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**ON THE TENSE VALUE, FUNCTIONS AND FORMS
OF THE SANSKRIT GERUND**

Problems of dovetailing or mere freaks of nature?

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ABSTRACT

Despite the commonly held, but etymologically biased view of the Sanskrit gerund as showing a lacking or only gradually increasing temporal differentiation, it appears in the light of a closer analysis that all but a few of even the earliest occurrences involve strictly past relative tense value. With this value the gerund figures in two fundamentally different functions, which can be called 'copredicative' ("coordinate" or 'nonrestrictive') *vs.* 'adverbial' ("subordinate" or 'restrictive'). Only in some, perhaps also formally archaic cases, does the Ṛgvedic gerund exhibit genuine temporal or functional ambiguity, interpretable as a pure instrumental (compound) action noun.

However, when a clearly nonpreterital sense marginally emerges later in (perfective) manner and final complements or adjuncts, these nontemporal adverbial functions are strikingly reminiscent of the corresponding non-past uses of the Dravidian past gerund, which can be explained aspectually by the strict sense of 'co-occurrence' of the Dravidian present gerund. It is then reargued that the Dravidian past gerund, being also indeclinable, nonadnominal and basically copredicative, has provided the alien structural-functional new model for the prehistoric Old Indo-Aryan gerund (instrumental action noun), the historical preterital sense of which cannot be a spontaneous development.

PRELIMINARY REMARKS

Of all the nonfinite verb forms of classical and preclassical Sanskrit, hardly any category has piqued and inspired Sanskritists and even Indo-Europeanists more than the 'gerund' ("absolutive") in *-tvā/- (t)ya* (in the Veda also *-tvī* and *-(t)yā*, etc.).¹

Yet, for all the interesting research carried out over the past one and a half centuries, it cannot be claimed that the gerund has been described and accounted for wholly satisfactorily and exhaustively on any other level than its occurrences and formations (for which see Debrunner 1954:652-663, 781-789).²

What, then, are the major remaining problems or issues, can they be approached or explained differently than hitherto, and, finally, what is so significant about a "single formal category"?

These are questions I will attempt to answer in the following, basically systemic and areal approach to the central synchronic and diachronic issues involved.

SYNCHRONIC PROBLEMS

The gerund is typically defined as an indeclinable/adverbial/conjunctive participle with indeterminate or predominantly past relative tense value and basically active sense. It is thus said to express a preceding or "simultaneous" event (in relation to that of the main predicate (phrase), which is usually a finite form), referring to the 'logical subject' of the main clause (i.e. Actor/Agent, Experiencer/Cognizant or Beneficiary/Client, in terms of case roles). E.g. *kṛtvā* 'having done / upon doing / doing'. (Cf. Whitney 1889: § 989ff. and Renou 1930:129.)

The problem with such general definitions or descriptions is that they do not state the exact structural, functional or syntactic constraints for determining the actual temporal value in specific cases. Also, they leave open the question of the functional roles of the form and its constructions (analyses of which have usually paid no heed to Humboldt's warning against Indo-European bias from as long ago as 1823). — The so-called subject rules will not be treated in this paper, though it is felt that they can be quite conveniently dealt with according to a systemic or stratificational model.

The point is that despite many descriptions of the gerund in general or in various texts, we still do not have a sound and exhaustive taxonomy of its different functions and structures, let alone any real structuralistic or systemic analysis.

Temporal value of the gerund

The indigenous Indian tradition has always stressed the relative preteritality of the gerund (P 3.4.21)³ (outside non-distributive reduplication; P 3.4.22). But ever since Franz Bopp's days it has been fashionable in the West to question this rule by pointing to more or less uncertain counterexamples. In the analysis one can then usually sense a strong etymological prejudice, suggesting that the assumed (partly) instrumental origin of the gerund should still be reflected in its historical functions.

A critical review of previous semantic analyses

The first European linguist to notice that the gerund may, in fact, express an event which is not anterior in relation to that of the main verb phrase

was Franz Bopp (1816:48ff.). Being interested in proving that the gerund in *-tvā* is the petrified instrumental case of the ancient Indo-European action noun stem in *-tu-* (found largely in infinitives or supines), Bopp pointed out some, as he thought, "non-preterital" usages, but as he also admitted, most of them were rather inconclusive. In general he considered as conclusive only those cases where the gerund was "construed like an instrumental action noun" with a "prohibitive" or "dissuasive" particle (*alam* 'enough, away with', *khalu* 'indeed'; cf. also *kim* 'what, why'), expressing a prohibited or censured, initiated or immanent action. E.g. *alam bhuktvā* "genug des Essens, o weg mir Essung", cf. *alam bhojanena* "weg mit der Speise" (Bopp 1816:52). But it must be noted that even in this construction there is no need to forego the standard relative preterital sense of the gerund.⁴ That would give a somewhat rhetorical, but perfectly sensible reading of the construction: 'enough / no use / no good / what use upon, after eating (now or in the future)' > 'away with eating' > 'do not eat'. The parallel with an instrumental noun need not be very significant (esp. since the construction is late). Even less is proved by "parallels" like *acireṇa* 'within the course of a brief time spell' (*instrumentalis prosecutivus*, which does not imply "preteritality", cf. Krahe 1972: 98).

Further arguments against assuming with Bopp and e.g. Debrunner (1954:652-3) that this construction reflects an original instrumental nature of the gerund is its origination in later Eastern dialects, and the promiscuous use of *alam* with the infinitive in the same prohibitive sense (cf. Speijer 1886: § 384, Rem. 1). This may also point to a structural reinterpretation of the idiom.⁵ On the other hand, the gerund and infinitive overlap increasingly in later Old and Middle Indo-Aryan (Sen 1953, Renou 1935), while in New Indo-Aryan this convergence producing a single indeclinable nonfinite category (with basic features of the gerund) is seen in the "infinitive" being usually no more than a verbal noun.

Nevertheless, Bopp did find a different, highly convincing example in the *Rāmāyaṇa* where the gerund can hardly have relative preterital sense:

- (1) [cr. ed. 1.64.2] *maunaṃ varṣasahasrasya kṛtvā vratam uttamam cakāra*
 "Silentium mille annorum faciundo [*kṛtvā*] votum supremam faciebat"
 (Bopp 1816:48) = 'he observed the highest vow of/by keeping silent
 [gerund] for a thousand years' (referring to Viśvāmitra)

As Bopp rightly pointed out, the skewed English translation by Carey & Marshman failed to render the evident literal sense of the construction: "Having

fulfilled the unequalled vow...he completed...difficult course of sacred mortification" (Bopp 1816:49). But also Bopp's explanation of the gerund here, as expressing a "simultaneous", "co-occurring" or "descriptive" action in relation to that of the main verb, falls short of accounting for the function or construction of the gerund (phrase) correctly.

What we have here is the gerund (phrase) used as a structurally indispensable *manner complement*, dependent as an obligatory actant (argument) on the main verb phrase *vratam cakāra* 'observed a vow' (of/by doing X, where X = *maunam kṛtvā* [gerund phrase]). The gerund thus corresponds structurally to an instrumental or genitive (or compound) action noun indicating the manner/means or kind of presupposed activity indispensable to the situation. Most notably, it does not answer any question about time, such as "While/By simultaneously/ After doing/being what?"⁶

Wilhelm von Humboldt (1823, 1824) who was also convinced that the gerund should be described as a temporally indeterminate verb form, found, however, no really convincing example. In the following case, the gerund does appear to be paralleled by a present participle, but again there is no need to forego the standard interpretation: Nala X 10a (Bopp's ed.) *kiṃ nu me syād idaṃ kṛtvā kiṃ nu me syād akurvataḥ* "was kann mir nun sein beim dieses thun, was nun mir, dem nicht thuenden?" (Humboldt 1823:460). Against this laboured rendering, a simple relative preterital interpretation of the gerund appears much more natural, and we get then a normal preterite of the future: 'what would happen to me after doing this, and what would happen to me not doing it?'

What is so amazing with Bopp's, Humboldt's and many later scholars' analyses and descriptions is that they provide for no actual constraints on the temporal value of the gerund. This would imply virtual chaos in a language where tense is otherwise fully grammaticalized.

Even in languages like Japanese, which do possess gerunds or conjunctive participles with largely indeterminate tense value, it is still possible to specify some formal-structural conditions for determining when the less regular tense value is intended. Thus, the gerund in *-te* in Japanese has nonpreterital relative tense principally only when it simultaneously expresses contrast, a parallel condition, state or event, or the manner or means of an action. This is not to deny the ultimately pragmatic nature of many of these restrictions (cf. S. E. Martin 1975:479-485). But still they can be formalized, pinned down structurally, and in the case of the Sanskrit gerund, the tense rules/restrictions are really quite simple, as will be shown later.

However, the same unquestioning spirit is manifested also in Whitney's general definition: "it [the gerund] has the virtual value of an indeclinable participle, present or past, qualifying the actor whose action it describes [usually the 'logical subject']." (Whitney 1889: § 989).

Though admitting that the gerund more often signifies a preceding event, Whitney shows by his examples and translations that his basic criterion for judging the value of the gerund to be "presential" was the mere possibility of rendering it by a present participle/gerund in some European language. (This sort of unconscious "translatability fallacy", which has been viciously persistent in most analyses and literal translations, was duly cautioned against by e.g. Hendriksen, 1944:113, and Lorimer, 1935:330.) Consider, e.g. *śrutva-iva cābruvan* "and hearing (or having heard) they spoke" (Whitney, *ibid.*). But although potentially equivalent to a present participle/gerund, logically *śrutvā* can hardly mean anything but 'upon hearing / having heard'. Now, the relative tense of a form can be tested by asking whether it strictly speaking answers the question "While in that / at the time doing / being what?" [i.e. presential value] or "After doing/being what?" [preterital value]. It is clear that the present participle/gerund in English, French or even Sanskrit, often express an (immediately) preceding or succeeding situation (seen as belonging to the present moment in question). Cf. TS 2.6.1.4 *abhikrāmaṃ juhoti* "er opfert unter Hinzutreten (zum Feuer)" (Delbrück 1888:402) ~ TS 3.1.2.3. *ābhikrāmya juhoti* "er giesst nachdem er hinzugetreten ist" (Delbrück 1888:405) — here the contrast may also be that of 'manner' vs. 'sequence'. The broad margins of the present tense are ultimately an ontological/pragmatic issue.⁷

The point I have been trying to make is that when, exceedingly rarely, the gerund does have non-past relative tense, appearing e.g. in the place of a present participle/gerund, or instrumental or genitive action noun, it still does not answer any question about time or concomitance: "While/By simultaneously doing/being what?" It never expresses real concomitance or co-occurrence or simultaneousness of events as Speijer tried to show with his examples:

- (2) R. 3.43.9 [cr. ed. 3.41.8] *evam bruvāṇam kākutsthaṃ prativārya śucismitā uvāca sītā* 'to the thus dissuadingly [gerund: *prativārya* ≠ 'after/while dissuading'] speaking descendant of K. Sītā spake, smiling sweetly' (cf. Speijer 1886: § 381)
- (3) Daś 182 [Nirṇ. ed.?] *viditam eva khalu vo yathāham yuṣmadājñayā pitṛvanam abhirakṣya tadupajīvī prativasāmi* 'it is indeed known to you that I live

here subsisting on keeping guard [gerund: *abhirakṣya* ≠ 'after/while/before keeping guard'] of the cemetery by your command' (cf. Kale's ed., 1966 [4th ed.], p. 169, 121; 6. *ucchv.*)

In (2) the gerund is a nontemporal manner adjunct, dependent on a present participle (perhaps to avoid repetition of form, cf. Hendriksen 1944:110); in (3) the gerund forms a manner complement of the main verb *prativasāmi* with its appositive verbal adjective (*tad*)*upajīvī* 'living by (that)', where 'that' refers to the (nonactual) activity of keeping guard, expressed by the gerund.

These instances can then be compared with (1): in all cases the gerund names a non-co-occurring, yet complementing or qualifying activity. Another type of gerundial manner adjunct is represented by idioms like *jhanatkṛtya patati* 'it falls making (the sound) *jhanat*' (cf. *vārtt.* on P 3.4.21) = 'it falls going Bang!'. (Contrast *tiryakkṛtya* ~ *tiryakkāram* 'having put down' ~ 'putting down'; P 3.4.60.)

Though attested cases are rare in Sanskrit, evidence from Pāli would support the assumption that the non-past relative tense of the gerund can be expected mainly in perfective instrumental or manner adjuncts and complements of verbs or predicators signifying e.g. 'living by (doing) X', 'behaving/spending one's time in the manner of (doing) X', 'mowing by (doing) X'.

According to Hendriksen (1944:114), the specific characteristic of such verbs is that they have a "marked sense of duration". But as argued above, the point is rather that the verb in question has a sense, or is used in a sense, that logically requires manner complementation. Cf. 'to live/exist' ≠ 'to live/exist by X', 'to move' ≠ 'to move by X', where X is some instrumental activity.⁸ The point is that the non-peripheral or structurally indispensable element naming the process manner or activity completing or bringing about the situation of the main verb occurs in a context where there are no relative temporal oppositions: cf. Pāli, Jā I 239.9 *atha so...bhatim katvā jīvati* 'and so he lives by earning wages' ≠ 'he lives while/after/before earning wages'. (Pāli example: Hendriksen 1944:114.)

Another popular fallacy has been to regard the gerund as presential if construed with "auxiliaries" like *ās-* 'sit', *sthā-* 'stand', *vṛt-* 'turn, abide, proceed', *car-* 'move', *i-* = *yā-* 'go'. The main argument has been that the gerund then functions like a present participle/gerund. But while the present forms are then used with such auxiliaries to express with them a single, continuous or progressive situation, the "past" gerund is obviously so used to

express a separate preceding event leading up to a succeeding state, the continuousness or habituality of which is expressed by the auxiliary in question. E.g. Manu 7.195 *uparudhyārim āsīta* 'having besieged [gerund] the enemy, he should keep (him besieged)' ≠ 'he should continue besieging the enemy'. Contrast with this another of Speijer's examples: R 4.57.23 *prāyam āsmahe* 'we are [lit. 'sit'] dying [pres.ppl.]' (= cr. ed. 4.56.18) ≠ **pretya āsmahe* 'we keep on having died'. Misunderstanding of the tense is often due to a misinterpretation of the inherent aspectual meaning of the verb in question. E.g. TS 6.1.11.6 *medhāyātmanam ārabhya carati yo dīkṣitaḥ* "the consecrated person has for long been holding himself ready for the sacrifice" (Keith 1914). This is, however, not a literal rendering, considering that the verb *ārabh-* means 'lay hold of' (dynamic aspect) rather than 'hold' (stative aspect). Hence, we get: '...having laid hold of himself he should continue in that condition'.⁹

In preclassical texts, "presential" or "non-preterital" usages of the gerund have been claimed much more often. Renou (1930:128-129) argued that the sense of anteriority should have developed only quite gradually, thanks to the "commodités de la phrase narrative classique" (cf. also Renou 1940; Minard 1956: 66f.).

But even parallels with instrumental nouns are not by themselves very significant. E.g. AĀ 65; 179 *hiṅkṛtya* (= *hiṅkāreṇa* ibid.) *pratipadyate* "il commence (le jour) en prononçant *hiṅ*" (Renou 1930:129). The point is that structurally dispensable circumstantial qualifications may also be referred to as preceding actions ("having pronounced" ~ "by pronouncing"). At any rate we are not dealing here with two separate simultaneous situations.

A similar case is found in AV 11.3.49, where the instrumental noun phrase *anyāyā pratiṣṭhāyā* "with another firm standing" is paralleled by a present participle *apraṭiṣṭhāno* 'not standing firm' and a gerund phrase *satyē pratiṣṭhāya* 'having placed (myself) firm in truth'. Here the same compound verb *prati+sthā-* appears with different aspectual meaning, for which ambivalence we find independent evidence, cf. AV 8.9.19 and 11.4.18 (pointing to a correlation between tense and aspect).

Methodologically, it is therefore rather questionable to interpret such "ambiguous" cases in favour of a non-preterital reading. It is chiefly because of etymological considerations or speculations that Renou stressed apparent juxtapositions like RV 1.110.4 *viṣṭvī śāmī taranītvēna*, which he thought primarily would have meant "avec du travail, avec de la peine, avec de l'énergie" (Renou 1940:212; cf. also Gonda 1971:135).

But there is no reconstructable noun **viṣṭvi-*/*viṣṭvī-* 'work', and it would be best to admit that *viṣṭvī* is just another regular gerund.

Even if the gerund had developed its preterital sense gradually, which does not seem to be the case, it was rather that sense which enabled the changes of the syntax of the narrative style (and not *vice versa* — originally the inherited past participles cannot have been any less productive, not to say less capable of functional extensions). Incidentally, it will also be remembered that Delbrück denied any case of the Vedic gerund known to him where it could not be interpreted as indicating anteriority (Delbrück 1888:405).

Renou (1940) addressed himself to this issue anew, asserting that esp. the Ṛg-vedic gerund is temporally less differentiated (than the later gerund), being often close to a causal/instrumental qualification of the main verb. Renou's views have been iterated by Gonda (1971:134f.), but none of Renou's ca. 20 examples in point is wholly convincing, although an exhaustive discussion cannot be presented here. A typical flaw in Renou's analysis is his dubious or clearly mistaken interpretation of the inherent aspect of the verbs in question, and this has crucial consequences for the temporal interpretation.

Consider, for example, RV 1.161.12 *saṃmīlya yád bhūvanā paryásarpata* "lorsque vous vous êtes insinués parmi les êtres vivants, tenant les yeux fermés" (Renou 1940:211). But the verb *saṃ+mīl-* has dynamic rather than stative meaning, signifying 'to close one's eyes', rather than 'to keep one's eyes closed'. Hence the gerund *saṃmīlya* could literally mean only either 'having closed [your] eyes' (i.e. as having "relative preterital tense") or '[while] closing [your] eyes' (i.e. as having "relative presential tense"). The latter reading does not, however, fit into the context. And though a convenient translation, Renou's 'keeping your eyes closed' cannot be a literal rendering of *saṃmīlya* if we accept that it is a dynamic verb. (Cf. also *bhūtvā* 'having become' > "being; as" and e.g. *niśādyā* 'having sat down/seated oneself' > "sitting", where convenient translation equivalents more conspicuously distort the original aspect/tense-value of the forms.)

Similar counterarguments can be adduced in all other cases where the verb underlying the gerund in Renou's examples has primarily or specifically dynamic aspect, as e.g. RV 10.131.2 *viyūya* < *vi+yu-* "sich ablösen, sich abwechseln; jemand trennen von" or "trennen" (Grassmann 1873) (i.e. ≠ "en tenant écart"); RV 10.71.9 *vācam abhipādya* 'having taken themselves to speech' (cf. Grassmann 1873) (≠ "quand ils recourent au verbe méchamment"); RV 3.48.3 *upasthāya mātā-*

ram ānnam aiṭṭa 'having approached/come up to his mother, he has asked for food' (≠ "se tenant devant sa mère"); RV 8.66.2 *ādītya* < *ā+dī-* 'seinen Sinn worauf richten' (Grassmann 1873) (≠ "ayant égard à"); RV 9.55.4 *hānti śātrum abhītya* 'kills the foe having attacked him/upon attacking him' (≠ "...en fonçant sur lui").

Sometimes the same verb may be used with different aspectual meaning, and the aspect may tend to vary with the tense, complicating the analysis exceedingly. Yet, hereditarily, most verbs in esp. preclassical Sanskrit have primarily dynamic aspectual meaning, at least in the past tenses (relative or absolute). Stative meaning is then specifically expressed by using the 'perfect' tense or e.g. periphrastic perfect constructions (cf. the classical *upaviṣṭa-* 'seated' > "sitting" = Hindi *baiṭhā* (*honā*) 'to sit').

Only one of Renou's examples is such that the common aspectual meaning would favour a non-preterital reading, i.e. RV 1.92.9 *viśvāni devī bhūvanābhicāksya pracīcī cākṣur urvīyā ā vi bhāti* "considérant tous les êtres la déesse brille au loin, face à (chaque) regard" (Renou 1940:211). But *abhi+cakṣ-* does have dynamic rather than stative meaning in some cases, e.g. RV 8.1.34 *ānv asya sthūrāṃ dadṛṣe purāstād anasthā ūrūr avarāmbamāṇaḥ / śāśvatī nāry abhicāksyā-ha sūbhadrām aṛya bhōjanam bibharṣi* "Es hat sich vorn sein steifes (Glied) wieder gezeigt, das als knochenloser Schenkel herabhing. Als es seine Frau Śāśvatī bemerkte hatte [gerund: *abhicāksya* 'having set/turned her eye at'], sagte sie: 'Du trägst, o Gebieter, einen beglückenden Ergötzer.'" (Geldner 1951). Thus we could also translate the former case as: 'having turned her eye/face at all beings she...'. The point here is that an explanation which is possible and implies lesser complexity of phenomena (in this case relative temporal value(s) of a single grammatical form) is to be preferred to one that implies greater complexity of the same phenomena ("Occam's razor").

Again in other cases, Renou's analysis is doubtful due to a biased and clearly unnatural interpretation of the sequence of the actions involved. Consider, e.g., RV 1.125.1 *tām cikitvān pratigṛhyā nī dhatte* "le sage qui reçoit [gerund: *pratigṛhyā* 'having taken up, received'] (en qualité d'hôte) se confère à lui-même (un bien)" (Renou 1940:211). But clearly the taking up of something must precede its being put down again, so that this can be no real case in point. Similarly, RV 10.34.11 *striyaṃ dṛṣṭvāya kitavāṃ tatāpa* "le joueur se repent en voyant sa femme" (Renou *ibid.*). But though this is logically possible, the specifically causal value of the gerund (*dṛṣṭvāya* 'having seen/upon seeing') would seem rather to imply a relative preterital tense value. (Cf. also RV 10.42.9 and RV 7.80.2, etc.)

Finally, in RV 1.162.18 *párus-parur anughúṣyā ví śasta* "découpez membre à membre en prononçant chaque fois (le nom du membre)" (Renou *ibid.*), the correct interpretation of the gerund (*anughúṣyā*) can hardly be what Renou had in mind, because in the Aśvamedha sacrifice the names of the horse's limbs were evidently first announced and only then were the limbs severed (Yasuke Ikari, personal communication).¹⁰

Though it is true, as Renou said, that the Ṛgvedic gerund is mainly found forming short phrases of (somewhat) lesser (informational) weight than the main clause (cf. participial phrases), it does not appear to be only halfway in its general syntactico-semantic development (from an "instrumental or manner qualification" to a "generalized means of temporal subordination") (cf. Renou 1940:214). Even in the older hymns of the RV, we find the gerund or strings of gerunds used to concatenate successive events or actions, without a sense of mere adverbial or temporal qualification (cf. e.g. RV 3.32.1; RV 3.48.4). Furthermore, even when expressing a closely associated action (which is natural in view of the identity of /logical/ subject and temporally connected theme of the gerund and its main verb), the gerund phrase is often more like an anterior copredicate than a temporal or circumstantial qualification (which may stem from a preceding action): RV 2.12.3 *yó hatvāhim áriṇāt saptá síndhūn yó gā udājat apadhā valásya* 'he who having killed the dragon let loose the seven rivers, who drove out the cows by the unclosing of Vala'; RV 1.52.6 *apó vṛtvī rájaso budhnám āśayat* 'having covered the waters he lay over the bottom of the (earthly) region'. Cf. RV 3.32.6 *tvám apó yáddha vṛtrám jaghanvām átyām iva práśṛjah sártavājaú / śáyānam indra cāvatā vadhéna vavri-vāmsam pari devīr ádevam* 'when you let forth the waters to run like runners on a course, having killed the dragon Vṛtra, the lying one, o Indra, with the swift weapon, the one who had encompassed the godly ones, that ungodly one'; RV 4.28.1 *áhann áhim áriṇāt saptá síndhūn* 'he killed the dragon, released the seven rivers', see below (Ic).

These and many other cases show how at a quite early stage the gerund to a great extent came to replace or overlap with the perfect participle in *-vas/-āna-* in the nominative case in (co-)predicative function (and later also in other cases and functions). This was noticed already by Delbrück (1888:377). What is more important, it also largely replaced finite temporal concatenation of clauses or predicates. This function is an independent extension or reflection of the copredicative function (cf. RV 10.109.7). Note, however, that this extension did not take place in the same degree in the Greek aorist participle.¹¹

In much the same way as Renou and his predecessors — Speijer and Humboldt — Minard (1956:60-65) tried to prove that the gerund (in the Śatapathabrāhmaṇa) occasionally expresses simultaneousness ("modalité"). Again the aspectual analysis is at fault. Consider ŚB 3.8.1.15 *átha púnar étyāhavanīyam abhyāvṛt-yāsate* "ils retournent s'asseoir face au (foyer) Offertoire" (Minard 1956:61, § 145). The dynamic aspect of *ā+vṛt-* decides the case. Likewise, ŚB 2.5.2.35 *pāṇāú...kṛtvā* ~ K 1.2.4.13 *bibhrát* (Minard 1956: § 150). But the aspectual differences account for the relative tense values, which are not identical: 'having put on one's hand', but 'bearing'. As for K 4.8.3.22 *átha pṛṣadājyāsyopahatyāha* ~ M 3.8.3.33 *átha juhvā pṛṣadājyāsyopaghān āha*, one may refer to the earlier discussion concerning the precariousness of using parallels with less marked forms as analytic evidence.¹²

Some new anomalous cases from the Veda: the gerund as a modal and final adjunct (having non-past relative tense)

Despite the effort spent in searching in the Veda for cases of the gerund expressing anything but anteriority, the apparently quite few promising cases have never been exposed so far. One of the reasons may be that many of them are found in the Atharvaveda. Here there are two cases of the gerund evidently functioning as an "inner modal/intensifying qualification of the verb", being formed from the same compound root as that: AV 6.135.2 *prāṇān amúṣya sampāya sám pibāmo amúṣya vayám* 'drinking up the breath of him yonder, we drink him all up'. (Cf. the Paippalāda version, which here reads *sampivāṃ sampivāmy aham pivā*, as if the gerund in *-am* was meant.) Similarly, in the following verse: AV 6.135.3 *prāṇān amúṣya saṃgīrya sám girāmo amúṣya vayam* 'swallowing up all the breaths of him yonder, we swallow him all up'. The Ppl-version again gives support to this interpretation: *prāṇām amúṣya saṃgīram saṃgīrāmy aham giram*. If we do not take the gerund phrases here as manner adjuncts of a special kind usually expressed by e.g. the gerund in *-am*, we would have to render: "having drunk up all the breaths of him yonder we drink up the rest of him", etc., which seems awkward. A partly similar case is AV 4.18.8 *apamṛjya yātudhānān apa sārva arāyyāḥ / āpamārga tvāyā vayāṃ sārvaṃ tadāpa mṛjmahe*, but note that Whitney translates "Having wiped off the sorcerers, off all the hags, o offwiper, with thee do we wipe off all that".

In the AV we also find for the first time two (rather certain) cases where the gerund forms a final adjunct, then having relative future (posterior) tense value: AV 9.6.53 *yád vā átithipatir átithīn parivīṣya grhān upodaity*

avabhṛtam evā tād upāvaiti 'truly, when the lord of guests goes up to the houses to serve [gerund: *pariviṣya* ≠ 'having served'] the guests, then he actually goes down to the purificatory bath' and AV 5.20.5 *nārī putrām dhāvatu hastagṛhya* 'may the woman run to her son, grabbing his hand (= to grab his hand) [gerund: *hastagṛhya* ≠ 'having grabbed his hand']'. (Bloomfield's solution "may she...snatch her son to her arms, and run..." cannot be correct in view of the word order, especially considering that the passage is otherwise normal.

Examples of the 'final gerund' are very rare throughout the Vedic and classical language, but tend to become somewhat more common by the early Middle Indo-Aryan stage (cf. Renou 1935:390).¹³ This construction and meaning of the gerund could be explained so that the frequent causal implicature of a gerund phrase may sporadically come to overshadow its basically relative preterital sense, leading to cases where final causes, which strictly speaking refer to future intended actions, can also be expressed by the gerund. The main verb (phrase) is then often one that indicates motion or movement, the purpose of which is the cause, to be expressed by the gerund, which then stands for the infinitive or a dative final adjunct. (The logical process is simply that of reinterpreting the implicational causal value as an intention, which is a preceding state of the mind. This is possible because 'cause' takes precedence over 'time' in derivations.) This usage is connected with the increasing or dialectal convergence of the gerund and the infinitive (cf. Pischel 1900: 393).

One would expect the Ṛgvedic gerund to reflect an "earlier stage" in the development, but, as pointed out above, it does not really display a generally more archaic character than the later gerund. In fact, it is more regular than e.g. the AV-ic gerund.¹⁴ Note also that notwithstanding the general rarity of the occurrences of the gerund in the RV, the occurrences tend to cluster: of the approximately 175 occurrences, 67 are spread over only 28 hymns, while 17 are spread over 8 verses or even fewer pādas (≈ sentences). Hence, at least in some dialects or styles, the gerund must have been common. It is comparatively frequent in the second and third maṇḍalas, and not absent from the ninth maṇḍala either (5 occ.) (Renou's statistic, 1940:210, being based solely on Arnold's data, is incorrect.)

This is not to categorically deny any genuinely ambiguous cases in the Ṛgveda. But the few, usually unnoticed cases where it may actually signify simultaneousness or instrumental concomitance (thought to be its "original" meaning due

to its putative etymology) are found in comparatively late hymns, e.g. RV 7.103.3 *akhhkhalīkṛtyā pitāraṃ nā putrō anyō anyām ūpa vādantaṃ eti* 'uttering (the sound of) *akhhkhalā* (= 'joy'/'croaking'?) one frog goes up to another, talking one, like a son to his father'. Whether Thieme's promising explanation that **akhhkhalā-* is an early Prakritism for *akṣara-* 'syllable' (cf. RV 7.103.5; see Thieme 1954) is correct or not, the gerund *akhhkhalīkṛtyā* (*hapax*) might give better sense if interpreted nonpreteritally. One could even speculate on an original true instrumental verbal adverb here (while such archaisms could have been preserved dialectically). Genuinely ambiguous are also the few archaic gerunds having a nominal member: RV 4.18.12 *yāt prākṣiṇāḥ pitāraṃ pādagṛhya* 'when thou destroyed the father having grabbed his legs (or: with a grip of his legs ≠ while holding his legs)'; cf. RV 8.70.15, 10.27.4, 10.85.26, 10.109.2.

CONCLUSIONS: STRUCTURAL CONSTRAINTS ON THE TENSE VALUE OF THE GERUND

By way of generalization, one could then define the basic semantic value(s) of the gerund as follows: (i) As forming, prototypically, a clause-dominated copredicate or temporal qualification (with possible causal/conditional implicatures), the gerund always has past relative tense (= the "preterital" value). (Exception: nondistributive reduplication, cf. P 3.4.22.)¹⁵ (ii) As forming, marginally, a verb group/phrase-governed perfective manner complement/adjunct, the gerund has non-past relative tense value (= the "non-preterital or temporally neutralized adverbial value"). (Not to be confused with manner or modal qualifications referring to co-occurring or completed (instrumental) situations.)¹⁶ (iii) As forming, rarely and irregularly(?), a (main) verb phrase-governed final adjunct, the gerund has future relative tense value, corresponding to a final infinitive or dative.

Derived meanings or functions

All other usages can be derived from (i): (a) As the main verb in periphrastic aspectual/temporal constructions with grammaticalized verbs stressing the continuity or habituality of a state or situation, the gerund still expresses a preceding event (contrasting with the presential nonfinite forms in such periphrastic constructions). (b) As forming the verbal complement of certain prohibitive or dissuasive particles like *alam*, *kim*, *mā*, *khalu*, the gerund seems at least originally to have retained its relative preterital sense, though it was perhaps later interpreted atemporally as an "infinitive".

(c) Lexicalized usages, such as adpositions (e.g. *viḥāya* 'having left' > 'without' [cf. RV 6.59.6 *hitvī śīro*]; *atikramya* 'having passed beyond' > 'beyond, after') and adverbializations (e.g. *viḥasya* 'having burst out in laughter' > 'laughingly'; *saṅgatya* [RV 10.97.21] 'having gone/come together' > 'together') derive historically from the relative preterital sense of the gerund. (d) Finally, the sporadic use of the gerund in the Brāhmaṇas as forming a clausal object of *man-* (± *iva*) 'think (as if that)' depends on its predicative function and past relative tense: 'think/believe as if having done/been X' (cf. Speyer 1895:68).

EXPLAINING THE FUNCTIONAL DIFFERENTIATIONS OF THE
"PRETERITAL" GERUND: COORDINATION AND SUBORDINATION

It appears that previously most syntactico-semantic analyses of the gerund have been concerned with the subject rules and constructional constraints.¹⁷ A much more crucial and fundamental problem is, however, that of describing and explaining the different functional roles and corresponding structural differences of the uses of the gerund with preterital value. Obviously, this cannot be done without a structuralistic or 'systemic' analysis, while that again would to some extent bring in the diachronic and diatypical parameter.

The basic issue here was alluded to in the above discussion while talking about "copredicative" vs. 'adverbial' functions of the (preterital) gerund. By this is meant that though syntactically dependent on another clause (or phrase), the clause- or phraselike unit headed by the gerund is sometimes structurally connected with the main predicate phrase as a virtually coordinate, i.e. "copredicative", element, while at other times it is connected with the main predicate as a genuinely subordinate, adverbial (temporal) element. (Both cases may include e.g. causal/conditional implicatures, deriving from the preterital sense.) In the former case, we then have two or several conjoined predicates (or clauses), while in the latter case we have a main predicate (or clause) with a (temporal) subjoined or adverbial phrasal or clausal qualification.

This functional ambivalence had already been recognized by Speijer, but somehow it was forgotten or neglected in later analyses and descriptions. Speijer used rather intuitive, but strikingly "modern"(?) terms: "Accumulating short coordinate [finite] phrases is likewise avoided by using gerunds" (Speijer 1886: § 14), and: "like the absolute locative and the other participial employment it [the gerund] enables the speaker to cut short subordinate sentences and to avoid the accumulation of finite verbs" (Speijer 1886: § 380).

This functional duality of the gerund expressing an anterior situation can be roughly illustrated by the following early examples. (Class (I): copredicative or conjoined phrases or clauses, class (II): subjoined adverbial or adverbially copredicative phrases or clauses, i.e. temporal qualifications.)

- (I) a. RV 2.12.3ab *yó hatvāhim áriṇāt saptá síndhūn yó gā udājad apadhā valāsyā* 'he who having slain [gerund: *hatvā*] the dragon released the seven rivers, who drove out the cows by/with the unclosing/removal of Vala' ≈ 'he who slew the dragon and then...' ≠ 'he who released the rivers when/after he had slain...' (cf. RV 1.80.10; 4.28.1, below)
- b. RV 1.103.2ab *sá dhārayat pṛthivīm papráthac ca vājreṇa hatvā nír apāḥ sasarja* 'he made the earth firm and spread it out, having slain [gerund] with the bolt he let loose the waters' ≈ '...he slew with the bolt and [then] released the waters' ≠ 'he released the waters when/after he had slain'
- c. RV 4.28.1cd *áhann áhim áriṇāt saptá síndhūn ápāvṛṇod ápihiteva khāni* 'he slew the dragon, (and then) released the seven rivers, (and then) opened the channels that were as if closed' [implicit temporal concatenation]; cf. (Ia).
- (II) a. RV 3.40.7 *abhí dyumñāni vanína índraṃ sacante áksitā / pītvī sómasya vāvṛdhe* 'the splendours of the wooden (vessel) strive to be united with Indra / having drunk [gerund: *pītvī*] of the Soma, he grew strong' ≈ '...he grew strong when/after he had drunk Soma' ≠ '...he drank Soma and grew strong'
- b. RV 9.23.7 *asyá pītvā mādānām índro vṛtrāṇy apratí / jaghāna jaghānac ca nú* 'having drunk [gerund] of his intoxicating draughts, Indra, irresistably, / has slain Vṛtra(-dragon)s and shall slay them now again' ≈ 'after drinking...he has slain' ≠ 'he has drunk...and slain...'
- c. RV 1.52.2bc *...tāviṣṭṣu vāvṛdhe / índro yád vṛtrām ávadhīn* 'he grew in strength, Indra, when he had slain [aorist] the Vṛtra(-dragon)'.

Unambiguous classification into any of the two major classes above may be difficult in some cases (partly because of insufficient context). Yet, it seems that on a most general and meaningful level of description, any unit expressing a temporally related situation would either go with class (I) or class (II), while the functional distinction is that of answering (II) *vs.* not answering (I) the question "When?" (or "After what?/Owing to what?"). If an-

swering that question, the unit can also be substituted by a temporal (or causal) adjunct: 'then', 'at that time'. (If not answering that question, the unit must answer only some general question like "What different things did/does/will X do/experience?" and it can only be substituted by referring to a whole event, e.g. "he did X and then he did Y...".) But how to link function with structure?

There is often a bias for regarding all hypotactic clauses as necessarily adverbial, or at least appositive or parenthetical. This is not a universal rule, however, and e.g. Japanese, Dravidian and Altaic languages construe almost all their temporally or (con)sequentially conjoined clauses or phrases hypotactically and nonfinitely. (This later became more common in Indo-Aryan too.)

If we look at the differences "purely" syntactically, we might say that in (I) we have "sentence-dominated temporal or (con)sequential subordination", while in (II) we have "predicate phrase-dominated temporal...subordination". The problem is that then the term "subordination" becomes wholly meaningless, since in one case it would involve 'qualification/complementation' (II), in the other case not (I). Note also that identity of temporal sequence under word-order commutations shows that the Sanskrit, Dravidian and Japanese gerund structures are really syntactically subordinate, while it need only reflect the hierarchic structuredness of the logical parameter involved: the same languages have hypotactic structures for both (I) and (II). But the logical parameter is principally independent: even conditional clauses can be expressed either paratactically or hypotactically: *Drink that Soma and Indra will kill you = If you drink that Soma Indra will kill you.*

To find the correct parameter which explains the link between function and structure in the two contrasting classes ("copredicative/conjoined" vs. "subjoined/adverbial"), I think it is necessary to return to Speijer's talk about 'coordinate' vs. 'subordinate' clauses, but then these terms would have to be invested with a new general meaning on a semantic level. The syntactic or formal tactic patterns (e.g. 'parataxis', 'hypotaxis', 'apposition', etc.) will remain in the description, but will be seen as structurally less significant than the semantico-functional features that determine whether we have e.g. "copredicative/conjoined" (paratactic or hypotactic) phrases/clauses vs. "subjoined/adverbial(ly copredicative)" phrases/clauses.

Unfortunately, most grammatical theories have treated the above problem merely on a level of parataxis vs. hypotaxis. (Cf. "systemic" analyses like Halliday

1979, 1980, and Huddleston 1965.) Some systemicists have tried to deal with conjunction and linkage more explicitly, either in terms of indissoluble logico-semantic-syntactic features (like Berry 1975:170ff.), or self-explanatory (non-compositional) syntactic *vs.* logical features (Martin 1981), but clearly all these analyses are intrinsically non-systemic.

Ramarao (1971) has tried to deal with the problem of 'coordination' and 'subordination' esp. in connection with the Dravidian gerund, but like Dik (1968) he really confuses or equates all parameters involved. Thus he asks how we can call e.g. English structures like *She took arsenic and fell ill* coordinate if they imply temporal and causal hierarchy (and in Dravidian, also syntactic hierarchy: hypotaxis)? But semantic coordination, logical conjunction and syntactic parataxis are, of course, all (principally) independent concepts,¹⁸ so that we can have e.g. temporal/causal/additive/specifying coordination *vs.* subordination, expressed paratactically or hypotactically, e.g. *Indra killed the dragon and [then] released the waters = Indra killed the dragon, releasing the waters ≠ Indra killed the dragon (while) releasing the waters.*

Hypotaxis then appears just as a means of condensing or structuring the text more cohesively or coherently, while it may also have different constraints from parataxis. It thus does have some function which contrasts with parataxis, but it is of a rather delicate or arbitrary kind, less meaningful than what will be defined as semantic coordination *vs.* subordination.

Redefining or rediscovering semantic coordination
vs. subordination

I think that the differentiating parameter we have been looking for could be called 'semantic ordination', which hence governs part of the structure. The parameter works by the same general differentiating criteria that keep 'non-restrictive' and 'restrictive' relative or appositive clauses apart: Accordingly, 'semantically coordinate' (> "copredicative" or conjoined) temporal, causal, additive, etc., clauses or phrases are 'nonrestrictive': they do not stipulate or condition any crucial or necessarily presupposed property of the item they are logically related to. The general function of semantic coordination is then to structure parallel, contrastive, elaborative or overlapping/contiguous information together within the same structured unit (often for coherence, effect or other expository reasons). Formally, 'coordination' may be expressed variously and not independently of other simultaneous semantic, functional or syntactic criteria. (Coordination as a structural property may also come near to sentence sequencing, i.e. textual 'cohesion'.)

By contrast, semantically subordinate (> "adverbial" or adverbially copredicative or subjoined temporal, causal, conditional, additive, etc.) clauses or phrases are 'restrictive': they are such that stipulate or condition some (frequently presupposed) essential property about the item they are logically related to. The general function of semantic subordination is then to provide for restrictive circumstantials, which structurally are often realized by rank shifted hypotactic clauses. These would then contrast with hypotactic coordinate clauses in being truly rank shifted, cyclically *vs.* iteratively recursive and typically analytic *vs.* synthetic in structure and integrated *vs.* non-integrated in the clause structure.

Though systemicists do not doubt the coordinateness of non-restrictive relative clauses (cf. Halliday 1979:76), it is less often noticed that they may well function e.g. in (con)sequential coordination: *Indra, who had drunk a lot of Soma, arrived drunk ~ Indra had drunk a lot of Soma arriving drunk/ and arrived drunk.* (In Sanskrit we would typically have a gerund-based clause here.)

Incidentally, the 'restrictiveness' parameter that has been outlined here might easily be taken for a syntactic parameter of 'coordination' *vs.* 'qualification' (< dependency), but that would still leave us with non-restrictive *vs.* restrictive qualifications and many paratactic or independent clauses or sentences expressing some sort of general or even specific qualification. Thus, the fundamental distinction in conjunction or linkage is 'non-restrictive' *vs.* 'restrictive' cohesive relation along any available logical parameter. This imposes a new structural level in the syntax.¹⁹ (The 'logical system' operates here, too, but I would derive most 'subordinate' clauses from the 'transitivity' system and not the 'logical' system, which, in a more radical model could be left to handle little more than the level of 'grouping' in 'coordination'.)

Interestingly, the Sanskrit gerund and participles are better adapted to their frequently coordinating role than their English or Finnish counterparts, viz. in that they may copy the mood of the governing verb: ŚB 1.6.3.3 *atha karṣūṃ khātvā tasyāṃ mā bibharāsi* 'then you shall dig [gerund!] a trench and carry me into it' (a corresponding participle in English would not imply the correct mood here: ≠ 'then having dug...you shall...'). Cf. also LŚS 4.1.10 *ullikhann āsveti āhata dundubhīn pravadantu vīṇā iti brūyāt* '«sit and play [pres.ppl!]', «beat the drums, let the Vīṇās sound», thus he should say'. (This example was pointed out to me by A. Parpola.)

DIACHRONIC PROBLEMS

Though there are several exasperating etymological problems in this context that I shall not touch upon at all now, it may be rather safely said that the forms of the gerund are etymologically stereotyped instrumental and partly perhaps indefinite (absolute) case forms of certain action noun stems (-*tu-* < ?*i-* / -<*tya-* or -*i-* & -*ti-*; cf. Debrunner 1954:652ff., 788ff.).²⁰

It is also quite commonly assumed that the said forms are related to the infinitival paradigms, but this is syntactically and semantically speaking unlikely, while it would also be hard to explain the complementary distributions -*ya/-tya* and -*ya/-tya* // -*tvā* ~ -*tvī* by deriving the former forms from the infinitival *i-* and *ti-* paradigms, and there are difficulties with the paradigmatic features of -*tvā* in relation to the *tu-* infinitives.²¹

As shown by Neisser (1906) and corroborated by Debrunner (1954:788), the forms of the gerund are best explained as deriving from the same deverbal noun stems that have produced the neuter action nouns in -*ya/-tya-* and -*tu-*, which are similarly almost complementary. This derivation is also supported by forms like *mantraśrūtyam* (RV 10.134.7), which is an accusative verbal adverb or "gerund" from a stem in -*tya-*, meaning "den Aussprüchen (der Götter) gehorsam" (Grassmann 1873). If compound gerunds having a nominal member are formally archaic in general, it is interesting to note that they tend to be so functionally, too, cf. RV 4.18.12 *pādagr̥hya* (see above).

The development of the basic preterital sense of the gerund

Admittedly, the great innovation with regard to the Sanskrit gerund is its past relative tense. This cannot be a spontaneous evolution based on the instrumental or indefinite meaning(s), as shown by comparative studies.²² Neither can we explain it by some "aorist" sense of the zero-grade (Speyer 1895: 65f.); cf. *śruṣṭī* (Debrunner 1954:635) and other zero-grade infinitives (Durr 1951).

To explain this rather singular development of an Indo-European case form, various theories have been presented. A rather tenacious, but wholly vacuous one, has been that introduced by Bopp (1816:45ff.) and taken up by Delbrück (1888:405), according to which the causal or "background" meaning inherent in the underlying instrumental forms led to a generalization of the then implicitly preterital sense. Similarly, Haudry (1970): "simultanéité > causalité, causalité > antériorité". Apart from the clearly contradictory temporal entailments and implications of cause, such a theory suffers from a fundamental

difficulty: How to get rid of the causal implication once it is that which comes to imply anteriority? Because of the logical dominance of 'cause' over 'time', we can derive new meanings by the formula *post hoc ergo propter hoc* (as correctly argued by Minard 1956:65). But if the opposite derivation would also work for words and constructions in natural languages, one could well expect words like *whereby* or *because* (or synonymous constructions) to one day come to mean simply (or predominantly) *after* or *since*. It is just as implausible that the gerund developed its relative preterital sense on the basis of any underlying instrumental meaning.

Earlier it was shown that the arguments that go with this theory, namely that the preterital sense developed only gradually and due to a changing general syntax in the absence of productive past active participles, have no textual support and are essentially circular (cf. the extensions of the functions of the Greek aorist participle). Nonpreterital usages of the gerund are specifically late or dialectal and show clear structural constraints. They are also found in the Dravidian languages, which by and large must have presented the semantico-functional model of the Indo-Aryan gerund, while in Dravidian they are due to the 'imperfective' or 'co-occurrence' aspect of the present gerund (Masica 1976:128). Cf. Telugu *atanu kuuli ceesi batukutunnaaḍu* 'he earns his living by working [past gerund] as a coolie' (Ramarao 1971:50), cp. Pāli *bha-tim katvā jīvati* 'he lives by earning wages' (Hendriksen 1944:114). (For more comparative Dravidian examples, see Subrahmanyam 1971:233.)

Conclusions: preferability of the substrate theory

Now, the idea that the Old Indo-Aryan gerund was influenced by some non-Aryan (probably Dravidian) gerund has suggested itself specifically to most Sanskritists and Indo-Europeanists with some deeper first-hand knowledge of those languages (cf. Konow 1903:456; Bloch 1930:733, 1934:327; Emeneau 1956:9; and esp. Kuiper 1967).²³ In view of all the evidence or indications previously presented in favour of a non-Aryan, mostly Dravidian, substrate influence behind various, ancient functions of the OIA gerund, I will here add or resume only some of the most compelling arguments for seriously considering the substrate theory:

(i) Functional counterparts of the (Old) Indo-Aryan gerund are found in most South Asian languages, most notably throughout Dravidian, and they are typically indeclinable, copredicative/adverbial (*vs.* participial/adnominal) verb forms that are incapable of entering real absolute constructions. Is it then not surprising that a specifically indeclinable, originally adverbial form

was selected for functions which, if expressed nonfinitely in Indo-European, depend on specifically declinable, participial/adnominal forms in other ancient Indo-European languages (cf. Greek and Latin conjunctive participles)? (The more recently documented Tocharian is an exception, like Sanskrit, but still there is little to support a proto-IE past gerund.)

(ii) The historical gerund corresponds in its functions to the past gerund in the Dravidian languages, even when this involves a surprising neutralization of the past relative tense value, as e.g. in nondistributive reduplication, manner complements, etc. Now, this can be explained in Dravidian on the basis of the 'imperfective' aspect or strict sense of co-occurrence of the Dravidian present gerund. It also points to the strong areal implications of the occurrences and functional extensions of the past and present gerunds/conjunctive participles differently in South, Central and parts of East Asia in relation to Western Asia and Europe. (Cf. Masica 1976:128.)

(iii) The development of a preterital sense in an instrumental or indefinite action noun (if that is what the forms of the gerund are etymologically) has taken place only twice in Indo-European (not counting Tocharian, whose gerund forms are, however, more complicated; see Pedersen 1941:215, and Krause 1951 for possible substrate influence). Is it not surprising that both times this happened in India (where similar connections of form and function are common)? The first time was in the prehistorical OIA period, the second in the MIA period, when Ardhamāgadhī feminine instrumental nouns in $-\bar{a}e$ came to appear as either past gerunds or instrumentals (Pischel 1900:49). (Note that the formally corresponding Baltic feminine instrumentals from \bar{a} -stems can also be used modally or adverbially, but with specifically nonpreterital sense; cf. Endzelin 1922:473 and Zubaty 1894:119ff.)

Consequently, a rational hypothesis about the semantic and functional development of the OIA gerund would be that the prehistorical gerund reflecting a rather unproductive type of verbal adverb (stereotyped case form)²⁴ was reinterpreted to serve as an analogue (calque) of the Dravidian past gerund, which likewise is indeclinable, non-adnominal and non-absolutely construed. (The different morphological basis of the OIA gerund was then less relevant, while even here there were reinterpretations, leading to the loss of more nominal forms like *pādagr̥h̥ya*. Note also gerunds from the mere verb stem in Old Tamil.) In view of the lack of the gerund in the Avesta and the typically Ṛgvedic innovation in $-tvī$ and the paucity of archaic or nonpreterital functions of the Ṛgvedic gerund, it is also likely that it was taken over there in its

fully reinterpreted form from the earlier Indo-Aryan dialect(s), which had been more directly exposed to Dravidian substrate influence.²⁵

N O T E S

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- 1 There is also a much less common "present gerund" in *-am*, which has been exhaustively dealt with by Renou (1935). For convenience, the single term 'gerund' will here refer only to the more common "past gerund" in *-tvā/(t)yā*. For an illuminating discussion of the terminological intricacies, see Masica 1976:109ff. (Though the term 'gerund' should properly refer to a verbal noun, the term 'participle' would imply adnominality/attributive function, while 'absolute' has come to signify a certain case form in ergative languages.)
- 2 The syntax and semantics of the gerund have been treated in some detail by Bopp (1816:43-58), Humboldt (1823, 1824), Whitney (1889: § 989ff.), Speijer (1886: § 379ff.), Speijer [Speyer] (1895:68ff.), Delbrück (1888:405-409), Gune (1913), Renou (1930, 1940), Minard (1956), Gonda (1967), Deshpande (1981). (Unpublished: Tikkanen 1980.) — On Buddhist Sanskrit, Sen (1928).
- 3 Cf. e.g. Bhavatrāṭa's commentary on JŚS 1.5.1 *udvāsyā pravargyam athainam āmantrayante* ('then they call on him to remove/for the removal of the Pravargya?'): since the obvious gerund *udvāsyā* would not (normally) fit in the context, "having the 'suffix of preceding time' (!) (*paurvakālikapratyayo*), Bhavatrāṭa explains it as a gerundive forming a Bahuvrīhi-compound with *pravargyam* (!). As pointed out by Asko Parpola, who attracted my attention to this passage, a better explanation is that the gerund is here used in the final sense, to be treated later. But the commentary proves that rel. preteritativity was felt to be a basic, exceptionless value.
- 4 Wilkins (1808:434f.) noted this construction, but as his translation reveals, he did not fully recognize the merely relative preteritativity of the gerund even then: *alam dattvā* "Hold! Enough has been given" (pro 'away with [no use] giving' < 'no use (even) after/upon giving'). Note also that the lateral (*l*) points to an easterly dialect, as supported by P 3.4.18-19 (see Speijer 1886: § 379).
- 5 The standard meaning of *alam* + infinitive is 'capable of X'.
- 6 Hence the gerund cannot here be substituted for or replaced by a present participle/gerund (let alone some past participle). Unless these constructions were so late, one could think they reflect a true verbal adverb stage.
- 7 On the other hand, the use of past forms in non-past contexts always implies modal markedness, etc., pointing to the greater markedness of 'past' *vs.* 'non-past' forms in general. (Note that if the gerund was temporally unmarked, indeterminate, it would rather have non-past relative tense!)
- 8 The difference is that of valency as defined in dependency grammar. Also, manner complements/adjuncts are verb phrase *vs.* clause-dominated. Ramarao

- (1971) failed to see these structural constraints also for the Dravidian past gerund in manner adjuncts and complements (with non-past sense) (*vs.* temporal functions).
- 9 Cf. AB 6.15.1 *indram evaitair ārabhya yanti*, discussed by Gune (1913:36), who translated "da man bei jeder Zeremonie zuerst an Indra fest zu halten pflegt". (But again the inherent aspect, Aktionsart, is dubious.) Terms for aspects and aspectual meanings are here used in conformance with Comrie 1976.
 - 10 A "presential" form could, no doubt, have been used here, but only in the sense of an immediately preceding event (cf. Renou 1935:366f., where the "temporal indifference" of the gerund in *-am* is briefly touched upon.) (Cf. also Zandvoort & van Ek 1975:35f. on the English present participle in free adjuncts. Note that tense and aspect are here at interplay.)
 - 11 I have used the terms 'copredicate', 'copredicative' in a more restricted sense than Kuryłowicz (1973:83), according to whom it is any "originally predicative articulation of a nominal group". I then differentiate between semantically coordinate ("copredicative") and semantically subordinate ("adverbial(ly copredicative)") copredicates. Note that the use of the gerund in temporal concatenation or "conjunction" (largely replacing parataxis) is a typically Indian phenomenon in Indo-European, while e.g. in Dravidian and Japanese the *f i n i t e* type of temporal conjunction is hardly found at all. This extension of function is best attested in the Vedic ritual literature (esp. Sūtras) (cf. Gune 1913:45; Gonda 1971:136).
 - 12 Gune's (1913:38) example from the AB (5.27.6) has been duly refuted by Keith (1920) and is not discussed here.
 - 13 Unless Bhavatrāṭa is right, it appears that also the gerund in JŚS 1.5.1, cited in note 3, is another early case of the final gerund.
 - 14 The later frequent use of the gerund for temporal concatenation in narratives and ritual descriptions is tied to style, but is not unknown in the RV. Causal, conditional or instrumental implicatures are equally frequent in all texts.
 - 15 Relative preteritality implies that the interval of the situation expressed by the gerund wholly precedes that of the situation expressed by its main verb/predicate phrase. Note that if the governing verb has future tense, the gerund tends to copy that tense too, becoming a preterite of the future (cf. AV 7.102.1 *namaskṛtya...mekṣyāmy..*). The English perfect participle tends not to do so. This difference is important for the use of the Sanskrit gerund in temporal concatenation.
 - 16 Note that the gerund may be reduplicated also in manner complements: *ut-plutyotplutya maṇḍūkā gacchanti* 'frogs move by jumping and jumping' (Speijer 1886: § 379a.). The non-reduplicated gerund then differs in aspect. — Ojihara (1978:230) has pointed out a Patañjalian phrase where the gerund might be "presential" without being a manner adjunct, but I think the phrase in question does not presuppose a non-standard rendering of the gerund: *na cedānīm ācāryāḥ sūtrāṇi kṛtvā nivartayanti* '...do not cut the Sūtras after making them up [in their mind]!'.
 - 17 Deshpande (1980) explores a transformational analysis, which will not be discussed here. Cf. also Dwarikesh's (1971) criticism of transformational analyses of the New Indo-Aryan gerund.
 - 18 Note also that e.g. Dravidian languages and Japanese differentiate formally between different logical meanings of "conjunction" as rendered in English

- by 'and'. Cf. also the discussion in van Dijk (1977), involving, apart from semantic features, pragmatic ones.
- 19 Cf. the example given in Brown & Yule (1983:16): *A man who turned into a human torch ten days ago after snoozing in his locked car while smoking his pipe died in hospital* (contains three coordinate, nonrestrictive, clauses).
- 20 With Bader (1977:111, 125), I would regard the Ṛgvedic *-tvī* as based on an *i*-extension of the *tu*-stem (cf. also *cikitvīt* "aufmerksam" < *cikitú-* < *cit-*; cf. *cikitvīn-manas-*). On no account is it a locative form (cf. quantity and accent), as so commonly thought. — Note also Vedic $\tilde{a} \sim \tilde{i}$ -variations.
- 21 Cf., however, also Durr (1951) for prosodic correspondences, relating composition with prosodic features in both nonfinite and finite verb forms.
- 22 Cf. Delbrück 1893:231ff., Brugmann 1911:518ff., Krahe 1972:92ff. Aalto (1979) mentions the meaning "after" or "as soon as" of the absolute instrumental, but this is of course connected with the past participle. — Benfey's theory about a past active participial value of **-tva-* (instead of *-tu-*) has received very little support, though it is interesting (cf. Debrunner 1954:711).
- 23 Deshpande (1979) questions the possibility of new morphological and syntactic developments of inherited items by foreign influence. He points to the — as he thinks — not large-scale phonological changes, but we need not presuppose any morphemic developments, and the main direct substrate influence must have hit the earlier, pre-Ṛgvedic Indo-Aryan dialect(s), which should show greater phonological changes (as is suggested by early "Prakritisms", etc.).
- 24 Cf. Brugmann (1911:680f.), Wackernagel (1920:280ff.), Bader (1970, 1977). As for possible cognates of *-(t)ya* in Old Iranian, see Pisani (1945:66) and Debrunner (1954:789).
- 25 There is nowadays no doubt that there were many preclassical dialects of Indo-Aryan (cf. Emeneau 1966 and Gonda 1971:16ff.), but the magnitude of the chronological (and cultural) gaps involved has too seldom been appreciated. (Cf. Parpola 1983.)

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