesis, a PIE medio-passive participle such as **dedh₃-mh₁nos* ‘giving (for oneself)’ becomes Greek *διδόμενος*, yet Vedic *dádāna-*. He accounts for these divergent developments thus:

PIE **dedh₃-mh₁no-* > Proto-Greek **dedh₃-mh₁no-* > Greek *διδόμενος*

PIE **dedh₃-mh₁no-* > Proto-Indo-Iranian **dedh₃-mh₁no-* > Vedic *dádāna-*

The alternative outcomes would result from differing constraints on syllabification within the two branches. The logical conclusion would be that when the laryngeals were lost in Proto-Greek, they were more sonorous than the laryngeals in Proto-Indo-Iranian at the time of their loss. Such a difference in sonority hierarchy is certainly plausible; the so-called *devī* suffix **-ih₂* becomes *-ī* in Indo-Iranian, reflecting a more sonorous **i*, but becomes **-ja* in Proto-Greek, where we see that the laryngeal is given syllabic priority. Though there are patterns in these developments, scholars have observed that there are pressures at work in PIE syllabification beyond something like simple right-to-left determination. Given the total lack of precise phonetic data, predicting sonority in the developing IE daughter branches is bound to be a tricky business. Moreover, since the athematic medio-passive participle is a productive formation with an additional thematic variant, there are abundant opportunities for analogical leveling. The conclusion here is not that it would have been impossible for Indo-Iranian and Greek to have developed competing syllabifications for the same suffix, but rather that discrepancies exist which, at least for now, lack a satisfactory answer.

Furthermore, it can be noted here that if Proto-Indo-Iranian always preferred to vocalize the \emptyset -grade suffix’s nasal over the laryngeal, there is no way to

account for Avestan thematic medio-passive participles, as they would have undergone the same syllabification as shown in *dádāna-*:

PIE *bher-e-mh₁no-* > Proto-Indo-Iranian **bher-e-mh₁no-* > Av. **bar(ə)-āna-?*

This particular instance is easily explicable because of the thematic vowel immediately to the left of the suffix, as the case **C-mh₁no-* seems far more natural than **V-mh₁no-*. However, not all the athematic verbal roots in Indo-Iranian end in a consonant. There are many Sanskrit verbs which have a vowel-final weak stem, to which the participial suffix is added. Verbs of the *-nā-/-nī-* class are not helpful in this regard, since the stem-final vowel is due to a vocalized laryngeal (*pu-nā-ti* < **pu-naH-ti*, *pu-nī-mas* < **pu-nH-mas*) which deletes with the addition of the participial suffix (cf. *pun-ānā-*). However, all the verbs of the *-no-/-nu-* class have weak stems ending in *u* (*kr̥ṇu-*, *tanu-*, *śr̥ṇu-*, etc.). Despite the vowel-final stem, all these roots show glide formation of the *u* to *v* (*kr̥ṇv-ānā*, *tanv-ānā*, *śr̥ṇv-ānā*, etc.).

The development would be expected by the usual **V-mh₁no-* model to happen thus:

Proto-Indic **tanu-mh₁no-* > Sanskrit **tanu-m̐ña*

As mentioned prior, this development is unattested. Thus arises an interesting “chicken-or-egg” question for the laryngeal hypothesis, since the *u* must have already undergone glide formation before the addition of the suffix; however, such a glide formation would be unmotivated if the suffix’s *m* were not already vocalized. The only way out of this predicament is to posit analogical leveling of the suffix, such that it was fixed as *-āna-*, as could certainly be the case, but ought to be the linguist’s last resort.

3.3. Another difficulty which this theory should at least attempt to explicate is the change in ablaut grade among the various daughter languages and between the thematic and athematic forms. Is it likely that the Greek suffix would show \emptyset -grade (*-mh₁no-) in both the thematic and athematic, while in Sanskrit has \emptyset -grade in the athematic, but e-grade in the thematic? Perhaps stranger would be the Avestan participle which, if formed in *-mh₁no-, shows \emptyset -grade in the athematic, but an anomalous non-laryngeal \emptyset -grade in the thematic suffix (eg. *bar-ə-mna-*).

Additionally, linguists should ask what purpose there is to proposing a new suffix *-meh₁n-, when there already exists an extremely productive suffix in *-men-, which appears to have deverbal usage. If the development of the medio-passive participle did occur somewhere in the middle stages of PIE, as the chronology suggests, it seems logical to propose that a widespread deverbal suffix could have developed a more rigid participial usage. This theory is especially appealing since *-men- looks remarkably similar to all the attested forms of the daughter languages. Certainly, there are some difficulties which require explanation in order to apply this suffix to the entire dataset, but the inconsistencies are more manageable than those arising from *-meh₁n-. If we are to adopt *-meh₁n- as our reconstruction of this participial ending, we must question the plausibility of having two deverbal suffixes which share a considerable amount of semantic range and are nearly phonologically identical. Why would a participle in *-meh₁n- be created in the middle stages of PIE to fill a role which was already occupied by a nearly indistinguishable suffix? The far more logical assumption is that the participial usage developed from a more general and tremendously productive deverbal *-men.

4. More data will be given on the general **-men-* suffix in later chapters, but let us consider for now a small portion of the data from Greek. As most scholars today would probably agree, Greek gives the most comprehensive and informative laryngeal reflexes of any of the daughter languages. In short, if this suffix contained a laryngeal, it would almost certainly show up somewhere in Greek. As was mentioned earlier, there exist no clear deverbal nouns or adjectives in Greek with a suffix *-μηνος* (save for those in which *-μηνος* is ‘month’), and while many exist in *-μην*, these can all be explained as instances of Szemerényi’s Law by virtue of their genitives in *-μενος*.

Additionally Greek abounds in apparent \emptyset -grade formations in **-men-*, including previously mentioned *βέλεμνον* ‘missile’, *κρήδεμνον* ‘headband’ (from *κράς* ‘head’ and *δέω* ‘to bind’), *τέραμνα* ‘passages, chambers’ (perhaps from **terh₂-* ‘to cross over’), *σεμνός* ‘revered’ (from *σέβομαι* ‘to worship’), and *έρυμνός* ‘fortified’ (from *έρύομαι* ‘protect, support’). Again, it can be noted that none of these forms reflect the loss of a laryngeal in the suffix.

5. In the reconstruction of the PIE medio-passive participle, linguists should account for the various idiosyncrasies which the suffix displays; however, it is of even greater importance to respect the dataset as we have it. Not only will a sound hypothesis address every attested form, it will fit logically and systematically into our knowledge of PIE as a whole. Though the laryngeal phonemes of PIE are undoubtedly authentic, positing a laryngeal should not be the default solution for every tricky reconstruction, especially in the absence of direct evidence. Such an indirect proof is suitable only when all other options are exhausted.

Fortunately, in connecting the PIE medio-passive participle to the larger **-men-* suffix, we have recourse to a much more motivated solution than the laryngeal hypothesis. By using ablaut to explain the vowel differences in the attested forms, the resulting hypothesis may lack the clear-cut elegance of Klingenschmitt's model, but it will encompass the entire dataset without exception and yield meaningful insight into development of the IE daughter languages²¹.

²¹ See V.4.2 for a recasting of the laryngeal hypothesis, which avoids the phonotactic problems of Klingenschmitt's proposal and possibly could have exerted influence as a reinterpretation of the **-men-o-* participial ending.

III. *-mn-/*-men-/*-mon- Alternation

1. The idea that the PIE medio-passive participle is related to the larger *-men- suffix is not new. Many scholars have reached this conclusion and settled on a reconstruction approximating *-m(e)n-, which is then thematized to yield the attested medio-passive participles (Benveniste 1933, Melchert 1983, Szemerényi 1999, etc.). It seems universally recognized among proponents of the *-m(e)n- theory that the long vowel in Sanskrit -māna- must go back to an ablaut variant *-mon- (in accordance with Brugmann's Law). Though from where and for what reason the *-mon- variant arises continues to be something of a mystery. Also without explanation is the apparent Ø-grade formation in Iranian; and while unexplained discrepancies in ablaut are nothing new to IE linguists, it rightfully remains the field's goal to make some type of systematic sense of this participle's development. For now, I will set aside the question of the athematic participles in Indo-Iranian and their possible relation to *-men- derivatives. I will consider here only the IE formations which can be definitively linked to *-men- participles.

2. To account for all the data (most importantly the Greek and Indo-Iranian, for which an authentic participial usage is certain), it is necessary to propose an ablauting suffix of the form *-m(o/e/Ø)n-. The implication within this hypothesis, that a suffix may show ablaut, should not be problematic, as such a phenomenon is somewhat rare, but certainly not unattested. The agentive suffix *-t(o/e)r²² displayed two ablaut variants: a proterokinetic o-grade (eg. Greek δῶτωρ 'giver' <

²² Benveniste 1948, Watmough 1995, and Tichy 1995 provide a detailed description of the development of PIE *-t(o/e)r, specifically as it developed in the Indic and Italic branches.

déh₃-tōr* < *déh₃-tor-s*, with genitive **dh₃-tér-s*) and a hysterokinetic e-grade (eg. Greek *δοτήρ* 'giver' < **dh₃-tēr* < ***dh₃-tér-s*, with genitive **dh₃-tr-és*). Furthermore, it has been argued at great length that a semantic difference existed between these two variants (Benveniste 1948, Watmough 1995, Tichy 1995). The contrast is subtle, but Watmough concludes based on the observations of Benveniste that "in nouns in **-tor-* the individual, characterized by the performance of an isolated or repeated action, stands in the foreground; in nouns in **-tér-*, on the other hand, which designate a person as intended for or capable of carrying out a particular function, the action performed stands in the fore-ground."²³

Moreover, the conclusion that PIE **-men-* could ablaut is directly supported by the evidence in the daughter languages. Greek displays independent suffixes *-μην* and *-μων*, in addition to Ø-grade *-μα* < **-mη* and thematized Ø-grade *-μνος* (eg. *λιμήν* 'harbor', *τελαμών* 'strap, belt', *ποίημα* 'work', *τέραμνον* 'passageway'), about all of which much more will be said later. Additionally, we see in Vedic two different accent classes in nouns with the suffix *-man-* < **-m(e/o)n-*. Although the contrast between ablaut vowels collapsed, just as they did in Vedic *-tar-*, accent determines the noun's gender and derivational semantics, as can be seen in pairs such as neuter *sádmān-* 'seat' and masculine *sadmán-* 'sitter'²⁴. Thus the accented suffix functions

²³ Much more can be found in Benveniste 1948 and Tichy 1995 on the semantic differences between the two accent classes. Benveniste contrasts, for example, Vedic *jánitr* "celui qui a engendré" and *janitr̄* which "souligne la qualité de 'père' et la fonction de parenté".

²⁴ Despite the contrast, it is difficult to assign a specific inherited ablaut grade to Vedic *-man-* nouns, since forms like *sad-mán-* appear to have an e-grade suffix, but its nominative plural *sad-mān-as* looks like an accented o-grade. There also exist a few anomalous nominative plurals with apparent e-grade, eg. *arya-mán-as*. There appears to have been a substantial amount of analogy within the paradigms of these nouns, yet their relevance to the argument for an ablauting **-men-* stem remains; that is, ablaut variation did exist within this class of nouns and persisted after the suffix was thematized.

as an agentive, whereas the accented root tends to form verbal abstracts or instruments, eg. *bráhman-* 'worship', *brahmán-* 'priest', *dā́man-* 'gift', *dāmán-* 'giver', *dhárman-* 'ordinance', *dharmán-* 'ordainer'. These two classes can be further supported by isolated agent nouns (eg. *darmán-* 'breaker', *vadmán-* 'speaker') and verbal abstracts (eg. *ájman-* 'course', *sásman-* 'praise', *jániman-* 'birth'). However, some apparent outliers do exist: *jéman-* 'victorious', *bhūmán-* 'abundance', and *prathimán-* 'breadth' seem not to fit the pattern.

3.1. However, even though it can be conclusively shown that **-men-* stem nouns in PIE fell into different accentual classes, and thus took different ablaut variants in their suffixes, still this alone is not enough to prove that the differing medio-passive participle suffixes of the daughter branches represent frozen ablaut variants. Since all of the productive participial formations are thematized in their endings, it is necessary to illustrate how thematization could preserve the variation of the ablaut vowel. It seems that for this process to occur, participial thematization of the **-men* suffix must have occurred early enough so that it was shared by all the branches with productive formations. However, at the same time, for the daughter branches to show the necessary inconsistency in the suffix vowel, contrast between ablaut/accentual classes must have already been eroding under the pressure of analogy. In other words, speakers must have understood **-mn-*, **-men-*, and **-mon* as a class (perhaps not quite allomorphs, if some semantic distinction yet remained), but the conditions that governed their alternation had to have been subject to leveling between the various classes. Without knowledge of the historical ablaut, learners of IE proto-languages formulated new morpho-phonological rules, whereby

Accusative ²⁷ :	<i>*h₂ék-mōn</i>	(<i>ἄκμονα, ásmānam</i>)
Genitive:	<i>*h₂k-mn-és</i>	(<i>ἄκμονος, áś(m)nas</i>)
Locative:	<i>*h₂k-mén</i>	(<i>ásman</i>)

Thus it seems possible that if the paradigms of these collectives became opaque, individual IE branches could have generalized different grades of the suffix.

According to the data, Indic would have spread the strong case suffix, Iranian the weak case suffix, and Greek the locative for its participial formation.

4.1. As has been previously hinted, Greek displays a large yield of inherited **-men-* suffix derivatives in addition to the productive medio-passive participles in *-μενος*. The Greek lexicon shows forms in *-μν-*, *-μεν-*, and *-μον-*, but the existence of these forms does nothing to confirm the possibility that **-men-* formations in Pre-Greek could have shown ablaut variants when suffixed to the same root.

Without inherited minimal pairs **-m(o/e)n-*, **-m(e/∅)n-*, or **-m(o/∅)n-* attached to the same root, it would be impossible to tell if these ablaut variants were exhibiting something like phonologically or lexically conditioned allomorphy, or if they had a semantically more significant distribution. If it can be proven that PIE (as it came down into Greek) allowed some degree of choice about which suffix variant to attach to a stem, the claim that one ablaut grade could be generalized as a participle seems much more plausible, especially as the distinction between the variants becomes opaque.

Fortunately, such minimal pairs exist in abundance in the Greek lexicon. We see thematized \emptyset -grade *ῥμνος* ‘ode, melody’ alongside e-grade *ῥμῆν* ‘membrane’

²⁷ Holokinetic collectives are neuter, and would likely have had the Nom./Acc. ending **-h₂* (thus **h₂ék-mōn* < ***h₂ék-mon-h₂*). However, the Sanskrit and Greek derivatives here are both masculine with the according regular paradigm. See Nussbaum 1986: 129 ff.

(these two are likely related from a common root with connections to marriage rituals), o-grade *μνήμων* ‘mindful, remembering’ alongside Ø-grade *μνήμα, μνήματος* < **mnéh̥m̥n-* ‘memorial’, Ø-grade *χειμα, χείματος* ‘winter, cold’ alongside o-grade *χείμων* ‘storm, winter’ (cf. Sanskrit thematized *hima* ‘cold, frost, snow’, yet archaic frozen locative *hém̥an* ‘in winter’), among others. In all these examples, the ablaut grade of the root has been leveled within the declension; however, there may be remnants of this variation in a pair such as *λειμών* ‘meadow’ and *λιμήν* ‘harbor’. Though the accent has been regularized, *λειμών* clearly represents an e-grade of the stem with o-grade suffix, while *λιμήν* has a Ø-grade stem and e-grade suffix. Looking back to the holokinetic paradigm, one can see that *λειμών* (< Pre-Greek **leí-mōn*) appears to be a generalization of the nominative/accusative stem, while *λιμήν* looks to be a reinterpreted locative stem²⁸.

4.2. It is difficult to find any semblance of a semantic pattern in Greek *-*men-* stem nouns, unlike in Vedic -*man* forms, where the accent usually determines whether the noun is an agentive or verbal abstract. Even the most basic semantic connection between ‘harbor’ and ‘meadow’ is not easy to detect. However, they almost certainly come from the same root and appear to share an inherited connection to water. While such an association is obvious in the case of ‘harbor’, *λειμών* has the more archaic meaning ‘moist, grassy place’²⁹. Therefore I conclude that ablaut variants in Greek *-*men-* derivatives were likely in free distribution around the time that the suffix was thematized for participial usage.

²⁸ *λιμήν* could also reflect a hysterokinetic variant, or the weak stem of a proterokinetic *-*men-* noun of the type **h₁néh₃-mn*, with a genitive **h₁nh₃-mén-s* and locative **h₁nh₃-mén*. See Schindler in Rix (ed.) 1975: 259-267.

²⁹ See Beekes 2010 for more on this pair.

4.3. Even if it were the case that contrast between the inflectional categories of **-men-* derivatives was breaking down by the time that participial formations were being set in the IE daughter languages, this fact would not guarantee that differing suffix grades would remain after thematization of the ending. For examples of this phenomenon, we can look to Greek. Already, thematized \emptyset -grades like βέλεμνον ‘missile’ and σεμνός ‘revered’ have been mentioned, and obviously the Greek medio-passive participle itself is an example of a thematized e-grade suffix. In addition, thematized o-grades may also exist, as evidenced by words like πάρμονος ‘abiding’, which appears once in Pindar (*Nemean* 8.17), and appears to have a certain participial sense. Semantically similar ἔμμονος ‘lasting’ also supports the assertion that **-men-* in Pre-Greek could be thematized to a participial effect with an o-grade of the suffix.

5. With these variations in mind, and taking into account Sanskrit thematized \emptyset -grades like *nr-mṇa-* ‘manhood’, it seems highly plausible that the varying medio-passive participial suffixes of Greek and Indo-Iranian (thematic only) are the result of preserved ablaut variation with a thematized ending. Avestan *barəmna-* is then representative of a \emptyset -grade suffix, Greek *φερόμενος* an e-grade, and Sanskrit *bhāramāṇa-* an o-grade.

IV. The Indo-Iranian Athematic Participle in *-āna-*

1. Even from the beginnings of IE linguistics as we know it, scholars of Indo-Iranian have recognized that the participial ending *-āna-* is something of an outlier. It takes nothing more than an elementary comparison with Greek to see that an explanation will be necessary to account for Greek medio-passives *τιθέ-μενος* and *διδό-μενος*, but Sanskrit *dádḥ-āna-* and *dád-āna-*, respectively from PIE **d^heh₁-* ‘to place’ and **deh₃-* ‘to give’. To begin, I will assume that the *-āna-* ending (at least as a formal participle) is an innovation of the Indo-Iranian branch. This supposition seems justified, given that the other IE daughter languages with **-men-* derivative participles do not show analogs of *-āna-*³⁰. Moreover, **-men-* is a far more widely attested deverbal suffix than any type of **(o/e)n-*³¹. Additionally, even in the *Gathas*, the oldest attested Avestan texts, there is only one participle in

³⁰ A connection with Germanic past participles in **-onó-* (cf. Gothic *bit-ans*, English *bitt-en*) has been proposed, but is unlikely. These forms are more strongly linked to the PIE suffix **-nó-*, which also forms past participles in other IE branches (eg. Vedic *bhin-ná* ‘split’, Latin *plē-nus* ‘full’). Of course, there still exists the possibility that Indo-Iranian *-āna-* comes from an **-o-nó-* (like Germanic) rather than an **-on-o-*, but it seems more likely that the development of *-āna-* would parallel that of thematic *-māna-* (Skt.) and *-mna-* (Av.); that is, that these participles are adjectival derivations from **(m)en-* agent nouns, of which Vedic has both the *-man-* and *-an-* varieties (eg. *sad-mán-*, *rā-jan-*: see footnote 35 and III.2). Moreover, *-nó-* and *-tó-* derivatives across the IE daughter languages almost always express completed action (and are usually passive when affixed to a transitive verb), while *-āna-*, like *-māna-* and *-mna-* is not tied to any one tense, aspect, or voice. See Ringe 2006: 193 for more on the Germanic participles.

³¹ The antiquity of apparent **(o/e)n-* derivatives is somewhat murky. Greek *ὄπαων*, *ὄπαονος* gen. ‘attendant, follower’ appears to be a deverbal agentive from the verb *ἔπομαι* ‘to follow’, while *ἀγών* (but genitive *ἀγώνος*) ‘assembly’ is a clear cognate with **-men-* stem verbal nouns Latin *agmen* ‘battle line’ and Vedic *ájman* ‘passage, battle’. Additionally *ὄπαων* would seem to be related to Vedic *sákman* ‘association, attendance’ (the root accent in *sákman* corresponds with other verbal abstracts in Vedic, while unattested **sakmán* would be expected to mean ‘follower’). It must also be noted in proposing a suffix **(o/e)n-* (which at the very least is associated with, and possibly derived from **-men-*) that there will invariably be interference from the participle in **(o/e)nt-*. Thus it is difficult to speculate whether an apparent **(o/e)n-* formation is traceable directly back to a **-men-* stem or was remade by analogy on the basis of the present active participle.

-āna-³². Notwithstanding, there exist two possible types of scenarios which could have given rise to Indo-Iranian -āna-: The first, which I will discuss later in this chapter, would be the existence of an inherited suffix *-(o/e)n- which functioned similarly in every respect to *-men-, and, once thematized, resulted in frozen ablaut variation just as was discussed in the previous chapter. The second possible scenario, which I will now explore, is that -āna- was generated from Ø-grade *-men- formations by some combination of cluster simplification and analogy.

2.1. If one were to look only at the Sanskrit data, it seems fair to assume that the rhyming pair -māna- and -āna- is not accidental. At the very least, analogical pressure is reinforcing the rhyme, and perhaps this pair was even leveled from an original -māna-/*-ana- or *-m(a)na-/-āna-. Thus, we are left with two possible hypotheses: the first, that -māna- is original, with -āna- as the result of analogy, and the second, that -āna- is the more archaic and *-men- stem participles were analogically lengthened in Sanskrit.

2.2. The source of an original -māna-, which goes back to thematized *-mon-o-, would be quite clear and has been discussed at length already. This idea is further supported by the position of the Vedic accent in the majority of thematic medio-passive participles: the root accent *bhár-a-māṇa-* lines up just as one would expect with the nominative/accusative stem of a holokinetic *-men- paradigm (cf. PIE *h₂ék-mon- with accented e-grade root and o-grade suffix)³³. Yet if an original

³² See Beekes 1988, 191.

³³ This comparison is not perfect, since original *-men- stem nouns lacked the thematic vowel between the root and suffix. *bhár-a-māṇa-* still displays accent on the root, however, a large number of thematic verbs in Vedic take accent on the thematic vowel, as in *icch-á-māna-* 'striving, desiring', *guh-á-māna-* 'concealing', *śuc-á-māna-* 'glow, burn', etc.

-*māna*- is to be accepted, it is then necessary to make a compelling case for the genesis of a participial *-*ana*- within Indo-Iranian. While there are no attestations of productive *-*ana*- participles in Vedic, some have argued that they might be present in later Avestan texts³⁴. However, as was pointed out to me by Stanley Insler (personal communication), these are likely to be orthographic misinterpretations rather than veritable length alternations. Despite this lack of evidence, we do still see Vedic neuter nouns such as *cāraṇa*- ‘course’ (from *car*- ‘to go, walk’), *kāraṇa*- ‘deed’ (from *kr*- ‘to do’), *bhójana*- ‘enjoyment’ (from *bhuj*- ‘to enjoy’), etc., which exhibit regular root accent just like neuter verbal abstracts in -(*m*)*an*-.

Corresponding with these forms are a number of agentive adjectives such as *karaṇá*- ‘active’, *vimócana*- ‘releasing’ (from *vi-muc*- ‘to release’), *-vāhana*- ‘conveying’ (from *vah*- ‘to carry’), *tur-ána*- ‘speeding’ (*tur*- ‘to hurry’). These forms would seem to confirm the existence of an earlier *-ana*- with the right kind of semantics for participial usage. It is difficult, however, to determine whether the thematization in these forms is older than any of the true *-āna*- participles in Vedic. There exists the distinct possibility that these *-ana*- forms are later thematic derivatives of *-an*- stem nouns, and thus would not have had the potential for influence on the athematic participles³⁵. It should also be noted that agentive adjectives in *-ana*- appear to be less common in the *Rigveda* than they are in later Vedic texts.

³⁴ Misra 1979, 308.

³⁵ Vedic *-an*- patterns similarly to *-man*-, forming deverbal agentives and abstracts, although it is less productive: *rājan*- ‘king’, *rāján*- ‘government, guidance’ (only as locative *rājáni*, *Rigveda* X.49.4), *śīrśán*- ‘head’, *pūśán*- ‘a god’ (likely from the verbal root *pūṣ*- ‘to increase’), *majján*- ‘marrow, pith’ (from *majj*- ‘to sink, go down, perish’), *cákṣan*- ‘eye’ (only in neuter nom./acc. dual *cákṣaṇī*, from *caḥṣ*- ‘to see’), *udán*- ‘wave, water’ (from *ud*- ‘to flow’), *mūrdhán*- ‘forehead, peak, chief’), *ukśán*- ‘bull’ (from *ukṣ*- ‘to sprinkle, moisten’, which comes to mean ‘to emit seed’ in the context of bulls. Thus *ukśán*- is in essence something like ‘the fertilizer’.)

Thus we are still left with the question of how *-ana-* could have developed. One option, which incidentally is similar to the proposal of Klingenschmitt 1975, is that in verbal roots which end in a consonant, the **m* of a \emptyset -grade suffix **-mn-o-* could have vocalized, yielding **C-mn-o-* > Proto-Indo-Iranian **C-ana-* (**m* > Skt. *a*, cf. **gm-tó-* > Skt. *gata-* 'gone'). This theory also fits nicely with the holokinetic **-men-* paradigm, where the oblique cases have a \emptyset -grade suffix with accent on the ending. Thus PIE **wid-mn-ó-s* would yield Skt. **vid-aná-* 'finding', although theoretically accent could have been shifted to the ending by the addition of the thematic **-ó*³⁶. To extend **-ana-* to all athematic participles, it is additionally necessary to argue that this ending was applied by analogy to athematic verb stems which end in a resonant or vowel (eg. *tanu-*, *kr-*, *krī-*, *pū-*, *ghn-* etc.), where by regular phonology the *m* could be protected from vocalization (ie. **tanu-mna-*). This hypothesis is weakened though by instances where *C-mn-* clusters result in simplification or epenthesis, rather than vocalization of the *m* (eg. *ás-man-*, with genitive **ás-mnas* > *ásmanas* or *ásnas*, but not **ásanas*). Incidentally, examples of cluster simplification such as *ásnas* (and others: instrumentals *ásnā*, *bhūnā* (from *bhūmán-* 'abundance' < **bhuH-man-*), *mahinā* (from *mahimán-* 'greatness' < **meǵh₂-men-*)) may point to the mechanism by which *-an-* stem nouns were created: looking only at the form *ásnas*,

³⁶ The issue of thematic adjectival accent is of particular interest to medio-passive participles in Vedic. Under normal circumstances in PIE, one would expect the thematizing suffix **-ó-* to take accent throughout its paradigm. Athematic participles (eg. *krnv-āná-*) almost exclusively conform to this expectation, yet nearly all thematic participles take root accent (eg. *bhár-a-māna-*), even though both the athematic and thematic participles have a thematized ending. One might theorize then that the thematizing suffix was added late enough that this **-o-* was no longer intrinsically accented. In such a case, the thematic and athematic participles would reflect the older ablaut/accentual pattern of the holokinetic **-men-* paradigm, with *bhár-a-māna-* modeled on the strong cases and *krnv-āná-* on the weak. However, there is a distinct possibility that this accentual consistency between PIE and Vedic is artificial and coincidental, as it was noted earlier that *-man-* nouns seem to exhibit little fidelity to the archaic paradigm.

one cannot tell whether it is a genitive from *ásman-* or *ásan-* (cf. *áhan-*, *áhnas* gen.), and thus there is the potential for speakers to backform semantically identical *-an-* nouns from *-man-* stems with consonant-final roots. These forms could then be thematized to yield an adjectival **-ana-* suffix.

2.2. Conversely there is the possibility of an original *-āna-*, which drove the lengthening of a hypothetical participial suffix **-mana-*. Clearly there is not yet a consensus on the source of *-āna-*. Since Klingenschmitt's laryngeal hypothesis has been rightly set aside, we are left without a justification for the length of *-āna-*. An alternative possibility would be that *-āna-* contains (or at least was influenced by) a Hoffmann suffix **-Hon-*, though there does not seem to be further evidence to support such a claim³⁷. Additionally it is possible to argue that *-āna-* came from **-amna-* (as in Avestan thematics: *barəmnā-*, etc.), where a simplification of the nasal cluster triggered compensatory lengthening of the preceding vowel. Accepting such a change entails that the athematic ending was generated from previously thematic constructions, but this conflict is made slightly more appealing by the existence of pairs such as Vedic *uś-ānā/uś-á-māna*³⁸ 'desiring' and Avestan *say-āna-/saya-mna*³⁹ 'lying down, sleeping', which show a degree of fluidity between the two suffix variants. Additionally, there is the possibility that *-āna-* is merely the reflex of an inherited **-on-o-*, a frozen ablaut variant just as was discussed in the previous chapter.

³⁷ For more on the Hoffmann suffix, see Hoffmann 1955.

³⁸ Macdonell 1968, 455.

³⁹ Misra 1979: 308.

Despite the troubles with *-āna-*, there may be a compelling reason to believe in an original **-māna-*. Indeed if **-māna-* were correct, the confusion regarding the possible laryngeal can be avoided altogether, since the vowel length in Sanskrit would match the Greek participle. It has already been noted that Greek *φερόμενος* would appear to be traceable back to a PIE form **b^her-o-meno-*, yet by a simple application of Brugmann's Law, one would assume that Sanskrit *bhár-a-māṇa* came from **b^her-e-mono-*. In comparing the two internally reconstructed proto-forms, not only is there a difference in suffix grade, but also in the thematic vowel between the root and suffix. To decide which of these reconstructions is the more archaic, it is worthy to note that the thematic vowel **-o-* is expected before an **m* (cf. Skt. *bhár-ā-mas* 'we bear', *bhár-ā-mi* 'I bear', yet *bhár-a-ti* '(s)he/it bears'; and Greek *φέρωμεν* 'we bear', *φέρωμαι* 'I bear (for myself)', yet *φέρετε* 'you (pl.) bear'). Thus it seems preferable to take **b^her-o-meno-* as the more archaic form, and propose an original Proto-Indic **bhár-ā-māṇa-*. Under the pressure of forms in *-āna-*, **bhár-ā-māṇa-* then became **bhár-ā-māṇa-*. Though Sanskrit routinely permits two consecutive syllables with long vowels, the paradigm of a hypothetical **bhár-ā-māṇa-* would include forms with three (eg. nom. pl. **bhár-ā-māṇās*, gen. pl. **bhár-ā-māṇām*), which may have been unfavorable for prosodic reasons. Accordingly the thematic vowel was shortened to yield the attested *bhár-a-māṇa*, in essence the result of a quantitative metathesis⁴⁰.

3. What then can we conclude about the origins of *-āna-*? Indeed there are many paths by which this suffix could have arisen, and in light of these options, it is

⁴⁰ Stanley Insler, personal communication; Saussure 1878, 3.7.2.

important to note that there need not be one conclusively correct hypothesis; this form is likely to be the result of considerable analogy, such that even if a certain developmental phenomenon were not actually present, speakers could still reanalyze *-āna-* as if it were the result of such a process. However, some arguments for this suffix's genesis are particularly compelling: an original Proto-Indic **-ā-māna-* < **-o-men-o-* is perhaps more harmonious than an inherited **e-mon-o-*, especially given the difference of thematic vowel between the Sanskrit participle and the Greek. Thus, if **-māna-* is to be accepted as original in Indic, *-āna-* must contain the more archaic long vowel. This scenario makes sense in light of the Avestan data, since *-āna-* is present there as well, and otherwise we may have to derive *-āna-* independently in both the Indic and Iranian branches (though the potential for language contact is certainly present). As to the source of an original *-āna-*, it seems most logical to claim an inherited suffix **-on-* (cf. Greek *ὄπαων* 'follower'), which was likely an allomorph or clipping of **-men-* at some point in the development of PIE. **-on-* was later thematized to **-on-o-* (ie. *-āna-*) when the Indo-Iranian branch began forming participles from **-(m)(e/o)n-* stem nouns. The final possibility of note then is that **-on-o-* and **-mon-o-* were both inherited ablaut variants (which were selected together in Sanskrit for their rhyming quality), and that PIE had an option for the choice of thematic vowel and suffix grade between **e-mon-o-* or **-o-men-o-* (which itself represented a type of metathesis)⁴¹.

⁴¹ Stanley Insler (personal communication)

V. Balto-Slavic **-mo-*, **-men-* in the Bigger Picture, and Conclusions on the Medio-Passive Participle

1. As has been alluded to before, the **-men-* suffix is widely attested in the IE daughter languages outside of strict participial usage. Melchert 1983 examines the suffix's development mainly in Hittite, where it can function as a deverbal and can also be added to preverbs, as in *šara-mna* 'located above' from *šarā* 'up'. The same kind of usage is attested in Vedic, not only with regard to the large number of aforementioned agent nouns and verbal abstracts, but also with preverbs, as in *ni-mná-* 'depth, valley' from *ni-* 'down' (cf. *ni-dhā-* 'to put down'), *prati-māna-* 'counterpart, adversary' from *prati-* 'towards, against' (cf. *prati-gam-* 'go towards'), and *pari-māna-* 'measure' from *pari-* 'around' (cf. *pari-kram-* 'circumambulate'). Thus Vedic *sámana* 'assembly' is likely the preverb *sam-* 'together' (cf. *sam-gam-* 'to come together') with the **-men-* suffix variant *-ana-*.

2. The development of strict participles from deverbal agentives seems quite natural. It is perhaps somewhat surprising though that we see the development of passive semantics from agent nouns and adjectives with no prior passive sense; however, as Melchert 1983 notes, among the inherited suffixes with participial usage in the daughter languages, none is universally limited to a particular tense, aspect, or voice. For example, the ending **(o/e)nt-*, which is most frequently associated with present and aorist active participles, in Hittite forms past passive participles when affixed to a transitive verb (eg. *kunānt-* '(having been) slain'). Because these participial suffixes develop from verbal adjectives in the most general

sense, it is expected to see a degree of variation and fluidity in the semantics of *-men- participles. Moreover, it is often the case in Greek and Sanskrit that the difference in meaning between an active and (so-called) middle participle is quite opaque.

3. Additionally, there is still the matter of Balto-Slavic *-mo- (cf. Lith. *nėšamas* ‘being carried’), an apparent *-men- derivative with passive semantics⁴². These forms have been connected with Cuneiform Luvian’s passive participles in -mmi- (cf. *kīšammi-* ‘combed’, *šarlaimmi-* ‘exalted’), the result of assimilation within a within a Ø-grade *-mn-⁴³. Balto-Slavic *-mo- is likely to be derived in a similar manner, by which *-mn-o- became *-mm-o-, and eventually *-mo-. An alternate hypothesis could exclude the middle stage *-mm-o-, and argue that *-mo- is the result purely of conjunct simplification, as in Vedic *drāgh-mán-* ‘breadth’, instrumental *drāgh-m(*n)ā*, and *ras-mán* ‘rein’, instrumental *ras-m(*n)ā* (compare with alternately simplified *ás-(*)nā* (instrumental) from *ás-man-* ‘stone’).

4.1. Even if the argument against a proposed medio-passive participle suffix *-meh₁n- were based upon phonology alone, I believe there would be enough evidence to discredit the laryngeal. However, a particularly strong argument in Melchert 1983 is that *-meh₁n- is something of a suffix in a vacuum; that is, it lacks any indication of normal participial development, and appears instead to be an ad hoc solution to a complex dataset. However, there may be a way of creating a history for *-meh₁n-, which has not before been formally argued. Though, in my

⁴² Old Prussian *poklausīmanas* ‘heard’ seems to support the idea that these Balto-Slavic participles are *-men- derivatives.

⁴³ Melchert 1983; Szemerényi 1996, 9.6.1.3

view, **-meh₁n-* still fails as a viable reconstruction, this exercise may shed light on the development of the actual medio-passive participle and perhaps the entire **-men-* suffix itself.

4.2. It was noted before that **-meh₁n-* is phonotactically problematic since the cluster **HN* seems not to be permitted at the right edge of a morpheme in PIE⁴⁴. However, this cluster is able occur across a morpheme boundary, as in PIE **meh₁n-* ‘moon’, from **meh₁-* ‘to measure’. Thus, we could somewhat revive participial **-meh₁n-* by inserting morpheme boundaries to make it a compound suffix. The justification for such a hypothesis comes from the Caland system, which Jeremy Rau calls “a root-based derivational subsystem in which a certain subset of adjectives regularly substitutes a certain subset of suffixes when making comparative and superlative, adjective abstract, compound, and verbal forms”⁴⁵. These adjectives tend to be basic expressions of properties, a class learned early by children due to its common usage, and which is consequently often a model for analogy⁴⁶. Among this subset of suffixes are relevant **-mo-* and **-no-*, which can compound with other known Caland suffixes, as in **-i-no-* (cf. Lithuanian *krūvinas* ‘bloody’), **-u-mo-* (cf. Greek *ἡδυμος* ‘sweet’), and **-u-no-* (cf. Vedic *árjuna-* ‘shining’). Thus it is imaginable that **-mo-* and **-no-* could have been compounded at some point in the history of PIE. A laryngeal could come into the picture if we suppose that either a collective **(e)h₂-* or known Caland suffix **-ih₂-* were compounded along with **-mo-* and **-no-* and yielded (by whatever phonological development) a suffix **-m(e)h₂no-*. As

⁴⁴ Unless **Hn* constitutes the entire morpheme, as in a \emptyset -grade Hoffmann suffix **-Hn-* (cf. **h₂iu-Hn-es* > Vedic *yúnas* ‘young’ gen.). See Fortson 2004: 6.35.

⁴⁵ Rau 2009: 74.

⁴⁶ Rau 2009: 79, 111.

farfetched as this hypothesis sounds, **-m(e)h₂no-* does not even hold up in Greek, where *h₂* becomes *α*, and where there is no evidence for participles in **-μανος*. The theoretical hurdle is even higher to produce the requisite *h₁* in a compound **-mo-h₁-no-*: we must posit the introduction of the instrumental ending *-h₁*, a step which would be semantically awkward and without precedent. Thus, it should be clear that there is no viable option for the development of a participial suffix **-meh₁n-*, though one could always speculate on the analogical introduction of length under the “incorrectly” assumed loss of a laryngeal.

4.3 Despite the problems with **-meh₁n-*, this exploration of the Caland system is not without consequence to the question of **-men-* stem participles in the IE daughter languages. Even though Sanskrit *-māna-* (if the long *ā* is original and not by analogy with *-āna-*) likely resulted from the thematization of **-men-* stem nouns, the long vowel does not have to be frozen ablaut variation if we argue that the suffix was reanalyzed as a compound Caland suffix **-mo-no- > -māna-* (by Grassmann’s Law). Furthermore, *-āna-* could also be reinterpreted as a compound **-o-no-*, since **-o-* is also a Caland suffix⁴⁷. Such a structure might truly be the source of Germanic past participles in **-onó- > Proto-Germanic *-ana-*, though there seem to be serious doubts about a direct link between Sanskrit’s athematic *-āna-* and the Germanic data⁴⁸. Additionally, there exists the possibility that the **-men-* suffix itself was a compound of **-mo-* and **-no-* at its earliest stages of development. The change to **-men-* could potentially be explained as the resolution of a conflict created by compounding two inherently accented suffixes. Such ideas though are

⁴⁷ Rau 2009: 71.

⁴⁸ Ringe 2006: 193.

pure speculations, the resolutions to which are likely to be buried unreachably deep in the history of PIE.

5. Conclusions on the medio-passive participle are perhaps not the most satisfying of linguistic solutions. But the fact itself that the issue cannot be resolved neatly is of utmost importance. Though it is rather easy to fit **-meh₁n-* to some of the basic sound changes within the dataset, we must remember that PIE, like any language, is not a shapeless collection of phonetic segments, but functions as a system, in which there are patterns, and thus the ever-present potential for analogy. **-meh₁n-* fails on the phonotactic level, fails on the developmental level, and fails to relate in any compelling way to the large body of evidence for the **-men-* suffix. This conclusion though, that **-men-* is the progenitor of Greek *-μενος*, Avestan *-mna-*, Sanskrit *-māna-*, etc., is something of an anticlimax, since one is then left with the rather messy task of accounting for the idiosyncrasies of each individual daughter language with a **-men-* participle. To the best of my ability I have given the many possible paths which could have led to the participles of the relevant daughter languages. However, it is not an exact science to decide what factors were and were not relevant to the proposed analogies which took place.

Thus there are but a few things that seem certain: **-men-* stem participles represent the specialized usage of verbal adjectives which were formed by the addition of a thematic vowel to deverbal **-men-* nouns. These **-men-* nouns originally possessed complex accentual and ablaut patterns, while the thematizing vowel **-ó-* itself originally carried an inherent accent. Due to this conflict of ablaut and accentuation, and in the midst of multiple extensive regularizations of this

system, the potential for analogy was vast. The Greek data at least seems clear, with *-μενος* traceable directly back to a PIE **-men-o-*, but Indo-Iranian is not as transparent: both Vedic and Avestan have the athematic ending *-āna-*, which is likely the result of an inherited **-men-* suffix variant **-on-o-* (or perhaps analogically as a compound Caland suffix **-o-no-*, or Hoffmann variant). We are then free to view Vedic *-māna-* as either the reflex of an inherited **-mon-o-* or **-men-o-* with analogical lengthening. The latter option is supported by the Greek data and the expectation that the thematic vowel between verb stem and suffix should be **-o-* when the suffix begins with an **m* (cf. Vedic *bhar-ā-mi*). Consequently it is necessary to posit the quantitative metathesis discussed in IV.2.2, which resulted in a short thematic vowel in *bhár-a-māna-*. Yet if **-māna-* is original in Indic, it seems to have left behind little trace of itself⁴⁹, while *-āna-* is well attested in verbal adjectives (cf. Vedic *sac-āná-* ‘kindly disposed’, alongside *sác-a-māna-* AND *sac-āná-* ‘accompanying’, *sák-man* ‘association’, yet not **sác-a-māna* or **sák-māna*⁵⁰). Such a body of evidence could make one believe that *-māna-* (< PIE **-mon-o-*) contained the original long vowel, and that *-āna-* (< PIE **-en-o-* or *-ṃn-o-*) was the analogically lengthened ending. However, Avestan is then something of a problem, since *-āna-* is present there also, though without **-māna-* as the basis for the analogy. We still have recourse to a compromise though that a parallel set **-mon-o-* and **-on-o-* were inherited in Indic, and that **-on-o-* was also introduced in Iranian, although thematic

⁴⁹ Perhaps *lakṣ-māná-* ‘with auspicious signs or marks’ from the verb *lakṣ-* ‘to perceive, mark’ or *bráhmana-* ‘of or befitting a Brahman’, although neither of these are attested in the *Rigveda*, despite being present in later Vedic texts (Monier-Williams 2005). These adjectives are clearly thematizations of deverbal *-man-* stem nouns, but it is difficult to tell how old they are in relation to the medio-passive participle. Since we cannot date them to be at least as old as the oldest participles in *-māna-*, they do not add much to the argument for an inherited **-māna-*.

⁵⁰ Whitney 1988; Macdonell 1968: 427.b.

*-mna- came from a frozen ablaut variant *-mn-o-. However, it is somewhat tempting, if we posit the original ending in Indic as *-māna-, to apply this suffix to Iranian as well on the basis of supposed Avestan participial variants in -māna-. Thus the thematic participles of Greek, Sanskrit, and Avestan could all be traceable back to *-men-o-, although I am inclined to trust Stanley Insler's judgment (personal communication) that the alleged Avestan -māna- represents an orthographic misunderstanding.

With *-m(o/e/∅)n-o- firmly established in Greek and Indo-Iranian, the rest of the data more or less falls into place. The relevant participles of Luvian and Balto-Slavic have been shown to be *-men- derivatives, as have Armenian formations such as *gitown* 'known, knowing'⁵¹. The last remaining difficulty in the dataset comes from the Tocharian participles (A -*mām*, B -*mane*), which Melchert 1983 argues must derive from a Common Tocharian *-māna- < PIE *-mōn-o-. The long *ō is somewhat troublesome, but, as he claims, there are opportunities for analogical lengthening, nor does any better alternate hypothesis exist⁵².

Finally we must ask what has really been reconstructed by tracing these attested participles back to a thematized *-men- suffix. Is this really a PIE medio-passive participle, as it has often been called? Given that Greek and Indo-Iranian share so many features in their participles, it seems logical that a participial usage existed by the time of late PIE. In earlier stages of the proto-language however, I must agree with Melchert that the formation must have been a more general verbal adjective. Thus it might be a stretch to refer to forms

⁵¹ Melchert 1983: 24

⁵² Melchert 1983: 25

like Latin *alumnus* and *fēmina* as archaic medio-passive participles⁵³. Instead we should take the semantically looser view that until late in the development of PIE, **-m(o/e/∅)n-o-* formations were simply thematized adjectives from deverbal **-men-* stems. The semantics of the adjective as it relates to the original verb were subject to development within the IE branches.

⁵³ Melchert 1983: 24

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