

**The agent and patient of *-tave/ -tavai* infinitives in the *Atharvaveda* tradition:
Insights from Pāṇini's grammar²²²**

Abstract

In Vedic a dative-marked infinitive may co-occur with a dative-marked nominal interpreted as its agent or patient. This raises the question as to whether there is a direct syntactic connection between the nominal and the infinitive. Lühr (1997) and Keydana (2013) arrived at opposite answers, which shows the lack of clear diagnostics to determine the membership of the dative-marked nominal to the infinitival clause or the governing clause. In this study we show that Pāṇini offered an original answer to this selfsame question: by capitalizing on the notion of ‘co-occurrence’ between verbal bases, Pāṇini allows the dative-marked nominal to be simultaneously connected to the dative-marked infinitive and to the governing verb, thereby cutting across the boundaries between governing and infinitival clause. We show that Pāṇini's analysis accounts for all the *R̥gveda* and *Atharvaveda* occurrences of the dative-marked nominal plus the dative-marked infinitive.

1 Introduction: The empirical domain

The present contribution focuses on the earliest Vedic strata, specifically on the *R̥gveda* and the *Atharvaveda*, and deals with sentences that feature two co-occurring datives:²²³ the dative of a

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²²³ Both the Śaunakīya and the Paippalāda recension of the *Atharvaveda* have been considered for this study. It should be pointed out that there is no agreement in modern scholarship on the chronology of the *R̥gveda* and the *Atharvaveda*. However, it is commonly assumed that the recension of the *Atharvaveda* is chronologically intermediate between the recension of the *R̥gveda* (dated to ca. 1200 BCE by Witzel 2019, p. 11) and that of the *Yajurveda* (dated between the 9th and the 7th century BCE by Amano 2022, p. 95).

nominal (or of a noun phrase), and the dative of an infinitive (specifically, a subset of dative-marked infinitives, i.e., *-tave/ -tavaí* infinitives).²²⁴ An example of these sentences is (1), accompanied by a literal translation (*tám*, which modifies *índram*, serves as a sentence connective in accordance with Amano 2009: 57-58).

(1) ŚS 20.137.12ab (= RV 8.93.7)

tám índram vājayāmasi mahé vṛtrāya hántave

Lit. We are inciting this Indra for great Vṛtra (*mahé vṛtrāya*) for smashing (*hántave*).

One naturally understands the dative-marked noun phrase (*mahé vṛtrāya* ‘for great Vṛtra’) as the patient of the dative-marked infinitive (*hántave* ‘for smashing’), i.e., as the entity undergoing the eventuality of smashing.²²⁵

1.1 The goal

When, in languages like English, an infinitive (e.g., *to smash*) is understood as assigning a semantic role (e.g., ‘patient’) to a noun phrase (e.g., *great Vṛtra*), syntactic strategies (notably, a subject-predicate link or a verb-complement relation) are available to codify the semantic role assignment. These strategies consist in directly connecting the infinitive with the noun phrase, as illustrated in (2a-b).²²⁶

(2) a. I invoke this Indra [_{CP} for [_{SC} [_{NP} great Vṛtra] [_{VP} to be smashed]]] .

b. I invoke this Indra [_{CP} Ø [_{SC} PRO [_{VP} to smash [_{NP} great Vṛtra]]]] .

Therefore, one wonders whether Vedic has a syntactic strategy to codify the assignment of the semantic role of ‘patient’ to the noun phrase *mahé vṛtrāya* by the infinitive *hántave* in (1). This question is not a trivial one, as even a cursory look at the morphosyntactic aspects of *-tave/ -tavaí* infinitives reveals.

²²⁴ On the double accentuation of *-tavaí* cf. Thurneysen (1908, p. 226), Klein (1978, pp. 166-167), and Catt (2014, pp. 79-80), among others.

²²⁵ We are using ‘eventuality’ in the technical sense used by Bach (1981, pp. 67-69) and Lowe (2015, p. 95 n. 1), i.e., as anything that can be predicated, including property, state, activity, accomplishment, etc.

²²⁶ The bracketing in (2a) indicates that *to be smashed* (a verb phrase, VP) is predicated of *great Vṛtra* (a noun phrase, NP), thereby giving rise to a subject-predicate link, also known as ‘small clause’ (SC) or predicative nucleus. This predicative nucleus in turn combines with the complementizer *for*, thereby yielding an embedded (or subordinate) infinitival clause, notated as CP (‘complementizer phrase’). By contrast, the bracketing in (2b) indicates that *great Vṛtra* is part of the VP headed by *to smash* since it qualifies as the direct object of *to smash*. This VP (*to smash great Vṛtra*) combines with a silent subject (notated as PRO), controlled by – hence co-referential with – an argument of the matrix clause (in this case, *this Indra*) to form a small clause (SC), which is the predicative nucleus of an embedded infinitival clause (CP) introduced by a silent complementizer (Ø). On the use of small clauses to codify predicative nuclei, see Moro (1997); (2000); (2019). On silent subjects and their interaction with silent complementizers, see the foundational works of Chomsky (1993) [1981] and Rizzi (1982); (1990).

To begin with, from a morphological point of view, *hántave* is the dative singular of the deverbal noun *hántu-* (formed via suffix *-tu*), which also appears inflected in cases other than the dative: e.g., in the ablative (*hántoḥ*) (see Lazzeroni 1997 for a general overview of deverbal nouns ending in *-tu*). To this one should add Zehnder’s (2011) argument that the different grammatical cases appended to the Vedic infinitives speak in favour of the treatment of these infinitives as deverbal nouns at a synchronic level, too. This is because the case endings appended to the Vedic infinitives (e.g., accusative, dative, ablative) are by no means frozen but fulfill the same syntactic and semantic functions as when they are appended to ordinary nouns (see especially Zehnder 2011, pp. 625, 629). Therefore, it may in principle not be unreasonable to assume that the dative-marked infinitive *hántave* is an autonomous, self-standing noun that establishes no direct syntactic connection with the co-occurring dative-marked nominal *mahé vṛtrāya* in (1).

The goal of the present contribution is to develop diagnostics to determine whether Vedic has a syntactic strategy to codify the assignment of semantic roles to dative-marked nominals by dative-marked infinitives in examples like (1).

1.2 The methodology

To reach this goal, we make use of Pāṇini’s grammar (the *Aṣṭādhyāyī*, dating to ca. the 4th century BCE) as an invaluable source of information on Vedic passages like (1): by focusing on the *Aṣṭādhyāyī* rules directly and indirectly dealing with *’tave/ ’tavaí* infinitives, we show that Pāṇini came up with a highly sophisticated system for codifying the semantic relationship (modelled in terms of semantic roles, notably a *kartr* ‘agent’ or a *karman* ‘patient’) between a dative-marked nominal and a dative-marked infinitive in purely syntactic – or morphosyntactic – terms.

Under the assumption that Pāṇini’s rules constitute the best surrogate that exists of a native speaker’s judgements on the Vedic language,²²⁷ we take Pāṇini’s syntactic codification of the semantic relation between a dative-marked nominal and a dative-marked infinitive as evidence that, in sentences like (1), the connection between the dative-marked nominal (e.g., *mahé vṛtrāya* ‘for great Vṛtra’) and the dative-marked infinitive (e.g., *hántave* ‘for smashing’) was, if not real, at least very likely.

Our decision to confine our attention to *’tave/ ’tavaí* infinitives in the *Ṛgveda* and the *Atharvaveda* should also be understood within this Pāṇinian perspective. Thus, pragmatically, the restriction of the empirical domain to a subset of dative-marked infinitives in a subset of Vedic texts makes the cross-check of the Vedic passages with the relevant *Aṣṭādhyāyī* rules more manageable, allowing for more efficient testing of our working hypotheses and consequently for a deeper interpretation of both the

²²⁷ Evidence in favour of this assumption comes from work on rule optionality (Kiparsky 1979), on compounding (Candotti and Pontillo 2022), on the periphrastic future (Lowe 2017).

rules and the textual passages. Furthermore, the restrictive focus on *'tave/ 'tavaí* infinitives – which form a morphologically uniform class – is also methodologically well-grounded, inasmuch as it is in keeping with Gippert's (1984, p. 220) conclusion that genuine generalizations on the use of Vedic (and Avestan) infinitives are more likely to be captured when the infinitives are grouped into a morphologically – as opposed to functionally – uniform class. That said, the extension of this research to cover other Vedic texts and other types of Vedic infinitives is of course a desideratum for the future.

1.3 The structure of this work

This study is organized as follows. In sections 2-3, we shall see that contrasting accounts of the relationship between the dative-marked nominal (e.g., *mahé vṛtrāya* of (1)) and the dative-marked infinitive (e.g. *hántave* of (1)) have been developed in modern linguistics. We show that a major source of disagreement between such modern linguistic accounts lies in the difficulty in allocating the dative-marked nominal to either the matrix or the embedded clause (§4).²²⁸ In sections 5-6, we go on to illustrate how Pāṇini models the relationship between the dative-marked nominal and the dative-marked infinitive: in his model, the boundary between matrix and embedded clauses is not emphasised, the crucial notion for him being that of *dhātu-sambandha* ('relationship between verbal bases'), whereby a verbal base (notably, a matrix clause verb) co-occurs with – or more precisely, is a co-occurring word (*upapada*) with respect to – the infinitival verb. Far from being a disadvantage, the lack of a clearly defined boundary between matrix and subordinate clauses will be shown to account for all the different types of constructions involving a dative-marked nominal and a dative-marked infinitive, as are attested in the two recensions of the *Atharvaveda* as well as in the *Ṛgveda*. Finally, we draw some innovative conclusions.

2. Modern linguistic perspectives

Besides being a powerful methodological tool to diagnose the reality – or more cautiously, the probability – of the connection between the dative-marked nominal and the dative-marked infinitive in the Vedic source texts (see above, section 1.2), Pāṇini's model of this connection is in itself an invaluable system of linguistic analysis: first, it provides insights into the Vedic language that go beyond infinitival clauses; second, this model may contribute to revealing unwarranted – even ideological – assumptions contained in modern-day linguistic theories in that it provides empirically

²²⁸ For convenience, we take 'matrix clause' as a cover term for any clause governing (or embedding) the infinitival clause, regardless of whether the governing clause is a main (i.e., non-subordinate) clause or is itself part of another clause (i.e., a subordinate clause, e.g., a relative clause).

adequate explanations of the data under examination by making use of a theoretical and analytical toolkit that is unknown to such theories (Lowe 2024, p. 215).²²⁹

In this light, Lühr's (1997) and Keydana's (2013) accounts of sentences like (1) will be considered. These modern linguistic analyses represent two contradictory perspectives which make them excellent candidates for exposing the distinctive new feature introduced by Pāṇini's model, which itself presents a third, radically alternative perspective.

2.1. Dative-marked nominals as arguments of the infinitival clause

The first major contribution to the syntax of Vedic dative-marked infinitives to be discussed here is Lühr (1997). Lühr's proposal may be summarized by means of two crucial contentions, the first of which is that the dative-marked infinitive forms a constituent (*Satzglied*) with the dative-marked nominal of the eventuality denoted by the infinitive. In support of this contention, she quotes the example in (3):

(3) RV 9.86.20cd

tritāsya nāma janāyan mādhu kṣarad | indrasya vāyóḥ sakhyāya kártave

‘Den Namen des Trita hervorrufend strömt er Süßes aus, **um Freundschaft** mit Indra und Vāyu **zu schließen**.’²³⁰ (tr. Lühr 1997, p.156)

Lühr notes that, since the infinitive *kártave* ‘to make’ necessarily requires a patient (i.e., it is a bi-argumental verb), the only option available in (3) to satisfy this requirement is to interpret the dative-marked nominal *sakhyāya* as the patient of *kártave* (Lühr 1997, p. 156). Now, in syntactic frameworks (e.g., generative grammar) where argument structure relations (i.e., the relations that a verb entertains with its arguments in terms of semantic roles such as agent, patient, and recipient) are codified by combining the verb and its arguments into a single constituent, the patienthood of *sakhyāya* directly implies that *sakhyāya kártave* qualifies as a single constituent.²³¹

Lühr also notes that, while (3) makes a case for the constituency of the string ‘dative-marked nominal + dative-marked infinitive’ by virtue of the need to combine the dative-marked nominal

²²⁹ See also Kiparsky (2009); Candotti and Pontillo (2019); Mocci (2024).

²³⁰ ‘Evoking the name of Trita, he pours sweetness out in order to strike up a friendship with Indra and Vāyu.’

²³¹ More precisely, in generative grammar, argument structure relations are codified by dedicated syntactic configurations entered by lexical items when they combine in a sentence (see, e.g., Hale and Keyser 1993; 2002). It should be pointed out that, in frameworks like Lexical-Functional Grammar, where argument structure relations (codified at the level of functional structure) are disconnected from considerations of constituency (codified at the level of constituent structure), the usefulness of examples like (3) in proving the constituency of *sakhyāya kártave* vanishes (see, e.g., Dalrymple, Lowe, and Mycock 2019). Cf. also Keydana (2013, p. 132 n. 100), who argues that the requirement for *kártave* to take a patient in (3) does not necessarily have to be satisfied by an overt argument (i.e., *sakhyāya*), inasmuch as a silent pronominal may always be assumed as a patient of the infinitive in Vedic.

(*sakhyāya*) with the dative-marked infinitive (*kārtave*), the example in (4) makes a case for this constituency by virtue of the need to disjoin the dative-marked nominal from the matrix clause verb (thereby letting this nominal combine with the infinitival clause verb):

Daß die Fügung *vr̥trāya hāntave* dabei ein Satzglied bildet, geht daraus hervor, daß der dativische Infinitiv nicht fehlen kann: ‘*Trinke, du Kraftvollster, für Vṛtra!’ gäbe kaum einen Sinn.²³² (Lühr 1997, p. 161)

(4) RV 10.116.1b

pībā vr̥trāya hāntave śaviṣṭha

‘trinke, du Kraftvollster, um den Vṛtra zu erschlagen!’²³³ (tr. Geldner 1951)

2.2. The attributive connection between dative-marked nominals and dative-marked infinitives

After showing that the string ‘dative-marked nominal + dative-marked infinitive’ forms a single constituent, Lühr (1997) endeavours to understand what kind of constituent it is. This is the point where she makes her second, crucial contention regarding the syntax of dative-marked infinitives: namely, that the constituent formed by the dative-marked nominal and the dative-marked infinitive is a noun phrase (NP), where the dative-marked nominal is the NP head and the dative-marked infinitive an apposition thereof.

To prove this second contention, Lühr capitalizes on the following example:

(5) RV 4.58.5ab

etā arṣanti hṛdyāt samudrāc | -śatāvrajā ripúnā nāvacákṣe

‘Diese [Ströme des Ghṛta] fließen aus dem Meer im Herzen, durch hundert Gehege geschützt, von einem Betrüger nicht zu erblicken.’²³⁴ (tr. Lühr 1960, p. 160)

Crucially, in (5) the infinitival clause headed by the dative-marked infinitive *avacákṣe* (*ripúnā nāvacákṣe* ‘not to be seen by a fraudster’) is an apposition of the matrix clause headed by the finite verb *arṣanti* (*etā arṣanti hṛdyāt samudrāc* ‘These flow from the sea into the hearts’). Since infinitives may be appositions of entire clauses, there is no reason why they should not be allowed to serve as appositions of nominals (Lühr 1997, p. 160).

²³² ‘That the construction *vr̥trāya hāntave* forms a constituent here is due to the fact that the dative-marked infinitive cannot be missing: ‘*Do you, most powerful one, drink for Vṛtra’ would hardly make sense.’

²³³ ‘drink, O most powerful one, in order to smash Vṛtra.’ Cf. Jamison and Brereton (2014), who maintain the patientive relationship of *vr̥trāya* with *hāntave* but render it by means of a compound (‘for Vṛtra-smashing’): ‘Drink for Vṛtra-smashing, most powerful one.’

²³⁴ ‘These streams of Ghṛta flow from the sea into the hearts, being protected by one hundred fences, not being visible to a fraudster.’

Accordingly, in the sentence pair (5)-(6), we may distinguish between a subject-predicate link and an attributive connection:²³⁵

(6) RV 10.182.3ab

tápurmūrdhā tapatu rakṣáso yé | brahmadvíṣaḥ śárave hántavā u

‘Let him of scorching head scorch those who are demons; **those who hate the sacred formulation are** for his arrow **to smite.**’ (tr. Jamison and Brereton 2014, p. 1656)

(7) ŚS 4.30.5ab = RV 10.125.6ab

ahám rudráya dhánur á tanomi | brahmadvíṣe śárave hántavā u

‘I stretch the bow for Rudra, for his arrow **to smash the hater of the sacred formulation.**’ (tr. Jamison and Brereton 2014, p. 1603)

Both sentences involve an inflected form of *brahmadvíṣ-* ‘hater of the sacred formulation’ (the subject of the predication) and the dative-marked infinitival predicate *hántavái* ‘to smash’. However, the inflected form of *brahmadvíṣ-* is a subject of the predication and *hántavái* serves as its corresponding predicate in (6), as revealed by the nominative-marking of *brahmadvíṣ-*, whereas the dative-marking of *brahmadvíṣ-* (which shows up as *brahmadvíṣe*) in (7) reveals that *brahmadvíṣ-* is an NP head and that *hántavái* is the apposition of this head.²³⁶ In other words, the absence of a subject-

²³⁵ As is well known, an apposition is a nominal modifier of an NP head, with which it agrees in case: e.g., *vyāghrāt puruṣāt*, ‘from a tiger-man’, where both *vyāghrāt* and *puruṣāt* are nouns, but only one of the two serves as an NP head (see Bauer 2017; Mocchi and Pontillo 2019). Appositions are usually contrasted with attributes, which are adjectival modifiers of an NP head, with which they agree in case, gender, and number: e.g., *śaviṣṭhāt puruṣāt* ‘from a most powerful man’, where *puruṣāt* is the NP head and *śaviṣṭhāt* its adjectival – superlative – modifier (see however Alfieri 2014 on the labile boundary separating nouns and adjectives, and Candotti and Pontillo 2011 for related considerations from a Pāṇinian perspective). For the sake of terminological uniformity with Lühr (1997), we avoid making any distinction between attributes and appositions in what follows and simply refer to the connection between a dative-marked nominal and a dative-marked infinitive as an ‘attributive connection’.

²³⁶ More specifically, *brahmadvíṣaḥ* of (6) is morphologically ambiguous between a nominative plural, an accusative plural, a genitive singular, and an ablative singular. However, the context of this passage makes it clear that *brahmadvíṣaḥ* cannot be taken as an accusative, a genitive, or an ablative. This is because all these options enforce a reading of the infinitival clause (*brahmadvíṣaḥ śárave hántavā u*) as a subordinate clause that expresses the purpose of the eventuality conveyed by the matrix clause (*tápurmūrdhā tapatu rakṣáso yé*): ‘let him of scorching head scorch those who are demons, for his arrow to smash the hater of the sacred formulation/ for his arrow to do the smashing of the hater of the sacred formulation/ for his arrow to do the smashing from the hater of the sacred formulation’. However, it is hard to see how the eventuality in which Bṛhaspati’s arrow smashes the hater of the sacred formulation can be envisioned as a purpose of the eventuality in which Bṛhaspati (referred to as *tápurmūrdhan-* ‘he of scorching head’) scorches the *rakṣás-*demons (of course, the reading of *brahmadvíṣaḥ* as an ablative is most desperate because it suffers from the additional issue of causing the hater of the sacred formulation to be envisioned as a source – i.e., ‘[...] in order for the arrow to do the smashing from the hater of the

predicate link between *brahmadviṣ-* and the infinitive in (7) allows the infinitive to be marked in principle in any case ending, inasmuch as the infinitive would limit itself to ‘copying’, as it were, the case of the nominal of which it is an apposition: ‘Denn dann kann ein solcher attributiver Infinitiv auf jeden Kasus in einem Satz übertragen werden.’ (Lühr 1997, p. 160).²³⁷ The syntax of (7) requires *brahmadviṣ-* to be a dative (as the morphosyntactic codification of the semantic role ‘recipient’, played by the denotatum of *brahmadviṣ-* in the eventuality of stretching the bow denoted by the matrix clause predicate *dhánur ā tanomi* ‘I stretch the bow’). Accordingly, the infinitive also takes on the dative (*hántavaí*).

In sum, the combination of *brahmadviṣ-* with *hántavaí* constitutes a full-fledged clause in (6), but NP in (7). Now, Lühr (1997) makes the following crucial observation:

Bei den attributiven dativischen Infinitiven mit einem dativischen Bezugswort liegen dieselben semantischen Verhältnisse wie bei den prädikativen dativischen Infinitiven vor [...]. (Lühr 1997, p. 161)²³⁸

Thus, *brahmadviṣ-* is interpreted as the patient of the eventuality of smashing denoted by *hántavaí* in (6), where a subject-predicate link holds between *brahmadviṣ-* and *hántavaí*. And yet, this patientive relationship is maintained in (7), where *hántavaí* is no longer related to *brahmadviṣ-* as a predicate, but as an apposition.

Lühr’s analysis finds independent support in the analysis developed within the Port-Royal Abbey in seventeenth century France (Arnauld and Lancelot 1975) for sentences like (8):

(8) *Invisible God created the visible world.*

Port-Royal grammarians analysed this example – where *invisible* and *God* form an attributive connection just as *world* and *visible* do – as involving three distinct underlying sentences, i.e., (9a-c), on account of the fact that the same semantic relationships holding in (8) also hold in (9a-c):²³⁹

(9) a. *God created the world.*

b. *God is invisible.*

c. *the world is visible.*

sacred formulation’ – which is clearly out of place here). This problem disappears if we read *brahmadviṣaḥ* as a nominative plural, in line with Geldner (1951), Renou (1955-1969), Lühr (1997: 162), Keydana (2013: 157), and Jamison & Brereton (2014).

²³⁷ ‘Then such an attributive infinitive can be turned into any case in a sentence.’

²³⁸ ‘In the attributive, dative-marked infinitives the same semantic relations obtain as in the predicative, dative-marked infinitives.’

²³⁹ See Chomsky (2009 [1966], p. 80) for the original discussion of (8)-(9), which popularized Port-Royal grammar in modern linguistics. Cf. Cinque (2010); (2014) for a precise formalization of the correspondence between (8) and (9a-c) in terms of reduced relative clauses.

More specifically, the property of being invisible is ascribed to the entity ‘God’ both when *invisible* combines with *God* via a subject-predicate link (as in (9b)) and when they form an attributive connection (as in (8)), just as the property of being visible is ascribed to the entity ‘world’ both when *visible* and *world* form a subject-predicate link (as in (9c)) and when they form an attributive connection (as in (8)). In this way, the relationship between (8) and (9) is in all relevant respects identical to the relationship between (6) and (7). Therefore, if we are willing to analyse (8) as involving attributive connections (e.g., between *visible* and *God*), there should be no objection to also analysing (7) as involving an attributive connection (between *brahmadviṣe* and *hántavaī*).

All in all, according to Lühr (1997) there is a genuine syntactic relationship between the dative-marked nominal and the dative-marked infinitive in examples like (7), regardless of whether the dative-marked nominal is an agent or patient.²⁴⁰ She identifies this relation with an attributive connection. Therefore, if we go back to our example (1), repeated below as (10), this should be rendered as ‘We are inciting this Indra for great Vṛtra to be smashed’ or – equivalently – as ‘We are inciting this Indra to smash great Vṛtra’ in keeping with her analysis, where the dative-marked NP *mahé vṛtrāya* ‘for great Vṛtra’ is related as a patient to the dative-marked infinitive *hántave* ‘to smash’.

(10) ŚS 20.137.12ab (= RV 8.93.7)

tām indraṃ vājayāmasi mahé vṛtrāya hántave

We are inciting this Indra for great Vṛtra to be smashed.

In the next section we shall see how Lühr’s conclusion was turned upside down by Keydana (2013).

3. Disconnecting syntax and semantics

Keydana (2013) provides three major objections to Lühr’s (1997) attributive connection between dative-marked infinitives and dative-marked nominals, and concludes that, at least when the dative-marked nominal bears the semantic role of patient of the infinitive, it is indeed best characterized as an argument not of the infinitival clause, but rather of the governing clause (i.e., of the clause governing the infinitival clause).

3.1. Against an attributive connection between dative-marked nominals and dative-marked infinitives

The first of these objections is centred on (5), repeated here as (11).

(11) RV 4.58.5ab

etā arṣanti hṛdyāt samudrāc | -śatāvrajā ripúnā nāvacákṣe

²⁴⁰ The examples where a dative-marked agent co-occurs with a dative-marked infinitive will be discussed in detail below (§6.1).

‘Diese [Ströme des Ghr̥ta] fließen aus dem Meer im Herzen, durch hundert Gehege geschützt, von einem Berträger nicht zu erblicken.’²⁴¹ (tr. Lühr 1960, p. 160)

As discussed in the previous section (§2.1), Lühr (1997) analyses (11) as involving an attributive connection between the infinitival clause headed by the dative-marked infinitive *avacákṣe* ‘to see’, ‘to be seen’ and the matrix clause headed by the finite verb *aṛṣanti* ‘they flow’. However, Keydana (2013, p. 126) notes that this analysis is unnecessary: (11) can also be understood as ‘these flow from the sea into the hearts, being endowed with one hundred fences in order not to be seen by a fraudster’, in which case the infinitival clause *ripúnā nāvacákṣe* (‘in order not to be seen by a fraudster’) is not an attributive construction modifying the matrix clause *etā aṛṣanti hṛdyāt samudrāc* (‘these flow from the sea into the hearts’) but an ordinary purpose clause introduced by (or more precisely, syntactically adjoined to) the bahuvrīhi (exocentric) compound *śatāvrajāḥ* ‘endowed with a hundred fences’. This reinterpretation of (11) has dramatic consequences: since (11) was the empirical foundation on which Lühr (1997) built the ability of dative-marked infinitives to enter attributive connections, the fact that (11) involves no attributive connection under Keydana’s reinterpretation casts serious doubts on the very existence of this ability.

The second objection levelled by Keydana at the hypothesis that attributive connections exist between dative-marked infinitives and dative-marked nominals is as follows: even if we were to concede that examples like (11) can be analysed as involving an appositive infinitival clause, we would be faced with the unsurmountable obstacle of justifying the striking contrast between the marginality of examples like (11) in the *R̥gveda* and the high frequency with which infinitives in general (and dative-marked infinitives in particular) are attested in this selfsame text (Keydana 2013, p. 126). It may be useful to read Keydana’s own words in this connection:

‘Leider ist es daher wohl nicht sinnvoll, diese bestenfalls marginale und auf den Nominativ beschränkte Erscheinung als Ausgangspunkt für eine andere zu nehmen, die in der Sprache des RV weit verbreitet ist.’²⁴² (Keydana 2013, p. 126)

Keydana’s (2013, p. 127) third and last major objection is based on example (12):

(12) R̥V 9.61.22

sá pavasva yá ávithéndram vṛtrāya hántave | vavrivāmsam mahīr apāḥ

‘Purify yourself, you who helped Indra to smash Vṛtra, who was obstructing the great waters.’ (tr. Jamison & Brereton 2014, p. 1283)

²⁴¹ ‘These streams of Ghr̥ta flow from the sea into the hearts, being protected by one hundred fences, not being visible to a fraudster.’

²⁴² ‘Unfortunately it is senseless to take this phenomenon [i.e., the attributive connection between the dative-marked infinitive and the dative-marked nominal], which at best is marginal and confined to the nominative, as the starting point for another phenomenon which is widely attested in the language of the *R̥gveda*.’

He correctly points out that, if Lühr’s attributive analysis were extended to (12) – i.e., if an attributive connection were allowed to hold between the dative-marked nominal *vr̥trāya* ‘for Vṛtra’ and the dative-marked infinitive *hántave* ‘to smash’ in (12) – then *hántave* should be interpreted as having passive diathesis (‘which will be smashed’) in (12).²⁴³ However, the passive diathesis of *hántave* in (12) can hardly be reconciled with the fact that this verb assigns accusative case to *vavrivás-* ‘the one who has enclosed’ in this sentence: *hántave* should be assumed to have active diathesis instead. Therefore, if we commit to the existence of an attributive connection between *vr̥trāya* and *hántave* in (12), we are again faced with an unsurmountable obstacle, namely that of justifying how a verb with passive diathesis (i.e., *hántave*) can assign accusative case in (12) (Keydana 2013, pp. 127, 133).²⁴⁴

3.2. Against the existence of patientive dative-marked nominals

In the light of the difficulties encountered by the hypothesis that an attributive connection holds between dative-marked nominals and dative-marked infinitives, Keydana (2013) rejects this hypothesis. However, rather than replacing the attributive connection with another kind of syntactic relationship that directly ties dative-marked nominals to dative-marked infinitives, he endorses the view that there is no syntactic relationship whatsoever between dative-marked nominals and dative-marked infinitives, at least when the dative-marked nominals bear the semantic role of patient. Let us consider how.

To start with, Keydana (2013, pp. 130-131) adopts Hettrich’s (1984, pp. 62-66) conclusion that, when a dative-marked nominal co-occurs with a dative-marked infinitive, the dative-marked nominal can always in principle be taken as an argument (specifically, a *dativus commodi* or *incommodi*) of the matrix clause, which is syntactically independent of the infinitive.²⁴⁵ This means that an example like

²⁴³ To illustrate this point, let us note that the subject-predicate link corresponding to the attributive connection *vr̥trāya hántave* of (12) involves a syntactically passive infinitive, in the sense that its subject serves as the patient of the eventuality of smashing denoted by the infinitive under Lühr’s perspective. This is shown in the following constructed example (the artificiality of this example is indicated by the asterisk):

(i) **vr̥tró hántave*

Vṛtra is to be smashed.

Now, as discussed above (§2.2), the semantic relationship holding between a nominal and its co-occurring infinitive remains unvaried when a subject-predicate link is transformed into the corresponding attributive connection. As a consequence, the string *vr̥trāya hántave* of (12), which is the attributive counterpart to the subject-predicate link in (i), must also be considered as involving a passive infinitive.

²⁴⁴ Keydana (2013, pp. 127-130) raises further empirical, theoretical, and methodological objections to the existence of attributive connections between dative-marked nominals and dative-marked infinitives. Space constraints prevent us from discussing them here.

²⁴⁵ Hettrich’s conclusion is also advocated for by Zehnder (2011, p. 626).

(12) – which as we saw was problematic under Lühr’s (1997) assumption of an attributive connection – should be interpreted along the lines of (13):

(13) RV 9.61.22

sá pavasva yá ávithéndram vṛtrāya hántave | vavrivāṃsam mahīr apáh

‘[...] der du den Indra **gegen Vṛtra** unterstützt hast, **damit er** ihn töte, der die [großen] Wasser **eingeschlossen hielt**.’²⁴⁶ (tr. Keydana 2013, p. 133)

In accordance with Keydana’s interpretation, given in (13), *vṛtrāya* ‘against Vṛtra’ is not the patient of the eventuality of smashing denoted by *hántave*, but rather a *dativus incommodi*, expressing the entity disadvantaged by the eventuality of supporting Indra denoted by the predicate of the governing clause (*ávitha-/índram*). Indeed, the patient of the eventuality of smashing denoted by *hántave* is the substantivized perfect participle *vavrivāṃsam* ‘the one who has restrained (the great waters)’, which is regularly codified as the direct object of *hántave* and accordingly accusative-marked.

While Keydana’s analysis of (13) is straightforward, the question arises as to how to deal with examples like (14) – parallel to (7) and (10) – where the serpent denoted by the dative-marked nominal (*áhaye*) can only be understood as being the patient of the eventuality of smashing denoted by the dative-marked infinitive (*hántavai*):

(14) RV 8.96.5ab

á yád vájram bāhvór indra dhátse | madacyútam áhaye hántavā u

‘When, o Indra, in your two arms you took the mace stirred by exhilaration, **to smite the serpent**’ (tr. Jamison and Brereton 2014, p. 1200)

Indeed, Keydana (2013, p. 131) shows that, with some minor adjustments and appropriate formalization, it is possible to extend Hettrich’s analysis to (14) too. Thus, the dative-marked nominal can and should be considered as an argument of the matrix clause, as opposed to the infinitival clause headed by the dative-marked infinitive. Keydana now argues that the semantic relationship between *áhaye* ‘for the serpent’ and *hántavai* ‘to smash’ is disconnected from the syntactic relationship between *áhaye* and *hántavai*, in the sense that the fact that *áhaye* is the patient of the eventuality of smashing denoted by *hántavai* does not in itself imply that *áhaye* and *hántavai* constitute a syntactic unit (a constituent):

‘*Áhi-* ist zweifellos das Thema von *hántavai*. Damit ist allerdings noch nicht gesagt, dass es auch in einem syntaktischen Zusammenhang mit dem Infinitiv stehen muss. *HAN* ist zwar zweiwertig und

²⁴⁶ ‘you who have supported Indra against Vṛtra, in order that he may kill the one who held the great waters enclosed.’

fordert notwendig ein Objekt, das aber kann in diesem Fall wie auch sonst im Altindischen durchaus kovert sein.²⁴⁷ (Keydana 2013, p. 128)

Thus, the interpretation of (14) whereby *áhaye* is an argument (direct object) of the infinitival clause headed by *hántavaí* is assigned the schematic representation in (15a) and corresponds to the translation by Jamison and Brereton (2014) reported in (14). On the other hand, Keydana’s interpretation of (14) whereby *áhaye* is a *dativus incommodi* that does not belong to the infinitival clause headed by *hántavaí*, but rather to the governing clause headed by *dhátse* ‘you took’, is assigned the schematic representation in (15b), and corresponds to the translation ‘When, o Indra, in your two arms you took the mace stirred by exhilaration against the serpent, in order to smite it’:²⁴⁸

(15) a. $\acute{a} yád vájram bāhvór indra dhátse | madacyútam \{áhaye hántavā u\}$

b. $\acute{a} yád vájram bāhvór indra dhátse | madacyútam áhaye_i \{pro_i hántavā u\}$

In this way, *pro* of (15b) may be viewed as the silent counterpart to the accusative-marked substantivized participle *vavrivāmsam* ‘the one who has restrained (the great waters)’ of (13): in Keydana’s account the feeling that *áhaye*, as the patient of the eventuality of smashing denoted by *hántavaí*, is the direct object of *hántavaí* is merely an acoustic or optical illusion, ultimately due to the co-referentiality of *pro* with *hántavaí* in (15b), paralleling the co-referentiality of *vṛtráya* with *vavrivāmsam* in (13). More explicitly, the impossibility of hearing or seeing *pro*, combined with the co-referentiality of *pro* with the patientive dative-marked nominal (*áhaye*), fools us into believing that the infinitive (*hántavaí*) is syntactically connected to that nominal, although it is in fact *pro*, not the nominal, that is syntactically connected to the infinitive.

All in all, in Keydana’s account, the syntactic connection between the patientive dative-marked nominal and the infinitive is not simply accidental, but rather non-existent. In this perspective, the category of ‘patientive dative-marked nominal’ results as being a mere notational convention that reflects the co-referentiality of that nominal with *pro*, which is the real patient and argument (direct object) of the infinitive.

²⁴⁷ ‘*áhi-* is no doubt the theme of the *hántavaí*. However, this is not to say that it must also stand in a syntactic relation to the infinitive. It is true that *HAN* is bivalent and necessarily requires an object, but this may definitely be covert in this case, as is common in old Indo-Aryan.’ Note that, although Keydana does not directly mention the semantic role ‘patient’ in this quote, the patient is subsumed in his notion of theme, which closely corresponds to Fillmore’s (1968, p. 47) ‘Objective’ case, as noted by Lowe (2024, p. 112 n. 3).

²⁴⁸ These representations are adapted from Keydana (2013, p. 129). The coindexing of *pro* with *áhaye* (i.e., *áhaye_i* ... *pro_i*) indicates that the silent pronominal is bound by *áhaye*: this binding enforces the co-referentiality of the pronominal with *áhaye*, i.e., the fact that they have the same referent (the serpent). Here we are abstracting away from the technicalities of Keydana’s account, which is couched in the framework of Lexical-Functional Grammar (e.g., Börjars, Nordlinger, and Sadler 2019; Dalrymple, Lowe, and Mycock 2019). See however Keydana (2013, pp. 123-124) for a precise f-structural representation of examples involving a dative-marked patient, where the aforesaid binding relation is dealt with as an instance of ‘control’ (German *Kontrolle*), which may also be arbitrary.

3.3. Agents and reanalysis

The examples discussed so far with reference to Keydana’s analysis all involve a dative-marked patient co-occurring with a dative-marked infinitive. The question to be addressed now therefore is how Keydana analyses examples like (16), where the dative-marked infinitive co-occurs with a dative-marked agent.²⁴⁹

(16) *Atharvaveda Śaunakīya* 5.18.1ab

nāitām te devā adadus | tūbhyam nṛpate āttave

The gods have not given this (= the Brahmin’s cow) to you in order that you, O lord of men, will eat it.

In this case, too, we may view Keydana’s account as a formalization and extension of an intuition by Hettrich, which is reproduced here:

‘Standen in einem Satz der Dativ eines n.act. und eines Konkretums, das zu jenem zunächst nur rein semantisch einen Agensbezug aufwies, in Kontakt, so konnte das Konkretum auch syntaktisch als dem n.act. zugehörig verstanden werden. Damit bestand ein Muster zur Bildung weiterer Syntagmen, deren Dative nicht mehr unabhängig voneinander im Satz fungieren.’²⁵⁰ (Hettrich 1984, pp. 76)

In other words, Hettrich assumes that dative-marked agents, just like dative-marked patients, were originally arguments (*dativi commodi* or *incommodi*) not of the infinitival clause but rather of the governing clause. However, while any dative-marked patients occurring in the *Rgveda* can, and indeed should, be considered as arguments of the governing clause, there is evidence of a development which transformed dative-marked agents from arguments of the governing clause into arguments of the infinitival clause in the *Rgveda* (Keydana 2013, pp. 135-143). Keydana dubs this development as ‘reanalysis’ (German *Reanalyse*), whose essence may be captured by means of the schematic representations in (17), adapted from Keydana (2013, p. 140).

(17)a. *John bought the piano for Mary_i {pro_i to practice on}*.

b. *John bought the piano {for Mary to practice on}*.

The technical details of reanalysis as a linguistic process are discussed in Keydana (2013, pp. 138-141) but may be set aside here since the main objective of this section was to show the differences between Lühr’s (1997) and Keydana’s (2013) accounts. Since we have also shown that these accounts

²⁴⁹ A detailed analysis of this example is provided in §6.1.

²⁵⁰ ‘If a dative of a *nomen actionis* [i.e., a dative-marked infinitive] and of a concrete noun [i.e., a dative-marked nominal], which initially entertained an agentive relationship with that on a purely semantic basis, remained adjacent in a sentence, the concrete noun could be understood as belonging to the *nomen actionis* on a syntactic basis, too. In this way a model obtained for the formation of further phrases, whose datives no longer function as independent of one another in a sentence.’

agree on the dative-marked agent being an argument of the infinitival clause headed by the dative-marked infinitive, we will not go into any further details here.

In sum, Keydana's (2013) analysis of examples like (18), identical to (10) above and involving a dative-marked patient that co-occurs with a dative-marked infinitive, can be viewed as standing in contradiction to Lühr's (1997) analysis:

(18) ŚS 20.137.12ab (= RV 8.93.7)

tām indraṃ vājayāmasi mahé vṛtrāya hántave

We are inciting this Indra against great Vṛtra, in order to smash him (= Vṛtra).

While Lühr endorses an attributive connection between *mahé vṛtrāya* and *hántave*, Keydana takes *mahé vṛtrāya* as syntactically connected only to the predicate of the matrix clause (*vājayāmasi*): in his account, *mahé vṛtrāya* is a *dativus incommodi* ('against Vṛtra') governed by *vājayāmasi* and expressing the entity which is disadvantaged by the eventuality of invoking denoted by *vājayāmasi*.

4. On the relativity of clausal subordination

In the previous sections (§§2-3) we compared Lühr's (1997) and Keydana's (2013) major analyses of dative-marked nominals co-occurring with dative-marked infinitives. We saw that these analyses yield contradictory answers to our research question, i.e., in examples like (18) the connection between the dative-marked nominal and the dative-marked infinitive is either real (Lühr) or non-existent (Keydana).²⁵¹

However, the purpose of the comparison between Lühr's and Keydana's analyses was not to decide which was a better analysis – both offer valid arguments that may be considered as more or less compelling depending on one's own theoretical convictions. Indeed, the purpose of this comparison was to expose a fundamental difference that opposes both analyses to Pāṇini's model. Thus, the ultimate source of the disagreement between Lühr's and Keydana's analyses lies in the absence of a diagnostic that can clearly determine whether the dative-marked nominal is an argument of the infinitival clause headed by the dative-marked infinitive, or of the governing clause: Lühr opts for the former option, while Keydana opts for the latter.

Now, Pāṇini's model crucially differs from both Lühr's and Keydana's analyses in that it lacks the notions 'sentence', 'matrix clause', 'subordinate clause'.²⁵² Nonetheless, Pāṇini is able to deal with

²⁵¹ It may be worth reiterating that, according to Keydana, what bears a syntactic connection to the infinitive in examples like (18) is not the dative-marked nominal, but rather a silent pronominal co-referential with the dative-marked nominal. See §3.2 above.

²⁵² It therefore comes as no surprise that Pāṇini's model also lacks the notions 'subject' and 'predicate' (Mocci and Pontillo 2020), which have been considered as the fundamental building blocks of any sentence ever since Aristotle (Moro 2019). Cf. Moro (2017) for a historical perspective on predication, with a focus on copular sentences. Cf. also

all the syntactic phenomena that could be handled in terms of the distinction between subordinate and matrix clauses by means of a relatively simple notion, that is the co-occurrence between two verbal bases (*dhātu-*). To illustrate this point, let us consider the following rule from the *Aṣṭādhyāyī* [A for short]:

A 3.3.158

samānakartṛkeṣu tumun [pratyayaḥ 3.1.1] [paraś ca 3.1.2] [dhātoḥ 3.1.91] [icchārtheṣu 3.3.157]

Affix *-tum* is introduced after a verbal base V_2 co-occurring with another verbal base V_1 which has the meaning of *iṣ-* ‘to wish for’, provided that V_1 and V_2 have the same agent.

As is often the case when dealing with Pāṇini’s grammar, the devil is in the details. In particular, the key to the interpretation of this rule is a locative-marked word that, despite not being directly included in the rule, is to be understood as recurring therein as a result of a technical mechanism dubbed as *anuvṛtti*. The word at stake is *icchārtheṣu*, continued from A 3.3.157 and modifying *dhātoḥ* (also continued from a previous rule, i.e., A 3.1.91). *icchārtheṣu* introduces a special condition: not simply ‘when [any verbal bases (*dhātoḥ*)] are used in the meaning of *iṣ-*’, but rather ‘when [any verbal bases (*dhātoḥ*)] used in the meaning of *iṣ-* co-occur with *-tum* infinitives’. This prompts the question as to the origins of this reference to the co-occurrence of verbal bases whose meaning is *iṣ-* ‘to wish for’ with *-tum* infinitives. Indeed, A 3.3.158 falls under the scope of the heading rule A 3.1.92:

A 3.1.92

tatropapadaṃ saptamīstham

What is marked with the locative here (i.e., in a rule of the section headed by A 3.1.91: *dhātoḥ*) goes under the rubric *upapada* (i.e., co-occurring unit).

It is this rule which allows the verbal bases used in the meaning of *iṣ-* (*icchārtheṣu*) to acquire the status of *upapada* ‘co-occurring word’ with respect to *-tum* infinitives, on the grounds that *icchārtheṣu* is a locative-marked word (*saptamīstham*) in A 3.3.158. In this way, A 3.3.158 teaches that, in traditional examples like (19), the verb form *icchati* ‘he wishes’ (V_1) co-occurs with the *-tum* infinitive *bhoktum* ‘to eat’ (V_2), and the agent of the wishing eventuality denoted by *icchati* is the same as the agent of the eating eventuality denoted by *bhoktum*, in compliance with the *samānakartṛkeṣu* requirement (see Cardona 1997, p. 174):

(19) *icchati bhoktum*

He wishes to eat.

Thus, Pāṇini does not need to make any reference to the status of *bhoktum* as a subordinate clause in order to license sentences like (19): he only needs the notion of co-occurring word (*upapada*).

Lowe (2024, pp. 41-54) for a detailed illustration of how Pāṇini derives a sentence without recourse to the notion of sentence.

All in all, the breakdown of sentences into matrix (or governing) and subordinate clauses, which plays a central role in Lühr's and Keydana's models, has no part in Pāṇini's model, which instead capitalizes on the notion of co-occurrence between verbal bases. This has dramatic implications: if there is no notion of subordinate clause in Pāṇini's model, the question as to whether the dative-marked nominal does or does not belong to the infinitival clause (which is a special type of subordinate clause) becomes something of a moot point.²⁵³

One may now be tempted to immediately dismiss Pāṇini's model as blatantly inadequate insofar as it fails to capture the phenomenon of clausal subordination that features prominently in any modern linguistic descriptions.²⁵⁴ However, it may be worth noting that the notion of clausal subordination as is used in modern linguistics (i.e., as the phenomenon whereby a clause can be embedded within another clause) has its roots in the Port-Royal grammarians' concept of 'incidental proposition': by means of this concept, the Port-Royal grammarians grouped a series of previously disconnected clauses – i.e., clauses serving as subjects, as complements (of a noun, an adjective, a preposition, or a verb), as adjuncts (i.e., circumstantial or adverbial clauses, such as purpose clauses, *if*-clauses, temporal clauses, causal clauses, concessive clauses, etc.), as well as relative clauses – into one and the same class (Graffi 2006, p. 15). It is this class of 'incidental propositions' that served as the basis for the development of the notion of 'clausal subordination' in the French grammars of the age of the Enlightenment (Graffi 2006, p. 12). Thus, the modern linguistic notion of subordinate clause made its appearance relatively late in the Western grammatical tradition, i.e., no sooner than the 18th century CE.²⁵⁵

All in all, far from being a sempiternal part of any grammatical model, the 'clausal subordination postulate' may be dropped. A grammar where this postulate was indeed dropped – a 'non-Euclidean grammar', as it were – is Pāṇini's *Aṣṭādhyāyī*. In the remainder of this contribution, we shall show

²⁵³ Note that our claim on the absence of clausal subordination in Pāṇini's grammar has nothing to do with Viti's (2007); (2013) claim on the underdevelopment of subordination in Vedic: our claim is not that a given corpus of Vedic texts contains no data that could be analysed as genuine subordinate clauses from a modern perspective, but rather that Pāṇini's grammar does not contain a notion 'subordinate clause' among its analytical tools.

²⁵⁴ For a formal perspective on subordination, see the foundational works of Chomsky (1973); (1977) and Cinque (1990). For a functional perspective, see Cristofaro (2003).

²⁵⁵ Note that the idea that a clause may be part of another clause is much older than the 18th century. For example, traces of this idea can already be found in the works of the Stoics as well as of Boetius (Graffi 2006, p. 15). To this we may add that Bhaṭṭhari introduced a distinction between main and subordinate *kriyās* 'actions' that may also be understood in terms of the containment of a clause into another clause (see below, §9). However, Graffi (2006, p. 15) points out that it is only with the Port-Royal grammarians that the range of clauses allowed to be part of other clauses was extended so as to include any embedded clauses, thereby ultimately permitting the development of the modern linguistic notion of subordinate clause.

that this grammar provides an extremely interesting, alternative perspective on the dative-marked nominals which co-occur with dative-marked infinitives.

5. A substitute infinitive affix

Within Pāṇini's general framework of the sentence syntax depicted above, let us now see how Pāṇini accounts for the usages of the structures involving infinitives with the affix *-tave/-tāve/-tavái*. The general rule indeed restricts the use of several affixes, including *-tave/-tāve/-tavái*, exclusively to the Vedic Saṃhitās (*chandasi*).²⁵⁶

A 3.4.9

tumarthe sesenaseasenksejasenadhyaiadhyainkadhyaikadhyainśadhyaiśdhyaintavai taveñtavenaḥ [*chandasi* 6 *dhātoḥ* 3.1.91]

After a verbal base in the Vedic Saṃhitās, the affixes *se, seN, ase, aseN, Kse, KaseN, adhyai, adhyaiN, Kadhyai, KadhyaiN, Śadhyai, Śadhyain, tavai, taveñ, taveN*²⁵⁷ occur in the sense of *tum*.

What is most noteworthy is the fact that Pāṇini teaches to use these affixes in the sense conveyed by the accusative infinitive affix *-tum*, which was the standard infinitive affix at his age. It is well-known in fact that there are only five occurrences of the accusative infinite in the *Ṛgveda* (Avery 1876, p. 230; McDonell 1910, p. 408) and we only singled out five occurrences in the Śaunakīya Saṃhitā and seven in the Paippalāda Saṃhitā,²⁵⁸ but from the Brāhmaṇas onwards the accusative infinitive became almost twice as frequent as the dative.

5.1 Pāṇini's rules on the uses of *-tum*

Thus, we need to understand the sense of *-tum* according to Pāṇini, who devoted five rules to the use of this verbal affix. The most general one is as follows:

A 3.3.10

tumunḥvulau kriyāyāṃ kriyārthāyāṃ [*dhātoḥ* 3.1.91 *kṛt* 3.1.93 *bhaviṣyati* 3]

²⁵⁶ The semantic constraint *chandasi* is used in more than two hundred rules of Pāṇini's *Aṣṭādhyāyī* devoted to Vedic special features. It plausibly refers to the four Vedic Saṃhitās, according to the interpretation given by Kiparsky (2012, p. 4). Prior to this interpretation, Kiparsky (1979, p. 56) himself endorsed Thieme's (1935, p. 67-72) translation of *chandasi* as 'in the sacred literature'. It is extremely important to remember that Pāṇini's rules, where not otherwise specified, apply both to the Vedic language and to the contemporary standard language of his time. See Renou 1941, pp. 248-249; Renou 1955; Renou 1969, pp. 992-993; Bronkhorst 1982, p. 278; Deshpande 1985, pp. 124; 140-141.

²⁵⁷ *taveñ* corresponds to the affix *-tave* and *taveN* to *-tāve*, clearly distinct in terms of their pitch accent.

²⁵⁸ ṚV 1.164.4; 3.48.1; 5.36.1; 5.79.10; 10.2.3; ŚS 9.9.4; 10.1.26; 11.5.3; 12.4.31; 19.59.3; PS 11.2.9; 16.37.6; 16.66.4; 16.153.2; 17.19.1; 19.32.12; 20.39.3

[When the action refers to a general future 3 the affixes *kṛt* 1.93] *tumUN* and *ṆvuL* are introduced [after 1.2 a verbal base 1.91] co-occurring with an action whose purpose is [another] action.²⁵⁹

One of the two crucial constraints for the use of *-tum* is the relation of co-occurrence between two verb forms, one of which has another action as its purpose, namely co-occurrence between the purpose clause expressed by the infinitive form and the governing clause. An easy commentarial example is (20) while (21) is an Atharvavedic example:

(20) *rāmo bhoktum odanam pacati*

Rāma is cooking rice to eat [it].

(21) (ŚS 12.4.31cd ~ PS 17.19.1cd)

tāto ha brahmāṇo vaśām upapráyanti yācitum

Then the Brahmins are coming near to ask for the barren cow.

In (20) and (21) respectively, the verb forms *pacati* ‘he²⁶⁰ is cooking’ and *upapráyanti* ‘they are coming near’ are the *upapadas*, i.e., the co-occurring items with respect to the infinitives *bhoktum* ‘to eat’ on the one hand and *yācitum* ‘to ask’ on the other. The purpose of *pacati* and *upapráyanti* is respectively the action conveyed by *bhoktum* and *yācitum*. As far as the *consecutio temporum* is concerned, in (20) the infinitive *bhoktum* refers to a point in time after Rāma performs the action of cooking: Rāma is cooking now for the purpose of eating the rice in the near future. In (21), the infinitive *yācitum* refers to a point in time after the Brahmins perform the action of coming near.

There are another four *Aṣṭādhyāyī* rules relating to the infinitive in *-tum*. All of them teach lexical restrictions for the selection of the *upapada* by means of nominal stems inflected in the locative case in accordance with A 3.1.92.

The first rule exclusively selects verbal bases whose meaning is ‘desire’ and adds a further constraint, namely that the agent of the desired action must be the same as the agent of the action conveyed by the *upapada*, i.e., by the verbal form conveying the action of desiring itself.

A 3.3.158

samānakarṭṛkeṣu tumun [*dhātoḥ* 3.1.91 *kṛt* 3.1.93 *dhātau* 155 *icchārtheṣu* 157]

[The affix *kṛt* 1.93] *tumUN* occurs [after 1.2 a verbal base 1.91 co-occurring with verbal bases 155 whose meaning is ‘desire’ 157] provided the two (or more) share the same agent.

(22) *rāmo grāmaṃ gantum icchati*

²⁵⁹ The present translation of the phrase is inflected in the locative case (*kriyāyāṃ kriyārthāyāṃ*) in this rule and depends on the metalinguistic use of this case for the so-called *upapada*, as it is taught in A 3.1.92: *tatropapadam saptamīstham* [*dhātoḥ* 91] ‘In this section (i.e. that governed by the *adhikāra dhātoḥ* starting from A 3.1.91), a co-occurring word (*upapada*) occurs in the locative case.’

²⁶⁰ We only use the masculine pronoun, because this was the prototypical agent in the Vyākaraṇa tradition and in technical literature in general. See Deshpande 1991, p. 471.

He wishes to go to the village.

In terms of *kāraḥas*, the infinitive *gantum* plays the role of *karman* with respect to the action (*kriyā*) conveyed by the *upapada icchati*.²⁶¹

The following rule does not include any verbal *upapada*; the infinitive co-occurs with a nominal (conveying the sense of ‘[appropriate] time’), which plays the role of a noun phrase.

A 3.3.167

kālasamayavelāsu tumun [*dhātoḥ* 3.1.91 *kṛt* 3.1.93]

[The affix *kṛt* 1.93] *tumUN* occurs [after a verbal base 1.91] co-occurring with *kāla-*, *samaya-*, and *velā-* ‘time’.

(23) *kālo bhoktum*

It is time to eat.

The relationship between the infinitive and its *upapada* is neither that of purpose nor that of being the patient and therefore Pāṇini devotes a special rule to this usage of the infinitive.²⁶²

The next rule mainly selects modal and phraseological verbs as *upapadas*. This rule is included in a section devoted to affixes applied to verbal bases that are in some relationship with another verbal base (*dhātusambandhe pratyāyāḥ*), as taught by A 3.4.1.

A 3.4.65

śakadhṛṣajñāglāghaṭalabhakramasahārḥāstyarthēsu tumun [*dhātoḥ* 3.1.91 *kṛt* 3.1.93]

The affix *kṛt* 1.93] *tumUN* occurs [after a verbal base 1.91] co-occurring with (the verbal bases) *śak-* ‘to be able to’, *dhṛṣ-* ‘to dare, to have courage to’, *jñā-* ‘to know’, *glā-* ‘to tire’, *ghaṭ-* ‘to strive’, *rabh-* ‘to begin’, *labh-* ‘to obtain’, *kram-* ‘to walk’, *sah-* ‘to be able to’, *arḥ-* ‘to deserve’ and with linguistic items whose meaning is *as-* ‘to be, to exist’. Here, the whole series of examples of the *Kāśikā-Vṛtti* on this rule is as follows.²⁶³

²⁶¹ Pāṇini does not explicitly teach this role of *karman* for the infinitive here. However, it can be deduced from the rule devoted to desiderative verbal bases, which are indeed considered equivalent in meaning to the combination made up of an infinitive with its *upapada* verbal form meaning ‘to wish’. A 3.1.7: *dhātoḥ karmaṇaḥ samānakartṛkād icchāyāṃ vā* [*san* 5] ‘[The affix *saN*] preferably occurs to denote “wish” after a verbal base expressing the patient and having the same agent’.

²⁶² Patañjali (M 2.167 ll. 10-11 *ad* A 3.4.3.167) considers that a part of the wording of the previous rule, namely *praiśātisargaprāptakāleṣu* ‘to denote an order, permission, appropriate time’ continues from A 3.3.163, so that the relevant examples should be interpreted ‘in the context of ordering, granting permission, and showing propriety of time’ (Deshpande 1980, p. 32).

²⁶³ There are some good examples of this rule in the Atharvaveda Saṃhitās. See e.g. ŚŚ 10.1.26cd (= PS 16.37.6) *mṛgāḥ śa mṛgayúś tvāṃ ná tvā nīkartum arhati* ‘It is a deer, you are a deer-hunter; it is unable to overcome you.’ Cf. PS 11.2.9ab *yathā na satyaṃ puruṣaḥ sadā vaditum arhati* ‘Just as a man is not up to the task of always telling the truth’.

(24)(a) *śaknoti bhoktum*, (b) *dhr̥ṣṇoti bhoktum*, (c) *jānāti bhoktum*, (d) *glāyati bhoktum*, (e) *ghaṭate bhoktum*, (f) *ārabhate bhoktum*, (g) *labhate bhoktum*, (h) *prakramate bhoktum*, (i) *sahate bhoktum*, (l) *arhati bhoktum*, (m) *asti bhoktum*, (n) *bhavati bhoktum*, (o) *vidyate bhoktum*.

(a) He is able to eat, (b) he dares to eat, (c) he knows how to eat, (d) he becomes weary of eating, (e) he strives to eat, (f) he begins to eat, g) he obtains food for eating, (h) he starts to eat, (i) he endures eating, (l) he deserves to eat, (m), (n), (o) there is food here. (tr. Sharma 1987-2003, vol. III, pp. 634-635)

As noticed by Deshpande (1980, p. 31), the infinitive is neither the purpose (*tādarthya*) nor the patient (*karman*) of the *upapada*, so that ‘Pāṇini is quite right in providing a separate rule to account for these usages. This is the third underlying relationship and may be described by the term *viṣayaka-‘concerning, in the matter of’ [...]*. For instance, Deshpande (1980, p. 31) describes the relationship between the infinitive and its *upapada* in the sentence *rāmaḥ gantum śaknoti* in terms of *gamana-viṣayaka-śakti* ‘ability with respect to the action of going’. In our opinion, the final part of the rule, i.e. the last constraint (*asty-artheṣu*) on the list of admitted *upapadas* for the infinitives in *-tum* taught in this rule, refers to the meaning conveyed by a copula in a nominal clause, which only becomes part of the surface level of the language if it is not used as the third singular person of the indicative present. Nonetheless, it is tempting to interpret this constraint along the same lines as the previous list of lexical verbs in this rule. Just paying attention to the fact that there is no personal agent of the action conveyed by those *upapadas*, one could read the three final examples (24m), (24n), and (24o) as if the sense were ‘There is the possibility, there is the condition to eat’. In other words, the meaning of these three examples might have been ‘there is something to eat, i.e., there is food’, which means that ‘there is a chance to eat’. The KV examples might indeed be somewhat limited because in our opinion this portion of A 3.4.65 also covers personal nominal clauses, as will be shown below by a couple of occurrences of the substitute *-tave*. The common thread running through the series of *upapadas* listed in this rule is their nature as ‘light’ verbs: i.e. the events denoted by the verbs of the commentarial examples are not controlled by the agent. Therefore, the infinitives combined with them (in a *dhātusambandha* relationship according to A 3.4.1) cannot constitute their purpose. In other words, these verbs do not convey a *kriyā kriyārthā* ‘an action whose purpose is another action’ as taught by A 3.3.10 and, consequently, the infinitives with which they are constructed need to be made the object of a specific rule. The present interpretation of rule A 3.4.65 is not fully aligned with its common reading, even though the emphasis traditionally placed on the sense of ‘being in a condition of being able or required to do something’ conveyed by these *upapadas* is not incompatible with the interpretation of the rule advanced here.

The next rule is quite similar to A 3.4.65 in the meaning conveyed by the *upapada*, even though the latter is not a verb.

A 3.4.66

paryāptivacaneṣv alamartheṣu [*dhātoḥ* 3.1.91 *kṛt* 3.1.93 *tumun* 65]

[The affix *kṛt* 1.93 *tumUN* occurs after a verbal base 1.91 co-occurring with expressions of adequacy whose meaning is ‘enough’.

(25)(a) *rāmo gantum alaṃ* / (b) *gantum pārayati*²⁶⁴

He is capable of going (i.e., he is able to go).

Deshpande (1980, p. 32) analogously describes the relationship between the infinitive and its *upapada* in example (25a) as *gamana-viṣayaka-paryāpti*, i.e., ‘sufficiency in the matter of going’. The nature of *upapadas* mentioned here cannot be described in terms of A 3.3.10. Consequently, the infinitives that accompany them need to be taught explicitly by a dedicated rule.

5.2 Do all the rules taught for *-tum* have to be applied to *-tave* and *-tavai* on the basis of A 3.4.9?

Indeed, according to Deshpande (1980, p. 53), *tum-artha* in A 3.4.9 (and A 2.3.15 – see below § 6) is not meant to cover all the meanings of *tumUN* taught in A 3.3.10, i.e. the agent, future and purpose, but only the meaning exclusively denoted by *tumUN*: ‘Whereas there are other affixes denoting the meanings of ‘agent’ and ‘future’, only the affix *-tumUN* taught by A 3.3.10 exclusively and invariably denotes the meaning of purpose (*tādarthya*).’ Nonetheless, at least on the basis of some occurrences of *-tave* which seem to comply with the constraints of other rules taught for *-tum*, e.g. A 3.4.65 (see below fn. 45), we consider that all the rules devoted to *-tum* with all the details they include should be taken into account when *tumarthe* applies to *-tave*. Moreover, we consider that the meaning of agent can be assigned to *-tave*, because it is a *kṛt* and any *kṛt* conveys the meaning of agent by default (see below, §6), so that it might even be useless to infer it from *-tum*. Nonetheless, at least the sense of future needs to be applied by means of A 3.3.10 and our *corpus* of *-tave* occurrences shows that the future tense is actually conveyed by the infinitive with respect to its matrix clause.

Let us now revisit some of the problematic examples examined in the previous paragraphs. We will try to understand how Pāṇini’s grammar could account for them based on the survey of all the occurrences of *-tave* and *-tavai* included in the *Ṛgveda*, *Śaunakīya Atharvaveda*, and *Paippalāda Atharvaveda*.

6. Focus on the issue of the dative infinitive in *-tave* with a dative-marked agent

Let us read some examples of infinitives in *-tave* accompanied by a dative-marked noun which denotes the agent of the action it conveys, but first let us notice that Pāṇini never analyses the ending

²⁶⁴ This causative form of *pṛ-* means ‘to fill, to fulfil’.

–*tave* as a dative ending.²⁶⁵ Instead, he considers *-tum* – and as a consequence the infinitive endings used in the sense of *-tum* (*tum-arthe*) according to A 3.4.9 – as a *kṛt* conveying the sense of agent, which is the role assigned to the *kṛt* by default in the general rule A 3.4.67 (*kartari kṛt* ‘an affix *kṛt* occurs in the sense of agent’).²⁶⁶

The first example refers to *pr̥thivī*, the addressee of the renowned Atharvaveda hymn ŚS 12.1, where we understand *yujyānte* as ‘are fit for’ (Lowe, Molina-Muñoz and Ruppel 2021: 246-247).

(26) ŚS 12.1.38cd = PS 17.4.8

yujyānte yásyām ṛtvijaḥ sómam indrāya pātave

[the earth] on which the officiants are fit for Indra to drink soma (i.e. the officiants are fit for Indra to drink the soma offered by them on the earth).²⁶⁷

Our line of reasoning begins with two very general rules. The first one concerns deverbal nouns,²⁶⁸ including the infinitives in *-tum* and its substitutes taught by A 3.4.9, which denote an agent by default. We assume that A 3.4.9 causes the infinitive *pātave* to be interpreted according to A 3.3.10: *yujyānte* is its *upapada*, and its verbal base conveys an action whose purpose is another action, namely that conveyed by the verbal base of the infinitive *pātave*. The verbal ending conveys an agent and the plural noun *ṛtvijaḥ* is co-referential with this ending, inflected in the nominative case in accordance with A 2.3.46.

A 3.4.67

²⁶⁵ As a strictly synchronically oriented linguist, he does not classify this infinitive form as a dative, because it cannot be envisioned as a slot in a functioning inflectional pattern. In fact he demonstrates that he has all the tools to recognize it, for instance, when he teaches to assign a dative ending to another *kṛt* that is equivalent in meaning to an infinite in *-tum* in A 2.3.15: *tumarthāc ca bhāvavacanāt [caturthī 13 anabhihite 1]* ‘The dative ending also applies after a linguistic item ending in an affix denoting an eventuality, when used in the meaning of *-tum*’. This rule provides for the construction of sentences such as *pākāya vrajati* ‘he goes to cook’, where *pākāya* has an equivalent meaning to the infinite *paktum*.

²⁶⁶ See e.g. Deshpande (1980, p. 54).

²⁶⁷ The fact that the nature of this *kṛt* in *-tave* is mostly verbal rather than nominal is well demonstrated by the use of the accusative to indicate the patient of the action conveyed by *pātave*, i.e. *sómam*. According to A 2.3.65 a genitive case ending is used to denote the agent or the patient of the action conveyed by a verbal base ending in a *kṛt* affix (*kartṛkarmanoḥ kṛti [anabhihite 1 ṣaṣṭhī śeṣe 50]*). Another clue to the verbal nature of these *kṛts* is perhaps the use of two patients coordinated with each other and the word-order used in RV 2.13.8, where it is clear that the two patients cannot be dealt with as mere modifiers of the *kṛt nihantave*: *yó nārmaraṃ sahāvasuṃ nihantave prkṣāya ca dāsāveśāya cāvahaḥ | ūrjāyantyā āpariviṣtam āsyām utaivādyā purukṛt sāsya ukthyāḥ* ‘You, who, in order to strike down Pṛkṣa and Dāsaveśa, conveyed the son of Nṛmara together with his goods to the impregnable mouth of the Ūrjayantī (River) and who even today (would do likewise); you, who do many deeds—you are worthy of hymns.’ (Jamison and Brereton 2014, p. 419).

²⁶⁸ These nouns are designated as *kṛts* and more precisely as *kṛd-antas* ‘ending with a *kṛt* affix (i.e. ending with a deverbal affix)’. The first designation does not distinguish between affixes and derivatives with those affixes.

kartari kṛt [dhātoḥ 3.1.91]

The affixes designated as *kṛt* occur after a verbal base to denote the agent.

The second fundamental rule is A 2.3.1. It is a heading rule (*adhikāra*) which exerts its influence on a whole section of the grammar (namely, up to A 2.3.73), which is entirely devoted to assigning the seven nominal triplets to given syntactic-semantic categories. These categories primarily comprise the six ‘action operators’ (*kāraḥ*), as defined in section A 1.4, and are then related to the inflectional affixes, i.e., at a different level of language, closer to the surface level, in section A 2.3. It can be defined as the ‘non-redundancy principle’.²⁶⁹

A 2.3.1

anabhihite

[A nominal triplet of endings only applies] when [what this triplet signifies] is not [otherwise] signified.

In other words, any semantic role cannot be signified by more than one morpheme.²⁷⁰ If we return to example (26), we realise that, according to the non-redundancy principle, since *pātave* does not denote a patient, the accusative ending can apply to *sómam*, as stated in A 2.3.2. Still, *indra-* which denotes the agent of the action of drinking, cannot be signified by the instrumental ending as taught by A 2.3.18, because the affix *-tave*, as a substitute of *-tum*, conveys the sense of agent according to A 3.4.67. However, *pātave* merely informs us of the existence of an agent, but since additional information about the agent’s identity could be requested, the nominal stem *indra-* is thus also used. According to A 2.3.46, a nominative ending is expected for *indra-*.

A 2.3.2

karmaṇi dvitīyā [*anabhihite* 1]

The accusative ending applies to signify a patient, provided that a patient is not otherwise signified.

A 2.3.18

kartṛkaraṇayos tṛtīyā [*anabhihite* 1]

The instrumental case ending (lit. the third triplet) applies to signify an agent or an instrument, provided that an agent or an instrument is not otherwise signified.

A 2.3.46

prātipadikārthaliṅgaparimāṇavacanamātre prathamā

A nominative ending applies to a nominal stem when nothing more than the meaning, the gender, and the number of the nominal stem are to be signified.

²⁶⁹ See Mocci and Pontillo 2020, pp. 52-53; Candotti and Pontillo 2025, pp. 28-37.

²⁷⁰ Moreover, the principle applied in the section beginning with A 1.4.1 and ending with A 2.2.38, thus including all the rules defining the *kāraḥ* (A 1.4.23-55), dictates that the designation can be assigned to a given item (A 1.4.1 *ā kaḍārād ekā samjñā*).

Sometimes a nominative is actually used for a nominal stem that is co-referent with the agent conveyed by the *kṛt* affix *-tave*. In the following example, the 3rd person plural imperative form *bhavantu* entails an agent inflected as a nominative plural form co-referent with the agent conveyed by the *kṛt* affix in *etave*, and it is explicitly indicated by the accusative plural form *āpaḥ* in the previous sentence.

(27) PS 19.4.11

oktā āpaḥ karmanyā muñcantv itaḥ prañītaye | sadyo bhavantv etave ||

May they release the invoked waters connected to the ritual action from this place to lead [us] forwards; may [the waters] instantly become able to flow.²⁷¹

In (26) instead, *indra-*, which is the nominal stem co-referent with the agent conveyed by the *kṛt* affix *-tave*, and which *de facto* makes the identity of the agent explicit, is not inflected in the nominative case, but in the dative. Within Pāṇini's perspective on sentence syntax, and mainly because of A 3.3.10 plus A 3.4.9 *pātave* conveys the purpose of the co-occurring action conveyed by *yujyante*: the priests are united to the land for Indra, so that he may drink Soma. So, according to A 2.3.13, *indrāya* is indeed the *sampradāna*, i.e., the recipient of the action of the main clause *yujyante*, even though this dative makes the identity of the agent of the infinite *pātave* explicit.

A 2.3.13

caturthī sampradāne [anabhihite 1]

The fourth nominal triplet (i.e., the dative case ending) occurs to signify the recipient – provided that a recipient is not otherwise signified.²⁷²

And because there is no real boundary (see A 3.4.1) between the *upapada yujyānte* and the infinitive *pātave*, the dative form *indrāya* is justified as the recipient of *yujyante*.

As shown in Appendix 1, the combination of *pātave* with *indrāya* occurs 5 times in the ṚV (once with the variant *vṛṣabhānnāya vṛṣabhāya* referring to Indra, in place of *indrāya*), 3 times in the ŚS, and once in the PS, even though the *upapada* of the infinitive is always different.

²⁷¹ In the matching stanza in ŚS 6.23.2 the imperative *kṛvantu* occurs in place of *bhavantu*: *oktā āpaḥ karmanyā muñcantv itaḥ prañītaye | sadyāḥ kṛvantv étave* ‘Let them release here the worked-in waters of the ceremony for conducting forward; let them at once make [them] to go.’ (tr. Whitney 1905, p. 297). Therefore, while in PS 19.4.11 *bhavantu* as an *asty-artha* linguistic item plus infinitive complies with rule A 3.4.65 through the substitution taught by A 3.4.9, *kṛvantu* plus infinitive in ŚS 6.23.2 simply complies with rule A 3.3.10, always through A 3.4.9. The copula of course is not requested for a third-person singular present tense. See e.g. ṚV 10.79.6 *hárir áttave ’dán* ‘The red (Agni) can eat even without teeth.’

²⁷² The designation of *sampradāna* is established by A 1.4.32: *karmanā yam abhipraiti sa sampradānam* ‘The [kāraka] *sampradāna* denotes the one whom he (i.e. the agent) intends as a goal or recipient through the patient (of the action)’.

6.1 Survey of the ŚS dative infinitives in -'tave with dative-marked agents

Let us now read a second example selected from the Atharvavedic occurrences. It occurs in both the ŚS and in the PS, where the dative of the noun which also denotes the agent of the action conveyed by the infinitive can be analysed as being governed by the verb of the main clause. In this case however it is extremely difficult to consider this verb as an *upapada* whose purpose is the action conveyed by the infinitive in line with A 3.3.10. The verb *ave-* 'to come down, to fall' in (28) is in fact an action which is the object of a wish. It is not performed with a specific purpose. Its effect cannot be kept under control, nor targeted on a specific recipient. Rather, if this wish were to be fulfilled, the action expressed by *áttavé* will take place. On the contrary, the relationship between the infinitive and the noun inflected in the dative (which denotes its agent) is undeniably close.

(28) ŚS 1.11.4cd = PS 1.5.4cd

*ávaitu pṛśni sévalam śúne jaráyv áttavé 'va jaráyu padyatām*²⁷³

Let the spotted, slimy afterbirth come down, for the dog to eat! Let the afterbirth fall down!

It is obvious that the same dative infinitive *áttave* combines with its agent expressed by a personal pronoun inflected in the dative case in (29), where the enclitic form of the same personal pronoun as recipient of the *upapada* verb *adaduh* is already explicitly expressed as part of the main clause. In other words, the repetition of the second-person pronoun forces us to interpret *túbhyam* as the specific dative-marked agent of the infinitive *áttave*.

(29) = (16) ŚS 5.18.1 = PS 9.17.1

náitām te devā adadus túbhyam nṛpate áttave

The gods have not given this (= the Brahmin's cow) to you for you to eat, O lord of men! (i.e. in order that you will eat it.)

Another extremely interesting example is (30), where it is really hard to consider the feminine demonstrative pronoun *asyai* governed by the imperative *śṛṇvantu* as a plausible *upapada* of the infinitive *vettave*. However, in terms of A 3.3.10 we might wonder whether *asyai* might be classified as a *sampradāna* for *śṛṇvantu* as (A 1.4.32) and thus 'the one whom they (i.e. the agents) intend as a goal or recipient through the patient (of the action, i.e. *hava*)'. Even more remarkable are the circumstances in which the patient of the infinitive is also expressed with a dative case (*putrāya*).

(30) PS 5.11.4

atharvāṅo aṅgirasō viśve devā ṛtāvṛdhah |

śṛṇvantv adya me havam asyai putrāya vettave ||

'May the Atharvans, the Aṅgirasas, the All-Gods, who increase the Rta, today hear my call in order for her to get a son.' (tr. Lubotsky 2002, p. 49).

²⁷³ Indeed, the final three words *áva jaráyu padyatām* do not occur in the PS version.

In our collection of occurrences of infinitives in *-tave*, there are 24 cases of dative-marked agent, namely 5 out of the total amount of 44 ŚS occurrences of *-tave*, 5 out of the 54 PS occurrences, and 14 out of the 78 RV ones. In Appendix 1 we have listed and translated all those yet to be analysed. Within the limits mentioned above, all these occurrences of *-tave* seem to comply with the constraints taught for *-tum* in A 3.3.10.

7. A fresh proposal to account for the dative-marked patient used with the dative infinitive in *-tave*

Let us return to our first Vedic example (1) where the great Vṛtra is the patient of the action conveyed by the verbal base *han-*.

(31) (=1) ŚS 20.137.12ab (= RV 8.93.7)

tám indram vājayāmasi mahé vṛtrāya hāntave

We are inciting this Indra for the great Vṛtra to be smashed.

On the one hand, the accusative *tám indram* is the patient of the action conveyed by the *upapada* *vājayāmasi* and it is signified by an accusative ending as taught in A 2.3.2,²⁷⁴ even though the passage does not explain who the agent of the action of smashing Vṛtra is. On the other hand, *mahe vṛtrāya*, which denotes the patient of the action conveyed by *han-* of *hāntave*, is not inflected in the accusative case, but in the dative, which commonly signifies the recipient of an action, as is taught in A 2.3.13 (see above § 6). We could *lato sensu* analyse this dative *mahe vṛtrāya* as a *sampradāna*, because in a sense this is the goal of the action of worshipping Indra. Nonetheless, since we are unable to find any rule which allows us to analyse *-tum* as conveying a sense other than the agent (in accordance with A 3.4.67 – see above § 6), i.e. *-tum* does not convey the sense of patient and *mahe vṛtrāya* cannot be considered as co-referential with this ending and consequently appears to be completely unrelated to it. Nevertheless, in our opinion, Pāṇini might have recorded the specific usage of dative for patients such as *mahé vṛtrāya* in (31) and the like by means of the following rule:

A 2.3.14

kriyārthopapadasya ca karmaṇi sthāninaḥ [caturthī 13 anabhihite 1]

The dative ending (lit. The fourth nominal triplet) also applies to signify the patient of [an item X] whose *upapada* (i.e. the co-occurring item) Y has an action Z as its purpose, when X is a placeholder (with X = Z) – provided that a patient is not otherwise signified.

a) <i>puṣpān</i>	<i>āhartuṃ</i>	<i>vrajati</i>
Flowers	to pick	he goes

²⁷⁴ A 2.3.2: *karmaṇi dvitīyā* [anabhihite 1] ‘The second nominal triplet (i.e. the accusative case ending) is introduced to signify the patient – provided that a patient is not otherwise signified.’

PATIENT	X = Z	Y = UPAPADA
b) <i>puṣpebhyo</i>	∅	<i>vrajati</i>
for flowers		he goes

This rule is commonly employed to explain why the dative form *puṣpebhyaḥ* can be used as a patient of the action of *āhartum* ‘to pick’ when this infinitive form *āhartum* is just a placeholder (a *sthānin*), so that *puṣpebhyo vrajati* which literally means ‘he goes for flowers’ is equivalent in meaning to *puṣpān āhartum vrajati* where *āhartum* is not zero-replaced. And *āhartum* is in fact the purpose (*artha*) of the action denoted by the *upapada vrajati*. In sentence a), where *āhartum* is obtained, the patient (*karman*) is signified by means of an accusative case ending, while in the output of rule A 2.3.14, i.e. in sentence b) the same patient (*karman*) is signified by the dative form *puṣpebhyaḥ*. The verbal form *vrajati* is an *upapada*, i.e. a co-occurring item with respect to both *āhartum* and its zero substitute.

The ending *-tave* in (1) can also be considered as a substitute of *-tum* (because it is used in the sense of *-tum* according to A 3.4.9), as requested by A 2.3.14. Thus, here we advance a fresh reading of A 2.3.14, which might also describe the usage of our dative form *mahé vṛtrāya* ‘great Vṛtra’. The latter is in fact the patient of the infinitive form *hántum*, whose ending is the *substituendum* (*sthānin*) of the ending of *hántave* according to A 3.4.9.²⁷⁵

In our example the *upapada*, i.e. the item co-occurring with our dative infinitive form is the verb form *vājayāmasi*; *hántum* is the *sthānin*, i.e. the placeholder of *hántave*. The bahuvrīhi compound *kriyārthopapada-* defines the infinitive in *-tum* and recalls the general rule A 3.3.10 about *-tum*, where *kriyārtha-* referring to the *upapada* of the infinitive means ‘whose purpose is an[other] action’. The whole compound means ‘whose *upapada*, i.e. whose co-occurring item has an action as its purpose’. And indeed *hántum*, replaced by *hántave*, co-occurs with *vājayāmasi* whose purpose is the action conveyed by *hántave* itself. Thus, *mahé vṛtrāya* might be considered as being the patient of the placeholder *hántum* replaced by *hántave*. If *hántum* were used instead of *hántave*, the ending of the nominal phrase should be accusative (*mahám vṛtrám*).

<i>tám indraṃ</i>	<i>vājayāmasi</i>	<i>mahé vṛtrāya</i>	<i>hántave</i>
this Indra	we worship	the great Vṛtra	to smash
	UPAPADA (Y)	PATIENT	matching placeholder = <i>hántum</i> (X = Z)

²⁷⁵ It is true that *mahé vṛtrāya* is the patient of *hántave*, but we consider that the syntax of the ending *-tave* is not directly taught, i.e. we are forced to infer it from that of *-tum*.

The function of patient in such a dative accompanying the infinitive in *-tave* seems to be obviously confirmed in (12) = (13), where the participle inflected in the accusative case *vavrivāmsam* ‘who was obstructing the great waters’ refers to the dative *vṛtrāya* co-referent to the ending *-tave* (of the infinitive *hántave*), which conveys a patient.

The accusative *índram* is the patient of the action conveyed by the *upapada* second-person perfect form *āvitha* and there is no explicit mention in the passage of the agent of the action of smashing *Vṛtra*. This case reinforces the hypothesis that Pāṇini may have resorted to A 2.3.14 in order to explain the dative ending of *vṛtrāya* as the patient of the infinitive *hántave* whose *upapada* *āvitha* has an action (i.e. the action conveyed *hántave*) as its purpose, since *hántave* is a placeholder of *hántum* provided that a patient is not otherwise signified.

<i>índram</i>	<i>āvitha</i>	<i>vṛtrāya</i>	<i>hántave</i>
	You helped	for <i>Vṛtra</i>	to smash
PATIENT OF THE UPAPADA	UPAPADA (Y)	PATIENT OF THE INFINITIVE	matching placeholder = <i>hántum</i> (X = Z)

7.1 Survey of the ŚS dative infinitives in *-tave* with dative-marked patients

Let us read the following easy example, shared by all the three Saṃhitās here surveyed.

(32) RV 10.16.12cd = ŚS 18.1.56cd = PS 18.62.6cd

uśánn uśatá ā vaha pitṛṇ haviṣe áttave ||

O eager one, lead the eager fathers to eat the oblation.

The fathers are both the patient of the *upapada* *ā vaha* and the agent of the infinitive *áttave*. The affix *-tum* is the *sthānin* of *-tave*. Again, we propose to assume that Pāṇini resorted to A 2.3.14 in order to explain the use of the dative instead of the accusative ending for the patient of the action conveyed by the infinitive.

Note that, as far as *-tave* is concerned, there are 11 occurrences with a dative-marked patient out of 78 in the RV, 13 out of 44 in the ŚS, and 17 out of 54 in the PS. All these occurrences are collected in Appendix 2 and if we read the nominal inflected in the dative case that *de facto* denotes the patient of the infinitive in *-tave* as a pure *sampradāna* of the *upapada* verb, this nominal will be completely unrelated to the action conveyed by the infinitive. Thus, we propose the application of specific rule A 2.3.14 to maintain the emphasis on the role actually played by the dative-marked nominal in these occurrences, namely that of the patient of the action conveyed by the infinitive form. On the other hand, no rule allows us to read the ending *-tave* as conveying a *karman*.

However, there are several examples which apparently do not agree with this constraint. (33) offers a tentative translation which does not involve the passive diathesis.

(33) ŚS 6.81.2 = PS 19.17.2

pārihasta vi dhāraya yoniṃ gārbhāya dhātave

O *pārihasta* (amulet) keep the womb open for the placement of the embryo.

Nonetheless, we consider that in absence of the mention of the agent of the action of placing the embryo in the womb, *dhātave* would be better translated as a passive form:

‘O *pārihasta* (amulet) keep the womb open, so that the embryo will be placed’.

8. Dative Infinitive in *-tavaí* with a Dative-Marked Agent or Patient

As we have seen above in § 5, *-tavaí* is also used in the sense of *-tum* according to A 3.3.10. We singled out 25 occurrences in the RV, 10 in the ŚS and 14 in the PS (respectively 7, 4 and 5 examples with a dative-marked agent or patient). Sometimes the dative-marked nominal is clearly governed by the *upapada* verb, such as in (34), where the dative enclitic form of the second-person pronoun (*te*) referring to god Indra, invoked as a bull, also denotes the agent of the action conveyed by the infinitive *pātavai*, but it is undisputably part of the matrix clause, even repeated twice in correspondence with the two verbs *hinvanti* and *mṛjanti* respectively.

(34) RV 3.46.5cd

tám te hinvanti tám u te mṛjanty adhvaryávo vṛṣabha pātavā u

The Adhvaryus set it in motion this (i.e. soma) for you (i.e. to Indra), they clean it for you, o bull, to drink.

Analogously in (35), the agent of the infinitive *ánvetavaí* ‘to follow’ is *sūrya-* inflected in the dative case in the hemistich here quoted, but this dative is plainly governed by the verb *cakāra* also accompanied by the patient *pánthām*, which is a patient shared by the infinitive.

(35) RV 1.24.8ab

urīm hí rájā varuṇas cakāra sūryāya pánthām ánvetavā u

Indeed King Varuṇa is the one who made a broad path for the sun to go along [it, i.e. the path].

In our *corpus*, we found another three occurrences of infinitive datives in *-tavaí* with a true agent marked by the dative case: they are all based on the same combination of the two datives *śárave* ‘shaft’ and *hántavaí* ‘to smash’, where the former is the agent, always accompanied by the plural *brahmadviṣ-* ‘haters of the sacred formula’ – inflected in the accusative case in (36) and in the dative case in (37) – which ultimately denotes the patient of the action conveyed by the infinitive form.

(36) = (6) RV 10.182.3ab

tápurmūrdhā tapatu rakṣáso yé brahmadviṣaḥ śárave hántavā u

‘Let him of scorching head scorch those who are demons; those who hate the sacred formulation are for his arrow to smite.’ (tr. Jamison and Brereton 2014, p. 1656)

(37) = (7) RV 10.125.6ab = ŚS 4.30.5ab

ahám rudráya dhánur á tanomi brahmadvíṣe sárave hántavá u

‘I stretch the bow for Rudra, for his arrow to smash the hater of the sacred formulation.’ (tr. Jamison and Brereton 2014, p. 1603)

On the other hand, we consider that the most noteworthy usage of the infinitives in *-tavaí* with a nominal dative case is that documented in the 9 occurrences of infinitives in *-tavaí* with a patient marked by a dative case (see Appendix 4). This meaning is in line with a different syntactic role (other than that of agent) taught for this affix in A 3.4.14. This role is indeed inferred by the teaching of *-tavaí* in the sense of a future passive participle (or gerundive) affix (*kṛtyārthe*).

A 3.4.14

kṛtyārthe tavaikenkenyatvanaḥ [*chandasi* 6 *dhātoḥ* 3.1.91]

After a verbal base in the Vedic Saṃhitās affixes *tavai*, *KeN*, *Kenya* and *tvaN* occur in the sense of *kṛtya* affixes.

A general rule in fact limits the available diathesis of these affixes, excluding the active one and teaching to use the gerundive for instance in the sense of a patient (e.g. *kartavyaḥ kaṭaḥ* ‘a mat should be made’) or in the sense of an eventuality (e.g. *āsitavyam* ‘sitting should take place’).

A 3.4.70

tayor eva kṛtyaktakhalarthāḥ [69 *karmaṇi bhāve cākarmakebhyaḥ*]

Affixes termed *kṛtya* and those used in the sense of *Kta* and *KhaL* occur to denote only *bhāva* and *karman*.

Consequently, for instance in (38), the dative infinitive ending of *páridhātavaí* can be considered as denoting both an agent and a patient and the nominal dative *sómāya rájñe* respectively becomes the object (a) or the subject of the infinitive (b). As a consequence we could resort to A 2.3.14 in order to justify the dative case of the patient of the action conveyed by *páridhātavaí*, but since *sómāya rájñe* can be justified as a *sampradāna* of the verb of the matrix clause, i.e. *práyachad*, we could avoid employing A 2.3.14 without losing the relationship between the denotatum of the infinitive and the denotatum of that *sampradāna*, which acts as the patient of the action conveyed by the infinitive verb. *sómāya rájñe* and *páridhātavaí* in the interpretation (b) are in fact co-referential with each other.

(38) ŚS 2.13.2cd = ŚS 19.24.4cd = PS 15.6.1cd

bṛhaspátīḥ práyachad vása etát sómāya rájñe páridhātavá u

Brihaspati offered this garment

a) so that (this garment) will envelop king Soma;

b) for king Soma to be enveloped (i.e. so that king Soma will be enveloped [with it]).

Nevertheless, at least in (39) the doubt arises that the dative accompanying the infinitive and the infinitive dative are truly unrelated. Is the verb *bhr-* used in a metaphoric way to denote the notion of ‘to attain’ (‘All the gods have given you to him to wear (i.e. to attain old age’) or rather – as is more

plausible – this verb means ‘to wear’ and the understood patient is the Darbha grass, while the dative *jaráse* is a further goal for the infinitive *bhártavaí*?

(39) ŚS 19.30.2cd = PS 12.22.11

tám asmái víśve tvāṃ devā jaráse bhártavā aduḥ

All the gods have given you (i.e. the Darbha grass) to him (i.e. a given man) for old age to be attained (lit. borne).²⁷⁶

9. Commentators distance from Pāṇini’s perspective on the infinite

We shall now consider the differences between Pāṇini’s analysis, as outlined above, and those of his commentators. This will make it possible to better understand the depth and originality of Pāṇini’s grammar compared not only to modern linguistics (see above, §§2-3), but also to the Indian grammatical tradition that developed in the wake of Pāṇini.

Thus, in Vt. 3 *ad* A 3.4.26 (*ā ca tumunaḥ samānādhikaraṇe* ‘And [the affixes] up to *tumUN* occur in co-referentiality [with the ending of the governing verb, i.e. of the *upapada* verbal form]’), Kātyāyana submits that the infinitival suffix *-tum* is coreferential with the verbal ending of the verb serving as *upapada* of the infinitive. To illustrate this, let us consider (40):

(40) ŚS 11.5.3d = PS 16.153.2d:

tám jātám dráṣṭum abhisáṃyanti devāḥ

The gods come around to see the [new]born.

Under the null assumption that Kātyāyana sticks to Pāṇini’s classification of the infinitival suffix *-tum* as a *kṛt* (see above, §6), the token of *-tum* included in *dráṣṭum* denotes the agent of the eventuality of seeing in keeping with the general rule A 3.4.67 (*kartari kṛt* ‘an affix *kṛt* occurs in the sense of agent’), just as the active plural ending *-nti* included in *abhisáṃyanti* (the *upapada* of *dráṣṭum*) denotes the agent of the eventuality of coming around. Since *-tum* and *-nti* are co-referential according to Kātyāyana, he understands that the agent of the eventuality of seeing and the agent of the eventuality of coming around are one and the same entity (i.e., the gods, denoted by *devāḥ*). Thus, Kātyāyana’s analysis straightforwardly applies to examples like (40). Unfortunately, this analysis fails to extend to examples like (41):

(41) RV 3.48.1ab:

sadyó ha jātó vrṣabháḥ kanīṇaḥ prábhartum āvad ándhasaḥ sutásya

As soon as he was born, the young bull favoured the ritual offering of the pressed stalk.

²⁷⁶ Cf. tr. Zehnder et al. 2024: ‘Therefore the All-Gods have given you to this [man] here for wearing, so that he will attain old age.’ Another option could be that of considering the dative *asmái* as co-referential with *bhártavaí* with an infinitive ending denoting an agent and the patient of the same infinitive form explained by resorting to A 2.3.14 (All the gods have given you for him to wear for the sake of old age).

In this example, the agent of the eventuality of favouring (i.e., the agent denoted by the ending *-t* included in *āvat*) is Indra (envisaged as a young bull: *ṛṣabhāḥ kanīnaḥ*), who cannot be the agent of the eventuality of offering (i.e., the agent denoted by the suffix *-tum* included in *prābhartum*), simply because Indra is indeed the implicit recipient (*sampradāna*) of this eventuality of offering. In fact, the agent of the eventuality of offering is arguably to be identified with Agni’s mother, in keeping with a suggestion by Jamison and Brereton (2014, p. 531). Thus, Pāṇini’s decision to not enforce the co-referentiality relationship between the ending of the verb serving as *upapada* of the infinitive, and the infinitival suffix (*-tum*, *’tave*, and *’tavaí*) results as being empirically well-grounded.

Let us now turn to Patañjali. According to Deshpande (1980, p. 51), Patañjali’s contribution to the syntax of infinitives may be best understood as a rejection of the aforementioned Vt. 3 *ad* A 3.4.26 by Kātyāyana. Thus, Patañjali (M 1.175 ll. 20-21 *ad* A 3.4.26: *avyayakṛto bhāve bhavanti*) submits that the indeclinable *kṛt* affixes, including *-tum*, *’tave*, and *’tavaí*, should be taken as conveying the sense of *bhāva* (which we translate as ‘eventuality’) by virtue of *tumarthe* continuing in A 3.4.26 from A 3.4.9 via the mechanism of *anuvṛtti* (M 1.175 l. 22 *ad* A 3.4.26). In so doing, Patañjali does indeed distance himself from Kātyāyana. In order to see how he does this, let us focus again on the example in (40). As already discussed, Kātyāyana enforced the co-referentiality between the denotatum of the ending *-nti* included in *abhisāmyanti* ‘they come around’ (i.e., the agent of the eventuality of coming around) and the denotatum of the ending *-tum* of *dráṣṭum* ‘to see’ (i.e., the agent of the seeing eventuality). However, this co-referentiality can no longer hold if the denotatum of *-tum* is not an agent of the eventuality of seeing, but the eventuality of seeing itself. Clearly, the agent of coming around, denoted by *-nti*, and the eventuality of seeing, denoted by *-tum* in keeping with Patañjali, cannot be one and the same entity, as they belong to two different dimensions (i.e., the dimension of entities and that of eventualities).

Interestingly enough, by assuming that *-tum*, *’tave*, and *’tavaí* denote *bhāva*, Patañjali is distancing himself not only from Kātyāyana, but also from Pāṇini. This is because the infinitives in *-tum*, *’tave* and *’tavaí* are classified as *kṛts* by Pāṇini, which implies that they all convey the sense of agent – as opposed to *bhāva* – in accordance with A 3.4.67 (*kartari kṛt* ‘an affix *kṛt* occurs in the sense of agent’), as discussed above. Patañjali motivates his shifting the denotation of *-tum*, *’tave*, and *’tavaí* from ‘agent’ to *bhāva* along the following lines (M 2.171 ll. 9-17).

If one applies A 3.4.67 to let the Vedic affixes taught in A 3.4.9, including *’tave* and *’tavaí*, convey the sense of agent like any other *kṛt* affixes, Pāṇini’s teaching ‘in the meaning of *-tum*’ (*tumarthe*) would serve no purpose (*nārthas tumarthagrahaṇena*) in A 3.4.9.²⁷⁷ Therefore – Patañjali’s argument

²⁷⁷ For ease of reference the wording of A 3.4.9 is reiterated here: *tumarthe sesenaseasenksejasenadhyaiadhyainkadhyaiakadhyainśadhyaiśdhyaintavaitavēntavenaḥ* [*chandasi* 6 *dhātoḥ* 3.1.91]

continues – Pāṇini included the segment *tumarthe* ‘in the meaning of *-tum*’ in A 3.4.9 only to make it clear that the Vedic infinitival suffixes taught by A 3.4.9 (hence also *-tum*, *’tave*, and *’tavaí*) convey a meaning other than ‘agent’ (*jñāpayaty ācāryaḥ asty anyatra kartus tumuno ’rtha’ iti*). As we have already seen, Patañjali identifies this meaning other than ‘agent’ with *bhāva* ‘eventuality’, which he understands as the very meaning of a verbal base: i.e., as the meaning conveyed by a verbal base by default, when no specific meaning is explicitly attached to it (*anirdiṣṭārthās ca pratyayāḥ svārthe bhavantīti*).²⁷⁸

Indeed, Patañjali’s argument is flawed for at least two reasons. First, the segment *tumarthe* of A 3.4.9 ‘in the meaning of *-tum*’ lets the Vedic infinitival suffixes *’tave* and *’tavaí* denote not only the value of ‘agent’, but two additional ones, namely the future tense feature and the specification that the action denoted by the infinitive qualifies as the purpose of the action denoted by the *upapada* (Deshpande 1980, p. 53). As a consequence, even if we were to concede that the value ‘agent’ is already assigned to *’tave* and *’tavaí* independently of *tumarthe* (i.e., by virtue of these suffixes counting as *kṛts*), *tumarthe* would nonetheless still serve a purpose, contrary to Patañjali’s contention: namely, the purpose of assigning the values of ‘future’ and ‘purpose’ to *’tave* and *’tavaí*.

Second, the denotation of *bhāva* and ‘patient’ (*karman*) on the part of *’tavaí* – i.e., a Vedic infinitival suffix taught ‘in the meaning of *-tum*’ (*tumarthe*) – is licensed not by *tumarthe*, but by A 3.4.14 in Pāṇini’s system.²⁷⁹ Following Deshpande (1980, p. 55), this implies that the segment *tumarthe* (‘in the meaning of *-tum*’) is per se unable to let the Vedic infinitival suffixes, including *’tave* and *’tavaí*, denote *bhāva* and ‘patient’. Hence there is no reason why the segment *tumarthe* (‘in the meaning of *-tum*’) should be prevented from assigning the value of ‘agent’ to the Vedic infinitival suffixes, which, serving as *kṛts* in Pāṇini’s system, comply with the general rule A 3.4.67 (*kartari kṛt* ‘an affix *kṛt* occurs in the sense of agent’). All in all, Patañjali’s contention that no meaning is explicitly attached to the infinitival suffixes *-tum*, *’tave*, and *’tavaí* can hardly be maintained: by virtue of being *kṛts*, these suffixes convey the meaning of agent in keeping with general rule A 3.4.67 (Deshpande 1980, p. 55); by virtue of A 3.3.10, combined with 3.4.9, these suffixes also convey the meanings of ‘purpose’ and ‘future’.

Another crucial step in the Vyākaraṇa history of the interpretation of the infinite forms is represented by Bhartṛhari, who probably better defines something foreshadowed by Candragomin and even partially by Kātyāyana (see Deshpande 1980, p. 60). In his *Vākyapadīya* 3.7.81-82, he

‘After a verbal base in the Vedic Saṃhitās, affixes *se*, *seN*, *ase*, *aseN*, *Kse*, *KaseN*, *adhyaí*, *adhyaíN*, *Kadhyaí*, *KadhyaíN*, *Śadhyaí*, *ŚadhyaíN*, *tavaí*, *taveN*, *taveN* occur in the sense of *tum*.’

²⁷⁸ For an English translation and insightful discussion of Patañjali’s argument, see Deshpande (1980, pp. 50-55).

²⁷⁹ A 3.4.14: *kṛtyārthe tavaikenkenyatvanaḥ* [*chandasi* 6 *dhātoḥ* 3.1.91] ‘After a verbal base in the Vedic Saṃhitās affixes *tavaí*, *KeN*, *Kenya* and *tvaN* occur in the sense of *kṛtya* affixes.’ For a discussion and application of this rule see above, §8.

established that when one *kāraka* is shared by two *kriyās* (‘actions’) one of which is subordinate to the other one, that particular *kāraka* is governed by the main *kriyā*. Indeed, Bhartṛhari also adopted a distinction between subordinate (*guṇa*- ‘secondary, subordinate’) and main action (*pradhāna*- ‘main, principal’) by partly resorting to *Mīmāṃsā* terminology, the ultimate purpose of which was the analysis of complex ritual performances, including the relationship between their several actions and their hierarchy. The term Bhartṛhari employs to cover Pāṇini’s notion of *kāraka* is *śakti*- lit. ‘power’, often specifically used by Bhartṛhari as ‘power of signification’, and used in relation to the action denoted by a verb (*kriyā*) in the following passage:

Vākyapadīya 3.7.81-82:

pradhānetarayoṛ yatra dravyasya kriyayoḥ pṛthak |
śaktir guṇāśrayā tatra pradhānam anurudhyate ||
pradhānaviṣayā śaktiḥ pratyayayenābhidhīyate |
yadā guṇe tadā tadvad anuktāpi prakāśate ||

When an entity is separately related to a main and a subordinate action, in such contexts the particular *kāraka* relation based on the subordinate action abides by the *kāraka* relation based on the main action. Where the particular *kāraka* relation with respect to the main action is expressed by the (main) verbal inflection, the *kāraka* relation based on the subordinate action, even though not denoted (by affixes such as *-tumUN*, *Ktvā*, etc.), becomes manifest. (tr. Deshpande 1980, p. 59).²⁸⁰

This raises the question as to whether one can infer that the notion of ‘clausal subordination’ was known to Bhartṛhari based on his distinguishing between main and subordinate verbal actions (*kriyā*). However, regardless of the answer to this question, the notion of subordinate clause – and indeed any notion of clause – was extraneous to Pāṇini’s grammar, as discussed above (§4).

10. Conclusions

In this study we have compared two modern, influential analyses of Vedic sentences involving a dative-marked nominal and a dative-marked infinitive by Lühr (1997) and Keydana (2013), respectively, with the analysis proposed by the ancient Indian grammarian Pāṇini in his *Aṣṭādhyāyī*. We have shown that the major source of disagreement between Lühr (1997) and Keydana (2013) lies in the lack of clear diagnostics to identify the boundary between the governing clause and the infinitival clause. For example, with reference to the by now familiar sentence from ŚS 20.137.12ab

²⁸⁰ Deshpande (1980, p. 58) noted that a similar principle relating to *kārakas* shared by multiple actions was anticipated by Kātyāyana (Vt. 5-6 on A 2.3.1) and Patañjali in the relevant commentary, when they interpreted the negation included in this rule as nominal negation (*paryudāsaprātiṣedha*) rather than as sentential negation (*prasajyasaprātiṣedha*). See also Cardona (1974, p. 276) in this connection.

(= RV 8.93.7) *tám indram vājayāmasi mahé vṛtrāya hántave* (lit. ‘We are inciting this Indra for great Vṛtra for smashing’), Lühr takes it that an attributive connection holds between the dative-marked nominal *mahé vṛtrāya* ‘for great Vṛtra’ and the dative-marked infinitive *hántave* ‘to smash’, so that *mahé vṛtrāya* can be taken as part of the infinitival clause headed by *hántave*. In this way, Lühr’s interpretation of this sentence may be paraphrased as follows: ‘We are inciting this Indra for great Vṛtra to be smashed’. By contrast, Keydana argues that *mahé vṛtrāya* is an argument (a *dativus incommodi*) of the governing clause and is therefore syntactically disconnected from the infinitive *hántave*. The resulting interpretation reads: ‘We are inciting this Indra against great Vṛtra, in order to smash him’, where the direct object of *hántave* remains implicit in the Vedic text.

Rather than providing arguments that support either one of Lühr’s and Keydana’s incompatible analyses, we have pursued a different approach in the present study. Specifically, we have conducted a survey of all the *Atharvaveda* (*Paippalāda* and *Śaunakīya*) and *Rgveda* occurrences of a subset of dative-marked infinitives, namely *-tave* and *-tavaí* infinitives, and tested the ability of Pāṇini’s rules to account for these occurrences. The hallmark of these rules is that they make no use of any notion of clause boundary and hence lack any distinction between a governing and an infinitival clause: instead of clause boundaries, Pāṇini resorts to the notion of co-occurrence between verbal bases, whereby the verbal base of the infinitive (e.g., *han-* in the aforementioned example) co-occurs with another verbal base (e.g., *vaj-* in the selfsame example).

The picture resulting from this approach is anything but simple, both because Pāṇini’s analysis appears to be misunderstood by his commentators (e.g. Kātyāyana and Patañjali), and also because he apparently lacks a unified analysis of the four sentence types containing a dative-marked nominal and a *-tave/ -tavaí* infinitive. These sentence types are: (i) sentences where a *-tave* infinitive co-occurs with a patientive dative-marked nominal; (ii) sentences where a *-tave* infinitive co-occurs with an agentive dative-marked nominal; (iii) sentences where a *-tavaí* infinitive co-occurs with a patientive dative-marked nominal; (iv) sentences where a *-tavaí* infinitive co-occurs with an agentive dative-marked nominal. Let us start with sentence type (i), instantiated by the aforementioned example *tám indram vājayāmasi mahé vṛtrāya hántave*. Here Pāṇini treats the dative marking of *mahé vṛtrāya* as an instance of grammatical case rewriting, ultimately licensed by the replacement of the Vedic infinitive *hán-tave* with *han-tum*: *mahé vṛtrāya* is an argument (a *karman* ‘patient’) of the infinitive *hántave*, and as such should take an accusative case by A 2.3.2, but A 2.3.14 intervenes to rewrite this accusative as a dative.

In contrast, he analyses the three remaining sentence types – i.e., (ii) through (iv) – in a completely different fashion. These sentence types are all treated as involving a co-referentiality relationship between the infinitival suffix (i.e., *-tave*, which systematically denotes an agent, or *-tavaí*, which is instead allowed to denote either an agent or a patient) and the dative-marked nominal, which crucially does not denote either an agent or patient, but a recipient (*sampradāna*) of the governing clause. To

illustrate this point, let us take another look at ŚS 1.11.4cd (= PS 1.5.4cd) *ávaitu pṛśni sévalam śúne jarāyvatávé* ('let the spotted, slimy afterbirth come down, for the dog to eat!'): like Keydana, Pāṇini treats the dative-marked nominal *śúne* 'for the dog' in this example as a full-fledged argument of *ávaitu* 'let it fall down' (i.e., the verb of the governing clause), as witnessed by the fact that *śúne* bears the semantic role 'recipient' in the eventuality denoted by (the verbal base *ave-* involved in) *ávaitu*; unlike Keydana (and indeed unlike any other account of this construction known to us), however, Pāṇini also simultaneously connects this dative-marked nominal to the infinitive *hántave* (i.e., the verb of the infinitival clause), with whose infinitival affix (i.e., *-tave*) *śúne* is co-referential. This twofold connection of the dative-marked nominal (with the matrix clause verb *ávaitu* and with the infinitive *hántave*) yields no contradiction in Pāṇini's system, ultimately because he does not make use of any clause boundaries.

All in all, although Pāṇini provides no unified explanation of the four Vedic sentence types where a dative-marked nominal co-occurs with a dative-marked infinitive, some interesting conclusions can be drawn from his model. First, it does not suffer from the problems inherent in Lühr's and Keydana's analyses, notably the difficulty in working out whether the dative-marked nominal belongs to the governing or to the infinitival clause. Second, Pāṇini's model offers an empirically well-grounded and theoretically insightful solution to directly connect the dative-marked nominal to the dative-marked infinitive. Third, the fact that Pāṇini provided a means for modelling the connection between the dative-marked nominal and the dative-marked infinitive suggests that, at least at the time when his grammar was composed (ca. IV century BCE) and at least in the cultural milieu where it circulated, the Atharvavedic and Ṛgvedic passages discussed in this study were interpreted by assuming a relationship between the dative-marked infinitive and the dative-marked nominal: hence, not 'we are inciting this Indra against great Vṛtra for smashing him', but 'we are inciting this Indra to smash great Vṛtra'. Based on the evidence that has recently been accumulating in favour of the hypothesis that Pāṇini's grammar is a faithful record of the Vedic language, it may also be possible to consider Pāṇini's analysis as evidence that the relationship between the dative-marked infinitive and the dative-marked nominal was real, i.e., was meant by the very poets of the *Atharvaveda* and *Ṛgveda*. Some more general conclusions from this study are listed below.

First, we could not find any real difference in the way the Vedic infinitives in *-tave* and *-tavaí* are used in the *Atharvaveda* and the *Ṛgveda* (interestingly enough, however, these infinitives decayed in later sources). Second, *-tave* and *-tavaí* infinitives are not part of the everyday language current at Pāṇini's time, as can be inferred from the fact that Pāṇini put these infinitives in relation to the allomorph *-tum*, which had become the unmarked form of the infinitive in old Indo-Aryan by that time. Last, a fruitful dialogue may be established between Pāṇini's model – where dative-marked nominals are allowed to be simultaneously related to the verb of the governing clause and to the verb

of the infinitival clause – and the modern-day theories of predication which make use of small clauses,²⁸¹ namely subject-predicate units that can cut across sentence boundaries.

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²⁸¹ See especially the theory of predication developed by Moro (1997); (2000); (2019) in this connection.

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Appendix 1. Dative infinitive in -*tave* with a dative-marked agent

RV 1.24.8 cd	<i>apāde pādā prátidhātave 'kar utāpavaktā hṛdayāvīdhaś cit </i> He (i.e. Varuṇa) has made two feet for the footless to put down (i.e., so that the footless plants his two feet firmly on the ground) and he (i.e. the sun) is an averter of the heart-piercing one (i.e. Rudra). ²⁸²
RV 1.28.6 cd	<i>átho índrāya pātave sunú sómam ulūkhala</i> 'So then, press the soma for Indra to drink, o mortar.' (tr. Jamison and Brereton 2014, p. 128).
RV 1.113.5	<i>jihmaśyè cáritave maghóny ābhogáya²⁸³ [...] uśá ajīgar bhúvanāni vísvā </i> The generous lady (i.e. the goddess of dawn) has awakened all the beings for the one who is lying on the ground to move for food [...].
RV 1.113.16c	<i>áraiḥ pánthām yātave súryāya</i> She (i.e. the goddess of dawn) has left a path for the sun to go along.
RV 1.116.15cd	<i>sadyó jángḥām áyasīm víspālāyai dhāne hité sártave práty adhattam</i> 'right away you inserted a metal shank for Viśpala ²⁸⁴ to run, when the stake had been set.' (tr. Jamison and Brereton 2014, p. 270).
RV 1.131.5 = ŚS 20.75.3	<i>cakārtha kārám ebhyaḥ pṛtanāsu právantave</i> You have created the 'Game' for them to prevail in battle.
RV 2.16.5ab	<i>vṛṣṇaḥ kósaḥ pavate mádhva ūrmir vṛṣabhānnāya vṛṣabhāya pātave</i> The vessel of the bull (i.e., of the soma), the wave of honey, purifies itself for the bull (i.e. for Indra), whose food the bull (i.e. soma) is , to drink.
RV 3.3.1ab	<i>vaiśvānarāya pṛthupājase vípo rátānā vidhanta dharúṇeṣu gātave</i> ' To honor Vaiśvānara of broad visage , our inspired words offer him (i.e. to Agni Vaiśvānara) treasures so that he (i.e. Agni Vaiśvānara) goes upon strong supports.' (tr. Jamison and Brereton 2014, p. 471).
RV 3.35.7ab	<i>stīrṇām te barhiḥ sutá indra sómaḥ kṛtā dhānā áttave te háribhyām</i> 'The ritual grass has been strewn for you, the soma pressed, o Indra. The roasted grains have been prepared for your fallow bays to eat.' (tr. Jamison and Brereton 2014, p. 518).
RV 8.69.10 = ŚS 20.92.7	<i>á yát pátanty enyàḥ sudúghā ánapasphuraḥ </i> <i>apasphúram gṛbhāyata sómam índrāya pātave </i>

²⁸² On the identification of the heart-piercing one (*hṛdayāvīdh-*) with Rudra see Witzel and Goto (2007: 515).

²⁸³ It is noteworthy that in this sentence a third dative form (*ābhogáya*) is used to denote the purpose of the action conveyed by the infinitive.

²⁸⁴ This is a feminine proper name.

		‘When the speckled (cows), who yield good milk and never kick, fly here, take hold of the kicking soma for Indra to drink.’ (tr. Jamison and Brereton 2014, p. 1161).
	RV 9.78.2c	<i>pūrvīr hi te srutāyaḥ sānti yāṭave</i> ‘For there are many courses for you (i.e. for Soma) to travel.’ (tr. Jamison – Brereton 2014, p. 1312).
	RV 9.98.10	<i>indrāya soma pātave vṛtraghné pári śicyase náre ca dáksīṇāvate devāya sadanāsáde</i> ²⁸⁵ . ‘O Soma, you are poured around for Indra, the Vrtra-smiter , to drink, and for the superior man who gives priestly gifts, and for the god sitting on the seat.’ (tr. Jamison and Brereton 2014, p. 1345).
	RV 9.100.5	<i>krátve dáksāya naḥ kave pávasva soma dhārayā </i> <i>indrāya pātave sutāḥ mitráya váruṇāya ca</i> ²⁸⁶ ‘For our will and skill, o poet, purify yourself in a stream, Soma, pressed for Indra to drink, for Mitra and Varuṇa.’ (tr. Jamison and Brereton 2014, p. 1346)
	RV 9.108.15	<i>indrāya soma pātave nṛbhir yatāḥ svāyudhó madíntamaḥ </i> <i>pávasva mádhumattamaḥ </i> ‘ For Indra to drink, o Soma—held by men, having good weapons and most exhilarating, purify yourself as the most honeyed.’ (tr. Jamison and Brereton 2014, p. 1358)
	ŚS 1.11.4cd = PS 1.5.4cd	See above example (28).
	ŚS 5.18.1 = PS 9.17.1	See above example (29) = (16).
	ŚS 12.1.38cd = PS 17.4.8	See above example (26).
	PS 4.21.5	<i>madhu tvā madhukṛt kṛṇotu pitum tvā pitukṛt kṛṇotu </i> <i>uto niṣadya pātave atho ūrdhvāya tisthate</i> Let a bee turn you into honey, let a food-preparer turn you into food, as well as [something] for someone to drink both when he is sitting down and when he is standing upright . (tr. adapted from Zehnder et al. 2024)
	PS 5.11.4	See above example (30).

Appendix 2. Dative infinitive in -*ṭave* with a dative-marked patient

RV 1.46.7	<i>ā no nāvā matīnāṃ yātām pārāya gántave </i> <i>yuñjāthām aśvinā rátham </i> Go (2 nd du.) by means of the boat of our thoughts to reach the shore , O Asvins, yoke (second-person du) the chariot!
RV 2.13.8	See above n. 8
RV 3.37.5	<i>indram vṛtrāya hántave puruhūtām úpa bruve </i> <i>bhāreṣu vājasātaye </i> I call upon the much-invoked Indra to smash Vrtra , for victory in contests.

²⁸⁵ According to Jamison (http://rigvedacommentary.alc.ucla.edu/?page_id=29), this god might be Agni. It is noteworthy that there are three nouns inflected in the dative cases, all plausibly governed by the verbal form *pári śicyase* in the matrix sentence and all plausible agents of the action conveyed by the infinitive *pātave*.

²⁸⁶ This is another occurrence of three dative cases plausibly governed by the past participle *sutāḥ* in the matrix sentence and all plausible agents of the action conveyed by the infinitive *pātave*.

RV 3.37.6 = ŚS 20.19.6	<i>vājeṣu sāśahīr bhava tvām īmahe śatakrato </i> <i>indra vṛtrāya hāntave </i> Be victorious in the occasion of races. We are approaching you with prayers, o Indra of a hundred counsels, to smash Vṛtra .
RV 5.34.2cd	[...] <i>yād īm mṛgāya hāntave mahāvadhah sahāsrabhṛṣṭim uśānā vadhām yāmat</i> [...] right when Uśanā, carrying a mighty weapon, brandished the thousand-pointed weapon, to smash the wild beast .
RV 7.31.5ab = ŚS 20.18.5ab	<i>mā no nidé ca vāktave 'ryó randhīr āravāṇe </i> Do not make us subject to scorn to be spoken or to the hostility of the stranger. (Jamison-Breton 2014, p. 919)
RV 8.93.7cd = ŚS 20.137.12ab	= (31)
RV 9.61.22	= (12) = (13)
RV 9.86.20cd	<i>tritāsya nāma janāyan mādhu kṣarad indrasya vāyoh sakhyāya kārtave </i> Engendering the name of Trita, he (i.e. the poet) flows as honey, to create the partnership of Indra and Vāyu.
RV 10.16.12 cd = ŚS 18.1.56 cd = PS 18.62.6 cd	= (32)
RV 10.116.1ab	<i>pibā sōmam mahatā indriyāya pibā vṛtrāya hāntave śaviṣṭha </i> Drink the soma for the great strength, drink [it] to smash Vṛtra , most powerful one!
ŚS 2.27.3	<i>indro ha cakre tvā bāhāv āsurebhya stāritave</i> Indra put you on his arm to kill the Asuras .
ŚS 2.27.4	<i>Idem</i>
ŚS 2.36.7 = PS 2.21.6cd	<i>eté pātibhyas tvām aduḥ pratikāmāya vēttave</i> Those gave you to the husbands in order to find the one who is in accordance with [your] wish .
ŚS 6.81.2 = PS 19.17.2	= (33)
ŚS 11.1.3 = PS 16.89.3	<i>āgné 'janiṣṭhā mahatē vīryāya brahmaudanāya pāktave jātavedaḥ</i> O Agni, you have been born for great heroism, to cook the brahmán-rice-mess .
ŚS 13.2.12 ab = PS 18.21.6 ab	<i>divi tvātrir adhārayat sūrya māsāya kārtave</i> Atri maintained you in the sky, O sun, to create the month .
ŚS 18.1.57 cd = PS 18.62.7cd	<i>dyumān dyumatā ā vaha pitṛn havīṣe āttave</i> Do you, who are lightful, bring the lightful ancestors to eat the oblation .
ŚS 18.2.34 cd = PS 18.66.7cd	<i>sārvāms tān agna ā vaha pitṛn havīṣe āttave </i> O fire, bring all the ancestors to eat the oblation .
ŚS 20.19.5	<i>vṛtrāya hāntave puruhūtām ūpa bruve</i> I call upon the much-invoked [Indra] to smash Vṛtra .
PS 2.16.2cd	<i>indras tvā cakre bāhvor āsurebhya stāritave</i> Indra took you in his arms to defeat the Asuras .
PS 3.9.1cd	<i>srjāmy aham dūtān asmai viṣāya hantave </i> I do pour out messengers to destroy this poison . (tr. Spiers 2025, p. 244)
PS 3.9.2ab	<i>indram aham iha huve somapām ubhayāvinam asmai viṣāya hantave</i> Here do I call on Indra the Soma-drinker, who knows both [ways to win], to destroy this poison . (tr. Spiers 2025, p. 245)
PS 3.9.3	<i>varuṇam aham iha huva ugraṃ rājanyaiḥ sahāsmāi viṣāya hantave [...]</i>

	Here do I call on Varuṇa powerful, with the members of the royal class, to destroy this poison . (tr. Spiers 2025, p. 246)
PS 3.9.4	<i>aditim aham iha huve sūraputrām kanīnikām asmai viṣāya hantave [...]</i> Here do I invoke Aditi, who has heroes for sons, the maiden, to destroy this poison . (tr. Spiers 2025, p. 247)
PS 3.9.5	<i>bṛhaspatim aham iha huve yo devānām purohito 'smai viṣāya hantave [...]</i> Here do I invoke Bṛhaspati, who is the gods' chaplain, to destroy this poison . (tr. Spiers 2025, p. 247)
PS 3.9.6	<i>āṇās cāṇās caṇḍā markā asmai viṣāya hantave</i> [I invoke] the Destructions: Āṇās, Cāṇās and Caṇḍās to destroy this poison. (tr. Spiers 2025, p. 247).
PS 5.11.4	= (30)
PS 19.23.5	<i>ye te pāśā ekaśataṃ mṛtyo martyāya hantave tāṃs te yajñasya māyayā sarvāṃ apa yajāmasi </i> The one hundred and one snares which you, O death, have [for this purpose, i.e.] to slay men , all these [snares] of yours, we are driving off by means of the power of sacrifice.
PS 19.51.14 cd	<i>tat parjanya 'bhi varṣatu bhūmne dhānyāya kartave </i> May Parjanya rain upon this [fruit] to produce abundance made of wheat .

Appendix 3. Dative infinitive in -'tavaí with a dative-marked agent

RV 1.24.8ab	= (35)	
RV 3.46.5cd	= (34)	
RV 10.182.3ab	(6) = (36)	
RV 10.125.6ab = ŚS 4.30.5ab	(7) = (37)	

Appendix 4. Dative infinitive in -'tavaí with a dative-marked patient

RV 5.31.4cd	<i>brahmāṇa índram maháyanto arkair ávardhayann áhaye hántavá u </i> 'The formulators, magnifying Indra with their chants, strengthened him to smash the serpent .' (tr. Jamison and Brereton 2014, p. 695)
RV 8.96.5ab	<i>á yád vájram bāhvōr indra dhátse madacyútam áhaye hántavá u </i> 'When, o Indra, in your two arms you took the mace stirred by exhilaration, to smite the serpent ' (tr. Jamison and Brereton, p. 1200)
ŚS 2.13.2 = ŚS 19.24.4 = PS 15.6.1	= (38)
ŚS 19.30.2 cd = PS 12.22.11	= (39)
PS 12.4.8cd	<i>tatas te putro jāyatām kartavai vīryebhyaḥ</i> 'Let your son be born from that, in order for the manly deeds to be performed.'

PS 18.68.7ab	<i>imau yunajmi te vahnī asunītaye netavai</i> ²⁸⁷ I yoke these two pack animals for you to be led to the afterlife.
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²⁸⁷ Cf. ŚS 18.2.56: *imáu yunajmi te vahnī asunītāya vóḍhave* ‘I yoke these two pack animals **for you**, so that you will be conveyed to the afterlife.’