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Passivization and Typology

Form and function

*edited by Werner Abraham
and Larisa Leisiö*



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Passive and middle in Indo-European

Reconstructing the early Vedic passive paradigm*

Leonid Kulikov

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The present paper deals with the passive function of the middle diathesis in Vedic Sanskrit, one of the most ancient attested Indo-European languages. It gives a general survey of passive formations of the three main tense systems (present, aorist and perfect) and discusses forms which are traditionally considered non-characterized middle formations ('bare middles'). It will be argued that these forms should be grouped with those formations which have specialized markers of passive. I will further inventory the actually attested present passives with the suffix *-yá-*, discussing the defective character of the passive paradigm of the present, aorist and perfect tense systems. In conclusion, I briefly discuss possible Proto-Indo-European sources of the Vedic passive paradigm and the historical relationships between the categories of perfect, stative and middle, as well as perspectives of a diachronic typological study of valency-changing categories, such as passive and causative, outlining the main tendencies in the evolution of the Proto-Indo-European middle.

1. Passive and middle in Indo-European and Vedic: A historical background

The present paper concentrates on the development of the category of passive in Vedic Sanskrit, one of the most ancient attested Indo-European languages and the oldest documented Indo-Aryan language.¹

There are two basic tendencies which determine the evolution of the Old Indo-Aryan (Sanskrit) passive and, to some extent, its further developments in later, Middle and New Indo-Aryan, periods. On the one hand, Indo-Aryan languages attest the rapid growth of new formations which serve to express valency-changing categories, foremost in the present tense system. These include, in particular, passives with the suffix *-yá-* and causatives with the suffix *-áya-*.

On the other hand, we observe the loss of several grammatical functions of the ancient Indo-European middle. It is a commonplace in the Indo-European scholarship that the proto-language was lacking specialized markers of passive (see, e.g., Beekes 1995:225). This is not to say, however, that passive constructions (i.e. constructions where the initial direct object of a transitive verb was promoted to the subject position)

were impossible. This function was taken over by the middle diathesis² – alongside with a number of other intransitive derivations, such as anticausative (decausative), reflexive and reciprocal. Thus, the passive is usually said to be one of the basic functions of the (ancient) Indo-European middle.³

This might be the case indeed in Proto-Indo-European, as well as in some ancient Indo-European languages such as Ancient Greek (see e.g. Jankuhn 1969). However, one of the oldest documented Indo-European languages, Vedic Sanskrit, seems to attest the decay of the original system. Already in early Vedic, that is, in the language of the two most ancient texts, Ṛgveda (RV) and Atharvaveda (AV),⁴ these functions are largely taken over by special markers.

In what follows, I will focus on the alleged passive function of the middle diathesis. In Section 2, I will offer a general overview of formations of the three main tense systems, those of present, aorist and perfect, used in passive constructions. Sections 3 and 4 will be dealing with two groups of forms which are traditionally considered non-characterized middle formations ('bare middles'). I will argue that they should be grouped with those forms which have specialized markers of passive (as described in Section 2). In Section 5, I concentrate on the passives within the system of present (with the suffix *-yá-*), inventorying the actually attested forms and demonstrating the defective character of the present passive paradigm. Section 6 is a brief survey of the (few) non-characterized ('bare') middle forms attested in passive constructions. Section 7 recapitulates the early Vedic passive paradigms of the three main tense systems. Section 8 contains some speculations on the Proto-Indo-European sources of the Vedic passive paradigm and on the historical relationships between the categories of perfect, stative and middle. The final Section 9 is dedicated to the perspectives of a diachronic typological study of valency-changing categories, such as passive and causative, outlining the main tendencies in the evolution of the Proto-Indo-European middle and in the system of valency-changing categories.

2. Early Vedic passive formations in the three main tense systems:

A general overview

The Old Indo-Aryan (Vedic) verbal paradigm includes three main classes of forms, called present, aorist and perfect systems. Within each of these sub-sets, forms are built on the same stem, i.e. on present, aorist and perfect stems, respectively. Each tense system includes a number of finite forms and a pair of participles, active and middle. In what follows, I will discuss in detail the inventories of passive forms within each tense system.

As mentioned above, bare middle forms of all the three main tense systems are generally said to be able to function as passives. On closer examination, it turns out, however, that within all tense systems, passive is typically expressed by means of **characterized** formations, rather than by means of bare middles. Alongside present passives with the accented suffix *-yá-*⁵ (e.g. *yuj* 'yoke, join': 3sg.⁶ *yujyáte* 'is (being) yoked, joined', etc.), which will be dealt with at length in Section 5, there are two forma-

tions typically employed in the passive usage. These include (i) the (medio-)passive aorist and (ii) the stative.⁷ Both formations have a defective paradigm. The best attested forms are 3rd person singular and 3rd person plural: passive aorists in *-i* and *-ran* (*-ram*) (e.g. *yuj* ‘yoke, join’: 3sg. *áyoji*,⁸ 3pl. *ayujran*) and statives in *-e* and *-re* (e.g. *hi* ‘impel’: *hinvé* ‘(it) is / has been impelled’, 3pl. *hinviré* ‘(they) are / have been impelled’). Besides, there are two very rare stative forms, 2sg. in *-(i)ṣe* (attested for *ís* ‘possess, rule’ and *śru* ‘hear’: *íṣiṣe*, *śṛṇviṣe*) and 3sg. impv. in *-ām* (attested for *duh* ‘give milk, be a milch(-cow)’ and *śī* ‘lie’: *duhām* RV+, *śayām* AV).⁹ Both formations do not have specific stems: passive aorists are derived from the bare root (which is also used as the base for the root aorist derivation), while statives “dwell” on the stems of several formations (in particular, on those of presents and intensives). Nor do statives have specific endings; or, to put it more exactly, they share endings with the middle perfect (cf. *kr* ‘make’: 3sg.pf.med. *cakr-é*, 3pl.pf.med. *cakri-ré*). Whilst *-yá*-presents and aorists in *-i/-ran* (*-ram*) function as passives in the present and aorist systems, respectively, some of the statives seem to supply passives in the system of perfect. The attestations of most of the non-present formations are mainly limited to the oldest Vedic text, the RV. Already in the AV we find no 3pl. passive aorists in *-ran* (*-ram*) and only isolated examples of statives (see Kümmel 1996). The only non-present finite passive form surviving into middle and late Vedic and, later on, into post-Vedic (Classical) Sanskrit is the 3sg. aorist in *-i*.

To sum up, the three above-mentioned formations employed in passive usages are characterized either by a *special formative* (present stem suffix *-yá-*), or by a *special set of endings* (aorists in *-i/-ran/-ram*), or, finally, by a *unique combination* of stem and endings (statives in *-e/-re*; cf. *hinv-é*: present stem *hinv-* + perfect ending *-é*). They represent the core of the early Vedic passive paradigm. Beyond this core, there remain two large groups of non-characterized middle forms (which I will call ‘bare middles’) employed in passive usages, middle perfects and middle athematic participles with the suffix *-āna-*. Apparently, they form the main evidence for the claim about the common passive usage of the bare middles. In the following two sections I will concentrate on these two groups of forms, arguing that they are morphologically (grammatically) ambiguous and therefore do not represent true exceptions to my claim about the rare or exceptional character of the passive function of the bare middles.

3. Passive *-āna*-participles

One such exception is a group of athematic middle participles (with the suffix *-āna-*), which exhibit quite unusual syntactic properties in early Vedic, particularly in the language of the R̥gveda. While the finite forms with which these participles are said to belong together are employed only transitively, the corresponding *-āna*-participles are attested both in transitive and intransitive (passive) constructions. This fact was noticed already by Delbrück in his seminal *Altindische Syntax* (1888:264).

Elsewhere I have demonstrated (Kulikov, forthc.) that the grammatical characteristics of such passive *-āna*-participles should be reconsidered. Here I will only briefly

summarize my conclusions, discussing two typical examples, participles *hinvāná-* and *yujāná-*.

The participle *hinvāná-* (root *hi* ‘impel’), taken by all grammars as the middle participle of the nasal present with the suffix *-nó/-nu-* (class V in the Indian tradition), occurs 18 times in intransitive (passive) constructions (as in (1a)), and 10 times in transitive constructions (as in (1b)) in the R̥gveda (see, e.g., Kümmel 1996: 141):

- (1) a. (RV 9.12.8)
sómo hi-nv-ānó arṣati
 Soma:NOM.SG impel-PRES-PART.MED:NOM.SG.M flow:PRES:3SG.ACT
 ‘Soma, **being impelled**, flows.’
- b. (RV 9.97.32)
 ... *īndrāya pavase ... hi-nv-ānó*
 Indra:DAT purify:PRES:2SG.MED impel-PRES-PART.MED:NOM.SG.M
vācam matibhiḥ kavīnām
 speech:ACC.SG thought:INS.PL poet:GEN.PL
 ‘You (sc. Soma) purify yourself for Indra, **impelling** (your) speech with the (religious) thoughts of the poets.’

The syntactic properties of *hinvāná-* clearly differ from those of the finite middle forms made from the same stem (3pl.med. *hinváte* etc.), with which *hinvāná-* is supposed to belong together. These forms can only be employed transitively, meaning ‘to impel’, as in (2):

- (2) (RV 9.65.11)
hi-nv-é vāṇeṣu vājīnam
 impel-PRES-1SG.MED price:LOC.PL runner:ACC.SG
 ‘I **spur** on this runner [in the race] for prices.’

Similarly, the participle *yujāná-* (root *yuj* ‘yoke’) occurs 8 times in intransitive (passive) constructions (as in (3a)) and 14 times in transitive constructions (as in (3b)) in the R̥gveda (as rightly pointed out by Kümmel (1996: 90)):

- (3) a. (RV 6.34.2c)
rátho ná mahé śávase yuj-ānāḥ
 chariot:NOM.SG like great:DAT power:DAT yoke:AOR-PART.MED:NOM.SG.M
 ‘... like a chariot **yoked** for the great power.’
- b. (RV 6.47.19a)
yuj-ānó¹⁰ harītā ráthe
 yoke:AOR-PART.MED:NOM.SG.M fallow:ACC.DU chariot:LOC.SG
 ‘... (Tvaṣṭar,) **yoking** two fallow [horses] to the chariot.’

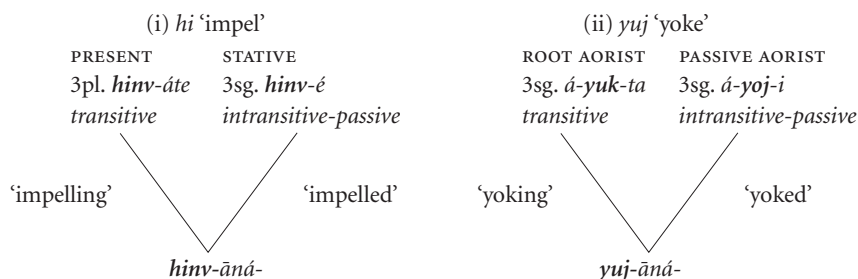
Vedic grammars treat *yujāná-* as a middle participle of the root aorist (see, for instance, Whitney 1885b: 132; Macdonell 1910: 370). However, again, as in the case of *hinvāná-*, the corresponding finite forms (3sg.med. *áyukta* etc.) can only be employed in transitive constructions, as in (4):

- (4) (RV 7.60.3)
á-yuk-ta sapta haritāḥ
 AUG-yoke:AOR-3SG.MED seven fallow:ACC.PL
 ‘He **yoked** (now) his seven fallow [horses].’

Such remarkable syntactic behavior of the middle participles requires an explanation: Why do these participles show a syntactic feature (an ‘unoriented character’ in terms of Haspelmath 1994) that is different from those of the corresponding finite forms? Apparently, in order to find a clue to our problem, we have to look for such finite forms which are derived from the same stem as the participles in question (i.e. *hinv-* and *yuj-*) and can be employed as passives. Such forms indeed exist. In the case of *hinvāná-*, these are statives 3sg. *hinvé* ‘(it) is impelled’, 3pl. *hinviré* ‘(they) are impelled’. In the case of *yujāná-*, passive usages are attested for the passive aorist 3sg. *áyoji* ‘(it) was yoked’, 3pl. *áyujran* ‘(they) were yoked’.

To put it in morphological terms, the stem *hinu-/hinv-* is shared by the nasal present (3pl.med. *hinváte* etc.), which never occurs in passive constructions, and the stative (3sg. *hinvé*), which is employed in passive usages (‘is impelled’). Likewise, the stem *yuj-* / *yoj-* (i.e. bare root) is shared by the root aorist (3sg.med. *áyukta* etc.), never used in passive constructions (*áyukta* can only mean ‘(he) yoked’, not ‘was yoked’), and the passive aorist (3sg. *á-yoj-i*, 3pl. *á-yuj-ran*), always employed as passive (‘it was yoked’, ‘they were yoked’).

Thus, for morphological reasons, we can assume that the participle *hinvāná-* may belong either with the transitive nasal present (*hinváte* etc.) or with the stative (3sg. *hinvé*, 3pl. *hinviré*). Likewise, *yujāná-* may be a member of the paradigm either of the (transitive) root aorist (*áyukta* etc.) or of the passive aorist (3sg. *áyoji*, 3pl. *áyujran*). The immediate corollary of this assumption is that *hinvāná-* and *yujāná-* can be employed either transitively (when belonging with the transitive nasal present and root aorist, respectively), or intransitively (passively) – when belonging with the stative and passive aorist, respectively. Thus, these participles are homonymous, or morphologically (grammatically) ambiguous, but their grammatical characteristics can be distinguished by their syntax. *hinvāná-* is a middle present participle when employed transitively, meaning ‘impelling’, and a stative participle when employed intransitively (passively), meaning ‘impelled’. Likewise, *yujāná-* is a middle root aorist participle when employed transitively (‘yoking’) and a passive aorist participle when employed in passive constructions (‘yoked’):



Although, traditionally, Vedic grammars do not include participles into the paradigms of statives and medio-passive aorists, the assumption that passive *-āna-* participles should be listed within these paradigms seems quite attractive, since it easily explains their abnormal syntax.

In the following Section I will discuss another large group of forms which are traditionally considered non-characterized middle formations ('bare middles') employed in passive constructions.

4. Middle passive perfects and statives

Middle perfects employed in passive usages almost exclusively are 3sg. and 3pl. forms in *-e* and *-re*.¹¹ In my view, some occurrences of these two forms should be taken as statives rather than perfects. Again, as in the case of the passive *-āna*-participles, this is a topic for a separate study (see Kulikov 2003b); here I only briefly summarize my argumentation and main conclusions.

The following two facts are relevant for a discussion of the Vedic statives:

- (i) they have no specific stems, "dwelling" on the stems of other formations (foremost, on those of presents and intensives);
- (ii) they have no specific endings; or, to put it more exactly, they share endings with the middle perfect (3sg. *-e*, 3pl. *-re*).

The direct corollary of these two facts is that some of the 3sg. and 3pl. middle perfects might be considered, at least in synchronic terms, as **statives built on perfect stems**.

Here it will be in order to recall Kümmel's (2000: 94) assumption that middle perfects have been secondarily created by adding the stative endings, 3sg. *-e* (going back to Proto-Indo-Iranian **-á(i)*) and 3pl. *-re* (< PIr. **-rá(i)*), to the perfect stem. In my view, this *diachronic* statement has also important implications for a *synchronic* interpretation of the early Vedic verbal system. Specifically, as long as the stative existed as a separate morphological formation (i.e. during the early Vedic period, in the language of the Ṛgveda), at least some of the 3sg. and 3pl. forms with the endings *-e* and *-re* built on perfect stems (traditionally taken as middle perfects) could remain statives without being reinterpreted as middle perfects. In other words, some of these forms were morphologically (grammatically) homonymous: they could represent either (old) statives derived from perfect stems or (newly-built) middle perfects. As in the case of the participles with the suffix *-āna*-, discussed in the preceding section, the grammatical characteristics of such forms are prompted by their syntactic features. Specifically, there are good reasons to assume that early Vedic 3sg. and 3pl. middle perfects employed in the passive usage should be interpreted as statives built on perfect stems. For instance, the form *dadhé* (root *dhā* 'put') should be taken as a 3sg. form of the middle perfect when meaning 'has put', as in (5a), and as 3sg. of the stative when meaning 'is put / has been put', as in (5b):

- (5) a. (RV 9.18.4)
 yó víśvāni vāryā vāsūni hāstayor dadh-é
 who all desirable:ACC goods:ACC hand:LOC.DU put:PF-3SG.MED
 'The one who holds / has put all desirable goods in his hands ...'

- b. (RV 1.168.3)
hāsteṣu khādīś ca kṛtīś ca sām
 hand:LOC.PL brooch:NOM.SG and sward:NOM.SG and together
dadh-é
 put:STAT-3SG.MED
 ‘Brooch and sward is put in [your] hands.’

Likewise, the form *yuyujré* (root *yuj* ‘yoke’) should be taken as 3pl.pf.med. when meaning ‘have yoked’, as in (6a), and as 3pl.stative when meaning ‘are yoked / have been yoked’, as in (6b):

- (6) a. (RV 5.58.7)
vātān hy áśvān dhury ā-yuyuj-ré
 wind:ACC.PL since horse:ACC.PL shaft:LOC.SG PREV-yoke:PF-3PL.MED
 ‘Since [the Maruts] have yoked the winds as their horses into the shaft ...’
 b. (RV 1.168.3)
dhiyā yuyuj-ra¹² índavaḥ
 thought:INS.SG yoke:STAT-3PL.MED sap:NOM.PL
 ‘The [Soma-]saps have been yoked with a religious thought.’

The same holds true, *mutatis mutandis*, for middle participles made from perfect stems and employed in passive usages. Such forms should be taken as belonging with statives rather than with middle perfects, as in the compound *yuyujānā-sapti-* ‘with yoked horses’:

- (7) (RV 6.62.4)
yuyuj-ānā-sapti
 yoke:STAT-PART.MED-horse:NOM.DU
 ‘[these two Aśvins] which have yoked horses’

Thus, early Vedic 3sg. and 3pl. middle perfects employed in the passive usage can be explained as statives built on perfect stems. As in the case of some *-āna*-participles, forms which are built on perfect stems and occur both in transitive and passive usages, such as *dadhé*, should be taken as morphologically (grammatically) ambiguous: *dadhé* ‘has put’ is a perfect, but the same form meaning ‘is / has been put’ should be taken as a stative.

Next to these three forms, i.e. 3sg., 3pl. and participle, early Vedic attests no examples of middle perfects in the passive usage. Given the defective character of the stative paradigm, the lack of other middle forms employed in passive constructions indirectly supports the analysis of the three forms listed above as statives built on perfect stems. The only exception is 2sg.med. *bedhiṣe* ‘you are bound’ (root *bandh* ‘bind’) in AV 6.63.3 = 6.84.4 (see Kümmel 2000: 329; Kulikov 2001: 124). This form can be compared to the (rare) 2sg. statives *īśiṣe* and *śṛṇviṣe*, thus being an exception that proves the rule.

Leaving now the systems of aorist and perfect, I will concentrate on the *-yá*-formations, functioning as passives within the system of present.

5. The passive paradigm in the system of the present

Among the three Sanskrit tense systems, that of the present is the most developed. It includes, alongside the present tense proper,¹³ one more tense, the imperfect, as well as four non-indicative moods: injunctive (= augmentless imperfect), imperative, subjunctive (functioning in the early Vedic period as future with additional modal meanings), and optative (rather rare in the early period). In each of the six tense-moods, nine forms corresponding to possible person-number combinations can be built (1st, 2nd and 3rd persons × singular, dual and plural numbers). In total, this makes up 54 finite forms in each of the two diatheses (active and middle), as well as the present participle. Since passive forms exclusively take the middle inflexion, I will hereafter concentrate on the middle part of the paradigm. An example of the middle present paradigm is given in Table 1 (verb *bhr̥* ‘bear, carry’):

Table 1. Middle forms of the present tense system (*bhr̥* ‘bear’)

	PRESENT	IMPERFECT	INJUNCTIVE	IMPERATIVE	SUBJUNCTIVE	OPTATIVE
SG	1 <i>bhāre</i>	<i>ā-bhare</i>	<i>bhāre</i>	(= subj.)	<i>bhārai</i>	<i>bhāreya</i>
	2 <i>bhāra-se</i>	<i>ā-bhara-thās</i>	<i>bhāra-thās</i>	<i>bhāra-sva</i>	<i>bhārā-se, -sai</i>	<i>bhārethās</i>
	3 <i>bhāra-te</i>	<i>ā-bhara-ta</i>	<i>bhāra-ta</i>	<i>bhāra-tām</i>	<i>bhārā-te, -tai</i>	<i>bhāreta</i>
DU	1 <i>bhārāvahe</i>	<i>ā-bharāvahi</i>	<i>bhārāvahi</i>	(= subj.)	<i>bhārāvahai</i>	<i>bhārevahi</i>
	2 <i>bhārethe</i>	<i>ā-bharethām</i>	<i>bhārethām</i>	<i>bhārethām</i>	<i>bhārāithe</i>	<i>bhāreyāthām</i>
	3 <i>bhārete</i>	<i>ā-bharetām</i>	<i>bhāretām</i>	<i>bhāretām</i>	<i>bhārāite</i>	<i>bhāreyātām</i>
PL	1 <i>bhārāmahe</i>	<i>ā-bharāmahi</i>	<i>bhārāmahi</i>	(= subj.)	<i>bhārāmahai</i>	<i>bhāremahi</i>
	2 <i>bhāra-dhve</i>	<i>ā-bhara-dhvam</i>	<i>bhāra-dhvam</i>	<i>bhāra-dhvam</i>	<i>bhārādhve</i>	<i>bhāredhvam</i>
	3 <i>bhāra-nte</i>	<i>ā-bhara-nta</i>	<i>bhāra-nta</i>	<i>bhāra-ntām</i>	<i>bhārānte</i>	<i>bhāreran</i>
PART.	<i>bhāra-māṇa-</i>					

This is the maximal inventory of middle forms of the present system, which, as one might expect, should constitute the present passive paradigm (e.g. 1sg.pres. *yujyē*, 2sg.pres. *yujyāse*, ... 1sg.impf. *áyujye*, ... etc.). In fact, however, only less than one fourth of these theoretically possible forms are actually attested in the two early Vedic texts, *Ṛgveda* and *Atharvaveda*.

Within the sub-system of the present forms proper, only the 3rd person singular and plural forms are well-attested. Next to a dozen of 2sg. forms (*yujyāse* ‘you are (being) yoked’, *śasyāse* ‘you are (being) praised’, etc.), we only find one occurrence of a 3du. form, *ucyete* (RV 10.90.11) ‘[the two feet] are called’ and one (philologically and grammatically rather unclear) form *-panyāmahe*, which may represent 1pl. (‘we are (being) glorified’ (?); see Kulikov 2001: 112–114). 1sg., 1du., 2du. and 2pl. forms are unattested.

Next to present forms proper, participles and rare imperatives (10 forms or so in the RV and AV), only exceptional attestations of other tense-moods are found. These include as few as four forms:¹⁴

- (i) 3sg.impf. *anīyata* ‘(she) was brought’ in the late RV (8.56.4 = Vālah. 8.4) and 3pl.impf. *-āsicyanta* ‘(they) were besprinkled’ in AV 14.1.36;
- (ii) 3sg.inj. *sūyata* ‘(he) is consecrated’ in the late RV (10.132.4) (see Kulikov 2001:216–217);
- (iii) 3sg.subj. *-bhriyāte* (RV 5.31.12) ‘(it) will be brought’.

Optatives of the present passive do not occur before the middle Vedic period.¹⁵

The inventory of the present passive forms attested in the RV and AV is shown in Table 2. The members of the paradigm are mainly exemplified by forms of the verb *yuj* ‘yoke, join’ (which exhibits one of the most complete attested paradigms), supplemented by forms of other verbs where those of *yuj* are unattested. The lacking tense-moods of the passive paradigm (which include imperfect, injunctive, subjunctive and optative) is shown with dark grey shading – with the exception of a few hapaxes marked with middle gray shading; 1 × = one attestation; RV_L stands for late RV:

Table 2. The inventory of the present passive forms attested in the RV and AV

	PRESENT	IMPERFECT	INJUNCTIVE	IMPERATIVE	SUBJUNCTIVE	OPTATIVE
1						
SG 2	<i>yujyá-se</i>			<i>dhiya-sva</i> AV		
3	<i>yujyá-te</i>	<i>a-nīya-ta</i> RV _L 1×	<i>sūya-ta</i> RV _L 1×	<i>dhiya-tām</i> AV	<i>bhriyā-te</i> RV 1×	
1						
DU 2						
3	<i>ucyete</i> RV _L 1×					
1	<i>-panyāmahe</i> RV _L 1×					
PL 2				<i>yujya-dhvam</i>		
3	<i>yujya-nte</i>	<i>-ā-sicya-nta</i> AV 1×		<i>badhya-ntām</i>		
PART.			<i>yujyā-māna-</i>			

Only from the middle Vedic period onwards, when the present passive system becomes well-established, do we find a good many imperfects, subjunctives and optatives of *-yá*-passives.

The gaps in the paradigm of the *-yá*-passives can hardly be accidental. They possibly point to the fact that the present passive paradigm was not yet well-established in the early Vedic period (= the language of the RV and AV). These gaps have been noticed by several Sanskritists,¹⁶ but did not yet receive satisfactory explanation. It seems that there are several factors and constraints belonging to different layers of the linguistic system which may be responsible for the defective inventory of the present passive paradigm. These constraints may include the following:

(i) *Semantic and pragmatic reasons*

One might assume that the semantics and pragmatics of certain moods is incompatible with the passive perspective. Thus, the rarity of passive imperatives may be due to the fact that one cannot “order someone to do something that is by nature automatic, neither requiring nor allowing intentions or effort” (Jamison 1989:62). This constraint

does not hold, however, for other non-indicative moods, such as subjunctive, optative and injunctive (which are even rarer than imperatives), nor does it explain the exceptional character of the passive imperfects.

(ii) *Paradigmatic and analogical* reasons

The rare (or exceptional) character of the present passive forms other than 3sg., 3pl. and participle may be due to the influence of the defective non-present (i.e. aorist and perfect-stative) passive paradigms, which consist of these three forms only. Note that the process of establishing the complete present passive paradigm is nearly simultaneous with (or immediately following) the loss of the bulk of the non-present passive forms (i.e., 3pl. passive aorists, statives built on non-perfect stems and passive *-āna*-participles), which can be dated to the middle Vedic period.

The function of the past tense (imperfect) and injunctive could be (partly) taken over by the passive aorist in *-i/-ran* (*-ram*) and the aorist injunctive, as well as by constructions with perfect passive participles in *-ta/-na-*; cf. (8). As for the non-indicative moods, such as subjunctive, their meanings could be rendered by passive constructions with the gerundive, as in (9):

(8) (RV 8.58.1)

yó anūcānó brāhmaṇó yuk-tá
 who:NOM learned priest:NOM.SG yoke-PART.PF.PASS:NOM.SG.M
āsīt (≈ impf. *ayujyata*)
 be:IMPF:3SG.ACT

‘The priest which is learned was yoked (i.e. appointed) [for the sacrifice] ...’

(9) (RV 1.101.6)

yāḥ śúrebhir hāv-yaḥ (≈ subj. *hūyāte*)
 who:NOM hero:INS.PL invoke-GER:NOM.SG.M
 ‘... who will/should be invoked by the heroes.’

(iii) *Phonological* reasons

Finally, the development of the passive paradigm could be suppressed by some constraints and tendencies of a purely formal (phonological) nature. As has been argued elsewhere (Kulikov 2005), there existed a tendency to avoid sequences of two long syllables, which may account for the secondary vowel shortening in a number of nominal and verbal formations. This is, in particular, the case of the nominal derivatives of the root *pī(y)* ‘blame, scorn’ (cf. *pīyú-*, *pīyaka-*, *pīyatnú-* ‘scornful’ vs. *pīyāru-* id., with the secondary short *i* in the root) and the *-ya*-presents built on some *CRi* roots, which normally lengthen the root vowel before the suffix *-ya-* (cf. *-śriye...*, *-vliye...* instead of the regular *-śriye...*, *-vliye...*). Since most of the passive *-yá*-stems have long root syllables (the only exception being passives derived from *Cr* roots, such as *kriyá-* and *bhriyá-*), this phonological tendency could have retarded the derivation of the passive subjunctive and optative forms, which have long suffix vowels (e,¹⁷ *ā*). Note, incidentally, that the only early Vedic example of a passive subjunctive (RV *-bhriyāte*) is derived from a *Cr* root, *bhr̥*.

The same phonological tendency may be responsible for the rare character of dual passive forms, where the passive suffix *-y[á]-* is followed by a long vowel, *e*. We find only one dual form in early Vedic, 3du. *ucyete* (RV 10.90.11) ‘[the two feet] are called’. The vestige of yet another dual passive form may be *tujete* (RV 1.61.14) ‘[they two] are put to panic’. In spite of its non-passive morphology (the lack of the suffix *-y(a)-*), this form is employed in the passive usage:

- (10) (RV 1.61.14)
asyá íd u bhiyá ... dyáva ... bhūmā janúṣas
 his fear:INS heaven:NOM.DU earth:NOM.DU birth:GEN
tujete
 put.to.panic:PRES:3DU.MED
 ‘Because of the fear of his (= Indra’s) birth, ... heaven and earth are put to panic.’

As I have argued elsewhere (Kulikov 2001:81–82), *tujete* is likely to result from the reduction of the consonant cluster in the original passive **tujjyete* (which has made the long root syllable short) – again in order to avoid the sequence of two long syllables.

6. Bare middle forms in the passive usage: Residuals

The bare middle forms attested in the passive usage which remain after sifting the Vedic evidence (i.e. after explaining away passive *-āna*-participles and 3sg. and 3pl. middle perfects) form a tiny set. Most of them can be explained as secondary formations created on the basis of regular passives. Let us have a closer look at these forms.

6.1 Present formations

The present formations other than *-yá*-passives attested in the passive usages include: class I pres. *stávate* ‘is praised’, class IX pres. *grṇīté* ‘is praised’, pres. *-tundate* (RV 1.58.1) ‘is goaded’ and class III (reduplicated) pres. *mímīte* ‘is measured’ (RV 8.2.10). *stávate* is the only formation in this group which quite commonly occurs in passive constructions in the RV.

With the exception of *stu* ‘praise’, *-yá*-passives of these roots do not occur in (early) Vedic (see Kulikov 2001:557–558), so that three of the above-listed forms, *grṇīté*, *-tundate* and *mímīte*, supply in fact the lacking *-yá*-passives **gīryáte*, **tudyáte* and *mīyáte*.¹⁸

stávate and *grṇīté* are likely to be based on the stems of the statives *stáve* (see Narten 1969) and *grṇé* ‘is praised’, instantiating a sort of back derivation (Rückbildungen). For two other formations statives are unattested (except for an unclear form *tundāná-* ‘impelled, goaded’ (stative participle?) in AV 6.22.3).

6.2 Aorist formations

Passive usages are attested for a few forms of sigmatic aorists. Most of them are 3pl. forms: *ayukṣata* ‘(they) were yoked’, *adrkṣata* ‘(they) were seen, visible, (they) appeared’, *asrkṣata* ‘(they) were set free’. Apparently, these forms could fill some lacunae in the paradigm of the passive aorist and, at some stage, replace the more archaic 3pl. passives in *-ran (-ram)*. The close paradigmatic association of sigmatic aorists with medio-passive *i*-aorists has been noticed by several scholars (see, for instance, Narten 1964: 25ff., 215, 223, 227, 270f.; Insler 1968, 1969, 1995; Kümmel 1996: 130f., 2000: 555; Kulikov 2001: 558–560).

Apart from these sigmatic aorists, there are also a few isolated occurrences of middle aorists of other morphological types found in passive constructions. These include a 3sg. form of the thematic aorist of *khyā* ‘see, consider, reckon’ (*-akhyata*) at RV 9.61.7 (cf. (11)) and a 3sg. form of the root aorist of *śā* ‘sharpen’ (*-áśita*) at RV 1.57.2 (cf. (12)); see Kulikov 2001: 58–61, 505. Interestingly, both occurrences are compounds with the preverb *sám* ‘together’:

- (11) (RV 9.61.7)
sám ādityébhir a-khya-ta
 PREV Āditya:INS.PL AUG-consider:AOR-3SG.MED
 ‘[Soma] was reckoned with the Āditya-deities.’
- (12) (RV 9.61.7)
yát ... sam-á-śi-ta haryatá índrasya
 when PREV-AUG-sharpen:AOR-3SG.MED enjoyable:NOM.SG.M Indra:GEN
vájrah ...
 vajra:NOM.SG
 ‘When the enjoyable Indra’s vajra was sharpened ...’

It must be noted that *khyā* ‘see, consider, reckon’ and *śā* ‘sharpen’ do not form *-yá*-passives in early Vedic;¹⁹ nor are passive *i*-aorists attested. Thus, as in the case of the verbs the middle presents of which are attested in passive constructions (see Section 6.1), *-akhyata* and *-áśita* may supply the lacking *-yá*-passives and/or passive *i*-aorists.

7. The early Vedic passive paradigm: A recapitulation

The early Vedic passive paradigm is summarized in Table 3 below. An almost complete paradigm is attested for the verbs *su* ‘press (out)’ and *yuj* ‘yoke, join’. In the cases where forms of these two verbs are unattested, I put in square brackets forms made from other roots. Different degrees of shading show the status of the corresponding forms: dark grey = lacking and morphologically impossible; middle grey = morphologically possible but unattested or only exceptionally attested (underdeveloped part of the paradigm); light grey = morphologically possible but rare (perhaps, foremost for pragmatic reasons; cf. the rarity of passive imperatives).

Table 3. Passive paradigm in early Vedic

		PRESENT		AORIST		PERFECT/STATIVE	
		INDICATIVE	IMPERATIVE	INDICATIVE	INJ.	INDICATIVE	IMPER.
SG	1				
	2	..., <i>yujyáse</i>	[<i>dhīyasva</i>]			[<i>śṛṇviṣé</i>]	
	3	<i>sūyáte, yujyáte</i>	[<i>dhīyātām</i>]	<i>ásavi, áyoji</i>	..., <i>yoji</i>	<i>sunvé, yuyujé</i>	[<i>duhām</i>]
DU	1				
	2				
	3	[<i>ucyete</i>]	...				
PL	1	[<i>-panyāmahe (?)</i>]	...				
	2	...	<i>yujyadhvam</i>				
	3	..., <i>yujyante</i>	[<i>badhyantām</i>]	..., <i>áyujan</i>	...	<i>sunvire, yuyujré</i>	
PART.		<i>sūyāmāna-, yujyāmāna-</i>		<i>s^uvāná-, yujāná-</i>		<i>sunvāná-, yuyujāná-</i>	

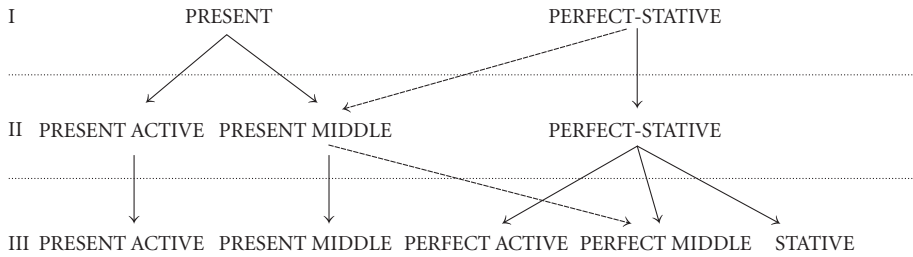
8. A few remarks on the Proto-Indo-European sources of the Vedic passive paradigm

A detailed discussion of the sources and development of the Proto-Indo-European stative and perfect goes beyond the scope of the present paper; for the evolution of the (early) Proto-Indo-European system of verbal endings see especially Kortlandt (1979:66–68 et passim, 1981:128–129 et passim). Here I will confine myself to a few brief remarks on this issue. There are good reasons to assume that the Indo-European categories ‘perfect’ and ‘middle’ are historically related and probably originate in one single proto-category. This hypothesis, going back as far as Kuryłowicz (1932) and Stang (1932), is based, foremost, on the fact that the sets of endings used by the active perfect and middle diathesis share a number of features.²⁰

Thus, originally, in early Proto-Indo-European (= Stage I), the active/middle opposition could be irrelevant for perfect forms. The vestiges of this state of affairs can still be found in early Vedic, where the active perfects of some verbs are employed in the same syntactic usage as the corresponding middle presents, i.e. as non-passive intransitives; cf. middle present *pádyate* ‘falls’ // active perfect *papáda* ‘has fallen’, middle present *mriyáte* ‘dies’ // active perfect *mamára* ‘has died’.²¹ (Active) perfect forms of some verbs could be employed both intransitively and transitively, thus being syntactically labile (see Kulikov 2003a: 106–107).

At the next stage (II = Proto-Indo-European), we may reconstruct a number of innovations resulting from a contamination of endings belonging to different sets. Thus, some elements of the stative inflexion could be introduced into the present paradigm (see Kortlandt 1979:67). These newly built forms must have retained the functional connection with the statives, which was closely associated with the intransitive syntax. Such could be the origin of the middle diathesis used to mark several intransitive derivations, such as the passive, anticausative, reflexive, and reciprocal.

Finally, at Stage III, in some Indo-European dialects (in particular, in Proto-Indo-Iranian), the active/middle distinction was introduced into the perfect paradigm under the influence of the present system, which results in the universal character of the active/middle opposition applied across the paradigm (for details, see Renou 1925: Ch. 5–8; Jasanoff 1978: 16, 81f.; Kümmel 2000: 94). This scenario is schematically represented in the chart below:



9. Passive and other valency-changing categories in Vedic and Indo-European: Some implications for a diachronic typology of transitivity

The discussion of other intransitivizing categories (reflexive, reciprocal, anticausative) goes beyond the scope of my paper. Here, it suffices to mention that, as in the case of passive, they can be – quite rarely – expressed by non-characterized middle forms. However, already in early Vedic we observe the rise and development of new morphemes used to mark these valency-decreasing derivations. These include the reflexive pronouns *tanú-* (originally meaning ‘body’) in early Vedic (RV, AV) and *ātmán-* (‘breath’) from the AV onwards, as well as a number of reciprocal markers: preverbs *ví* and *sám* added to the forms with middle inflexion, the adverb *mithás* ‘mutually’ and the reciprocal pronoun *anyó ... anyá-* (*anyò’nyá-*, *anyonya-*), literally meaning ‘another ... another’. The old ‘middle reflexive’ and ‘middle reciprocal’ (i.e. reflexive and reciprocal expressed by bare middle forms) have eventually shared the fate of the decaying middle passive.²²

This development, which might be called ‘degrammaticalization’ of the middle diathesis, has a number of implications for a diachronic typological study of valency-changing categories.

As mentioned in Section 1, we cannot reconstruct specialized marker(s) of passive for Proto-Indo-European. Most likely, the middle type of inflexion functioned as a syncretic marker of several intransitive derivations, such as the passive, reflexive, and reciprocal.

This situation changes dramatically in the daughter languages. No language has preserved the functional value of the active/middle distinction completely. We find two basic types of the restructuring and development of the original Proto-Indo-European system of markers of intransitive derivations (including the passive).

On the one hand, many languages of the Western part of the Indo-European area, including most Germanic, Romance, and Slavic, replace the old syncretic marker with a new one, in the great majority of cases going back to the reflexive pronoun **sue-* (one might call this type of evolution ‘**syncretic**’). In some languages, this *s*-morpheme is supplemented by 1st and 2nd person pronouns. This marker is manifested as a reflexive clitic in some languages (cf. German *sich*, French *se*, Polish *się* etc.) and as a bound morpheme in some others (cf. Russ. *-sja*, Swedish *-s*).

By contrast, some other daughter languages, including Indo-Aryan, develop specialized markers both for several intransitivizing derivations (passive, reflexive, reciprocal) and for causatives (one might call this type ‘**non-syncretic**’). Most interestingly, the parallel development of the new non-syncretic passive and of a very productive causative seems to be an isogloss shared by several **Eastern** Indo-European languages, in particular, by Indo-Aryan, Iranian and Armenian.

Thus, in Armenian, the causative marker *-uc’anem* is based on a nasal present derived from a sigmatic aorist (see Kortlandt 1999). Furthermore, Armenian shares with Indo-Iranian the development of the passive use of the Proto-Indo-European present stem suffix **-ie/o-*. In yet another Eastern Indo-European language, Tocharian, we find a productive causative marker going back to the Proto-Indo-European present suffix **-sk-*.

Indo-Iranian (and, especially, Indo-Aryan) appears to exemplify the most typical representative of the non-syncretic type. Thus, Vedic Sanskrit attests the rapid development and productivity increase of two valency-changing categories, present causatives with the suffix *-áya-* and present passives with the suffix *-yá-*. Although both suffixes can be traced back as far as Proto-Indo-European,²³ only in Indo-Aryan do these causatives and passives gain more ground as very frequent morphological formations, and the increase of productivity is well-documented in texts.

Thus, in early Vedic, the *-áya-causatives* are only derived from intransitives, as well as from a few verbs of perception and consumption (*drś* ‘see’, *vid* ‘know’, *pā* ‘drink’), which can be constructed either with the accusative or with some other oblique cases (locative, genitive, etc.), being ‘intransitive/transitive’ in Jamison’s (1983) terminology. Causatives of transitives first appear in middle Vedic (i.e. in the language of the Vedic prose): *kr* ‘make’ – *kāráyati* (Br. +) ‘cause to make’, *vac* ‘speak’ – *vácáyati* (YVP+) ‘make speak’, *hṛ* ‘take, carry’ – *hāráyati* (YVP+) ‘make take, make carry’ (see Thieme 1929; Jamison 1983: 186f.; Hock 1981: 15ff.). Finally, in late Vedic and post-Vedic texts (Sūtras, Epic Sanskrit) the productivity of the *-áya-causatives* further increases, and, from the late Sūtras onwards, we find the earliest attestations of a new formation, hyper-characterized causatives in *-āpayā-*, such as *aś* ‘eat’ – *aśāpayati* (MānGS) (opposed to the simple causative *āśayati* (Br. +)), *kṣal* ‘wash’ – *kṣālāpayīta* (Sū.) (opposed to the simple causative *kṣālayati* (Br. +)). In Middle and New Indo-Aryan such forms have eventually given rise to double causatives.

The growth of productivity of the *-yá-passives* has also been repeatedly mentioned in the literature (see, e.g., Whitney 1885a: xxxivf.; Lehmann 1974: 183f.; Kulikov 2001: 522ff.). While in early Vedic *-yá-passives* are attested only for about 40 roots,

Table 4. Growth of productivity of *-yá*-passives and *-áya*-causatives in Vedic

	early Vedic (RV, AV)	middle and late Vedic (YV, Br.)	post-Vedic (Sūtras, Epics)
hypercharacterized causatives in <i>-āpaya-</i>	–	–	+
passives of causatives of transitives	–	–	+
causatives of transitives	–	+	+
passives of causatives of intransitives	–	+	+
causatives of intransitives	+	+	+
passives of non-causative transitives	+	+	+

the younger mantras (Atharvaveda and Yajurveda) double this number. The middle Vedic texts not only attest numerical growth of the *-yá*-passives, but also the first examples of *-yá*-passives derived from secondary stems, such as causatives and desideratives. The earliest attestations of causative passives appear in the young Yajurvedic mantras: *ā-pyāyāmāna-* ‘being made swell’ (root *pyā* ‘swell’) VS +, *pra-vartyāmāna-* ‘being rolled forward’ (*vṛt* ‘turn’) MS^m, *sādyāte* ‘is (being) seated, set’ (*sad* ‘sit’) YV^m+. Other formations of this type are attested from Vedic prose onwards and become more common in the Brāhmaṇas, in particular, in the Śatapatha-Brāhmaṇa, Jaiminiya-Brāhmaṇa and Gopatha-Brāhmaṇa.

Until the very end of the Vedic period only causatives built to intransitives can passivize. Passives of causatives derived from transitives or intransitive/transitive verbs first appear in late Vedic and early post-Vedic texts, from the Śrautasūtras onwards. The earliest examples are: *ni-dhāpyamāna-* (VaitS 5.17) ‘being made put’, *-pāyyamāna-* (ĀpŚS) ‘being made drink, being watered’, *yājyamāna-* (VādhS) ‘being caused to perform a sacrifice’, *vācyamāna-* (VaikhŚS 18.5:256.6, KauśS) ‘being caused to speak, to pronounce’.

Quite remarkably, the increasing productivity of the *-yá*-passives parallels the increasing productivity of the *-áya*-causatives, as shown in Table 4.

The exact reasons of such an “antisyncretic” development shared by several Eastern Indo-European branches are unknown, but it might be due to the influence of some adjacent languages, presumably of agglutinative type, such as Dravidian (in the case of Indo-Aryan) or Altaic (in the case of Tocharian). Incidentally, these four genetic groups are now included by some scholars (Hock 2003) into the large Central Asian - South Asian linguistic area.

Notes

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1. The oldest layer of Vedic is attested in the language of the Ṛgveda (RV), which can approximately be dated to the 2nd half of the second millennium BC. Within the RV, we can distinguish between the early RV (‘family books’, or *maṇḍalas*, which include books II-VII) and the late RV (encompassing, above all, *maṇḍalas* I and X, as well as a part of book VIII, *Vāḷakhilya*); books VIII and IX are chronologically rather heterogeneous. The language of the second most ancient text, the Atharvaveda (AV), resembles in many respects (and is essentially synchronic with) the language of the late RV. Early Vedic is followed by middle and late Vedic (= the language attested in the *Brāhmaṇas*, *Āraṇyakas* and *Upaniṣads*). The absolute chronology of these periods poses serious problems (see e.g. Witzel 1995: 97f.), so that we can only afford very rough approximations. Thus, the early Vedic period cannot be dated later than to 1500 BC (and hardly begins much later than 1200 BC); the middle Vedic period probably starts after 800 BC; and the post-Vedic period must have started somewhere in the second half of the first millennium BC, hardly much earlier than 300 BC.

2. Hereafter, the term ‘diathesis’ is used to refer to the morphological opposition between two classes of verbal endings and two groups of participial suffixes, active and middle (cf. in Vedic: active: 2sg.pres. *-si*, 3sg.pres. *-ti*, 3pl.pres. *-nti*, part.pres. *-nt-* ~ middle: 2sg.pres. *-se*, 3sg.pres. *-te*, 3pl.pres. *-nte*, part.pres. *-māna-/āna-*), not in the sense adopted in the tradition of the Lenigrad/St.Petersburg typological school, where this term refers to patterns of mapping of semantic arguments onto syntactic functions.

3. See e.g. Szemerényi 1970: 234–238; Neu 1968: 5–8, 109–116 et passim. For the passive function of the middle in the Ṛgveda, see, in particular, Gonda 1979: 19–21 et passim. The original scope of the diathesis in the proto-language is unclear in some respects; in Vedic, the active/middle opposition applies to (nearly) all finite forms and participles.

4. The following abbreviations are used for the titles of Vedic texts: *ĀpŚS* – *Āpastamba-Śrauta-Sūtra*, *AV* – *Atharvaveda*, *Br.* – *Brāhmaṇas*, *KauŚS* – *Kauśika-Sūtra*, *X^m* – mantra part of text X, *MānGS* – *Mānava-Gr̥hya-Sūtra*, *MS* – *Maitrāyaṇi Saṃhitā*, *X^p* – prose part of text X, *RV* – *Ṛgveda*, *RVKh.* – *Ṛgveda-Khilāni*, *Sū.* – *Sūtras*, *VādhS* – *Vādhūla-Sūtra*, *VaikhŚS* – *Vaikhānasa-Śrauta-Sūtra*, *VaitS* – *Vaitāna-Sūtra*, *VS* – *Vājasaneyi-Saṃhitā*, *YV* – *Yajurveda(-Saṃhitā)*.

5. Finite verbal forms are normally unaccented except when appearing in a subordinate clause and/or at the beginning of a sentence or metrical unit (*pāda*), i.e. a verse which forms the minimal constituent of a stanza.

6. The following grammatical abbreviations are used in this paper: *ACC* – accusative, *ACT.* – active, *AOR.* – aorist, *AUG* – augment, *CAUS.* – causative, *DAT* – dative, *DU.* – dual, *F* – feminine, *GEN* – genitive, *GER* – gerundive, *IMPF.* – imperfect, *IMPV.* – imperative, *INTR.* – intransitive, *INS* – instrumental, *LOC* – locative, *M* – masculine, *MED.* – middle, *N* – neuter, *NOM* – nominative, *OPT.* – optative, *PART.* – participle, *PASS.* – passive, *PL.* – plural, *PRES.* – present, *PREV* – preverb, *SG.* – singular, *STAT* – stative, *SUBJ.* – subjunctive, *TR.* – transitive.

7. On these formations, see Kümmel 1996.

8. According to Kortlandt’s (1981: 123) plausible suggestion, the 3sg. form in *-i* may represent the uninflected form (= form with the zero ending) of the nominal neuter *i*-stems; thus, (*ā-*)*kāri* ‘was made’ < **k^wori* ‘making’ or the like.

9. For these forms, see Kümmel 1996: 24, 117, 52, 109; Gotō 1997: 170–171, 179, 184–185.

10. *-ó* is the same ending as in *yujān-áh* in (3a), resulting from the sandhi before a voiced consonant (*-áh h-* → *-ó h-*).
11. For a detailed study of Vedic perfects, see Kümmel 2000.
12. *-ra* is the same ending as in *yuyuj-ré* in (6a), with *a* resulting from the sandhi before a vowel (*-e i-* → *-a i-*).
13. Note the terminological homonymy: the same term ('present') is used to denote either (i) the system of present as a whole, or (ii) the present tense properly speaking. Accordingly, all formations belonging to the present system (imperfect, imperative, etc.) are called 'present formations' in the broader sense (i) of the word.
14. I do not count here two RVic imperfect forms, *-apṛcyanta* (RV 1.110.4) '(they) united' (intr.) and *-acyanta* (RV 5.54.12) '(they) bent together' (intr.). Both of them are likely to belong with non-passive *-ya*-presents (i.e. presents with the suffix *-ya-* and root accentuation = class IV presents in the Indian tradition); see Kulikov 2001: 118–122, 339–342 for discussion.
15. The earliest attestations of passive optatives are 3sg. forms *vr̥jyeta* 'may it be gathered' and *-bhriyeta* 'may it be spread' in a young mantra found in RVKh. 5.7.3.a and some Saṃhitās of the Yajurveda (see Kulikov 2001: 131).
16. See, in particular, Arnold 1897: 317; Jamison 1984; Hock 1985–86.
17. Phonetically, Sanskrit *e* is as long as the vowels *ā*, *ī* and *ū* (which form a phonological opposition with their short pendants, *a*, *i* and *u*); however, due to the lack of opposition to a short vowel of the same quality (*ē*), it is traditionally written without the length mark.
18. The passives **gīryāte* and **tudyāte* do not occur in Vedic texts; the first reliable occurrences of *mīyate* 'is measured' appear in late Vedic / early post-Vedic (from the Śrautasūtras onwards); see Kulikov 2001: 134f.
19. The passive *khyāyāte* occurs from middle Vedic (Brāhmaṇas) onwards (see Kulikov 2001: 58ff.); *-yā*-passive of *śā* is unattested.
20. Cf., for instance, Ved. 1sg.med. (athematic secondary ending) *-i* (< **-H₂*) ~ 1sg.pf.act. *-a* (< **-H₂e*), 2sg.med. *-thās* (secondary ending) ~ 2sg.pf.act. *-tha*, etc.
21. See e.g. Hoffmann 1976: 590; Jasanoff 1978: 15; Kümmel 2000: 296f., 370ff. et passim.
22. More viable was the anticausative function of the middle (cf. such Vedic pairs as med. *vārdhate* 'grows' ~ act. *vārdhati* 'makes grow, increases', med. *rējate* 'trembles' ~ act. *rējati* 'makes tremble'; see for instance, Gotō 1987: 52). However, even in this case the contribution of the diathesis opposition into the expression of the anticausative is weakened by the stem opposition of the type *vārdhate* 'grows' ~ caus. *vardhāyati*.
23. Thus, reflexes of PIE **-éie/o-* (> Ved. *-āya-*) are found, for instance, in the Gothic *jan*-causatives and Slavic *i*-causatives.

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Bibliographical Abbreviations

HS	<i>Historische Sprachforschung</i>
IBS	<i>Innsbrucker Beiträge zur Sprachwissenschaft</i> . Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck
IF	<i>Indogermanische Forschungen</i>
JAOS	<i>Journal of the American Oriental Society</i>
KZ	<i>Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der indogermanischen Sprachen</i> (Kuhns Zeitschrift)
SKY	Suomen kielitieteellinen yhdistys (Linguistic Association of Finland)