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Split causativity

Remarks on correlations between transitivity, aspect, and tense

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Abstract

This paper deals with some typologically remarkable features of the early Vedic verbal system. Forms belonging to the present tense system are mostly employed in transitive-causative constructions, whereas forms of the perfect tense system are typically intransitive. Similar correlations between tense/aspect and transitivity can also be found in some other, genetically unrelated languages, such as Yukaghir and Aleut.

The aim of the paper is threefold. First, attention is drawn to correlations between the two groups of apparently unrelated grammatical categories, i.e. tense, aspect, and aktionsarten, on the one hand, and transitivity and causativity, on the other (sections 1–3). In section 4 correlations will be discussed between the transitivity/causativity and present/perfect oppositions in the Vedic verbal system, and in section 5 the parallel phenomena in Ancient Greek, within a broader Indo-European perspective. This correlation (labelled ‘split causativity’ in the present paper) provides us with further evidence for an approach to transitivity as a set of independent features and, additionally, can clarify the status and function of some “hybrid” formations, such as forms derived from perfect stems with present tense endings (section 6).

1. Introductory remarks

The last two decades have been marked by the rise of interest in interdependencies and correlations between two groups of verbal categories, namely

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tense/aspect, on the one hand, and transitivity and related syntactic features, on the other. By now, our views on transitivity as a linguistic phenomenon have crucially changed, and the starting point of this evolution was no doubt the well-known article by Hopper and Thompson “Transitivity in grammar and discourse” (1980), which has evoked both positive and negative responses and triggered a variety of studies on transitivity. Within this new approach, transitivity is not regarded anymore as a binary opposition (transitive/intransitive), but rather as a continuum which can be described in terms of a complex set of features, all of which are concerned with the effectiveness of the action denoted by the verb: the more effective the action, the more transitive the corresponding clause. Among these features are, for instance, the agentivity of the subject, the referentiality and degree of affectedness of the object, the telicity and aspectual features of the verb.

One of the paradigm examples of the tense/aspect/transitivity correlation is ‘split ergativity’, attested, for instance, in Hindi-Urdu, Burushaski, Samoan, some Australian and Amerindian languages: the ergative construction is limited to perfective and preterite environments whereas its non-ergative counterpart is restricted to imperfective or non-preterite (cf. e.g. Dixon 1979: 71, 93–96). Cf. the following examples from Kalkatungu (Australian) (Hopper & Thompson: 1980: 272f.):

- (1) a. *kupaŋuru-ŋa caa kalpin lai-na*
 old.man-ERG here young.man hit-PAST
 ‘The old man hit the young man.’
 b. *kupaŋuru caa kalpin-ku lai-mina*
 old.man here young.man-DAT hit-IMPFV
 ‘The old man is hitting the young man.’

On the one hand, the ergative construction, as in (1a), can be shown to be more transitive than the antipassive one (cf. (1b)), since one of the arguments is in an oblique role; on the other hand, the past tense and perfective aspect can be characterized as referring to more effective action than the imperfective. Thus, the phenomenon of split ergativity was adopted by Hopper & Thompson (1980: 271–274) as one of the main pieces of evidence for their hypothesis. Further evidence for the correlation between transitivity and tense/aspect oppositions was taken from Finnish (Hopper & Thompson 1980: 271). In Finnish, the object appears in the accusative or partitive depending on the aspect (perfective/imperfective), whereby clauses with partitive objects can be shown to be less transitive than those with the accusative ones — again, the partitive being an oblique role. Consider (2):

- (2) a. *Liikemies kirjoitti kirjeen valiokunnalle*
 businessman wrote letter.ACC committee-to
 ‘The businessman wrote a letter to the committee.’
 b. *Liikemies kirjoitti kirjettä valiokunnalle*
 businessman wrote letter.PART committee-to
 ‘The businessman was writing a letter to the committee.’

After (or nearly simultaneously with) Hopper & Thompson’s article, a range of studies appeared which considered transitivity in a new perspective, namely in its relationships with semantic parameters of the clause; cf. Comrie 1981, Tsunoda 1981, DeLancey 1982, Lemaréchal 1983, Abraham 1983, 1984. Very soon Hopper & Thompson’s hypothesis was severely and, it seems, rightly criticized in a number of details (cf., especially, Abraham 1983; 1984: 24–25; 1996: 32, note 10).¹ Although much remains unclear about the intricate inner structure of the *semantic* concept of transitivity, we owe a lot to these pioneer studies of the 80’s, written both by proponents and opponents of the hypothesis in question. At any rate, we can no longer treat transitivity as a purely morpho-syntactic phenomenon. In what follows, I will provide further evidence for the ‘semantically-oriented’ approach to transitivity, by bringing to light a particular type of transitivity opposition, the causative alternation. It will be argued that scrutinizing the semantic features correlated with transitivity and, in general, types of syntactic constructions, can shed light on several morphological phenomena and account for some, at first glance, abnormal features in verbal systems, such as the dissimilarity in the syntactic behaviour of forms belonging to different tense systems.

2. Transitivity and causativization

The syntactic alternations under discussion within Hopper & Thompson’s approach to transitivity mostly belong to the type that can be termed ‘subject-preserving’. In other words, the alternating constructions, albeit differing in morphosyntactic transitivity (cf. ergative vs. absolutive, transitive with an object in the accusative vs. partitive, etc.), share their subject (cf. *kupaŋuru-* ‘old man’ in both (1a) and (1b)). Another class of transitivity-affecting derivations, represented by causativization and passivization, might be labelled ‘subject-changing’ class. Causativization introduces a new subject (a causer), which ousts the original (embedded) subject, the causee; in passive constructions the subject corresponds to the object of the non-passive sentence. Both derivations affect the original valency of the clause: causativization increases it by introducing a new

subject, so that, for instance, intransitive clauses become transitive; passivization, when applied to transitive clauses, intransitivizes them. Although causativization was mentioned among transitivity-affecting phenomena by Hopper & Thompson (1980: 264), it was paid less attention than subject-preserving derivations and passivization, perhaps because it suggests more substantial changes in the meaning of the underlying verb, namely, the incorporation of the predicate CAUSE.

In what follows I will focus on interdependencies between causativization and semantic transitivity features. Leaving aside most of the semantic parameters discussed by Hopper & Thompson, I will only concentrate on those related to the tense/aspect opposition. The term 'aspect' will be used in the broader sense, referring to both aspectual oppositions proper (perfective/imperfective) and aktionsarten (lexical modes of action).

3. Causativity and aspectual meanings: polysemy of causative morphemes

The intimate relationships between causativity and aspectual meanings can be illustrated by morphemes which can function both as causative and aspectual markers. Such a polysemy was repeatedly noticed in typological studies; cf. e.g. Nedjalkov 1966; Nedjalkov & Sil'nickij 1969: 38 [=1973: 19–20]; Li 1991: 349–351. One may distinguish between several types of this polysemy, depending on which parameter determines the choice of the function.

First, the choice between the causative and aspectual functions of a given marker can depend on the verb which takes it. For instance, in Arabic, the geminate second consonant of the verbal base marks causatives with some verbal roots, as in (3a–b), and intensives with others, as in (3c–d), cf.:

- (3) a. *fariha* 'be glad' – *farraha* 'make glad';
 b. '*alima* 'learn' – '*allama* 'teach';
 c. *kasara* 'break' – *kassara* 'break in (small) pieces';
 d. *daraba* 'hit' – *darraba* 'hit strongly' (cf. Premper 1987: 89–90).

In Boumaa Fijian, the prefix *va'a-* forms causatives with some verbs and intensives (verbs meaning 'do smth. intensively, with a special effort') with others (Dixon 1988: 50f., 185ff.). Consider the following verbal pairs:

- (4) a. *vuli(-ca)* 'learn, study' – *va'a-vuli-ca* 'teach'
 b. *mate* 'die' – *va'a-mate-a* 'kill'

- c. *taro-ga* 'ask' – *va'a-taro-ga* 'ask many times'
 d. *rai-ca* 'see' – *va'a-rai-ca* 'watch, inspect, look after'.

Furthermore, the causative and aspectual functions of a morpheme can be distributed morphophonologically, for instance, depending on the allomorph of the root (stem) to which it applies. In early Vedic Sanskrit, the causative suffix *-áya-* can form present stems either with the long root syllable (*ā, o, e*, etc. in the root, i.e. the lengthened or full degree), or with the short root syllable (*a, u, i*, etc. in the root).² Formations of the former type function as causatives, while the *-áya-* presents with the short root syllable are intransitives and mostly display an intensive, frequentative or iterative semantics. Examples are given in (5):

- (5) a. *pat-* 'fly' – *pāt-áya-ti* 'makes fly' / *pat-áya-ti* 'flies';
 b. *śuc-* 'gleam' – *śoc-áya-ti* 'makes shine, gleam' / *śuc-áya-ti* 'gleams';
 c. *śubh-* 'be beautiful' – *śobh-aya-ti* 'makes beautiful' / *śubh-áya-ti* 'is / becomes beautiful'.³

Both formations are likely to be genetically related, but little has been said on how the causative meaning may have developed from the intensive, frequentative, or iterative, or *vice versa* (cf. Delbrück 1897: 109–119 for some suggestions).

Finally, both causative and aspectual interpretations of a given form can be acceptable in precisely the same context. In some Turkic languages double causatives may refer either to double causative chains ('CAUSE' + 'CAUSE') or to intensive/iterative causation, cf.:

- (6) Turkish (Zimmer 1976: 411f.)
Müdür-e mektub-u aç-tir-ti-m.
 director-DAT letter-ACC open-CAUS-CAUS-PAST-1SG
 'I had someone make the director open the letter.' (standard double causative) or
 'I made the director open the letter [forcefully] (perhaps against his wish).' (intensive causative)

In all of the aforementioned cases one morpheme functions either as a causative or as an aspectual marker. Less frequent are the cases where one marker serves for the cumulative expression of two meanings, causative and aspectual, or, to put it differently, a causative marker "automatically" evokes additional aspectual meanings. This is the case in Yukaghir and Aleut. In Yukaghir, the verbal suffix *-t-* (*-dê-*) expresses both causative and multiplicative/distributive meanings. In

The ratio of syntactic constructions is schematized in Table 1 (characters refer to the total numbers of occurrences in the RV):

Table 1

	intransitive	transitive
PRESENT	7	≈ 40
PERFECT	≈ 25	≈ 15

Thus, the transitive usages of PRESENT forms are nearly 6 times as common as the intransitive, while for PERFECT forms the ratio is approximately 1:2.⁵ This remarkable imbalance of syntactic patterns attested with *tan-* (PRESENT: mostly transitive-causative, PERFECT: mostly intransitive) has never been the subject of a special discussion and, to my knowledge, has only been mentioned in passing by Haudry (1977: 312), though in different terms ('théorie des deux modèles'). One even might suppose that this disproportion is random, i.e. that intransitive PRESENTS and transitive PERFECTS are rare merely by accident. However, the case of *tan-* is not isolated in the Vedic verbal system. A similar ratio is attested for the verb *r-* 'move, set in motion'. Six of the seven occurrences of the PERFECT forms in the RV are intransitive, cf. (14):

- (14) *yásmād yóner ud-ári-thā yáj-e*
 which.ABL womb.ABL up-move.PF-2SG.ACT worship.PRES-I.SG.MED
tám (RV 2.9.3)
 him
 'I worship the womb from which you have arisen.'

By contrast, PRESENT forms are typically transitive, as in (15):⁶

- (15) *ṛṇó-r apáh* (RV 1.174.2)
 move.PR-2SG.INJ.ACT waters.ACC
 'You set the waters in motion.'

Yet another verb which may belong to this class is *ukṣ-/vakṣ-* 'be/make strong'; cf. Kulikov 1989.

Further evidence is provided by a group of Vedic verbs like *vṛdh-* 'grow, make grow' studied by Renou (1924; 1925: 144–148). While PRESENT forms can be used both intransitively and transitively, depending on the diathesis (active: transitive-causative, middle: intransitive; cf. *várdha-ti* 'makes grow' ~ *várdha-te* 'grows'), PERFECT forms most commonly occur in intransitive constructions, regardless of the diathesis, consider (16):

- (16) *pūrvír hí gárbhaḥ śarádo vavárdh-a* (RV 5.2.2)
 many.ACC because embryo.NOM years.ACC grow.PF-3SG.ACT
 '... because the embryo **has been growing** for many years.'

Renou discovered some ten Vedic verbs which exhibit such a distribution, in particular: *jī-* 'grow old', *nam-* 'bend', *pī-* 'swell'.

The syntactic asymmetry within the Vedic verbal system sketched above has never received a satisfactory explanation. Why are PERFECT forms most often employed intransitively, while their PRESENT counterparts are not? Is this distribution an Indo-Aryan (Indo-Iranian) innovation or a trace of an old Indo-European feature? In order to answer these questions, let us have a closer look at evidence from another Indo-European language.

5. Intransitivity of the Indo-European perfect in a diachronic and typological perspective

5.1 *The perfect in Ancient Greek*

While the intransitivity of the Vedic perfect (and, in general, syntactic dissimilarities of different tense systems) has never been the subject of a special study (not counting the short note by Renou), the prevailing intransitivity of the PERFECT forms in Ancient Greek is a well-known phenomenon repeatedly noted in grammars and special studies on the Greek verb. The fact that active perfects behave intransitively and syntactically belong with middle presents (as is the case with Vedic *vṛdh-*) has been mentioned and discussed, for instance, by Chantraine (1927: 26ff.) and Bader (1972); for the predominant intransitivity of the perfect in Greek, see also Wackernagel (1904: 13). Compare a few typical examples from the Iliad and Odyssey quoted by Chantraine (1927):

- (17) a. *εἰ καὶ μιν Ὀλύμπιος αὐτὸς ἐγείρ-ει* (Il. N 58)
 if and him Olympian.NOM.SG self.NOM.SG awake.PRES-3SG.ACT
 'and if the Olympian self **awakes** him...'
 b. *οἱ δ' ἐγρηγόρ-θασι* (Il. K 419)
 they awake.PF-3PL.ACT
 'They **awoke**.' (see Chantraine 1927: 29f. for this passage and verbal form)
- (20) a. *πάντας μὲν ῥ' ἔλπ-ει* (Od. β 91)
 all.ACC.PL verily hope.PRES-3SG.ACT
 'She holds out hope to all.' (lit. 'makes all hope')

- b. ἦ δὴ που μάλ' ἔολπ-ας ἐνὶ φρεσὶ (II. Φ 583)
 hope.PF-2SG.ACT in mind.DAT.SG
 'Certainly you **hope** in your mind ...'
- (21) a. αὐτὰρ μῆλα κακοὶ φθείρ-ουσι
 while sheep.ACC.PL bad.NOM.PL ruin.PRES-3PL.ACT
 νομῆες (Od. ρ 246)
 herdsman.NOM.PL
 '... while bad herdsman **ruin** the sheepflocks.'
- b. μαινόμενε, φρένας ἤλέ, διέφθορ-ας (II. O 128)
 madman mind.ACC.PL deranged ruin.PF-2SG.ACT
 'Madman, deranged in wits, you **are ruined**.'

Thus, Ancient Greek displays basically the same type of the syntactic dissimilarity of the PRESENT and PERFECT forms as attested in Vedic Sanskrit.

5.2 *Perfect, middle, and stative*

From the fact that the predominant intransitivity of PERFECT forms is typical of several verbs both in early Vedic and Ancient Greek, one may conclude that the opposition 'intransitive PERFECT vs. transitive PRESENT' may go back to some older Indo-European dialect(s) or even to Proto-Indo-European; cf. especially Kortlandt (1984: 319ff.). In their pioneer studies, Kuryłowicz (1932) and Stang (1932) have demonstrated a striking similarity of the perfect and middle endings in ancient Indo-European languages and suggested a genetic relationship between these two categories (see Di Giovine 1996: 236ff. for a survey). Assuming this hypothesis and bearing in mind that the middle diathesis typically expresses valence-decreasing derivations, such as anticausative, passive and reflexive, we arrive at additional, albeit indirect, evidence for the predominant intransitivity of the Indo-European PERFECT. Further studies have appended one more verbal category to this pair, the 'stative', for which only 3rd person singular and plural forms can be safely reconstructed; see especially Oettinger 1976, Jasanoff 1978, Gotō 1997, Di Giovine 1996: 243ff. and the recent monographic treatment of the Indo-Iranian stative Kümmel 1996 (with a rich bibliography). The exact relationships between stative, perfect and middle within the Proto-Indo-European verbal system is far from clear and requires further research, but the hypothesis of a genetic relatedness of these three categories⁷ appears quite plausible, notwithstanding the fact that they belong to three different classes: the perfect is a tense, the stative is usually considered an aspectual category, and the middle participates in the voice, or diathesis, opposition. In contemporary Indo-European

studies these three categories are taken as associated with each other so intimately that some scholars even treat the perfect as one of the members of the diathesis opposition (active vs. perfect[-middle]),⁸ although, at first glance, the expression 'perfect diathesis' makes no more sense than, say, 'nominative number' or 'feminine case'.

5.3 *The Indo-European perfect in a typological perspective*

Let us return to typological issues. How can the aforementioned syntactic features of Indo-European perfect be interpreted in terms of the intercategory correlations and semantic transitivity discussed in the beginning of the present paper? At first glance, the intransitivity of PERFECT forms contradicts Hopper and Thompson's generalisations, since perfectivity is supposed to be associated with a high degree of transitivity. One has to bear in mind, however, that perfect tense (in particular, in Indo-European) and perfective aspect cannot be identified with each other. In fact, the semantics of the PERFECT has two facets. One of them relates to an event in the past resulting in a certain state in the present. This part of the perfect semantics ('actional perfect') implies high effectiveness of an action and therefore must correspond to a high transitivity degree. It is in this area that we typically find overlappings with the meaning of perfective.

The other facet is the meaning of an achieved state of affairs (resulting from some action in the past), which belongs to the sphere of the present.⁹ It has become commonplace in Indo-European studies that the latter aspect (stative) was prevalent within the semantic content of the ancient Indo-European perfect,¹⁰ while the actional perfect (preterite), equally attested in many Indo-European languages, results from later developments; cf. Wackernagel 1904; Schmidt 1973: 120f.; Jasanoff 1978: 14ff.; Di Giovine 1996: 249 et passim. The formal similarity of the Indo-Iranian endings of perfect and stative can serve as additional evidence for the original stative semantics of the Indo-European perfect. Note also an interesting typological parallel in Semitic: the Akkadian infix *-ta-* could express both the perfect and resultative (stative) meaning (see Kouwenberg 1997: 72ff. for details).¹¹ On the nature and commonness of the transition from stative to perfect and from perfect to perfective in the languages of the world, see especially Bybee & Dahl 1989: 68ff.

Obviously, the stative perfect has to be placed lower than the (actional) present on Hopper & Thompson's transitivity scale, which accords with its prevalent intransitivity. Incidentally, several attempts to account for the intransitivity of the perfect through its stative semantics were already made in earlier

Indo-European studies.¹² Within a new typological perspective, such explanations can be formulated more correctly and adequately.¹³

6. Split causativity and its “side effects”

In order to settle the aforementioned correlation between the present/perfect opposition and (in)transitivity with reference to typologically similar phenomena, I will recall the correlation mentioned in the beginning of the present article, **split ergativity**. In languages like Hindi-Urdu, some tenses (e.g. perfect) or aspects select the ergative construction, while some others require the absolutive (antipassive), so that the correlation between these two oppositions can be represented as follows:

present : absolutive
perfect : **ergative**

The interdependency between the PRESENT/PERFECT opposition and transitivity attested in Vedic and Ancient Greek can be schematized in a similar way:

present : transitive-**causative**
perfect : intransitive

The similarity of the above two schemes suggests a term to refer to this correlation: ‘**split causativity**’.¹⁴ The same term can also be applied to the aforementioned phenomena in Yukaghir and Aleut (cf. Golovko 1993; Maslova 1993):

distributive : transitive-**causative**
non-distributive : intransitive

Of course, the parallelism between these two kinds of split is by no means complete. Split ergativity is a strict syntactic rule, which typically has no exceptions, while split causativity is nothing but a tendency, which may be valid for some verbs only. Nevertheless, despite its marginal position in the verbal system (as in Vedic), split causativity can affect the structure of a verbal system as well as the inventory of forms and their functions. In what follows I will focus on some features of the Vedic verbal system which can be accounted for as such side effects of split causativity.

Let us return to the verb *tan-* as a typical representative of verbs with split causativity. The general ratio of syntactic patterns attested for PRESENT and PERFECT forms of *tan-* can be schematized in the following table:

Table 2

	PRESENT			PERFECT
	present	...	subjunctive	
intransitive	<i>tanóti</i> etc.	...	–	<i>tatána</i> etc.
transitive-causative	<i>tanóti</i> etc.	...	<i>tanavāvahai</i> etc.	<i>tatána</i> etc.

The difference in the size of letters symbolizes that transitive-causative PRESENTS and intransitive PERFECTS are more common than the reverse combinations, i.e. intransitive PRESENTS and transitive-causative PERFECTS. Furthermore, notice that PRESENT subjunctives are unattested in intransitive usages, which may represent yet another gap in the paradigm. Such disproportions might have caused some paradigmatic developments, in order to balance out the asymmetric system outlined in tables 1–2.

One of the opportunities could be merely using some forms in the function of others. For instance, PERFECTS might take over the function of the intransitive PRESENTS. The use of PERFECT forms in the sense of PRESENT is indeed quite common in early Vedic (the so-called ‘perfecto-presents’), especially for verbs like *cikéta* ‘appears’, *jāgāra* ‘is watchful’, *uvóca* ‘is accustomed’; see Renou 1925: 11ff.; Neu 1985: 278ff.; Cardona 1992; Euler 1993: 8ff. (with a bibliography); cf. also Meltzer 1909 (especially p. 346 on the intransitivity of perfecto-presents). Likewise, the perfect *tatána* can be employed in the present sense.

A rarer, but morphologically more drastic solution can be creating ‘hybrid’ formations. By ‘hybrid’ I mean, for instance, forms derived from a PERFECT stem (e.g. *tatan-*) by attaching PRESENT endings (e.g. the secondary ending of the 3rd person plural *-an*, which is used in imperfect, injunctive and subjunctive). One may assume that the stem is “responsible” for the transitivity of the form (PRESENT: transitive, PERFECT: intransitive), whereas the endings express its tense and mood characteristics (imperfect, injunctive, subjunctive, etc.). Given this assumption, forms like *tatán-an* might function as intransitive injunctives or subjunctives.

PERFECT subjunctives of the type *tatánan* are indeed attested in the RV. The following forms are encountered: 2 sg.act. *tatanaḥ* (RV 7.2.1), 1 pl.act. *tatánāma* (RV 1.160.5, 5.54.15), 3 pl.act. *tatánan* (RV 1.166.14, 4.5.13, 7.88.4, 10.37.2), 3 pl.med. *tatánanta* (RV 1.52.11).¹⁵ Thus far the status of such forms has not received a satisfactory explanation. In particular, it was unclear why the regular PRESENT subjunctives (like **tanavan* etc.) could not be used instead.

Reconsidering such forms from the ‘split causativity’ perspective may shed

more light on their functional value. Without making any universal generalisation, valid for *all* such formations, I would assume that at least one of the possible functions of such formations might be supplying additional forms in order to fill gaps in the paradigm. Forms like *tatānan* could function as intransitive subjunctives, that is as intransitive counterparts of PRESENT subjunctives, which are typically employed transitively. The existence of such forms might be most likely for those verbs whose perfects could function as presents ('perfecto-presents'), which diminished the 'semantic distance' between the PRESENT and PERFECT parts of the paradigm.¹⁶

An examination of the RVic perfect forms with secondary endings based on the root *tan-* reveals that all of the eight occurrences are intransitive,¹⁷ see (20)–(21):

(20) *āhāni vīśvā tatān-anta kṛṣṭāyaḥ* (RV 1.52.11)
 days.ACC all stretch.PF-3PL.SUBJ.MED tribes.NOM
 'The tribes **will expand** for all the days.'

(21) *yān nū dyāvas tatān-an*
 inasmuch.as PARTIC days.NOM stretch.PF-3PL.SUBJ.ACT
yād uṣāsaḥ (RV 7.88.4)
 inasmuch.as dawns.NOM
 '... inasmuch as the days and the dawns **will continue** (lit.: spread) ...'

Thus, the status of forms like *tatānan*, *tatānanta* etc. within the systems with a split causativity tendency can be schematized as follows:

Table 3

	PRESENT			PERFECT
	present	...	subjunctive	
intransitive	<i>tanóti</i> etc.; <i>tatāna</i> etc.	...	–; (pf.subj.) <i>tatānan</i> etc.	<i>tatāna</i> etc.
transitive- causative	<i>tanóti</i> etc.	...	<i>tanavāvahai</i> etc.	<i>tatāna</i> etc.

I leave out of consideration other PERFECT forms with secondary endings, the so-called pluperfects (augmented PERFECT stem + secondary ending) and PERFECT injunctives (= unaugmented pluperfects). Regarding their temporal semantics, Vedic pluperfects do not differ from ordinary imperfects (= augmented PRESENT stem + secondary endings),¹⁸ and, as in the case of PERFECT subjunctives, much

is unclear about their exact functional value. It cannot be ruled out that at least some of them were built on the same model as the PERFECT subjunctives discussed above, i.e. as intransitive counterparts of forms derived from the corresponding PRESENT stems. The evidence is too scant, however, and the problem requires a separate study.

It is worth mentioning that, although the concept of 'split causativity' was not yet implicitly formulated in earlier Indo-European studies, it was sometimes used as a criterion for distinguishing PERFECT forms with secondary endings from other reduplicated formations, such as reduplicated aorists or PRESENTS, in accordance with presumptions like "transitive, hence cannot belong to the PERFECT system", and *vice versa*. See, for instance, Thieme's (1929) comments on forms made from the reduplicated stems *mumuc-* and *pīpi-*¹⁹ and Chantraine's (1927) arguments for taking the reduplicated form ἄραρον 'they fit' (Il. II 214) as a pluperfect, rather than as an aorist.²⁰

To conclude, one has to emphasize once again that the above account for forms like *tatānan* can hardly be valid for *all* Vedic PERFECT forms with secondary endings. There are verbs which do not follow the split causativity tendency and obviously require a different explanation. What I suggest here is only one of the possible *raisons d'être* for the existence of such forms. No doubt, these formations must also have had some other functions,²¹ which await future investigators.

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Abbreviations

ABL — ablative, ACC — accusative, ACT — active, CAUS — causative, DAT — dative, ERG — ergative, Il. — Iliad, IMPF — imperfect, IMPFV — imperfective, IMPV — imperative, INJ — injunctive,

INS — instrumental, INTR — intransitive, MED — middle, NOM — nominative, Od. — Odyssey, PART — partitive, PARTIC — particle, PF — perfect, PL — plural, PRES — present, PREV — preverb, RV — Rgveda, SG — singular, SUBJ — subjunctive, TR — transitive, VOC — vocative.

Notes

1. In particular, it has been demonstrated by Abraham (1983, 1984) that the semantic features of transitivity, as proposed by Hopper & Thompson, quite often do not match or are even in contradiction with morpho-syntactic transitivity.
2. For simplicity, I leave out of consideration a few *-āya*-causatives with short *a* in the root, such as *janāyati* 'begets' (root *jan-*). The short *a* in such cases is likely to be due to the etymological laryngeal (**janH-*), which made the root syllable long.
3. There is no consensus in Indo-European and Vedic scholarship on whether the primary function of the *-āya*-presents with the short root syllable (*a, u, i*, etc. in the root) should be qualified as iterative, intensive or frequentative; for a survey, see e.g. Redard 1972, Derooy 1993.
4. The RV consists of 1028 hymns containing, in total, 10,402 stanzas. The counting of occurrences of forms derived from the roots under discussion was done by myself on the basis of two concordances, Grassmann 1873 and Lubotsky 1997, which has enabled me to locate every form attested in the RV.
5. I do not give the exact numbers of intransitive and transitive-causative occurrences, since the syntactic analysis of some constructions is unclear. Most serious difficulties are posed by formulaic expressions of the type *ā dyām TAN-*, as, for instance, in (22–23):

(22) *ā dyām tano-ṣi raśmībhir* (RV 4.52.7)
 PREV heaven.ACC extend.PRES-2SG:ACT rays.INS

ā~ antārikṣam urū priyām
 PREV air.ACC broad.ACC dear.ACC
uṣaḥ śukrēna śociṣā
 Uṣas.VOC bright.INS light.INS

'You, O Uṣas, **extend** (TR) / **extend** (INTR) through heaven with [your] rays, [you extend (TR) / extend (INTR) through] the broad dear air with [your] bright light.'

(23) *yó bhānúnā pṛthivīm dyām utā~imām* (RV 10.88.3)
 which.NOM light.INS earth.ACC heaven.ACC and this.ACC
ā-tatān-a rōdasī antārikṣam
 PREV-extend.PF-3SG:ACT two.worlds.ACC air.ACC

'... [the one] who **has extended** (TR) / **has extended** (INTR) through earth and this heaven, the two worlds, air with [his] light.'

In such uses *ā-tan* is constructed with accusative nouns referring to some of the three worlds: heaven, earth and the intermediate space between heaven and earth. It is unclear which kind of metaphor underlies such usages, and there is no consensus among the interpreters of the RV on whether these constructions are to be rendered transitively or intransitively. Consider, for instance, the following four translations of (22):

'Du durchziehst den Himmel mit Strahlen, den weiten lieben Luftraum, o Uṣas, mit deinem hellen Feuerschein' (Geldner 1951: vol. I, 453);

'Tu tends le ciel de rayons, le vaste cher domaine aérien, Aurore, avec ton clair éclat' (Renou 1957 [EVP III]: 76);

'tu étends tes rayons sur toute l'étendue du ciel (ou: jusqu'au ciel) ...' (Haudry 1977: 309);

'Ty pronizyvaes' nebo (svoimi) lučami, širokoe slavnoe vozdušnoe prostranstvo, o Uṣas, čistym plamenem.' (Elizarenkova 1995: 417)

From the purely syntactic point of view, both intransitive ('you extend [through heaven]': Geldner, Elizarenkova) and transitive-causative ('you extend [heaven]': Renou) interpretations appear to be possible. Correspondingly, the accusative *dyām* 'heaven' can be understood either as a goal accusative or as a direct object.

In a special study dealing with these constructions, Christol (1986: 200) arrives at the conclusion that *ā dyām TAN-* has to be rendered transitively ('tendre (*TAN*) en tirant vers soi (*ā*) le ciel lumineux'), thus regarding heaven in (22) as a movable object. However, in my opinion, this interpretation is untenable for the following two reasons. First, the self-beneficiant sense ('en tirant vers soi') would most likely be expressed by the middle diathesis (**tanuṣe* in (22), **-tāmé* in (23)), which is not the case here. Second, we do not find corresponding passive constructions (like **dyaūr ā tāyate/ātataḥ* 'heaven is being spread/is spread'). Since only constructions with direct objects ('stretch a thread' etc.), but not with goal accusatives passivize in Vedic, the lack of passives makes Renou's and Christol's interpretation less plausible.

6. Not counting the middle root present *írte* 'moves', which is employed, as a rule, intransitively. Historically, this formation goes back to the reduplicated present made from the root *ṛ-* (**Hi-H(e)r-toi*), but, synchronically, it belongs to a separate root *īr*.

I abstain from a discussion of the diachronic relationships between the presents *ṛṇóti*, *ṛṇvati* 'sets in motion', *ṛcchāti* 'reaches' and the perfect *āra*. Even provided that the transitive-causatives *ṛṇóti*, *ṛṇvati* do not historically belong with the intransitive perfect *āra*, representing rather a different root (thus M. Kümmel, p.c., pace Mayrhofer 1987: 105f.), synchronically these formations are too close to each other both in form and meaning for one to simply ignore their (perhaps secondary) paradigmatic links.

7. For the relationship between stative, perfect and middle in Proto-Indo-European, see especially Kuryłowicz 1964: 56ff.; Kortlandt 1979: 66ff.; 1981.
8. See, foremost, Neu 1985 and Di Giovine 1996: 237 et passim.
9. For a discussion of this dichotomy in terms of the ascending/descending opposition, see Abraham 1999.
10. Cf.: "... es besteht <...> ein Konsens darüber, daß man dem idg. Perfekt von Hause aus Zustandscharakter zuzuschreiben habe" (Neu 1985: 278f.).
11. I would like to thank M. Kümmel and N. Kouwenberg for having drawn my attention to this parallel.
12. Cf. "Wie wir <...> wissen, war das altidg. Perfekt eine Kategorie, mit deren Hilfe ein **Zustand**, der aus einem vorangegangenen Vorgang (oder aus einer vorangegangenen Handlung) resultierte, angezeigt wurde <...> Diese Bestimmung impliziert prinzipiell die **Intransitivität** der Kategorie ..." (Schmidt 1973: 120). Cf. also the following remarkable note made by Velten (1931: 239, fn. 32): "Active perfect forms with an **intransitive** meaning — often used as a present like δέδορκα 'I see' — occur commonly beside medio-passive presents <...> This is not surprising since the perfect itself is of **durative** character and serves as a device of durativeness." [emphasis everywhere mine — LK]
13. I should emphasize that in the present article I am concerned with the syntactic features of the perfect in certain ancient Indo-European languages only (Vedic, Greek). I do not claim that the

genesis of the prevalent intransitivity of perfect must have been the same in all languages where similar phenomena occur nor, correspondingly, that an account in terms of Hopper & Thompson's hypothesis must hold true for all such languages. For alternative explanations of the intransitivity of perfect forms, see e.g. Comrie (1981), Abraham & Klimonow (1999: 24f.).

14. Not to be confused with 'split intransitivity' (the term introduced by Van Valin (1990)), which refers to the distinction between two main semantic classes of intransitive verbs, unaccusatives and unergatives.
15. For these forms, cf. Neisser 1883: 238 [= Kl.S., 39].
16. I would like to emphasize that the term 'hybrid' does not necessarily implies that all forms of the type *tatánan* are secondary. Chronologically, many of them could be of the same age as the corresponding 'non-hybrid' forms (PERFECT stem + PERFECT ending, etc.). Rather, this term refers to their peculiar position within the verbal system, from the point of view of the basic compositional principle valid for the majority of Vedic verbal forms: PRESENT stem + PRESENT ending, PERFECT stem + PERFECT ending, etc.
17. Except, perhaps, for the syntactically unclear *tatanaḥ* at RV 7.2.1.
18. Cf. e.g. Macdonell 1910: 364; Thieme 1929, passim.
19. "Das Präteritum *amumuktam* ([RV] 1.116.4), *mumucas (má)* ([RV] III.41.8) "ihr lieſet frei" dürfte dagegen kaum zu einem präsentiſchen Perfekt gehören: das zeigt der ausgesprochene *faktitive* Sinn. Es ist ein altes Imperfekt, deſſen Präsens-Indikativ nicht belegt ist." (Thieme 1929: 42).
Yet another passage nicely illustrates how two similar reduplicated forms are treated by Thieme as belonging to different tense systems (PERFECT vs. PRESENT) on purely syntactic grounds (transitivity): "*pipyatam* im [RV] II.39.6 ist intransitiv, wird also zu [pluperfect] *apīpet* gehören [but not to the present **pipyate* postulated by Thieme, *ibid.* — LK] <...> Größere Schwierigkeiten macht *apīpema* (VIII.66.7). Die Form verlockt dazu, es zu [pluperfect] *apīpet* zu stellen. Aber *apīpet* ist intransitiv, *apīpema* faktitiv." (Thieme 1929: 49).
20. "On considère généralement ἀορίστων comme un aoriste. Mais ce serait le seul exemple de sens intransitif pour cet aoriste. Il faut plutôt voir là un plus-que-parfait thématique, avec la seconde voyelle brève." (Chantraine 1927: 27).
21. Cf., in particular, Cardona's (1992: 7ff.) account of some Vedic pluperfects like *ábibhet* 'was afraid'. As in the case of *tatánan*, they are likely to fill yet another paradigmatic gap, providing preterite counterparts to the perfects like *bibháya*, commonly used in the present sense ('is afraid').

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