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Sanskrit *-na-* Participles and the Glottalic Theory

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1. The distribution of the Sanskrit *-ta-*/*-na-* participles is an unsolved problem. Whitney (1889:957f.) and Wackernagel-Debrunner (1954:726ff.) only mention that the suffix *-na-* is predominantly found after roots in long vowels, in *d* and in velars, but give no explanation for this peculiar state of affairs.

In order to see the problem in due perspective, we must first of all realize that the spread of the *-na-* suffix is a Sanskrit innovation.[1] In Indo-European, the suffix **-no-*, among other functions, formed verbal adjectives, and this was inherited into Indo-Iranian, cf. Skt. *śvítna-* 'white, whitish', Goth. *hveits* 'white' : Skt. *śvit* 'to become white, light'; Skt. *uṣṇá-* 'hot' : Skt. *uṣ* 'to burn'; Skt. *ūná-* 'wanting, deficient',[2] LAv. *ūna-* 'deficient', Lat. *vānus* 'empty', OHG *wan* 'deficient' : Skt. *vā* 'to become exhausted, deprived of'; Skt. *pūrṇá-* 'full', Av. *pərəna-*, Goth. *fulls* : Skt. *pr̥̄* 'to fill'.[3] The Indo-Iranian verbal adjectives in *-na-* existed side by side with those in **-ka-* (Skt. *śúṣka-* 'dry, dried out', LAv. *huška-* 'dry': Skt. *śuṣ* 'to be dry'); **-u̯a-* (Skt. *pakvá-* 'ripe, cooked', Khot. *paha-* 'ripe, cooked': Skt. *pac* 'to cook'); **-ma-* (Skt. *tiǵmá-* 'sharp': Skt. *tij* 'to be sharp'); **-ra-* (Skt. *kṣudrá-* 'small': Skt. *kṣud* 'to disperse', Av. *tiγra-* 'sharp'); **-u-* (Skt. *raghú-* 'quick', LAv. *raom* < **raγum* acc.sg. 'fast, quick': Skt. *raṃh* 'to hasten, to run'), etc. The Indo-Iranian suffix **-ta-* also belonged to this group, forming verbal adjectives with a passive resultative meaning (Skt. *kr̥tá-*, Av. *kərəta-* 'made'), if the verb was transitive, and non-passive resultative meaning (Skt. *gatá-*, Av. *gata-* 'gone'), if the verb was intransitive. It is important to keep in mind that not every verbal root had a verbal adjective in Indo-Iranian, let alone one with the suffix **-ta-*.

This Indo-Iranian situation is rather faithfully preserved in Iranian, but in Sanskrit we encounter an increasing tendency to provide every verbal root with a full-fledged paradigm, including a verbal adjective. The most productive suffix was *-ta-*, but it was involved in heavy competition with *-na-*, which at some point had become synonymous with *-ta-* in Sanskrit. This probably happened because **prHna-* 'full' was analyzed

1. I am in disagreement on this point with the grammar by Thumb and Hauschild (1959), who write on p. 368: "Die partizipiale Verwendung des Suffixes [**-no-*] ist am deutlichsten im Ai. . . . , ging aber z.B. im Griechischen und Lateinischen verloren."

2. As a simplex, this adjective is first attested in the AV, but its antiquity is confirmed by RV *ánūna-* 'unwanting, not deficient' (9), *ánūnavarcas-* 'of unwanting splendor', and the denominative verb *ūnay°* 'to leave deficient, make vain' (RV 1.53.3d *mā́ tvāyató jaritúḥ kā́mam ūnayīḥ* 'don't make vain the wish of the singer, devoted to you!').

3. It seems very probable to me that also Skt. *uttāná-*, Av. *ustāna-* < **-tn̥h₂-no-* 'stretched out, extended' originally was a verbal adjective in *-na-* to the root **tanH-* 'to stretch' (cf. Beekes 1982–83:206 n. 1 and Beekes 1985), but since the verbal root in Indo-Iranian is almost exclusively *anit*, this verbal adjective became dissociated from it and was replaced by *tatá-* < **tn̥to-*.

as 'filled' and thus considered analogous to a *-ta-* participle. As we shall see below, **prHna-* played a crucial role in the development of this category. The other Indo-Iranian formations in *-na-* (*śvítna-*, *uṣṇá-*, *ūná-*) have kept their original meaning, but further remained peripheral.

2. Since the spread of *-na-* is an innovation, it is important to examine how the *-na-* participles expanded in the course of the history of Vedic. The first attestation of course does not prove that the form had not existed before, but we get a good impression of the dynamics of the process.

In the family books of the RV, we find no more than seven different *-na-* participles. Next to the inherited *pūrṇá-*, only *stīrṇá-* 'strewn' < **strH-na-* is solidly embedded there (I^2 II^1 III^1 IV^2 V^1 X^2, *stīrṇábarhis-* 'who has strewn the sacrificial grass' V^1 X^1), whereas *pári-chinna-* 'cut (around)' (VII^1, *áchinnapatra-* 'with uncurtailed wings' I^1) < **sčid-na-*, *skanná-* 'fallen, dropped' (VII^1, X^2) < **skad-na-*, *syanná-* 'run'[4] (V^1) < **si̯ad-na-*, *vṛkṇá-* 'hewed off' (III^1 X^1, *vívṛkṇa-* I^1) are hapaxes.[5] In Book IX, we find a hapax *jūrṇá-* 'decayed, old' (I^3, IX^1) < **jr̥Hna-*[6] and a quasi-hapax *tunná-* 'struck, hurt' (9.67.19a and 9.67.20a) < **tud-na-*.

The younger books I, VIII, X add seven new *-na-* participles, viz. *átīrṇa-* 'not crossed' (VIII^1) < **trH-na-*, *bhinná-* 'split' (I^1, *ví-bhinna-* X^1) < **b^h^id-na-*, *diná-* 'cut, mown' (VIII^1) < **dH-na-*, *ásaṃdina-* 'bound' (VIII^1 = Khila) < **dH-na-*, *gīrṇá-* 'swallowed' (X^1) < **gr̥H-na-*, *hīná-* 'abandoned' (X^1), *án-ava-pṛgṇa-* 'not finished (dress, cloth)' (I^1). The expansion continued in the later texts: the AV adds 7 new *-na-* participles,[7] although most of them are hapaxes, and the YV adds 20-odd more.[8] For our purposes, the analysis

4. Usually translated in the present (Renou: 'qui courent', Geldner: 'laufend'), which can hardly be correct. The context is not very clear, though, as it concerns a simile: 5.53.7c *syanná ásvā ivádhvano vimócane* 'like horses, which have run, at the end of the way'.

5. In the scholarly literature (e.g. Wackernagel-Debrunner 1954:729), *rugṇá-* (III^1 + *árugṇa-* VI^1) is also considered to be a *-na-* participle, but this analysis is most probably wrong as far as Vedic is concerned. In Vedic, the word is practically restricted to the RV. At 3.31.6a (*vidád yádī sarámā rugṇám ádrer* 'when Saramā finds the breach in the rock . . .'), *rugṇá-* is a neuter noun 'breach', which does not have to be derived from a verbal adjective. The adjective *árugṇa-* can be a bahuvrīhi compound 'without breaches' (for the accent cf. *ádeva-* 'godless'), cf. 6.39.2c *rujád árugṇaṃ ví valásya sā́num* 'he broke the back of Vala, which had no breaches'. All other occurrences of this word in Vedic are repetitions of RV 3.31.6a, including *rugṇá-vatī-* (TS 6.4.11.1) 'a verse containing *rugṇa*'.

6. RV *jūrṇá-* corresponds to *jīrṇá-* in the AV and the later texts. I believe that the AV form represents the original vocalism, RV *jūrṇá-* being influenced by the present of the same root *jū́rvati* 'to destroy, to eradicate', which is only attested in the RV (usually, with the preverb *ní*, once with *sám*). The same difference is found in present IV *jū́ryati* (RV) vs. *jī́ryati* (AV+). In the RV, the zero grade *jū́r-* has become associated with the negative meaning 'old, decrepit', cf. also *jurátam* [2du.aor.impv.act.] 'make decrepit!' (RV 1.182.3), *jujurvā́ṃs-*, *jujurúṣ-* [pf.ptc.act.] (RV) 'old, decrepit', *a-juryá-* [adj] 'not aging, undying' (RV+).

7. These are (cf. Wackernagel-Debrunner 1954:726ff.): *prá-kṣīṇa-* 'destroyed, perished' (AVŚ 10.3.15 vs. RV *á-kṣita-*, *á-vi-kṣita-*); *ā́-pīna-* (AVŚ 9.1.19), *prá-pīna-* 'swollen' (AVŚ 4×); *ní-līna-* 'dissolved, hidden' (AVŚ 4.16.3); *prá-vlīna-* 'crushed' (AVŚ 11.9[11].19); *dūná-* 'burnt' (AVŚ 2.31.3 *dūnā́ ádūnā(ḥ)* 'burnt or unburnt'); *mūrṇá-* 'crushed' (AVŚ 4.3.6), *prá-mūrṇa-* (AVŚ 12.5.61); *ápi-śīrṇa-* 'broken' (AVŚ 4.3.6).

8. Wackernagel-Debrunner 1954 mention the following formations: after *ā*: *(sáṃ-, áti-)hāna-* 'rising; jumped over' (YV+), *vi-drāṇa-* 'awakened' (KS), *glāná-* 'feeling aversion' (ŚB), *prá-pyāna-* 'swollen' (ŚBK); after *ī*: *śīná-* 'frozen' (YV); after *ū*: *pári-dyūna-* 'pitiful' (ŚB); after *ūr/ūr*: *īrṇá-* 'set in motion' (to *īrte*) (TS), *hūrṇá-* 'gone crookedly' (MS), °*kīrṇá-* 'strewn' (Br.+), °*dīrṇá-* 'burst' (Br.+), °*gūrṇá-* 'praised' (Br.+); after *d*: °*chṛṇṇa-* 'spit upon' (YV+), °*tṛṇṇa-* 'split' (YV+), *nunná-* 'struck' (YV+), *pannā́-* 'fallen' (YV+), *vinná-* 'found' (YV+), *sannā́-* 'put down' (YV+), *svinná-* 'in sweat' (YV+), *ny àrṇṇa-* 'disintegrated' (ŚB), *channá-* 'covered' (ŚB+); after

of the evidence of the RV is sufficient, however, because we are especially interested in the initial stages of the expansion.

3. I think we may state with confidence that the first step in the analogical spread of the *-na-* participles was the creation of *stīrṇá-* < **strH-na-* and then *jūrṇá-* < **jrH-na-*, *tīrṇa-* < **trH-na-*, *gīrṇá-* < **grH-na-*, all of which had the same shape as *pūrṇá-* < **prH-na-*. Incidentally, this means that this expansion most probably preceded vocalization of the sequence *rH-* in Vedic.

At the next stage, the *-na-* participles were formed from the roots in *d* (*pári-chinna-*, *skanná-*, *syanná-*, *tunná-*, then *bhinná-*). Only in the late books do we find *-na-* participles derived from the roots in *-aH-* (*diná-*, *hīná-*) and in *-g-* (*án-ava-pṛgṇa-*), but their creation was clearly dictated by special factors. For the four roots *dā*, it was necessary to disambiguate the original *-ta-* participle in *-tta-*. This was done in various ways: *dā* 'to give' introduced the stem of the present (*dattá-*); *dā* 'to bind' restored the root (*ní-dita-* V^1 VIII^1, *sáṃ-dita-* I^1), but presumably the poet of 8.102.14 did not like this form and created *ásaṃdina-* instead; the same *-na-* participle *diná-* (8.78.10) was derived by the poet from the root *dā* 'to cut, mow'. The long vocalism of *hīná-* 'abandoned' (10.34.10) indicates that instead of using the *-ta-* participle *jahitá-* (I^1 IV^1 VIII^2), based on the reduplicated present stem, the poet formed this participle on the basis of the passive *hīyate* 'to be abandoned', which he had just put into his text a few verses before (*hīye* 10.34.5).

The root of *án-ava-pṛgṇa-* 'not finished' (1.152.4) is extremely rare in Sanskrit. We only have *ava-prajjana-* (AitB), *upa-prajjana-* (JB) 'end of the warp' and *áva pṛjyanti*, *ava-pṛjyā́te* (TB) 'to finish the warp'. Hoffmann (1985:173 = 1992:814) plausibly suggested seeing in the TB forms hypersanskritisms for **ava-pṛj-*. No cognates of the root are known, but the Sanskrit sequence *-jj-* always reflects **žj*. We may of course assume that **pṛžgṇa-* developed into *pṛgṇa-* with the regular loss of ž, but it is hardly a coincidence that there are only three *-na-* participles from the roots in velars in older Vedic (i.e. before the Sūtras, where we find *bhagna-* 'broken', *bhugna-* 'bent'; for *lagna-* see fn. 8), and all three of them have **-s-* in the root, viz. *-pṛgṇa-* : *pṛjj* < **pṛzj-*, *magná-* (MS 3.6.10:73.17) 'dived' : *majj* < **mazj-* and *vṛkṇá-* : *vṛśc*. Since *-pṛgṇa-* and *magná-* are hapaxes and are later attested than *vṛkṇá-*, I suspect that they have been coined after the latter.[9] The participle *vṛkṇá-* 'hewed off' is derived from the root *vṛśc* 'to hew down, to fell (trees)' and is aberrant by any account, being the only *-na-* participle derived from a root in a voiceless stop in Vedic.[10] As I argued elsewhere (Lubotsky 2001:38f.), *vṛścáti* is an original *sk*-present to the root *vṛj* 'to twist off, remove', which had a regular and old *-ta-* participle *vṛktá-*. When *vṛścáti* became dissociated from the root *vṛj*, a new verbal adjective had to be formed, and the easiest way out was to replace *-ta-* by *-na-*.

4. From the analysis of the evidence of the RV it follows, rather unexpectedly, that the *-na-* participles of this text are practically limited to two major categories: those from

velars: *magná-* 'dived' (MS), °*akna-* 'bent' (KB), **a-lágnam-* 'incoherently' (?) (ŚB 3.2.4.11: attested is *a-láglam*; note further the irregular accentuation).

9. It is hardly credible that *magná-*, which is a hapax in the MS, would be the only example of the "Schwund von *z* vor *g* + Kons. ohne Dehnung" (Debrunner 1957:153).

10. For analogical forms in °*akna-* from the root *-añj-* (Br.+) see Kuiper 1952:37f. = 1997:37f.

roots in *rH* and those from roots in *d*. As we have seen above, there were two crucial moments in the development of the *-na-* participles in Sanskrit: (1) interpretation of *-na-* as passive and thus synonymous to *-ta-*, and (2) analogical spread of the suffix along formal lines: from roots in *rH* to roots in *d* and only later further afield. The first step is perfectly understandable, but the second one requires an explanation. There must have been a phonetic feature in common between *rH* and *d*, otherwise this spread would be unexplicable. I believe this feature was glottalization. It is very probable that the three Indo-European laryngeals had merged into a glottal stop in Indo-Iranian (see already Polomé 1972:244, Lubotsky 1981), while there is considerable evidence that Indo-Iranian had preserved the glottalic articulation of the unaspirated stops. Since I have discussed the issue on several occasions in the past, I simply refer to my earlier articles (Lubotsky 1981, 1994; for the glottalic theory in general see Kortlandt 1985).

It is therefore likely that *rH* and *d* were phonetically [rʔ] and [ˀd], or glottalized *r* and (pre-)glottalized *d*. Since we are dealing with a fairly early period in the development of Sanskrit, preceding the RV or during the stage of its earliest hymns at most, it is conceivable that *r* was not yet retroflex, but dental, which would mean that [rʔ] and [ˀd] were phonetically even closer.

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