

# Some issues in Sanskrit syntax

HANS HENRICH HOCK

**Abstract:** The purpose of this presentation is to provide a brief general survey of major recent developments in Sanskrit syntactic studies since Deshpande and Hock 1991, followed by more in-depth discussion of formal and functional issues that should be of interest to scholars working on computational approaches to Sanskrit syntax. Formal syntactic topics are free word order, challenging syntactic aspects of relative-correlative constructions, issues of agreement, ‘oblique subjects’ and related issues, the syntax of double-direct-object constructions (including causatives), and the issue of ‘asamartha’ compounding. The functional part focuses on the use of different syntactic alternatives in discourse and in different genres — a topic that, to my knowledge, has not received systematic discussion. Two major phenomena are examined in some detail — fronting and extraposition to the right, including their different functions in a variety of genres. Functional analytical approaches may yield interesting insights and challenges to formal syntactic approaches, although they clearly cannot be a substitute for formal analysis. I conclude that there is ample room for more research on Sanskrit syntax, especially in the post-Vedic language with its richer variety of different genres.

**Keywords:** Sanskrit, syntax, formal approaches, functional approaches

## 1 Introduction

My presentation has three goals. One is to provide a survey of publications in Sanskrit syntax since Deshpande and Hock's (1991) Sanskrit syntax bibliography. A second one is to focus in greater detail on a number of formal issues that, I believe, would be of interest both to linguists pursuing computational approaches to Sanskrit syntax and to those working in linguistic theory. The third goal is to discuss a selection of functional factors that influence the use of particular syntactic structures in particular text types, an issue which I believe would also be interesting to those engaged in computational work.

## 2 A brief survey of recent publications

The Sanskrit syntax bibliography provided at the end of this book consolidates Deshpande and Hock's (1991) *A bibliography of writings on Sanskrit syntax* published in Hock 1991b and the bibliography of works on Sanskrit syntax published since then compiled for presentation at the Seminar on Sanskrit Syntax and Discourse Structures held in Paris, 13–15 June 2013. The combined bibliography will also be published at the Sanskrit Library website with regular updates. We look forward to receiving additional references so as to make the bibliography more comprehensive. At this point, let me briefly survey the distribution of recent publications in terms of chronology and general categories of subject matter.

Recent research concerning Sanskrit syntax includes over 200 works, including article collections and bibliographies — quite impressive for a period of less than 25 years, especially if compared to the 474 entries in Deshpande and Hock 1991, which covers publications from Burnouf (1824) to Brereton and Jamison 'To Appear' (published 1991). It is impressive, too, because, as in the past, syntax receives much less scholarly attention than other as-

pects of Sanskrit linguistics. The following statistics are based on a smaller set of 186 entries that I had collected by 24 May 2013.

As in the past (see Deshpande and Hock 1991, as well as Hock 1989b), the bulk of publications (147 out of 186) deals with the Vedic period, especially the *Ṛgveda*, and commonly from a historical, Indo-Europeanist perspective. The post-Vedic or classical period is covered only in 45 publications, some of which address both Vedic and post-Vedic issues.

A common topic for the Vedic period is the issue of tense, aspect, voice, and modality, which is dealt with in 29 publications. Another 23 publications address word and phrase order, including the issue of clitics and Wackernagel's Law. Case syntax is covered in 18 publications, especially by Hettrich (six publications, including the important 2007: *Materialien zu einer Kasusyntax des Ṛgveda*, which includes a rich bibliography). Issues of subordination, both finite and non-finite (infinitives, converbs, locative absolute constructions, etc.) are dealt with in some 18 publications.

Most of the 27 publications that approach Sanskrit syntax from a modern theoretical or typological approach are focused on the post-Vedic language, and so are all of the 23 publications that deal with, or refer to, the insights of the Indian grammatical tradition, especially Pāṇini. As a personal note, let me add that this relatively limited reference to the Indian tradition is regrettable. In principle, all research on Sanskrit syntax — and Sanskrit linguistics in general — should treat the work of Pāṇini and the entire early grammatical and phonetic tradition as earlier scholarship, just as it does the work of linguists like Delbrück, Wackernagel, and Whitney; see Hock 2009b and Hock Forthcoming(b).

Finally, 65 publications treat of issues of function and discourse, in both the Vedic and the post-Vedic period. This category is heavily dominated by Jared Klein's publications, most of which (16 out of 22) focus on the issue of stylistic repetition of differ-

ent grammatical structures and categories in the language of the *R̥gveda*.

### 3 Formal issues

In the following section of my paper I address formal issues that may be of interest to scholars pursuing computational approaches to Sanskrit syntax as well those working on typology and syntactic theory. I draw to a large extent on my own research, both published and unpublished, but also include references to other recent research.

A recurrent theme is that we need to consider both Pāṇini's generative approach and modern approaches, whether generative or traditional-philological, and that, likewise, we need to keep in mind both the empirical information conveyed by Pāṇini's speaker-knowledge based grammar and the empirical data unearthed by western philological approaches. The latter issue is especially relevant, since as Deshpande (1983) suggested, Pāṇini's location on the northwestern periphery of the Sanskrit-speaking world of his time may account for certain differences between the syntactic structures predicted by his grammar and those found in the tradition of Madhyadeśa; see also Hock 1981, 2012b.

#### 3.1 Free Word Order and related issues

It is well known that Sanskrit (like other early Indo-European languages) exhibits a remarkable degree of free word order — not just free phrase order. In this section I discuss two major formal approaches to this phenomenon. Schäufele (1990, 1991a,b) follows the major tradition of modern western scholarship (e.g. Delbrück 1878, 1888; Speijer 1886, 1896; Lahiri 1933) in assuming a basic word and phrase order of the SOV type, with various movement processes accounting for 'marked' orderings. The work of Gillon

(1996) and Gillon and Shaer (2005) adopts and modifies Staal's (1967) notion of 'wild trees', i.e. trees without phrase-internal linear ordering. Neither approach adopts the possible alternative of assuming complete non-configurationality along the lines suggested for other languages by Farmer (1980), and Ken Hale (1975, 1983).

Schäufele's most important findings are the following (1990: 61–63, 84):

- In the majority of cases, phrases are continuous and exhibit all the features normally associated with hierarchical structure. This is something that children learning the language would have to account for in their grammar, and it would discourage them from positing a completely flat structure.
- Similarly, in the majority of cases, phrases are head-final, although for PPs head-finality is only a statistical tendency in Vedic. While Schäufele does not pursue this issue explicitly, the dominant head-finality too can be argued to be something that children learning the language would have to account for in their grammar.
- In PPs the adposition normally remains next to at least part of its complement if there is movement. This, again, supports the assumption of hierarchical, rather than flat phrase structure. Schäufele (1990: 85) cites the examples in (1). Further examples can be found in the classical language; (2). Interestingly, Bolkestein (2001) and Snijders (2012) note the same phenomenon in Latin.
- Movement of individual words or combinations of words, as in (3),<sup>1</sup> is made possible through a process of 'liberation' or 'node erasure' (see Pullum 1982, Ross 1967: 50–54 (1986)).

---

<sup>1</sup>These examples come from my collections.

- (1) a. स्तवै॑ पुरा॑ पा॒र्यादिन्द्र॑मह्नः  
*stāvai purā pāryād indram āhnaḥ* (RV. 3.32.14b)  
 ‘I shall praise Indra before the fateful day.’
- b. एतौ॑ वा अ॒श्वं म॒हिमा॒नाव॒भितः॑ स॒म्बभू॑वतुर्  
*etau vā aśvaṁ mahimānāv abhitaḥ sambabhūvatur* (ŚB. 10.6.4.1)  
 ‘These two jars appeared around = on both sides of the horse.’ (S’s translation; my transcription)
- (2) आ समुद्रात्तु॑ वै पूर्वादा॑ समुद्रात्तु॑ पश्चिमात्।  
 तयोरेवान्तरं॑ गिर्यो॒रार्याव॑र्तं विदुर्बु॒धाः ॥
- ā samudrāt tu vai pūrvād ā samudrāt tu paścimāt.*  
*tayor eva + antaram giryor āryāvartam vidur budhāḥ..* (Ma-  
 nu 2.22)  
 ‘Wise people know (that) Āryāvarta (extends) from the eastern sea to the western sea, (and) between these two mountains (the himalayyas and the vindhyas).’
- (3) a. ए॒ता॒म्बे॒वैष॑ ए॒तस्मै॑ वि॒ष्णुर्य॑ज्ञो वि॒क्रान्तिं॑ वि॒क्रम॑ते  
*etām; v eva + eṣa; etaṣmai viṣṇur; yajño vikrāntim; vikramate* (ŚB. 1.1.2.13)  
 ‘This Viṣṇu, the sacrifice, steps this (world-conquering three-fold) stepping for him (the sacrificer).’
- b. तेषां॑ भी॒मो म॒हाबा॑हुः पार्थि॒वानां॑ म॒हात्म॑नाम्।  
 यथा॑र्हं अ॒करो॑त्पू॒जां ...
- teṣām; bhīmo mahābāhuḥ pārthivānām; mahātmanām.*  
*yathārhaṁ akarot pūjām ...* (Nala 2.11; MBh. 3.51.10 \*215)  
 ‘Strong-armed Bhīma honored these noble rulers appropriately ...’

Schäufele's approach contrasts with that of Staal and Gillon. Staal starts with the claim that the Indian grammatical tradition, being silent on the issue, assumed that there are no rules for word order (360) and he goes on to argue for a (modern) generative account operating with 'wild trees', i.e. trees without phrase-internal linear ordering.

Gillon (1996) adopts and modifies Staal's (1967) notion of wild trees, providing empirical support from two corpora — the prose examples in Apte 1885 and 1,500 sentences from Dharmakīrti's autocommentary on the *Pramāṇavārttika*. See also Gillon and Shaer 2005. The following discussion is based on the latter publication.

Like Staal, as well as Schäufele, Gillon and Shaer accept the need for phrases, rather than a completely flat structure. Unlike Schäufele, they assume that there is no linear order within phrases. Moreover, they argue against a VP, instead postulating the flat clause structure in (4), without linear order. Further, they (2005: 468) claim that '... the strategy of deriving less common word orders with specialized information packaging functions from more basic syntactic structures ... seems to us less plausible than ones consistent with the "wild tree" claim.' The paper (2005: 480–85) concludes with a section on 'Some remaining puzzles'.

(4)  $S \rightarrow V, NPS, NPO$

In support for the assumption of flat phrase-internal structures, such as (4), they claim that their corpora exhibit both left- and right-headed phrases and that therefore there is no evidence for phrasal headedness (2005: 470). In addition, they accept movement processes that extract elements out of phrases and place them in left- or right-peripheral position within the clause (2005: 475–80).

Certain features are shared between Schäufele's and Gillon's approaches — the acceptance of phrases, rather than completely

flat structures, and the fact that movement processes can extract and move elements out of phrases. For the purposes of computational text analysis, therefore, there may be no significant difference.

From the perspective of linguistic theory, however, the two approaches differ considerably, and it is Schäufele's approach that provides the better insights. His account of Sanskrit is completely compatible with the linguistic typology of SOV languages, with head-finality at all phrasal levels. In fact, Sanskrit also conforms to SOV typology in its complex syntax, by making extensive use of non-finite subordination as well as of relative-correlative constructions; Hock 1989a, 2005, 2014. Under the Staal-Gillon approach these typological characteristics would be epiphenomenal at best.

Now, it is true that Pāṇini has no rules comparable to western generalizations about word or phrase order. But Pāṇini also has no rules comparable to western generalizations about phrases, such as NP, VP, PP. True, there are rules regarding *kāraḥ* and their realizations, but these do not address issues such as complex NPs with genitive modifiers. There is also the notion *samānādhikāraṇa*, but this presumably holds not only for agreement within NPs but also relates surface subject NPs to their verbs (A. 1.4.104–107) and must be assumed to hold also for agreement between subjects (*karṭṛs*) and predicate nouns or adjectives (see 3.3 below for discussion). Even the notion 'sentence' is a murky issue in the Pāṇinian tradition; see e.g. Cardona 1976: 223–24, Deshpande 1991, as well as Hock Forthcoming(b): §6. In all of these respects, and not only as regards word order, the Indian grammatical tradition and modern generative approaches are orthogonal.

It is also true that Sanskrit offers frequent examples with non-final heads. But there are considerable differences between different texts. Consider major constituent order. As noted in Hock 1984, while in mantra Vedic and Kālidāsa's dramatic dialogue verb-final structures amount to only about 65%, in Vedic prose



they are about 97% (see also Hock 1997). A similarly high ratio of verb-final structures is found in Patañjali's *Mahābhāṣya*; see the statistics in (5). Claims about headedness — and any other aspects of syntax — must therefore be based on a large variety of different genres, not just on the two corpora examined by Gillon. And as the evidence just cited shows, genres that do not make any claims to stylistic or literary elegance are characterized by heavy predominance of head-final constituent order; in fact, even in other genres verb-finality runs to about 65%. The 'wild tree' assumption that phrases, including the sentence (S), have no internal order fails to capture these facts.

(5) Word order in Patañjali's *Mahābhāṣya*

- a. *Paspaśā* (Kielhorn-Abhyankar 1.1.1–1.3.5)<sup>2</sup>
  - V-final: 35
  - V-initial: Not found in the sample
  - V + O in the formula ... *adhyeyaṃ vyākaraṇam*: 7<sup>3</sup>
  - śak + (O) + infinitive: 2
- b. *Śivasūtras* (Kielhorn-Abhyankar 1.15.2–1.16.18)
  - V-final: 40
  - V-initial (including after linker, such as *tena*): 5
  - V + O/Pred: 3
  - V + Other: 3
  - V + [ ] *iti*: 8

### 3.2 Relative-correlatives

As in the case of word order, Pāṇini has remarkably little to say about the syntax of Sanskrit relativization. The closest he comes

<sup>2</sup>Vedic and other traditional citations are ignored. Gerundives and *ta*-participles used as main verbs are included.

<sup>3</sup>Contrast the formulaic use of the gerundive with the ordinary one in *laghvarīṭhaṃ cādhyeyaṃ vyākaraṇam. brāhmaṇenāvaśyaṃ śabdā jñeyā iti*.

is in three sūtras (A. 3.3.139–140 and 3.3.156) that address the issue of modality in conditional structures which, as is well known, involve an adverbial form of the relative pronoun (*yadi*) or the particle *ced*.

At least from the time of Speijer (1886, 1896) and Delbrück (1888), western scholarship has recognized that Sanskrit relative structures consist of a relative clause, containing a relative pronoun, and a main clause, containing a correlative pronoun and that the relative clause is not inserted into the main clause.<sup>4</sup> Speijer (1886: 349, 1896: 349) refers to the relationship as one between a protasis and an apodosis. Minard (1936) introduces the term ‘diptych’ for the construction which in typological and theoretical literature is now commonly referred to as ‘relative-correlative’.

The syntactic account of Sanskrit and other, similar relative-correlative constructions is further refined in the 1970s and 1980s by arguments that the relative clause is base-generated as ADJOINED to the main or correlative clause; see e.g. Andrews 1975 (1985), Ken K. Hale 1975, Dasgupta 1980, Keenan 1985, Lehmann 1984, Srivastav 1988.

Based on a broad range of evidence, Hock (1989a) goes one step further and argues that relative clauses are syntactically CONJOINED to their correlative clauses. While some of that evidence appears to be restricted to Vedic, other evidence is also found in post-Vedic. The nature of that evidence is, I believe, such that both those working in formal syntax and those working on computational analyses will find it interesting and challenging.

First, in some cases there is no clear relationship between the relative pronoun (or phrase) of the relative clause and the correlative pronoun (or phrase) of the main clause; see (6), where an

---

<sup>4</sup>Speijer (1886: 349) hedges on this issue by stating that preposing of the relative clause before the main clause is ‘much more used than inserting the relative sentence in the main one’.

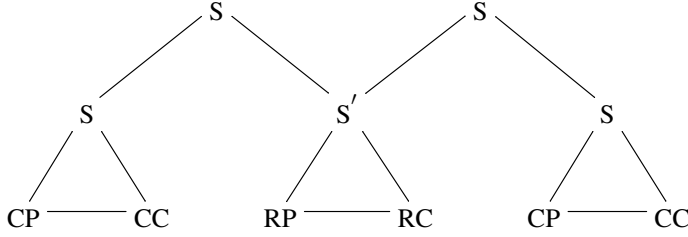
example similar to (6a) was brought to my attention in 1989 by Kiparsky 1995, and (6c) by James Fitzgerald (March 2006). Structures of this sort are typically best rendered as conditionals.

- (6) a. य इन्द्र यतयस्त्वा भृगवो ये च तुष्टुवुः । मम इदुग्र श्रुधी हवम्  
*yá indra yátayas tvā bhṛgavo yé ca tuṣṭuvúḥ. máma id u-*  
*gra śrudhī hávam (RV. 8.6.18)*  
 ‘Which Yatis, O Indra, (have praised) you, and which Bhṛgus have praised you, powerful Indra, nevertheless hear MY call.’  
 ≈ ‘Even if the Yatis and Bhṛgus have praised you, powerful Indra, nevertheless hear MY call.’
- b. यासां नाददते शुल्कं ज्ञातयो न स विक्रयः  
*yāsāṃ nādadate śulkaṃ jñātayo na sa vikrayaḥ (Manu*  
*3.45)*  
 ‘Of which (women) the relatives do not appropriate the (bride) price, that is not a sale.’  
 ≈ ‘If the relatives do not appropriate ...’
- c. यश्चनोक्तो हि निर्देशः स्त्रिया मैथुनतृप्तये ।  
 तस्यास्मारयतो व्यक्तमधर्मो नात्र संशयः ॥  
*yaś canokto hi nirdeśaḥ striyā maithunatr̥ptaye;*  
*tasyāsmārayato vyaktam adharmo nātra saṁśayaḥ-*  
*. (MBh. 12.258.38)*  
 ‘Which instruction to gratify one’s wife sexually is not heard, of him who does not remember (this) it is clearly, no doubt, a breach of duty.’  
 ‘Though there is no requirement to satisfy one’s wife sexually, if a man does not remember this it is clearly a serious infraction.’

Secondly, there are some examples in which the relative clause exhibits properties normally only associated with independent main clauses, namely interrogation and imperative modality (7).

- (7) a. शर्यातो ह वा ईक्षांचक्रे यत्किमकरं तस्मादिदमापदीति  
*śaryāto ha vā īkṣāṃcakre [yat kim akaraṃ]RC [tasmād i-*  
*dam āpadi]CC + iti (ŚB. 4.1.5.4)*  
 ‘Śaryāta thought, “Because I have done what?, therefore I  
 have gotten into this.”  
 ≈ ‘... “What have I done to get into this?”’  
 (Thus also ŚB. 1.7.3.19; a similar structure with *kva*  
 ‘where’ at ŚB. 5.1.3.13)
- b. त्यजे प्राणान्नैव दद्यां कपोतं सौम्यो ह्ययं किं न जानासि ... ।  
 यथा क्लेशं मा कुरुष्वेह ... नाहं कपोतमर्पयिष्ये कथंचित्  
*tyaje prāṇān naiva dadyāṃ kapotaṃ*  
*saumyo hy ayaṃ kiṃ na jānāsi ...*  
*[yathā kleśaṃ mā kuruṣva + iha ... ]RC*  
*[nāhaṃ kapotaṃ arpayiṣye kathaṃcit]CC (MBh. 3, App.*  
*21/5.82)*  
 ‘I abandon my life, but I may not at all give the dove;  
 for he is gentle, don’t you know...? So that “don’t you  
 make” trouble here ! ... , I will not hand over the dove in  
 any way.’  
 ≈ ‘... so that you don’t make trouble here ... ’

Most important, example (8) shows clearly that the relative clause must be CONJOINED to the two main clauses. It is simply impossible for the same clause to be simultaneously ADJOINED to two different clauses; and deriving the relative clause from an underlying center-embedded postnominal position would be preposterous — how can a single clause be simultaneously embedded under two different NPs, in two different clauses? In Hock 1989a I therefore propose to conceive of the relation between the relative clause and the two correlative clauses as in Table 1. The formalism is, of course, antiquated, but the syntactic relation must be something along these lines. (Davison 2009 proposes CP adjunction for

**Table 1**

*Hock's (1989a) account for example (8)*

structures in which the relative clause precedes, in contrast to IP adjunction, which stands for the traditional adjunct analysis.)

(8) सा वै दैवी वाग्यया यद्वादेव वदति तत्तद्भवति

[*sā<sub>i</sub> vai daiivī vāg*]CC

[*yayā<sub>i</sub> yad yad<sub>j</sub> eva vadati*]RC

[*tat tad<sub>j</sub> bhavati*]CC (BAU. 1.3.27)

‘That<sub>i</sub> is divine Speech by which<sub>i</sub> whatever<sub>j</sub> one speaks, that<sub>j</sub> comes about.’

≈ ‘Whatever one speaks by means of divine Speech comes about.’

### 3.3 Some issues of agreement

Pāṇini addresses some issues of agreement, in two places. One is the ekaśeṣa sūtras which address the issue of gender resolution under the specific circumstance of one word taking the place of two conjoined ones (A. 1.2.64–73); the other are the sūtras governing person agreement between surface subjects (kartṛs or karmans) and the la-kāra of the verb (1.4.104–107). But many aspects of agreement are not covered, except perhaps implicitly under the notion of samānādhikaraṇa ‘coreference’.

In this section I map out some issues of Sanskrit agreement that I believe should be of interest, especially to linguists working on computational analyses of Sanskrit syntax.

A fairly straightforward issue is the question of gender agreement with mixed-gender conjunct antecedents, where two different strategies can be observed. One is agreement with the nearest conjunct, as in (9); the other is gender resolution as in (10).

- (9) कान्तिमती राज्यमिदं मम च जीवितमप्यद्यप्रभृति त्वदधीनम्  
*kāntimatī rājyam idaṁ mama ca jīvitam apy adyaprabhṛti*  
*tvadadhīnam* (Daś. 135)

‘Kāntimatī [f.sg.], and this kingdom [n.sg.], and also my life [n.sg.] [is] from today under your control [n.sg.]’

- (10) a. सो ऽश्विनौ च सरस्वतीं चोपाधावच्छेपानो ऽस्मि नमुचये  
 ... (इत्थं).. ते ऽब्रुवन्...

*so ’śvinau ca sarasvatīm copādhāvac chepāno ’smi namu-*  
*caye ... (iti).. te ’bruvan ...* (ŚB. 12.7.3.1–2)

‘He (Indra) went to the Aśvins [m.du.] and Sarasvatī [f.sg.], (saying) “I have sworn to Namuci ...” They [m.pl.] said ...’

- b. मृदं गां दैवतं विप्रं घृतं मधु चतुष्पथम्। प्रदक्षिणानि कुर्वीत  
*mṛdaṁ gāṁ daivatam vipraṁ ghr̥tam madhu catuṣpatha-*  
*m. pradakṣiṇāni kurvīta* (Manu 4.39)

‘He should keep on his right a lump of earth, a cow, an idol, a brahmin, ghee, honey, and a crossroads [n.pl.]’

As I show in Hock 2012a, Speijer’s analysis for post-Vedic Sanskrit gender resolution (1886: 19–20), going back to Borooah (1879), best accounts for the Vedic evidence: In the case of mixed-gender antecedents that are entirely human (or animate), gender resolution is in favor of the masculine; in all other cases, including cases like (10b), where non-human/inanimate and human antecedents are mixed, the result is neuter, except that in Vedic texts

some inanimate, but sacred antecedents such as the sun, the earth, or the sky may be treated as animate/human.

In the case of nearest-conjunct agreement, there is the a priori possibility that a modifier to the left may show agreement with the left conjunct, and one to the right with the right conjunct; see Arnold, Sadler, and Villavicencio 2007 for Portuguese and Johnson 2008 for Latin. As it turns out, an example of this ‘mirror-image’ agreement can also be found in Sanskrit (11). It remains to be seen whether this kind of agreement occurs more frequently, and whether it does so in post-Vedic.

- (11) व्याममात्रौ पक्षौ च पुच्छं च भवति  
*vyāmamātrau pakṣau ca púcṣam ca bhavati* (TS. 5.2.5.1)  
 ‘the two wings [m.du.] and the tail [n.sg.] are (lit. is [sg.3])  
 measuring-a-fathom [m.du.]’

While with the exception of the ‘mirror-image’ agreement, the phenomena discussed so far are rather mundane, another type of agreement presents greater challenges. This is what may be called ‘upside-down’ agreement.

The best-known variety of this agreement is widespread in Vedic prose, as in (12), but is also found in the later language. This is the fact that pronoun subjects normally adopt the agreement features of their predicates, rather than the other way around. As far as I can tell, this usage was first introduced into the discussion of Sanskrit syntax by Speijer (1886: 18). The feminine singular marking on *sā* in example (12) shows that at least in Vedic prose this pattern of agreement is clause-bound, and that structures of this kind do not exhibit cross-clausal anaphoric gender agreement (which would have required nominative masculine *te*).

- (12) ये तुषाः सा त्वग्  
*ye tuṣāḥ sā tvag* (AB. 1.22.14)

‘What (masc.) are the shells (masc.) that (fem.) is the skin (fem.).’

As it turns out, ‘upside-down’ agreement must also be postulated for locative (and genitive) absolute constructions, such as (13); see Hock 2009a.

- (13) a. वृते तु नैषधे भैम्या लोकपाला ... नलायाष्टौ वरान्ददुः  
*vṛte tu naiṣadhe bhaimyā lokapālā ... nalāyāṣṭau varān daduḥ* (*Nala* 5.33; *MBh.* 3.54.28)  
 ‘The Niṣadhan having been chosen by Bhaimī, the world rulers gave Nala eight boons.’
- b. तेषु गच्छत्सु वयं स्थास्यामः  
*teṣu gacchatsu vayaṃ sthāsyāmaḥ*  
 ‘With them having gone, we will stay.’
- c. गन्तव्ये न चिरं स्थातुमिह शक्यम्  
*gantavye na ciram sthātum iha śakyam*  
 (*MBh.* 1.150.4, Speijer 1886: 286)<sup>5</sup>  
 ‘As/since we have to go, it is not possible to stay here for long.’  
 Lit. ‘(It) having to be gone, it is not possible to stay here for long.’
- d. गन्तुं निश्चितचेतसि प्रियतमे सर्वे समं प्रस्थिता  
 गन्तव्ये सति जीवितप्रियसुहृत्सार्थः किमु त्यज्यते।  
*gantum niścītacetasi priyatame sarve samam prasthitā*  
*gantavye sati jīvitapriyasuhṛt sārthaḥ kim u tyajyate.*  
 (*Subhāṣitaratnaḥ* 1151)  
 ‘Together all set out to go to the determined-minded dearest one. (It) having to be gone, how is the dear friend of one’s life, having the same goal, getting left behind?’

<sup>5</sup>The Critical Edition instead has *gantavyam na ciram sthātum iha śakyam* (*MBh.* 1.142.21)



The nearest analogue for analyzing such constructions would be that of nominalization, which embeds a subordinate proposition into a matrix clause by means of a nominal form of the verb, whose case marking signals the status of that proposition within the matrix clause. See Yoon 1996 for an analysis of such structures.

The major difference between ‘ordinary’ nominalizations and structures of the type (13) is that the latter involve an adjectival form, rather than a purely nominal one, a form which therefore must be supplied with gender and number features, in addition to the locative that signals the function of the construction within the matrix clause. Note that in the synchronic grammar of Sanskrit the locative case has to be assigned to the participle, not to its underlying subject, because of the fact that locative participial case marking is not restricted to structures in which the participle has a subject to agree with such as (13ab), but is also found in impersonal, subject-less structures like (13cd).

Note further that under this analysis, the subject of the participle, if any, is not in a position governed by a verb that could assign case to it; the only features that the syntax can assign to it are gender and number.

A possible way to account for the fact that the participle nevertheless gets gender and number features agreeing with its underlying subject, and that the subject, in turn, receives case, lies in adopting the approach of the post-syntactic ‘distributed morphology’ of Halle and Marantz 1993. As illustrated in Table 2, in this analysis the syntactic output only has the abstract features plural masculine for the underlying subject of the locative absolute, and locative for the participle. The rest of the features need to be filled in by the Morphology. The gender and number features of the participle are filled in by ‘normal’ agreement control, but the case feature of the subject is supplied by ‘upside-down’ agreement from the participle. (In impersonal structures like (13cd), the participle receives the usual neuter singular default features.)

Syntactic Output	<i>tad</i> [pl.m.]	<i>gacchat</i> [loc.]	<i>vayaṁ sthāsyāmaḥ</i>
Morphology: Input	<i>tad-∅</i> [pl.m.]	<i>gacchat-∅</i> [loc.]	<i>vayaṁ sthāsyāmaḥ</i>
Coreference	<i>tad-∅</i> [pl.m.]	<i>gacchat-su</i> [loc.pl.m.]	<i>vayaṁ sthāsyāmaḥ</i>
Upside-down	<i>te-ṣu</i> [loc.pl.m.]	<i>gacchat-su</i> [loc.pl.m.]	<i>vayaṁ sthāsyāmaḥ</i>

**Table 2**

*Locative absolute*  
with ‘normal’ and ‘upside-down’ agreement

This analysis is similar in spirit to that of Pāṇini’s account for the locative absolute, which assigns locative case to the form expressing the subordinate verbal action (*bhāva*), rather than to a nominal constituent (14). However, Pāṇini’s focus, if I understand it correctly, is on the (implicit) subject of the participial structure. The fact that structures such as (13cd), without subject, also have locative, expressed only on the verb and with the usual default neuter singular agreement, shows that case assignment has to be on the participle first and then percolates from the participle to the subject, if any. (Although Pāṇini does not provide an explicit account for the locative case marking on the agent of a locative absolute construction, we can infer that he would do so in the same manner as for any other cases of agreement, namely under coreference (*samānādhikaraṇatva*).)

- (14) यस्य च भावेन भावलक्षणम्  
*yasya ca bhāvena bhāvalakṣaṇam* (A. 3.2.37)

‘the locative ending (is) also introduced (after an element) on

account of whose action (there is) qualification of (another) action.’<sup>6</sup>

### 3.4 Converbs, reflexives, oblique subjects, and syntactic bracketing

In discussions of modern South Asian syntax, converbs (variously referred to as absolutives, conjunctive participles, gerunds, and the like), combined with reflexivization and word order, play a significant role as criteria that determine whether non-nominative constituents can be considered to be subjects or not. See for instance the various contributions to Verma and Mohanan 1990.

Of the three features converbs, reflexivization and word order, only the syntax of converbs is addressed in the Pāṇinian tradition. The discussion in Speijer’s *Syntax*, however, suggests that reflexives exhibit a similar syntactic behavior to converbs (1886: 200 and 297–298). More comprehensive discussions, which include not only converbs and reflexives, but also word order, are Hock 1986, 1990, 1991a (with references). This section surveys the major issues and findings.

Pāṇini’s account for the syntax of the converb (*ktivā*)<sup>7</sup> is well known (15), and its provision that *ktivā* requires identity of *kartr̥s*, i.e. underlying subjects, is well motivated. The dominant pattern, at least for post-mantra-Vedic,<sup>8</sup> is that this provision holds

<sup>6</sup>A priori *yasya* could refer to the agent of the action *bhāva*, or to the word expressing the action. The latter is the usual interpretation and is made explicit in the *Kāśikā Vṛtti*: *yasya ca kriyayā kriyāntaram lakṣyate tato bhāvavataḥ sapamī vibhaktir bhavati* ‘locative case is also (used) after a word characterizing an action (*bhāvavat*) by whose action another action is characterized’. Joshi and Roodbergen (1980: 87–88) interpret *bhāva* as ‘state’, distinguishing it from *kriyā* ‘action’. However, Cardona (1976: 197) (w. ref.) notes that both terms are used to refer to actions.

<sup>7</sup>Here as elsewhere *ktivā* also stands for its replacement *lyap*.

<sup>8</sup>For the mantras, Hock (1982b, 1986, 1987, 1990, 1991a) finds some (limited) evidence for surface subject, rather than underlying subject (*kartr̥*) control

not only for active structures, where underlying and surface subject are identical, but also for passive or passive-like structures, where they are not. See Hock 1986 for discussion.

(15) समानकर्तृकयोः पूर्वकाले

*samānakartṛkayoḥ pūrvakāle* (A. 3.4.21)

‘(ktvā) is introduced under the condition of identity of kartṛs in reference to prior time’

The syntax of reflexives is not covered in the Pāṇinian tradition, and most western discussions focus on Vedic and/or its Indo-European origins; see Vine 1997; Hock 2006; Kulikov 2007 for recent discussions. In his coverage of reflexives, Speijer (1886: 200) notes similar conditions for the use of reflexives as for that of converbs (1886: 297–98), without however trying to link the two phenomena. In a series of papers (Hock 1982b, 1986, 1987, 1990, 1991a), I have shown that, just like converbs, reflexives are controlled by kartṛs, i.e. underlying, rather than surface subjects. Moreover, in the same publications I have shown that word order, too, is sensitive to the notion *kartr*, rather than surface subject.

Examples for kartṛ control of converbs and reflexivization abound; see e.g. (16), (17), and (18) which focus on instrumental-marked kartṛs. Note especially (18), which has both converb and reflexive control.

(16) ततस्तमायान्तं दृष्ट्वा पक्षिशावकैर्...कोलाहलः कृतः

*tatas tam āyāntam dr̥ṣṭvā pakṣiśāvakair ...kolāhalaḥ kṛtaḥ* (Hit. 1.4)

‘Then, upon seeing him coming, the young birds made a racket.’

---

of converbs in passives and passive-like structures, and somewhat more robust evidence as regards word order and reflexive control. Zakharyin (1998) questions this finding, but his discussion only focuses on converbs and does not address the broader evidence of word order and reflexivization.

- (17) स्वेषु स्थानेष्ववहितैर्भवितव्यं भवद्भिः  
*sveṣu sthāneṣv avahitair bhavitavyaṁ bhavadbhiḥ* (Vikram.  
 1, p. 2; Speijer 1886: 199)  
 ‘Your lordships must be attentive on your own seats.’
- (18) अथ तेन तं शत्रुं मत्वात्मानं तस्योपरि प्रक्षिप्य प्राणाः परित्यक्ताः  
*atha tena taṁ śatruṁ matvā + ātmānaṁ tasyopari prakṣi-  
 pya prāṇāḥ parityaktāḥ*  
 (Pañc. 70; Speijer 1886: 297)  
 ‘Then he<sub>1</sub>, considering him<sub>2</sub> an enemy, threw himself<sub>1</sub> on top  
 of him<sub>2</sub> and gave up his<sub>1</sub> ghost.’

Although converb and reflexive control by the karṭṛ (whether nominative or instrumental) is the most common pattern in Sanskrit, there are examples where other constituents — or no constituents in the same clause — seem to exert control. See the examples in (19)–(25) which focus on converb control, with the exception of (24c) which shows that genitive-marked NPs also can control reflexives.

- (19) a. अलं विषादेन बिलं प्रविश्य। वसाम सर्वे यदि रोचते वः  
*alaṁ viṣādena bilaṁ praviśya* (.) *vasāma sarve yadi ro-  
 cate vaḥ* (Rām. 4.52.31)  
 ‘Enough of entering the cave in despondency. All of us  
 are staying if it pleases you.’
- b. अप्राप्य नदीं पर्वतः स्थितः  
*apṛāpya nadīṁ parvataḥ sthitaḥ* (Kāś. on A. 3.4.20)  
 ‘Not having reached the river (i.e. on this side of the river)  
 stands the mountain.’
- (20) ओषधीर्जग्ध्वापः पीत्वा तत एष रसः संभवति  
*oṣadhīr jagdhvāpḥ pītvā tata eṣa rasaḥ sambhavati*  
 (ŚB. 1.3.1.24)

‘(The animals/somebody) having eaten the plants, having drunk the waters, from that arises this essence.’

- (21) a. आतिथ्येन वै देवा इष्ट्वा तान्त्समदविन्दत्  
*ātithyena vai devā iṣṭvā tān t-samad avindat* (ŚB. 3.4.2.1)  
 ‘The Gods having sacrificed with the guest-offering — discord befell them.’
- b. तं हैनं दृष्ट्वा भीर्विवेद  
*taṁ hainaṁ dr̥ṣṭvā bhīr viveda* (ŚB. 11.6.1.7)  
 ‘Having seen him (i.e. someone else), fear befell him.’
- (22) a. श्रुत्वा त्विदमुपाख्यानम् ... अन्यन्न रोचते [तस्मै]  
*śrutvā tv idam upākhyānam ... anyan na rocate [tasmāi]*  
*(MBh. 1.2.236)*  
 ‘(He) having heard this story, another (story) does not please him/he does not like another (story).’
- b. द्विज सिप्रानदीं गत्वा तुभ्यमहं मन्त्रं दास्यामि  
*dvija siprānadīṁ gatvā tubhyam ahaṁ mantram dāsyāmi*  
*(Vetalapañcaviṁśati, ed. Emeneau 92.20–21)*  
 ‘O brahmin, I will give a mantra to you, (you) having gone to the river Siprānadī.’
- (23) पश्याद्वै परीत्य वृषा योषामधिद्रवति  
 पश्यादेवैनामेतत्परीत्य वृष्णा ... (अ)धिद्रावयति  
*paścād vai parītya vṛṣā yoṣām adhidravati*  
*paścād evainām etat parītya vṛṣṇā ... (a)dhidrāvayati* (ŚB. 1.9.2.24)  
 ‘The bull mates with the female approaching her from behind. He makes the bull mate with her, (the bull) having approached her from behind.’
- (24) a. हत्वा वृत्रं विजित्य युष्माभिर्मे ऽयं सह सोमपीथः  
*(h)atvā vr̥tram vijitya yuṣmābhir me ’yaṁ saha somapī-*

*tha(h)* (KB. 15.2)

‘Having slain Vṛtra, having conquered, this soma-drinking with you is mine.’

b. सुस्नातं पुरुषं दृष्ट्वा स्त्रीणां क्लिद्यन्ति योनयः

*susnātaṃ puruṣaṃ dr̥ṣṭvā strīṇāṃ klidyanti yonayaḥ*  
(*Vetālapañcaviṃśatikā*, ed. Uhle 15.37–38)

‘Having seen a well-bathed/graduated man, women’s vaginas get wet.’

c. सा हि स्वा राजधानी

*sā hi svā rājadhānī* (*Kathās.* 39.163)

‘for this is my (= the speaker’s) royal city’

(25) इत्येव काले श्येनेनानीय खाद्यमानस्य सर्पस्य गरलं तद्भव्ये निपतितम्

*ity eva kāle śyenena + ānīya khādyamānasya sarpasya garalam taddravye nipatitam*

(*Vetālapañcaviṃśati*, ed. Emeneau 76.11–13)

‘At that very time, the venom of a snake being eaten by a hawk, (the hawk) having carried it off, fell into his food.’

Faced with such a variety of different structures, some scholars may opt for claiming that there is no purely syntactic criterion for control and that any element that is somehow salient may serve as controller. This is close to what Zakharyin (1998) proposes.

A heuristically and theoretically more interesting position is to try to determine whether some or all of these ‘exceptional’ structures can be accounted for by additional generalizations.

This is, of course, what Pāṇini has done — for structures like (19a) by means of A. 3.4.18 (see also A. 3.4.19) and for (19b) by A. 3.4.20 — with A. 3.4.21 taking care of ‘elsewhere’. In both cases we are probably dealing with some kind of grammaticalization. The one in (19b) could be compared to later grammaticalizations such as *adhikṛtya* ‘about’, *ādāya* ‘with’, *ārabhya* ‘(starting)

from' which likewise do not seem to be sensitive to control by any particular constituent.

As far as (20) and (21a) are concerned, these seem to be peculiarities of Vedic prose; see Delbrück 1888: 408. Hock (1987) accounts for them under the notion 'reduced-clause' structures, a phenomenon not limited to converbs but also found with participles.

Example (21a), however, could also be analyzed as comparable to (21b) which, together with (22a), could be — and has been — taken as equivalent to Modern Indo-Aryan oblique-experiencer-subject constructions; see Hook 1976, 1984 for (22a), and Zakharyin 1998 more generally.

Structures of this sort, however, are extremely rare and, in the aggregate, no more frequent than structures like (22b) in which a non-experiencer indirect object controls the converb, or (23) where the converb's dependence on the causee of *adhidrāvayati* may be dittological from the preceding non-causative construction with *adhidravati*. At any rate, all of these structures are quite rare and can be dismissed as occasional examples of 'loose' (or 'sloppy') control.<sup>9</sup>

The examples in (24), by contrast, exemplify a much more common pattern: control by genitive-marked possessor NPs. The fact that examples of control by non-karṭṛs (in Pāṇini's sense) are especially common with genitive-marked NPs was already noted by Speijer (1886: 298) who considered these NPs to be exemplars of his 'dative-like genitive' category. Focusing on converb and reflexive control, as well as word order, I have argued (Hock 1990, 1991a) that Possessor NPs must be recognized as a highly produc-

---

<sup>9</sup>Interestingly, if structures like (21b) and (22a) were to be analyzed as oblique-experiencer-subject constructions — or as forerunners of such constructions — accusative-marked experiencers would seem to occur more frequently than dative-marked ones. In Modern Indo-Aryan, it is dative-marking which prevails. On the syntax of *ruc* see also Cardona 1990; Deshpande 1990.



tive alternative to karṭṛ control. (In his very different approach to the syntax of Ṛgvedic reflexive *sva*, Vine (1997) similarly finds that genitive-marked NPs are the most common alternative to subject NP controllers.)

Finally, example (25) shows the need for being sensitive to syntactic bracketing. The converb *ānīya* is controlled by the karṭṛ (*śyena*) of the participial structure headed by *khādyamāna*, not by the karṭṛ (*garala*) of the matrix-clause verb *nipatitam*. See the bracketing in (26). For further discussion see Hock 1986, 1987.<sup>10</sup>

(26) इत्येव काले

श्येनेनानीय खाद्यमानस्य

सर्पस्य गरलं तद्भव्ये निपतितम्

[*ity eva kāle*

[*śyenena + ānīya khādyamānasya*]

*sarpasya garalam taddravye nipatitam*]

(*Vetālapañcaviṁśati*, ed. Emeneau 76.11–13)

‘At that very time, the venom of a snake being eaten by a hawk, (the hawk) having carried it off, fell into his food.’

While this phenomenon is not overtly addressed in the Pāṇinian tradition, there is nothing in that tradition that would prevent it. Given that their suffixes replace la-kāras (A. 3.2.124, 3.4.70–71), participles are allowed to have their own karṭṛs, and these karṭṛs can control converbs (and reflexives) in their own domain.

Complications do however arise because participial structures are normally integrated into their matrix clauses without being set off by clear boundaries. As a consequence, in very similar structures, such as (27ab), both involving the participle form *gacchan*,

<sup>10</sup>Speijer (1886: 297–98) comes close to realizing the need for some kind of bracketing by noting that [apparent] control by locative NPs is common in locative absolute constructions. Vine (1997) similarly weighs the possibility that some instances of apparent non-subject control of reflexives may be accounted for by something like bracketing.

it may be either the *karṭṛ* of the entire sentence or that of the participial structure that controls the converb. In fact, as (27c) shows, it is possible for one converb to be controlled by one *karṭṛ*, another by the other.

- (27) a. स यज्ञार्थे ... छागमुपक्रीय ... गच्छन्  
 धूर्तत्रयेणावलीकितः  
 [sa yajñārthe ... [chāgam *upakriya* ... *gacchan*]  
*dhūrtatrayeṇa + avalokitaḥ*]  
 (*Hitopadeśa* 43.5–6)  
 ‘He, having bought a goat for the purpose of sacrifice ... ,  
 (as he was) going was noticed by a trio of rogues.’
- b. तं पुत्रं दर्शयित्वानेन गच्छञ्जटाधरः समानीतः  
 [taṁ putraṁ *darśayitvā* + *anena gacchañ jaṭādharaḥ sa-*  
*mānītaḥ*]  
 (*Vetālapañcaviṁśati*, ed. Emeneau 28. 5–6)  
 ‘Having showed that boy to him he brought (back) the  
 mendicant (as he was) going.’
- c. तान्विजित्य यथालोकमासीनानिन्द्र एत्याब्रवीत्  
 [[tān *vijitya yathālokam āsīnān*]  
*indra etya + abravīt*] (*JB* 1.156)  
 ‘Indra, having come up, said to them, (who were) sitting  
 according to their own worlds, having won.’

### 3.5 Double Direct Object constructions and Causatives

In Pāṇini’s sūtras defining *karman* (28), A. 1.4.51 has met with considerable problems of interpretation. The commentatorial tradition agrees that it is intended to cover double-direct-object constructions such as (29), but how it does so does not seem to have received a satisfactory explanation; see Deshpande 1987. The evidence of the textual tradition makes it clear that either of the two complements in these structures behaves like a true direct object,

being promotable to surface subject — if it occurs by itself (30). However, if both complements are present, only the more agentive one can be promoted; (31). See Hock 1985, 2012c for further discussion; see also Ostler 1979; Van de Walle 1992.

- (28) a. कर्तुरीप्सिततमं कर्म। तथायुक्तं चानीप्सितम्  
*kartur īpsitatamam karma. tathāyuktaṁ cānīpsitam* (A. 1.4.49–50) ‘That which is most desired by the agent is *karman*, and also that which is not desired (but) linked (to the action) in the same way;’
- b. अकथितं च  
*akathitaṁ ca* (A. 1.4.51)  
 ‘also what (is linked in the same way and) has not been as yet specified;’ (?)
- c. गतिबुद्धिप्रत्यवसानार्थशब्दकर्मकर्मकाणामणिकर्ता स शौ।  
 हृक्रोरन्यतरस्यञ्जम्  
*gatibuddhipratyavasānārthaśabdakarmākarmakāṇām a-ṇikartā sa ṣau. hr̥kror anyatarasyām* (A. 1.4.52–53)  
 ‘also the non-causative agent in the causative of roots meaning ‘go’, ‘understand’, ‘consume’, ‘communicate’, (and) intransitives, and (optionally) of *hr̥* and *kr̥*.’
- (29) a. कदु॑ ब्रवः॑ ... नृन्  
*kád u bravaḥ ... nṛñ* (RV. 10.10.6) (SPEAK)  
 ‘What will you say to the men?’
- b. तत्त्वा॑ यामि ...  
*tát tvā yāmi ...* (RV. 1.24.11a) (ASK/ENTREAT)  
 ‘... that I request from you.’
- c. दुदु॑हे॒ पयः॑ ... ऋषि॑म्  
*duduhre páyaḥ ... ṛṣim* (RV. 9.54.1) (MILK)  
 ‘They milked the milk (from) the sage.’

- d. देवान॑सुराः यज॑मजय॑स्  
*devān āsurāḥ yajñám ajayams* (MS. 1.9.8) (WIN)  
 ‘The asuras won the sacrifice (from) the gods.’
- e. यदमु॑ष्णीत ... प॒णिं गाः  
*yád āmuṣṇīta ... paṇīm gāḥ* (RV. 1.93.4) (ROB)  
 ‘... when you robbed the cows (from) the miser.’
- f. तान्सहस्रं॑ दण्डयेत्  
*tān sahasraṁ daṇḍayet* (Manu 9.234) (PUNISH)  
 ‘... he should fine/punish them (with) a thousand.’
- (30) a. (अ)स्य वाग्दिता भवति  
*(a)sya vāg uditā bhavati* (AB. 1.6.12) (SPEAK)  
 ‘His speech is spoken.’  
 स हे॒न्द्रेणो॑क्त आस  
*sa ha + indreṇa + ukta āsa* (ŚB. 14.1.1.19)  
 ‘He was addressed by Indra.’
- b. रयिर्विभूतिरीयते ...  
*rayír víbhūtīr iyate ...* (RV. 6.21.1) (ASK/ENTREAT)  
 ‘Great wealth is implored.’  
 राजा॑ मे॒धाभिर् ई॑यते  
*rājā medhābhir īyate* (RV. 9.65.16)  
 ‘The king is implored with insight.’
- c. ... पिबतु॑ दुग्धमंशु॑म्  
 ... *pibatu dugdhám aṁśúm* (RV. 5.36.1) (MILK)  
 ‘May he drink the milked (= expressed) soma.’<sup>11</sup>  
 दुह॑न्ते ... धे॒नवो॑

<sup>11</sup>Hettrich (1994) cites *dugdhó aṁśúḥ* (RV 3.36.6d), glossed as ‘der ausgemolkene Stengel’, as an example of the source, rather than the substance NP becoming the passive subject. However, the present example suggests that *aṁśú* has become simply an epithet of soma, the ingestible substance produced in the ritual.

*duhyānte ... dhenāvo* (AV. 7.73.2)

‘The cows are being milked.’

d. स्व॑र्म॒रुत्व॑ता जि॒तम्

*svār marútvaiā jítām* (RV. 8.76.4) (WIN)

‘The sun has been conquered by (Indra) accompanied by the Maruts.’

आ॒सुरी॑ यु॒धा जि॒ता

*āsurī yudhā jītā* (AV. 1.24.1)

‘The asura woman, defeated in battle.’

e. ने॒द्वे॒व॒ न॒म॒ इ॒व॒ मु॒षित्॑ इ॒व॒ श्या॒ता इ॒त्य् ...

*neḍ v eva nagna iva muṣita iva śayātā ity ...* (ROB)

(ŚB. 1.2.2.16)

‘... lest he lie naked as it were, robbed as it were.’

(31) a. वि॒जय॑मु॒क्तस्तेः

*vijayam uktas taiḥ* (Kathās. 18.247) (SPEAK)

‘... (was) told (about) the victory by them.’

b. व॒शामि॑न्द्रे॒णा या॒चितः

*vaśām indreṇa yācitāḥ* (AV. 12.4.50) (ASK/ENTREAT)

‘... asked by Indra for (his) cow’

c. ... न॒भो॑ दु॒ह्यते॑ घृ॒तं प॑यः

... *nábho duhyate ghṛtām páya(h)* (RV. 9.74.4) (MILK)

‘The cloud is milked for ghee, milk.’<sup>12</sup>

d. ... सर्व॑ज्यानिं वा जी॒यते

... *sarvajyāniṃ vā jīyate* (KS. 29.6) (WIN)

‘... or he is defeated a complete defeat.’

<sup>12</sup>Hettrich notes that the example is formally ambiguous, since both *nábhaḥ* and *ghṛtām páyaḥ* can be both nominative and accusative. The singular on the verb and the initial placement of *nábhaḥ* favor an interpretation that *nábhaḥ* is the subject; but agreement with the nearest ‘antecedent’ of the conjoined elements *ghṛtām* and *páyaḥ* is a possible alternative. Geldner takes *ghṛtām* and *páyaḥ* to be the subject.

- e. हि॒मे॒व॑ प॒र्णा॑ मु॒षिता॑ व॒नानि॑  
*himéva parṇā muṣitā vānāni* (RV. 10.68.10) (ROB)  
 ‘... like trees robbed of their leaves by winter’<sup>13</sup>

While this much is known, questions remain. First, it is not clear why only certain verbs that are subcategorized for two complements have double-direct-object constructions. Even more puzzling is why some verbs belonging to the semantic sets SPEAK, ASK/ENTREAT, MILD, WIN, ROB fail to enter into double-direct-object constructions. Consider *kath* which to my knowledge only takes the addressee in the dative, or *hr* ‘take away’ which takes the ablative for the source person. Presumably, the verbs participating in the double-direct-object construction must be specifically listed in the lexicon (together with alternative case markings, if any; see Hock 1985. But this does not explain why many of the verb classes exhibit similar behavior in other Indo-European languages; see Hock 2012c.

Problems of a different sort arise regarding A. 1.4.52–53 which classifies the causees of certain verb classes as *karman* (optionally for *hr* and *kr*) and leaves others as *kartṛs* which, being *anabhīhita*, surface in the instrumental. As Speijer (1886: 36–37 with reference) notes, a very different situation obtains in the classical language, irrespective of verb class:

If one wants to say ‘he causes me to do something, it is by his impulse I act’, there is room for the [accusative causee], but if it be meant ‘he gets something done by

<sup>13</sup>As noted by Hettrich, formally this passage is ambiguous. However, the context favors the interpretation given here: *himéva parṇā muṣitā vānāni bṛhaspátinākṛpayad való gāh* ‘Like the trees robbed of their leaves by winter, Vala mourned for the cows (taken from him) by Bṛhaspati.’ (Geldner: ‘Wie die Bäume ihre vom Frost geraubten Blätter so vermißte Vala die von Bṛhaspati (geraubten) Kühe.’)

me, I am only the agent or instrument through which he acts', the instrumental is in its place . . .

As shown in Hock 1981, this pragmatically sensitive marking convention is already found in the early Vedic prose texts; see (32) and (33), where the verb in (32) belongs to the categories of verbs that by A. 1.4.52 should take a karman, and the verb in (33) does not. The phenomenon can therefore not be attributed to post-Pāṇinian innovation. Rather, the difference between Pāṇini and the textual tradition of Madhyadeśa most likely reflects a difference in regional dialect. See Hock 1981, 2012b,c, as well as Deshpande (1983)'s pioneering paper, "Pāṇini as a frontier grammarian."

- (32) a. द्याव॑पृथि॒वी भुव॑नेषु॒ अर्पि॑ते  
*dyāvapr̥thivī bhūvaneṣu arpite* (TS. 4.7.13.2)  
 'Heaven and earth have been made to reach the worlds.'
- b. अ॒मुं॒ ते शु॒क्। ऋ॒छतु॑ . . . य॒मे॒व द्वेष्टि॑ तम॒स्य ह्यु॒धा च॑ शु॒चा च॒अर्प॑यति  
*amūm te śúk. ṛchatu . . . yām evā dvēṣṭi tām asya kṣudhā*  
*ca śucā ca + arpayati*  
 (TS. 5.4.4.1–2; similarly passim)  
 'Your pain should go to him; whom indeed he hates, to him he makes his hunger and pain go.'  
 Or: ' . . . him he afflicts with his hunger and pain.'
- (33) a. ओष॑धीरेव॒ फलं॑ ग्राहयति  
*oṣadhīreva phalaṁ grāhayati* (KS. 26.5)  
 'He causes the plants to take fruit.'
- b. वरु॑णेनैव॒ भ्रातृ॑व्यं॒ ग्राहयि॑त्वा ब्रह्म॑णा स्तृ॒णुते॑  
*vāruṇenaiva bhrātr̥vyaṁ grāhayitvā brāhmaṇā str̥ṇute*  
 (TS. 2.1.8.2, similarly KS. 13.4)  
 'Having caused Varuṇa to seize the enemy, he lays him low with the sacrificial formula.'

### 3.6 Asamartha compounding

The syntax of constructions such as (34), called ‘asamartha compounds’ by Gillon (1993), was first addressed in Patañjali’s commentary on A. 2.1.1 (Kielhorn-Abhyankar edition 1.359.21–361.24). The fact that in the reading of (34), *devadattasya* does not modify the head (*kula*) of *gurukulam*, but the non-head (*guru*), leads to a lengthy discussion, with one side arguing that the interpretation is acceptable and another one that it is not, since only heads can have external modification. The issue is in effect left unresolved. By contrast, Bhartrhari (*Vākyapadīya* 3.14.47) accepts the grammaticality of such structures if the non-head is a relational noun, such as ‘father’, ‘son’, ‘teacher’, ‘student’.

- (34) देवदत्तस्य गुरु-कुलम्  
*devadattasya guru-kulam* ‘Devadatta’s teacher’s family’

That this issue is not just an idle invention of the grammarians is shown by the fact that structures of this sort do in fact occur, such as (35a); and as shown by (35bc) other structures that would not be amenable to Bhartrhari’s account are also found. As far as I can tell, Whitney (1889: 515) was the first western scholar to note the existence of such structures.

- (35) a. दन्ताघातस्य ... दुहितुः पद्मावत्या धात्रीस्वसाहम्  
*dantāghātasya ... duhituḥ padmāvatyā dhātrīsvasāham*  
 (*Vetālapañcaviṃśati*, Emeneau edition, 16.16–17)  
 ‘I am the sister of the nurse of Padmāvātī, the daughter of Dantāghāta ...’
- b. तस्यां स्निग्धदृष्ट्या सूचिताभिलाषः  
*tasyām snigdhadr̥ṣṭyā sūcitābhilāṣaḥ* (*Śakuntalā* 3.9.16)  
 ‘... whose affection was indicated by his gaze fixed on her.’



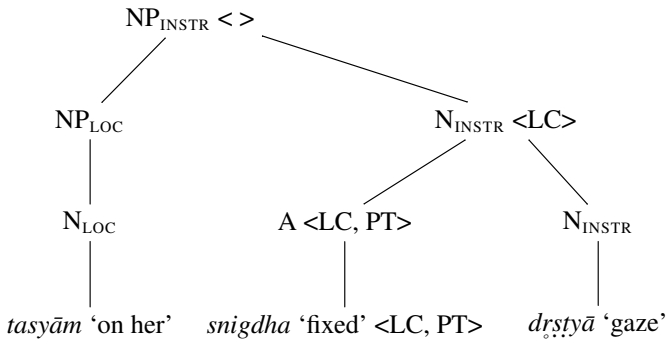
- c. चित्त-प्रमाथिनी बाला देवानामपि सुन्दरी  
*citta-pramāthiniṁ bālā devānām api sundarī* (*Nala* 1.18;  
*MBh.* 3.50.13)  
 ‘A beautiful girl disturbing the minds even of the Gods.’

In a recent paper, Kiparsky (2009: 48) argues that structures like (34) can be interpreted as ‘apparent syntax/morphology mismatches [that] should be treated’ in terms of a semantic inheritance mechanism whereby ‘properties of individuals become properties of groups to which individuals belong’, as in *a laughing group of children* which really means ‘a group of laughing children’ rather than merely ‘a laughing group consisting of children’.

A more comprehensive analysis is that of Gillon (1993, 1995). Adopting Bhartrhari’s notion of ‘relational noun’, he concludes that non-heads that are associated with a *kāraka* or ‘whose meaning presupposes some kind of relation’ are permitted to take external heads. This allows him to account not only for the type (34)/(35a) but also for (35b), under the assumption that unlike languages such as English, Sanskrit allows transmission of unsaturated argument positions not only for heads but also for non-heads; see Table 3.<sup>14</sup>

Molina Muñoz (2014) notes that while Gillon’s account works for (35a) and (35b), it does not for the type (35c), where *citta* is not a ‘relational noun’ and where *devānām* is not an argument of *citta*, but syntactically merely an adjunct. She therefore argues that a different explanation is required which, in principle, works for all subtypes under (35). Starting out with Schäufele’s notion of ‘liberation’ or ‘node erasure’ and Pāṇini’s account for compounds as combining full words (*saha supā*, *A.* 2.1.4), she proposes to derive (productive) compounds in a post-syntactic component along the lines of Halle and Marantz’s (1993) distributed morphology. Compounding, under this account, can take place between two neighboring semantically compatible words in the output of the syntax

<sup>14</sup>This is Molina Muñoz’s (2014) rendition of Gillon’s diagram.

**Table 3**

*Non-head relational nominal governing an external head*

and after liberation, which erases syntactic nodes and potentially, but not necessarily moves words or phrases to other positions in the clause. Example (35c) serves as an excellent example, since in this case the movement of *devānām* and *bālā* out of their original complex NP provides positive evidence for node erasure; see Table 4. (Note that *api* moves along with *devānām* because of its quasi-clitic nature.) Structures such as (35a) and (35b), then, would also be analyzed as involving node erasure, but without any

	[NP [AP [NP [NP [N <i>devānām</i> ] [PCL <i>api</i> ]] [N <i>cittam</i> ]] [A <i>pramāthinī</i> ]] [A <i>sundarī</i> ] [N <i>bālā</i> ]]
Node erasure	<i>devānām=api cittam pramāthinī sundarī bālā</i>
Movement	$t_1$ <i>cittam pramāthinī</i> $t_2$ <i>bālā devānām=api</i> $sundarī_2$
Compounding	[ <i>cittam-pramāthinī</i> ]
Suffix erasure	<i>cittapramāthinī</i>
Final output	<i>cittapramāthinī bālā devānām api sundarī</i>

**Table 4**

*Node erasure, movement, and compounding in (35c)*

overt movement.

## 4 Functional issues that should be of interest to computational approaches

In this section I address several functional or usage aspects of particular grammatical phenomena, including genre-based usages, that should be of interest to those engaged in computational analysis of Sanskrit texts. In fact, attention to genre differences and their influence on the choice of syntactic processes can also pay off for formal analyses. Consider the interaction between genre and word order discussed in §3.1 and the more comprehensive discussion in Hock 1997, 2000. Conversely, as we will see, discourse phenomena can raise interesting questions for formal analyses.

One difficulty with functional investigations is that they tend to be highly specific. For instance, Gonda (1942) observes that although, using recent terminology, Sanskrit is a ‘pro-drop’ language, personal pronouns are common in dialogues. Jamison (1991b,a) similarly focuses on dialogues in Vedic prose which, as she notes, exhibit interesting differences from the technical discourse that surrounds them, including a much greater use of deictics such as *idam*, *adas*, rather than demonstratives such as *tad*, *etad*. As regards the Vedic-prose difference between *tad* and *etad*, Hock (1982a) finds that *etad* is preferred in cataphoric contexts, while *tad* is anaphoric or unmarked. My impression is that this difference holds also for classical Sanskrit. M. R. Hale (1991) comes to different conclusions for the *Taittirīya Saṁhitā*. This is an issue that deserves fuller study. Still in the area of pronoun usage, Van de Walle (1991, 1993: 119–20) notes that, while plural may be used for politeness (as in *bhavantaḥ* for *bhavān*), second plural pronouns are rarely used with singular reference. Normally either the second singular pronoun or a form of *bhavat* is used

— sometimes even within the same (complex) sentence. (Van de Walle’s work, however, is not limited to pronoun use but addresses the broader issue of linguistic politeness — and distancing — in classical Sanskrit.)

Tsiang-Starcevic’s (1997) study is a broad investigation of the use of finite (i.e. relative clause) vs. non-finite (participle, con-verb) subordination in Sanskrit narratives. See also Tsiang and Watanabe 1987, which focuses on the rhetoric of fable narratives. An important finding is that non-finite structures dominate in narrative portions and that finite relative clauses tend to be restricted to dialogues embedded in the narratives.

In his monumental study of relative-clause syntax, Hettrich (1988: 745–57) claims that appositive or non-restrictive relative clauses were a feature of Proto-Indo-European poetic language, surviving in mantra Vedic, but becoming rare in Vedic prose and disappearing in post-Vedic. Hock (1993) argues that the difference between mantra and prose can be explained in terms of genre and that non-restrictive relative clauses continue to be used in the classical language. It would be interesting to investigate whether different classical genres exhibit differences similar to those between mantra and prose Vedic.

In the following I take a more detailed look at fronting and extraposition, two general movement processes, both of which have interesting discourse, genre, and grammatical characteristics.

## **4.1 Fronting**

Fronting processes play a significant role in a number of different genres, both in Vedic and in the classical language.

### **4.1.1 Initial strings in Vedic**

Vedic-prose texts are characterized by complex initial strings, such as (36a), consisting of topicalized elements (commonly nominal or

pronominal), demonstrative and other pronouns, as well as particles. Similar, but generally less complex and shorter strings are also found in the mantra language. M. R. Hale (1987, 1996) proposes syntactic movement accounts, with some prosodic readjustment, for strings of this sort; see also Keydana 2011. By contrast, Hock (1982a, 1996, 1997) proposes a fully prosodic account, both in terms of a template defining their linear order and in terms of their domain of occurrence. Especially relevant in this regard is the evidence of the mantra language, where initial strings may occur line-initially (36b) or even post-caesura (36c) in run-on lines, i.e. in prosodically defined domains, rather than the syntactically defined domain of clause-initiality.

- (36) a. ए॒ता॒म्बे॒वैष॒ ए॒त॒स्मै॒ वि॒ष्णु॒र्य॒ज्ञो॒ वि॒क्रान्तिं॑ वि॒क्रम॑ते  
*etām; v eva + eṣa; etasmai viṣṇur; yajño vikrāntim; vikramate* (ŚB. 1.1.2.13)  
 ‘This Viṣṇu, the sacrifice, steps this (world-conquering three-fold) stepping for him (the sacrificer).’
- b. हो॒तारं॑ वि॒श्ववे॑दसं॒ (।) सं॑ हि॒ त्वा॒ विश॑ इ॒न्धत॑ए  
*hótāraṃ viśvavedasaṃ (.) sām hí tvā víśa indháte* (RV. 1.44.7ab)  
 ‘For the clans light you as the all-knowing hotṛ.’
- c. वि॒प्रः॑ प्रे॒ष्ठः॑ स॒ हो॑षां॒ बभू॑व  
*vípraḥ préṣṭhaḥ: sá hy eṣāṃ babhūva* (RV. 10.61.23c)  
 ‘For he was of/for them the dearest singer.’

To my knowledge, strings of this sort do not survive in the post-Vedic language; but see §4.1.3 for ‘linkage strings’.

#### 4.1.2 Predicate-Subject order

The fact that predicates frequently precede their subjects, as in (37), has attracted western scholars’ attention from an early period.

Speijer (1886: 10) considers this the normal order in Sanskrit, but notes that ‘Pronouns, it seems, may be put indiscriminately before or behind their noun-predicate’ (1886: 10); and in his 1896 monograph, he adds the further restriction that subject pronouns normally precede their predicates. Delbrück (1878: 27), by contrast, while acknowledging the pervasive presence of predicate-subject order in Vedic prose, considers it marked: ‘Der Grund für diese Stellung liegt auf der Hand. Das Subject is nämlich bekannt, das Praedikatsnomen aber bringt etwas Neues hinzu, und tritt also nach dem allgemeinen Gesetz der occasionellen Wortstellung vor.’ [‘The reason for this position is obvious. The subject is known, but the predicate nominal adds something new and hence moves to the front according to the general law of occasional word order.’]

(37) a. तेजो वै ब्रह्म गायत्री

TEJO *vai* BRAHMA ***gāyatrī*** (KS. 25.5)<sup>15</sup>

‘The *gāyatrī* is brilliance, brahman.’

b. मनो वै बृहद् वाग् रथन्तरम् ...

MANO *vai* ***brhad*** VĀG ***rathantaram*** ... (JB. 1.128)

‘The *brhat* is mind, the *rathantaram* is speech ...’

For the post-Vedic language, Lahiri (1933) finds that contrary to Speijer, the normal order is subject-predicate; see also Hock 2013.

Even for Vedic prose it is possible to show that predicate-initial order is marked. First, there are many examples like (38) in which only part of the predicate appears in initial, pre-subject position, while the rest remains stranded ‘downstairs’. Second, in longer series of equational structures, the order predicate-subject tends to break down, reverting to subject-predicate order; (39). Finally, as noted in Hock 2013, predicate-initial order is regular only in a

<sup>15</sup>Here as elsewhere in this discussion, subjects are marked by **bold**, predicates by SMALL CAPS.

sub-genre of Vedic prose, namely passages that equate instruments of the sacrifice (such as the meters, or body parts of the sacrificial animal) with more abstract or ‘supramundane’ phenomena or qualities such as the Year (writ large), the Mind (again, writ large), or the World and its components.

(38) a. मुख्यौ वा आवां यज्ञस्य स्वौ

MUKHYAU *vā āvām* YAJÑASYA *svo* (ŚB. 4.1.5.16)

‘We two are the chiefs of the sacrifice.’

b. भूयान् वै ब्राह्मणः क्षत्रियाद्

BHŪYĀN *vai brāhmaṇaḥ* KṢĀTRIYĀD (AB. 7.15.8)

‘A brahmin is better than a kṣatriya.’

(39) उषा वा अश्वस्य मेध्यस्य शिरः

सूर्यश्चक्षुर्

वातः प्राणो

व्यात्तमग्निर्वैश्वानरः

संवत्सर आत्मा

ऊवध्यं सिकताः

सिन्धवो गुदाः

यकृच्च क्लोमानश्च पर्वताः

UṢĀ *vā aśvasya medhyasya śiraḥ*

SŪRYAŚ *ca* *caḥsur*

VĀTAḤ *prāṇo*

*vyāttam* AGNIR VAIŚVĀNARAḤ

SAMVATSARA *ātmā*

*ūvadhyaṁ* SIKATĀḤ

SINDHAVO *gudāḥ*

*yakṛc ca klomānaś ca* PARVATĀḤ (BĀUM. 1.1.1)

‘The head of the sacrificial horse is the dawn; the eye, the sun; the breath, the wind; the open mouth, Agni Vaiśvānara; the body, the year . . . ; the food in the stomach, the sand; the blood vessels, the rivers; the liver and lungs, the mountains.’

Predicate-initiality, thus, is not basic, but results from (partial) fronting and, moreover, is a feature sensitive to genre and discourse. Moreover, as in the case of major constituent order, sensitivity to genre differences makes it possible to argue in favor of one formal analysis in preference to another. (See also §5 below.)

### 4.1.3 Narrative linkage and related issues

The use of converbs as narrative linkers at or near the beginning of the clause, as in (40a,d) is often considered a feature reflecting Dravidian contact; see e.g. Bloch 1930; Emeneau 1971. Under the name ‘tail-head linkage’, the phenomenon of nonfinite recapitulation has been shown to be more widespread in (folk) narratives, irrespective of syntactic typology (Thompson and Longacre 1985: 209–13); and under the term ‘catena’ it has been shown to occur also in Ancient Greek (Migron 1993). In Sanskrit, the use of converbs alternates with that of *ta*-participles (40b) and locative absolutes (40c) in a system of ‘switch reference’ (Haiman and Munro 1983)), where converbs indicate karṭṛ continuity, transitive *ta*-participles a switch to the karman of the preceding action, and locative absolutes a switch to some other actant. (See Hock Forthcoming(a).)

- (40) a. नारदस्य तु तद्वाक्यं श्रुत्वा वाक्यविशारदः ।  
 पूजयामास धर्मात्मा सहशिष्यो महामुनिः ॥  
*nāradasya tu tad vākyam śrutvā vākyaviśāradah.*  
*pūjayām āsa dharmātmā sahaśiṣyo mahāmuniḥ..*
- b. यथावत्पूजितस्तेन देवर्षिर्नारदस्तदा ।  
 आपृष्टैवाभ्यनुज्ञातः स जगाम विहायसम् ॥  
*yathāvat pūjitas tena devarṣir nāradas tadā.*  
*āpṛṣṭvaivābhyanuñātaḥ sa jagāma vihāyasam..*



- c. स मुहूर्तं गते तस्मिन्देवलोकं मुनिस्तदा ।  
जगाम तमसातीरं जाह्नव्यास्त्वविदूरतः ॥  
*sa muhūrtaṃ gate tasmīn devalokaṃ munis tadā.*  
*jagāma tamasātīraṃ jāhnavyās tv avidūrataḥ..*
- d. स तु तीरं समासाद्य तमसाया महीपतिः ।  
शिष्यमाह स्थितं पार्श्वे दृष्ट्वा तीर्थमकर्दमम् ॥  
*sa tu tīraṃ samāsādya tamasāyā mahīpatiḥ.*  
*śiṣyam āha sthitaṃ pārśve dr̥ṣṭvā tīrtham akardamam..*

(*Rāmāyaṇa* 1.2.1–4)

‘When the eloquent one (Vālmiki) had heard this speech of Nārada, the righteous great sage (Vālmiki) and his disciples honored him. When the divine seer Nārada had been duly honored by him at that time, he went to heaven, having asked for permission to leave and received it. When he (= Nārada) had gone to the heavenly world, the sage (Vālmiki) at that time went after a while to the bank of the Tamasā, not far from the Jāhnavī (= the Gaṅgā). But when he reached the bank of the Tamasā, the ruler of the earth, seeing a bathing spot free from mud, spoke to his pupil who was standing next to him.’

As shown in Hock 1994a,b, narrative discourse linkage is accomplished by a variety of other fronting processes, including the fronting of demonstratives, finite verbs, conjunctions, or conjunction-like adverbs; see for instance (41). Moreover, verbs, whether finite or non-finite, may be accompanied by complements and other ‘satellites’; and all the fronting processes may apply together, yielding ‘linkage strings’ that can become quite complex, as in (42).

- (41) a. तथैवासीद्विदुर्मेषु भीमो भीमपराक्रमः ।... ॥  
स प्रजार्थं परं यत्नमकरोत् ... ।

तम् अभ्यगच्छद्ब्रह्मर्षिर्दमनो नाम ... ॥

तं स भीमः ... तोषयामास धर्मवित्।

*tathavāsīd vidarbheṣu bhīmo bhīmaparākramah. ....*

*sa prajāṛthe param yatnam akarot ....*

*tam abhyagacchad brahmarṣir damano nāma ....*

*tam sa bhīmah ... toṣayām āsa dharmavit.*

(MBh. 3.50.5–7)

‘Likewise there was among the Vidarbhans Bhīma of terrible prowess ... He made the utmost effort for the sake of progeny ... To him came a brahmin sage, named Damana ... Him that Bhīma gladdened, knowing dharma.’

b. अब्रवीद् ऋतुपर्णास्तम् ...

*abravīd ṛtuparṇas tam ... (MBh. 3.70.16)*

‘(Then) R̥tuparṇa said to him ...’

c. ततो ऽन्तरिक्षगो वाचं व्याजहार ...

*tato ’ntarikṣago vācam vyājahāra ... (MBh. 3.50.19)*

‘Then the bird said a speech ...’

(42) a. ततस्ता नैषधं दृष्ट्वा ...

*tatas tā naiṣadham dr̥ṣṭvā ... (MBh. 3.52.14)*

adv. + *tad* + SAT + conv.<sup>16</sup>

‘Then they, having see the Niṣadhan ...’

b. ते तु हंसाः समुत्पत्य ...

*te tu haṁsāḥ samutpatya ... (MBh. 3.50.21)*

*tad* + conj. + SAT + conv.

‘But those swans, having flown up ...’

c. प्रविशन्तीं तु तां दृष्ट्वा ...

*praviśantīṁ tu tāṁ dr̥ṣṭvā ... (MBh. 3.62.20)*

<sup>16</sup>Abbreviations: adv. = conjunction-like adverb, conj. = conjunction, conv. = converb, pres. pple. = present participle, SAT = ‘satellite’, *tad* = demonstrative pronoun

pres.pple + conj. + tad + conv.  
 ‘But having seen her entering ...’

As noted in Hock Forthcoming(a), linkage strings are the strongest indicators of narrativity, especially in the epics. But even in fable literature, which adopts a more concise narrative style (Tsiang and Watanabe 1987), linkage strings are more clearly linked with narrative than the use of individual linkers by themselves.

## 4.2 Extraposition

The functions of extraposition to post-verbal position are an issue that deserves further study. I am aware of three studies that treat certain aspects of the phenomenon.

### 4.2.1 Gonda’s ‘amplified sentences’

The earliest is Gonda 1959, with its principle of ‘amplification’ — a common phenomenon both in mantra Vedic and in the epics, see e.g. (43). As Gonda puts it, the structure before and including the verb (in this case *agním īle*) forms a complete sentence or proposition in itself; what follows is additional information that elaborates on what precedes (in this case on the object *agním*). In both mantra Vedic and the epics, extraposition serves to expound on the good and desirable qualities of the deity or the hero or heroine.

(43) a. अग्निमीळे [पुरोहितं यज्ञस्य देवमृत्विजम्। होतारं रत्नधातमम्]  
*agním īle [puróhitam yajñásya devám ṛtvíjam. hótāram ratnadhātamam]* (RV. 1.1.1)

‘I invoke Agni, the foremost God of the sacrifice, the priest, the hotr, most bestowing treasure.’

b. तत्र स्म आजते भैमी [सर्वाभरणाभूषिता।  
 सखीमध्ये ऽनवद्याङ्गी विदुत्सौदामनी यथा।

...  
 चित्तप्रमाथिनी बाला देवानामपि सुन्दरी ॥  
*tatra sma bhrājate bhaimī [sarvābharanabhūṣitā.  
 sakhīmādhye 'navadyāṅgī vidyut saudāmanī yathā.*

...  
*cittapramāthinī bālā devānām api sundarī..]*  
 (Nala 1.12–14; MBh. 3.50.12–13)

‘There Bhaimī radiated, adorned with all ornaments, surrounded by her friends, having entirely praiseworthy limbs, like monsoon lightning ... the girl robbing the minds even of the Gods, beautiful.’

#### 4.2.2 Purpose datives in Vedic prose

A peculiarity of Vedic prose, which generally is heavily — and some might say, unimaginatively — verb-final, is the frequent extraposition of dative purpose phrases, as in (44). Delbrück (1888: 25) considers such structures a *Satzanhang* (clause appendix). More specifically, Hock (2014) argues for a genre-based use of extraposition, indicating a benefit that extends beyond the simple sacrificial action. The relation between the preceding structure and the extraposed dative phrase can thus ‘be interpreted as an iconic reflex of the contrast between ritual-internal action and ritual-external benefit.’

(44) a. तान्याहुर्नानोपेत्यानि। नानेव वा इमे लोकाः। एषां लोकानां  
 विधृत्या इति  
*tāny āhur nānopetyāni. nāneva vā ime lokāḥ. eṣāṁ lokā-  
 nām vidhrtyā iti (JB. 2.218)*

‘They say these (sāmans?) are to be undertaken variously — these worlds are various, as it were — for keeping apart these worlds.’

- b. तमिन्द्राग्नी अनुसमतनुताम्। प्रजानाम्प्रजात्यै  
*tam indrāgnī anusamatanutām. prajānām prajātyai* (ŚB.  
 4.3.1.2)  
 ‘Indra and Agni preserved him (Soma); for the procreation of creatures.’
- c. दिग्बद्धवति भ्रातृव्यस्यापनुत्त्यै  
*digvad bhavati bhrātrvyasyāpanut[tyai]* (PB. 12.4.10)  
 ‘It contains the word “direction”, for repelling the enemy.’

### 4.2.3 Karṭṛ backing and extraposition, and politeness

Wallace (1984) finds that backing of karṭṛs to post-karman position in passives, gerundives, and *ta*-participle constructions, as in (45a), is a common feature of dialogues in the *Vetālapañcaviṁśati*, while narrative portions typically have the karṭṛ in the unmarked initial position. Based on the contextual evidence, he argues that this reordering serves purposes of politeness, indicating either modesty on the part of the speaker or deference to an addressee. As it turns out, the phenomenon is not limited to passive-like structures but also occurs in actives; see e.g. (45b). Moreover, similar considerations probably account for the frequent extraposition of addressees or speakers, as in (46),<sup>17</sup> and both reordering and extraposition are a widespread feature of dialogues. What seems to be shared by both processes is that they downgrade the addressee or speaker, thereby avoiding the threatening of ‘face’ (see Van de Walle 1991, 1993 on this latter issue).

- (45) a. तव पोषणमावाभ्यां कर्तव्यम्  
*tava poṣaṇam āvābhyām kartavyam* (*Vetālapañcaviṁśati*,  
 Emeneau edition) ‘We will take care of you.’

<sup>17</sup>Some of these, such as (46a), are included in Wallace’s data.

- b. तस्मान्मां भवांस्त्यजतु  
*tasmān mām bhavāms tyajatu* (*Vetālapañcaviṃśati*, Emeneau edition, 70.3–4) ‘Therefore may your lordship release me.’
- (46) a. कुत्र गत्वा स्थितं भवता  
*kutra gatvā sthitam bhavatā* (*Vetālapañcaviṃśati*, Emeneau edition, 44.26)  
 ‘Where did your lordship go and stay (so long)?’
- b. यदादिशति देवः  
*yad ādiśati deva(h)* (*Vetālapañcaviṃśati*, Emeneau edition, 8.2)  
 ‘As the lord commands.’
- c. युवयोर्...अखिलमेव कथितं मया  
*yuvayor ... akhilam eva kathitam mayā*  
 (*Vetālapañcaviṃśati*, Emeneau edition 16.20–21)  
 ‘I have told everything to the two of you.’
- d. वचसा मनसा चैव यथा नाभिचराम्यहम्।  
 तेन सत्येन विबुधास्तमेव प्रदिशन्तु मे ॥  
*vacasā manasā caiva yathā nābhicarāmy aham .*  
*tena satyena vibudhās tam eva pradiśantu me..* (*Nala* 5.18)  
 ‘As I do not transgress by speech or mind, by that truth let the very wise ones (the Gods) point him (Nala) out to me.’

## 5 Conclusions and implications for further research

What is remarkable is that extraposition seems to have at least two very different purposes. In the context of politeness it serves to down-grade the addressee or the speaker, in Gonda’s ‘amplification’ as well as the more restricted phenomenon of Vedic-prose

purpose-dative extraposition it serves to provide additional and important information. Presumably there would be a prosodic difference, with politeness extraposition being realized with low or reduced pitch, while there would be no such prosodic reduction in amplifications and, perhaps, even a raised pitch for Vedic-prose purpose-datives. Nevertheless, there seems to be no clear syntactic difference between the different types of extraposition.

Following the reasoning in Hock 1993 (for different pragmatic uses of non-restrictive relative clauses), it is possible to account for this situation by assuming that extraposition is one syntactic process, which leads to syntactically marked structures. Such marked structures, in turn, make it possible for the speaker to invite the hearer to assume that there is a special reason for using them, along the lines of Grice's (1975) notion of 'implicature' or 'invited inference', with the precise pragmatic inference being determined by discourse and genre.

If this line of reasoning is correct, we must conclude that functional accounts, however interesting and important for textual interpretation they may be, cannot substitute for formal syntactic accounts, and that the latter must be formulated irrespective of the uses to which different possibilities permitted by the grammar can be put.

At the same time, as already noted, functional accounts can be helpful in assessing conflicting formal accounts such as the issue of major constituent order (§3.1), the question of subject-predicate vs. predicate-subject ordering (§4.1.2), or the phenomenon of marked *karṭṛ* backing (§4.2.3). In fact, the idea of *karṭṛ* backing makes it possible to account for a large number of structures with predicate-subject order, beyond the Vedic-prose equational structures discussed in §4.1.2. See e.g. the examples in (47), where *karṭṛ* or subject backing can be attributed to the same politeness concerns as in §4.2.3: modesty on the part of the speaker or deference to an addressee.

- (47) a. साध्वी भवती  
*sādhvī bhavatī* (*Vetālapañcaviṃśati*, Emeneau edition, 68.13)  
 ‘Your ladyship is good.’ ≈ ‘You (polite) are a good woman.’
- b. ...प्रमाणं तु भवन्तस्त्रिदशेश्वराः  
 ...*pramāṇam tu bhavantas tridaśeśvarāḥ* (*Nala* 4.31; *MBh.* 3.53.21)  
 ‘...but your lordships, rulers of the thirty(-three Gods), are the authority.’
- c. क्षान्तिशीलो नाम कापालिको ऽहं महायोगी  
*kṣāntiśīlo nāma kāpāliko ’haṃ mahāyogī*  
 (*Vetālapañcaviṃśati*, Emeneau edition, 8.14)  
 ‘I (am) a mendicant, Kṣāntiśīla by name, a great yogi.’
- d. राजपुत्रावावां पर्यटनशीलावत्रायातौ  
*rājaputrāv āvām paryaṭanaśīlāv atrāyātau*  
 (*Vetālapañcaviṃśati*, Emeneau edition, 16.14)  
 ‘We are princes, in the habit of wandering come here.’

There may even be cases where functional evidence may create interesting challenges for formal syntactic accounts. Let us take another look at (43b), specifically its passage *cittapramāthinī bālā devānām api sundarī*, which in Table 4 was analyzed as involving movement of *devānām api* and *sundarī* out of their matrix NP. That the structure involves movement is suggested by the particle *api* which indicates special emphasis on the preceding *devānām* ‘even of the Gods’; and *sundarī* can be considered an elaboration — à la Gonda — of *cittapramāthinī bālā*, which would be a complete structure in its own right.

From the functional, pragmatic perspective such an account is, I believe, entirely reasonable. From the formal perspective, however, the account presents a challenge, since it operates with the



idea of extraposition within a phrase, rather than a sentence. More than that, the phrase itself has been extraposed within the larger matrix sentence. Put differently, we would have to assume an extraposition *within* an extraposed structure.

Clearly, such an account is highly unorthodox, and its lack of orthodoxy might be taken to favor the Staal/Gillon ‘wild-tree’ account which does not stipulate linear order within phrases. However, under a ‘wild-tree’ account the functional difference between (48a) and (48b) would merely be epiphenomal. The advantage of operating with base-generated linear order and accounting for all deviations through movement, whether within the phrase or beyond, is that it invites attempts to account for such differences; and that, I believe, is a methodological strong point.

- (48) a. चित्तप्रमाथिनी बाला देवानामपि सुन्दरी  
*cittapramāthinī bālā devānām api sundarī*  
 b. देवानामपि चित्तप्रमाथिनी सुन्दरी बाला  
*devānām api cittapramāthinī sundarī bālā*

Still, I would hope that advocates of the ‘wild-tree’ approach will continue pushing their account, testing its predictive power and comparing it to theories that operate with base-generated linear order. Whatever the outcome, we are bound to gain additional insights into Sanskrit syntax.

There is, moreover, ample room for further research, especially on the syntax of classical Sanskrit which offers a much broader range of texts and genres than the Vedic tradition and which, in part because of that, has received much less coverage.

Areas of further research that I would personally find interesting are relative-correlatives as well as non-finite subordination, agreement (especially in complex-numeral constructions), and the extent to which post-syntactic distributed-morphology accounts may provide insights.

## References

The following reference list includes only references that are *not* included in the Sanskrit syntax bibliography; for references to publications dealing with Sanskrit syntax see the Sanskrit syntax bibliography (p. 399).

- Andrews Avery Delano, III. 1975. "Studies in the syntax of relative and comparative clauses." Ph.D. diss. Cambridge, Mass.: MIT. [Revised as Andrews 1985.]
- . 1985. *Studies in the syntax of relative and comparative clauses*. Outstanding dissertations in linguistics. New York; London: Garland Pub. [Lightly retouched version of Andrews 1975.]
- Arnold, Doug, Louisa Sadler, and Aline Villavicencio. 2007. "Portuguese: Corpora, coordination and agreement." *Roots: Linguistics in search of its evidential base*, ed. by Sam Featherston and Wolfgang Sternefeld, pp. 9–28. Studies in Generative Grammar 96. Berlin; New York: Mouton de Gruyter. URL: <http://privatewww.essex.ac.uk/~louisa/newpapers/>.
- Bloch, Jules. 1930. "Some problems of Indo-Aryan philology." *Bulletin of the School of Oriental Studies* 5: 719–56.
- Bolkestein, A. Machteld. 2001. "Random scrambling? Constraints on discontinuity in Latin noun phrases." *De lingua Latina novae quaestiones*, ed. by C. Moussy, pp. 245–58. Louvain: Peeters.
- Cardona, George. 1976. *Pāṇini: A survey of research*. The Hague; Paris: Mouton.
- Dasgupta, Probal. 1980. "Questions and relative and complement clauses in a Bangla grammar." Ph.D. diss. New York: New York University.

- Farmer, Anne. 1980. "On the interaction of morphology and syntax." Ph.D. diss. Cambridge, Mass.: MIT.
- Grice, H. P. 1975. "Logic and conversation." *Syntax and semantics, 3: Speech acts*, ed. by P. Cole and J. Morgan, pp. 41–58. New York: Academic Press.
- Haiman, John and Pamela Munro, eds. 1983. *Switch reference and universal grammar*. Amsterdam: John Benjamins.
- Hale, Kenneth. 1975. "Gaps in grammar and culture." *Linguistics and anthropology: In honor of C. F. Voegelin*, ed. by M. D. Kinkade et al., pp. 295–315. Lisse: de Ridder.
- . 1983. "Warlpiri and the grammar of non-configurational languages." *Natural Language and Linguistic Theory* 3: 5–47.
- Halle, Morris and Alec Marantz. 1993. "Distributed Morphology and the pieces of inflection." *The view from Building 20*, ed. by Kenneth Hale and S. Jay Keyser, pp. 111–76. Cambridge: MIT Press.
- Johnson, Cynthia. 2008. "Mixed-gender antecedent agreement in Latin." B.A. thesis. Urbana: University of Illinois.
- Joshi, S. D. and J. A. F. Roodbergen. 1980. *Patañjali's Vyākaraṇa-Mahābhāṣya: Vibhaktiāhnikā (P. 2.3.18–2.3.45)*. Pune: University of Poona, Centre for Advanced Study in Sanskrit.
- Keenan, Edward L. 1985. "Relative clauses." *Language typology and syntactic description*, ed. by T. Shopen, vol. 2, pp. 141–70. Cambridge: Cambridge University Press.
- Pullum, Geoffrey K. 1982. "Free word order and phrase structure rules." *Proceedings of the Twelfth Annual Meeting of the North Eastern Linguistic Society*, ed. by James Pustejovsky and Peter Sells, pp. 209–20. Amherst: University of Massachusetts Graduate Linguistics Student Association.
- Ross, John Robert. 1967. "Constraints on variables in syntax." Ph.D. diss. Cambridge, Mass.: MIT. [Revised as Ross 1986.]
- . 1986. *Infinite syntax!* Norwood, New Jersey: Ablex. [Slightly updated reprint of Ross 1967.]

- Snijders, Liselotte. 2012. "Issues concerning constraints on discontinuous NPs in Latin." *Proceedings of the LFG12 Conference*, ed. by Miriam Butt and Tracy Holloway King, pp. 565–81. Stanford: Center for the Study of Language and Information, Stanford University.
- Srivastav, Veneeta. 1988. "Relative clauses in Hindi and learnability." *Cornell Working Papers in Linguistics* 8: 133–60.
- Thompson, Sandra A. and Robert E. Longacre. 1985. "Adverbial clauses." *Language typology and syntactic description*, ed. by Timothy Shopen, vol. 1, pp. 171–234. Cambridge: Cambridge University Press.
- Yoon, James Hye Suk. 1996. "A syntactic approach to category-changing phrasal morphology: Nominalizations in Korean and English." *Morphosyntax in generative grammar*, ed. by Heedon Ahn, M. Y. Kang, Y. S. Kim, and S. Lee, pp. 63–86. Seoul: Hankuk Publishing Company.