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9 The emergence of expressions for purpose relations in older Indo-European languages

The present study discusses the development of purpose constructions in Indo-European, with a focus on the oldest Indo-European languages, as well as the reconstruction of strategies coding the function of purpose in Proto-Indo-European. The investigation includes Old Indic purpose constructions and some infinitive formations in Hittite. The focus is on Old Indic, because this language is the first to show competition between purpose infinitives and finite structures. It has to be asked to what degree these constructions compete exactly with each other. After a discussion of the theoretical background the primary data is presented. For the question of the origin of purpose constructions the oldest infinitive in Vedic, namely that on *-dhyai*, is of interest, for its original function highlights the primary function of infinitives. It is hypothesized that the earliest purpose constructions in Indo-European were infinitives, interpreted as being equivalent to constructions which could show subject control.¹

As we can see from language history and from studies on child language, explicit expressions to verbalize the purpose of a certain action are not fundamental to language, and the relevant devices of Indo-European languages are not very old. Reconstructing some means for the expression of purpose in Proto-Indo-European is thus impossible. However, as the attested languages are genetically related, we would not expect the developments to differ completely. And indeed, one can easily discover two general strategies to create expressions for purpose in the languages, namely the functional extension of verbal nouns and verbal endings on the one hand, and the emergence of an elaborate system of subordinate clauses on the other hand. In most Indo-European languages both possibilities exist side by side, and it is worthwhile analyzing the differences. Crucial issues concern the competition between finite and non-finite structures

¹ Clauses of the type *With Mary [to talk to] ... you won't be bored* are regarded as small clauses. But as Wilder (1991: 224) points out, a small clause analysis is ruled out by the following condition:

XP can be the subject of a predicate of YP if no maximal projection dominating YP excludes XP.

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and control phenomena. The data comes from the oldest Indo-European languages, from Hittite and Vedic, the oldest attested language stage of Old Indic. The question here is: Which of the strategies denoting purpose are the oldest and are potentially inherited from Indo-European?

The study is organized as follows: First, a rough outline of the theoretical approach is presented. Second, we take a look at Hittite examples. Third, a discussion of the Vedic, especially the infinitive on Vedic *-dhyai*, follows. Central to this train of thought is the competition with finite purpose constructions. Fourth, the development of the ending *-dhyai* is pursued. It is assumed that this is originally a verbal ending. A parallel to this reanalysis can be found in the Romance languages. At the end, a comparison of the purposive strategies is made.

1 Theoretical background

We discuss the theoretical background of our analysis of purpose constructions with English and Russian material, because the properties of English and Russian non-finite and finite purpose structures can be detected in the older Indo-European languages, too. According to Cristofaro (2003: 157f.) purpose relations generally link two states of affair one of which (the main one) is performed with the goal of obtaining the realization of another one (the dependent one). The prototypical purpose relation seems to be one in which the main and dependent states of affair are performed by the same entity, which can control the realization of the dependent state of affair. There may be a constituent (often phonetically empty) that evokes a result-state description. This constituent can be detected by means of a purpose infinitive construction (e.g. *Max baked a chocolate cake for me to admire*, cf. Nissenbaum 2005). However, most of the data on purpose relations concern the purpose of motion. As for semantics, purpose relations are quite similar to those of the complement relations established by desiderative predicates (modals, manipulatives). It is therefore assumed that purpose relations belong to the domain of deontic modality, where “deontic modality . . . concerns what is possible, necessary, permissible, or obligatory, given a body of law or a set of moral principles or the like” (von Stechow 2006: 2). But, as in this case, a special context forcing a deontic reading is needed, purposivity is also associated with teleological modality: “Teleological modality . . . concerns what means are possible or necessary for achieving a particular goal” (von Stechow 2006: 2). This means that the realization of the dependent state of affairs is presented as possible at a future point in time with respect to that at which the main state of affair is located. Concerning syntax it is generally agreed that

purpose constructions have adjunct status (Jones 1991: 64), but they differ from typical adverbial relations, and represent a special case (Schmidtke-Bode 2009).

1.1 Non-finite purposive constructions

In the following, we add the English translations of the Hittite and Vedic data to the corresponding English and Russian constructions to show which structures are documented in the old Indo-European languages, too, and which are not. Detailed analyses of the Hittite and Vedic examples are given in Sections 2 and 3. In this section the relevant examples are rendered as English translations.

To start with English non-finite purpose constructions, Jones (1991: 25f.) distinguishes three types:

- (1) a. *Mary_i brought John_k along* *in-order-to-clause*²
 [*in order e_i to talk to him_k*].
- b. *Mary_i brought John_k along* subject-gap purpose clause
 [*e_i to talk to him_k*].
- c. *Mary_i brought John_k along* object-gap purpose clause
 [*e_i to talk to e_k*].

Type (1d) is usually referred to as a purpose clause:

- (1) d. *We've been hiring guards_i [e_i to watch the children].*

and (1e) as a rationale clause.

- (1) e. *Grass_i is green [e_i to promote photosynthesis].* (Landau 2013: 224)

Because of the conjunction *čtoby* the *in-order-to*-type is also assumed for Russian. But in each of the three purpose constructions *čtoby* is optional:³

² In English, only *in-order-to*-constructions allow for *wh*-extraction:

Who_i did you go to England [in order to meet t_i]

Furthermore, *in-order-to*-constructions are acceptable with perfective *have* inflection, but not the other purpose construction types (1b), (1c), (1d).

³ Cf. Faraci's (1974) differentiation for rationale, objective and purpose clauses:

- (a) John trains the new recruits [to make a living for himself] rationale clause
 (b) John trains the new recruits [to make a living for themselves] objective clause
 (c) Carol bought a rack [to hang coats on] purpose clause

- (2) a. *Maša vzjala ščetku [(čtoby) počistit' plat'e]*
 Mascha take: pret.fem. clothbrush: acc. that clean: inf. dress: acc.
 'Mascha took a clothbrush to clean the dress'
- b. *Muž dal žene den'gi [(čtoby) zaplatit' za kvartiru]*
 husband give: pret.masc. wife money that pay: inf. for lodging
 'The husband gave his wife money to pay for lodging'
- c. *Anton prines knigu [(čtoby) po-čitat']*
 Anton bring-pret book: acc. that delimitative-read: inf.
 'Anton brought a book to read for a while.'⁴ (Junghanns 1994: 107ff)

Vedic and Hittite rationale clauses are shown in (47) and (13), purpose clauses in (48) and (16):

Vedic

(47) *Unyoke, o hero_i, as at this journey's end [e_i to delight today in our Soma sacrifice]*

Hittite

(13) *And he_i goes back down [e_i to sleep]*

Vedic

(48) *Then, o Indra, lord of tawny coursers, these sisters_i, goddesses, are praised, when you released the prisoned ones_i with your help [e_i to flow after a long time (i.e. captivity)]*

Hittite

(16) *To the king_i they give barley beer_k [e_i to drink e_k]*

Control is the crucial factor for all these infinitive constructions. Williams' (1980) distinction between obligatory control and non-obligatory control is essential here (cf. also Wurmbrand 2002). Obligatory control shows five properties:

- (3) 1. Lexical NP cannot appear in the position of PRO.
2. The antecedent precedes the controlled PRO.
3. The antecedent c-commands the controlled PRO.
4. The antecedent is thematically ... or grammatically ... uniquely determined.
5. There must be an antecedent.

⁴ For rationale and objective embedding in Russian cf. Junghanns (1994, 1994a).

Checking the purpose construction types according to these properties, *in-order-to*-constructions show non-obligatory control, permitting context control (Jones 1991: 37):

(4) *The lights were turned off [in order e_{arb} to conserve electricity].*

Non-obligatory control is also found with the subject of purpose clauses:

(5) a. *Bambi_k was brought [e_{arb} to read e_k to the children].*

b. *I_(i) brought this wine_k over [e_{i/arb} to enjoy e_k with our dinner].*

In (5a) the referent of the subject is pragmatically determined. Characteristic of this purpose construction is that the sentence becomes ungrammatical if the object position in the infinitive clause is filled by an overt pronoun:

(5) a' **Bambi_k was brought [e_{arb} to read it_k to the children].*

On the contrary, in (5b) the matrix NP, *I*, could control the purpose clause subject as well as an arbitrary controller.

Hittite and Vedic examples with a purpose clause containing arbitrary control are given in (18a) and (31), respectively.

Hittite

(18) a. *one jug of wine_k [e_{arb} to libate e_k]*

And with a verbal noun functioning like a purpose clause:

Vedic

(31) *Indra, give us_k wealth in brave men, good steeds and good cows
[for e_{arb} first thinking [of us_k] like the priest_{t_k].}*

Purpose clauses (object-gap purpose clauses) can also take an exhaustive subject:

(6) *I brought this wine_k over for John_i [e_i to enjoy e_k with dinner].*

(60) and (52) are relevant Vedic examples:

Vedic

(60) *The rays bear Jātavedas_k up aloft, the god for all_i [in order e_i to look on e_k]*

(52) *When you_i, Indra, take the club reeling with excitement in the arms for the snake_k [e_i to slay e_k]*

(according to Keydana's interpretation; but also confer with the discussion in Section 3.4.)

The empty object position, however, must always be controlled by obligatory control. Obligatory control also occurs with the subject of rationale clauses. Subject control in these clauses can never be arbitrary control.

Subject control in a rationale clause in Vedic is shown in (46):

Vedic

(46) *To him then I_i offer this highest sun winning song of praise [e_i to magnify with songs of invocation and with hymns the glorious]*

(49) is a Vedic example with object control in a purpose clause caused by a possessive pronoun of the matrix clause:

Vedic

(49) *Make his_i ears hear [e_i to show his vigor and (steer him) in the habitual direction e_i to get excited]*

There are also syntactic differences between rationale clauses and purpose clauses. Purpose clauses are VP-internal, containing a gap bound by the matrix object, rationale clauses are external to the VP, and are not dependent on the matrix object. In the structure tree, purpose clauses are always attached lower than rationale clauses (cf. Faraci 1974, Huettner 1989).

As for the semantics of the matrix predicate in English purpose clauses, Bach (1982: 38) identified three restrictions (cf. also Johnston 1998: 89):

- (7) a. *have, be* (in a place, on hand, available, at one's disposal, in existence . . .):
- i. *I have my mother [to look after e].*
 - ii. *Spoons are [to eat soup with e].*
 - iii. *John_i has an umbrella_j in the closet [e_i to use e_j when it rains].*
 - iv. *The umbrella_j is kept in the closet for you_i [e_i to use e_j when it rains].*
- b. transitive verbs which involve continuance or change in the states of affairs indicated in (a) and are of a "positive" sort:
- i. *I brought it [to build a fire with e].*
 - ii. *??I destroyed it [to build a fire with e].*
 - iii. *John_i bought the umbrella_j [e_i to use e_j when it rains].*
 - iv. *I baked a cake [to eat with dinner].*
- c. verbs of choice and use:
- i. *Mary chose John [to go to the dance with e].*
 - ii. *I use it [to keep my pencils in e].*
 - iii. *I chose a Jane Austen novel to read to the students.*
 - iv. *I_i used it_j [e_i to slice the salami with e_j].*

A Vedic example of type (7)(c)(iv) is given in (50).

Vedic

(50) *O Vājas and Ṛbhukṣans, explore the paths to sacrifice for us, masters, lauded [e_i to press forward to each direction].*

These restrictions are reminiscent of the predicate types purpose clauses are compatible with (Faraci 1974, Bach 1982, Jones 1985):

- | | | |
|--------|---|--|
| (8) a. | <i>I bought that convertible for you to admire</i> | change of state |
| b. | <i>#I drove that convertible for you to admire</i> | non-change of state |
| c. | <i>I drove that convertible in order for you to admire me</i> | |
| d. | <i>I planted that tree for my kids to play on</i> | ‘positive’ change |
| e. | <i>#I chopped it down to prevent my kids from playing on</i> | ‘negative’ change |
| f. | <i>I chopped it down to use as firewood</i> | a pragmatic difference?
(cf. Huettner 1989) |

The reason that the meanings differ only subtly in many cases (and are sometimes indistinguishable) is that when the result state is taken to be the direct, intended consequence of an action, the most salient goal that can be expressed about the result state is simply the one held by the agent of the causing event (cf. Nissenbaum 2005).

1.2 Finite purposive constructions

Unlike the non-finite purpose constructions, in English finite purpose clauses are relatively rare. They are introduced by complementizers, for example *that* and *lest*, and can also be used if the subject of the matrix clause is identical with that of the subordinate clause. The important feature here is that with *that* the purpose clause takes *may* in the present and future, and *might* in the past, whereas with *lest* it takes *should* or *may* (cf. Schmidtke-Bode 2009 and the examples in (9)). We find a similar use with Old Indic purpose clauses, cf. the Vedic examples (23) and (24).

- (9) a. *I play the violin that I may enjoy myself.*
 b. *I grabbed the rope lest I should fall.*

Vedic

(23) *Br̥haspati gives us great [helps], o friends, that we may be guiltless for the bounteous (god).*

(24) *Come readily to this mine invocation, that you may drink the juice lauded.*

2 Hittite

In Hittite, in main clauses and subordinate clauses a purpose meaning must be inferred from the context. Sometimes periphrasis yields a purpose sense:

(10) CTH 81: Autobiography of Hattušilis III, III 9 f

nu pa-a-un nu URUHa-wa-ar-ki-na-an

and go: 1sg.pret.act. and Hawarkina: acc.sg.c.

URUDi-el-mu-na-an-na ú-e-da-ah-hu-un

Delmuna: acc.sg.c.=and fortify: 1sg.pret.act.

‘I went and fortified Hawarkina and Delmuna’ ~ ‘I went to fortify Hawarkina and Delmuna’

Sometimes parataxis may have a purposive sub-sense:

(11) KUB XXIX 1 (CTH 414.A: Foundation ritual), I 35 f.

nu-wa-mu i-ni GIŠ-ru ma-ni-ya-ah

and=quot=to me this: acc.s.gn. tree: acc.sg.n. transfer: 2sg.imp.act.

na-at-kán kar-aš-mi

and=it=ptcl fell: 1sg.pres.act.

‘Give me that tree and I’ll fell it’ ~ ‘Give me that tree so that I can fell it’

However, a consecutive meaning can also be proposed, since the result of an action may not only be an intended result but also accidental. This applies also to subordinated clauses which can be purposive as well as consecutive.

(12) Myth of Telipinu, KBo III 7+ I 5ff. (CTH 257)

ud-ni-wa ma-a-ú še-eš-du

land: nom.sg.n.=quot prosper: 3sg.imp.act. flourish: 3sg.imp.act.

nu-wa ud-ni-e pa-ah-ša-nu-wa-an e-eš-du

and=quot land: nom.sg.n. protect: part.nom.sg.n. be: 3sg.imp.act.

(15) KBo IV 4 ii 63-64

m.^dLAMMA-ašš =a kue KARAŠ.ḪI.A INA KUR

Lamma: nom.sg.c. =and acc.pl.c. troop: acc.pl. country: dat./loc.

URU Nuḫašši ḫalki^{HL.A}-uš ḫarnikuwanzi pēḫudan

Nuḫašši: dat.sg. grain: acc.pl.c. destroy: inf. brought: part

ḫarta ...

has: 3sg.pret.act

And the troops_i which Mr. LAMMA had brought to Nuḫašši [e_i to destroy the grain ...]

‘And the troops which Mr. LAMMA had brought to Nuḫašši to destroy the grain ...’

The accusative object of the finite transitive matrix verb *pēḫudan ḫarta* (kue KARAŠ.ḪI.A, troops’) is the subject of the transitive infinitive *ḫarnikuwanzi* (*ḫalk^{HL.A}-uš*). (16) is a clear purpose clause with object control:

(16) KUB XXV 36 (CTH 647.6: Ritual for the prince), II 12’

LUGAL-i a-ku-wa-an-na mar-nu-an pī-an-zi

king: dat.sg.c. drink: inf. II barley beer: acc.sg. give: 3pl.pres.act.

To the king_i they give barley beer_k [e_i to drink e_k]

‘To the king they give barley beer to drink.’

An active and passive reading of the infinitive seems possible in (17):

(17) KBo IV 4 iv 20-21

BELI =NI =wa =nnaš ŠA URUAripšā iwar

lord: voc.sg. =our =quot =us: acc.pl. gen Aripšā like

URUḪattuši šāruwauwanzi lē maniyaḫti

Ḫattuša: dat./loc.sg. plunder: inf. not hand over: 2sg.pres.act.

Do not, our lord, hand us_k over to Ḫattuša_i [e_i to plunder e_k like Aripšā]

Do not, our lord, hand us_i over to Ḫattuša [e_i to be plundered like Aripšā]

‘Do not, our lord, hand us over to Ḫattuša to be plundered (= to plunder) like Aripšā.’

If the recipient in the matrix clause, *Ḫattuši*, functions as the controller of the transitive infinitive *šāruwauwanzi*, the infinitive construction is a purpose clause with object control, but with *naš* as controller it is a rationale clause with a passive reading.

The infinitive may also depend on a noun, as in (18):

(18) KUB 7.53 I 23

1 ^{DUG}haniššaš GEŠTIN šipanduwanzi

one jug: nom.sg.c. wine libate: inf.

‘one jug of wine for libating’ (Hoffner & Melchert 2008: 332)

The subject of the infinitive is arbitrary, the noun GEŠTIN is the controller of the empty object of *šipanduwanzi*:

(18) a. one jug of wine_k [e_{arb} to libate e_k]

Therefore, a purpose clause should be assumed here.

3 Vedic

In contrast to Hittite, in Vedic true finite purpose sentences are documented. They already appear in the oldest extant text, the *Ṛgveda*, being representative of an early Indo-Aryan language, and occur parallel to purpose infinitives. As mentioned above, the following discussion focuses on the infinitive on *-dhyai*, because it is almost completely restricted to the oldest text group and also appears in Old Iranian, and can therefore be traced back to its origin.

In Vedic, in purpose clauses two conjunctions can be found: the polyfunctional conjunctions *yád* and *yáthā*. The indicator to distinguish the purpose use from other usages is mood: Purpose *yád* and *yáthā* demand the subjunctive, more seldom the optative.⁵ As language comparison shows, this is a well-known strategy. For example Latin, Greek and most Slavic languages can only form purpose clauses with subjunctive morphology in the embedded clause (Junghanns 1994a as well as Wiemer this volume for the role of mood in Slavic independent infinitives).

Now, the question has to be answered whether finite and infinitival purpose constructions are competitors. In this context, Keydana’s recently published study on the infinitives in the *Ṛgveda* (2013) must be taken into account.

3.1 Complementary distribution

With the exception of the following instances, Keydana (2013: 150–153) assumes free variation with the infinitive construction and finite sentences; Disterheft (1980: 65–69) even consistently argues in favor of free choice.

⁵ Hettrich (1988: 284f.). Hettrich’s (291) distinction between *sprecherbezogen* and *neutral* is not being observed here (cf. Keydana 2013: 144 note 119).

First, finite purpose clauses, rather than infinitives, appear when the subjects of the matrix sentence and the subordinate clause are different⁶ and no rationale clause or purpose clause can be used; cf. (19):

(19) RV 10,131,1

āpa prāca *indra* *viśvāñ* *amitrān*
away eastern: acc.pl.m. Indra: voc.sg.m. all: acc.pl.m. enemy: acc.pl.m.

āpāpāco *bhibhūte* *nudasva* ...
away=western: acc.pl.m. you superior: voc.sg.m. push away: 2sg.imp.pres.med.

yāthā tāva *śārman* *mādema*
that you: gen.sg. shelter: loc.sg.n. be glad: 1pl.opt.pres.act.

‘Drive all our enemies away, Indra, the western, you superior one, and the eastern ... that we in thy wide shelter may be joyful.’

As Keydana (2013: 148) points out, a rationale clause is impossible in this case, as the subject of the matrix sentence is not token identical with that of the subordinate sentence. A purpose clause (with arbitrary control) must also be excluded. The object would have to appear in an empty non-subject position in the purpose clause.

Furthermore, a finite construction has to be chosen if the subject of the matrix clause and the subject of the infinitive construction stand in a whole-part relation, as in RV 7,104,3 *duṣkṛtaḥ* ‘the wickets’: *ékaś canā* ‘one of them’ (Keydana 2013: 148).

3.2 Free variation?

3.2.1 Nominatives

As for variation between finite and infinitival purpose structures, Keydana (2013: 149) assumes that in the next example, too, the finite structure is obligatory because for the verb *as-* ‘to be’ no infinitive is documented. Sentences like (20) with a predicative nominative are often documented in the Ṛgveda (cf. Hettrich 1988: 283):

⁶ For reasons of space in Lühr (1994) only the competition between finite purpose structures and infinitival purpose structures on *-dhyai* could be analyzed, which has been ignored by Keydana (2013).

(20) RV 2,26,02

havīṣ *kṛṇuṣva* *subhāgo*
 oblation: acc.sg.n. prepare: 2sg.imp.pres.med. happy: nom.sg.m.
yāthāsasi
 that=be: 2sg.subj.pres.act.

Prepare [you_i] oblation so that you_i may get happy_i
 ‘Prepare oblation so that you may get happy.’

But the lack of this infinitive could have been compensated for by the infinitive *bhuvé* of the verb *bhavⁱ* ‘to become, to be’:

(21) RV 10,88,10

tām *ū* *akṛṇvan* *tredhā* *bhuvé* *kām*
 he: acc.sg.m. ptcl make: 3pl.ind.impf.act. threefold become: inf. ptcl
 ‘They made him to appear in threefold essence’ (cf. Keydana 2013: 347)

Especially in deontic contexts, *bhavⁱ* – and the verb *as-* ‘to be’ are used in the same way:

(22) RV 7,35,8

śám *naḥ* *párvatā*
 auspicious: nom.sg.n. us: dat.pl. mountain: nom.pl.m.
dhruváyo *bhavantu*
 standing firm: nom.sg.m. be: 3pl.imp.pres.act.
śám *naḥ* *sindhavaḥ* *śám* *u*
 auspicious: nom.sg.n. us: dat.pl. river: nom.pl.m. auspicious: nom.sg.n. ptcl
santv *ápah*
 be: 3pl.imp.pres.act. water: nom.pl.f.
 ‘Auspicious be the firmly-seated mountains, auspicious be the rivers and the waters.’

It is therefore not surprising when a finite purpose clause displays a verbal form of *bhavⁱ* ‘to become, to be’:

(23) RV 7,97,2

bṛhaspátir *no* *maha* *á* *sakhāyaḥ*
 Bṛhaspati: nom.sg.m. us: acc.pl. great: voc.pl.m. here friend: voc.pl.m.

yáthā bhávema *mīlhúṣe* *ánāgā*
 that be: 1pl.pres.opt.act. bounteous: dat.sg.m. guiltless: nom.pl.m.
 Bṛhaspati gives us_i great [helps], o friends, that we_i may be guiltless_i for the
 bounteous (god)
 ‘Bṛhaspati gives us great [helps], o friends, that we may be guiltless for the
 bounteous (god)’⁷

Thus, it is doubtful whether the missing infinitive of the verb *as-* is the reason for the use of the finite structure in (20). Rather, this structure could have been selected due to the predicative nominative which does not demand a covert subject PRO, but rather an overt subject noun or pronoun, which can be replaced by *pro* in pro-drop-languages, such as the oldest Indo-European languages. (The same holds for (24).)

But if this is true, other finite purpose clauses with nouns and adjectives in the nominative must also be included. (24) is a further example:

(24) RV 6,63,2

áram me gantam *hāvanāyāsmāi*
 readily my come: 2dual.imp.act. invocation: dat.sg.n.=this: dat.sg.n.
gṛṇānā *yáthā pibātho* *ándhaḥ*
 lauded: nom.dual.m. that drink: 2dual.subj.pres.act. juice: acc.sg.n.
 Come [you_i] readily to this my invocation, that you_i may drink the juice lauded_i
 ‘Come readily to this my invocation, that you may drink the juice lauded.’
 (Hettrich 1988: 281)

According to Keydana (2013: 54, 119), finite purpose constructions compete with infinitival ones here. Infinitive purpose constructions presumably show an appositive nominative reference to the covert subject of the infinitive constructions. One of the very seldom documented examples shows a rationale clause:

(25) RV 4,2,1

yó *mártyeṣv* *amṛta* *ṛtāvā*
 who: nom.sg.m. mortal: loc.pl.m. immortal: nom.sg.m. law-abiding: nom.sg.m.
devó *devéṣv* *aratír* *nidhāyi* |
 god: nom.sg.m. god: loc.pl.m. aratí: nom.sg.⁸ appoint: 3sg.ind.aor.pass.

⁷ According to Keydana (2013: 149), neither a rationale clause nor a purpose clause can be construed, though the beneficiary *us* is coindexed with the subject of the infinitive construction. In the case of a purpose clause with arbitrary control, an affected theme in the matrix sentence and its resumption in the infinitive construction would be required.

⁸ For the interpretation cf. Hayakawa (2014: 38ff).

hótā *yájiṣṭho* *mahnā* *śúcādhyai*
 sacrificer: nom.sg.m. best at worship: nom.sg.m. might: instr.sg.n. shine: inf.
havyaír *agnír* *mánuṣa*
 oblation: instr.pl.m. Agni: nom.sg.m. human: gen.sg.m.
īrayádhyai
 be raised: inf. (with passive interpretation)

But Keydana's translation:

„Agni, der als Unsterblicher unter den Sterblichen, als Gesetzestreuer, als Gott unter den Göttern als Speichenkranz eingesetzt ist, um als der am besten opfernde Opferpriester mit Macht aufzuleuchten, um mit den Opferspenden des Menschen in Bewegung gesetzt zu werden“

is not the only possibility. *hótā yájiṣṭhaḥ* could also be an apposition to *agníḥ* in the superordinate structure:

- (25) a. who_i as the immortal_i among mortals, law-abiding, the god_i among the gods, appointed as *arati*, as sacrificer_i best_i at worship in order to shine with might . . .⁹

The same applies to *vāśrāḥ*, in a structure with a rationale clause in (26). This adjective can also be an apposition to *tyé sūnávaḥ* ‘these sons’ in the superordinate structure:

(26) RV 1,37,10

úd *u* *tyé* *sūnávo* *gíraḥ*
 upwards ptcl this: nom.pl.m. son: nom.pl.m. song: acc.pl.f.
kāṣṭhā *ájmeṣv* *atnata*
 goal: acc.pl.f. track: loc.pl.m. stretch: 3pl.ind.aor.med.
vāśrā *abhijñú* *yātave*
 roaring: nom.pl.m. knee-deep run: inf.

These sons_i (strike) up praises. In their racings [they_i] have enlarged the goals, roaring_i, in order to run knee-deep.

‘These sons (strike) up praises. In their racings they have enlarged the goals, roaring, in order to run knee-deep.’ (cf. Griffith)

⁹ Cf. ‘THE, Faithful, One, Immortal among mortals, a God among the Gods, appointed envoy, Priest, best at worship, must shine forth in glory.’ (Griffith).

3.2.2 Comparisons in the nominative case

According to Keydana, comparisons in the nominative occur in finite purpose constructions as well as infinitival ones:

(27) RV 8,102,7f.

agnim *vo* ... | *áčhā náptre* *sáhasvate* ||
 Agni: acc.sg.m. you: gen.pl. here descendent: dat.sg.m powerful: dat.sg.m.
ayám *yathā na* *ābhúvat*
 this: nom.sg.m. that we: acc.pl. appear: 3sg.subj.pres.act.
tvāṣṭā *rūpéva* *táksyā*
 Tvaṣṭar: nom.sg.m. shape: acc.pl.n.=like to be formed: acc.pl.n.
 'I [summon] your Agni ... for the powerful descendant, so that this man enters into us as Tvaṣṭar into the shapes to be formed' (cf. Hettrich 1988: 288)

He gives the following examples of rationale clauses. They contain infinitives on *-am* and *-é* (2013: 56):

(28) RV 9,82,1

punānó vāram *páry ety* *avyáyaṃ* |
 purifying fleece: acc.sg.m./n pass: 3sg.ind.pres.act. sheep's: acc.sg.m./n.
śyenó ná yónim *ghṛtávantam* *āsadam*
 hawk: nom.sg.m. like womb: acc.sg.m. containing ghee: acc.sg.m. seat: inf.
 'Purifying he passes through the sheep's fleece like a hawk to seat on the womb dropping with ghee'

(29) RV 6,29,3

vāsāno átkam *surabhīm* *ḍṣé kám* |
 robed: nom.sg.m. garment: acc.sg.m. grossamery: acc.sg.m. look: inf ptcl
svàr ṇá nṛtav *iṣiró*
 sun: nom.sg.m. like danser: voc.sg.m. vivacious: nom.sg.m.
babhūtha
 become: 2sg.ind.pf.ac.
 'Robed in a grossamery garment to look on like the sun, you danser, you have become vivacious'

But the comparisons can also refer to the subject of the matrix clause.

- (28) a. Purifying_i he_i passes through the sheep's fleece [like a hawk]_i [e_i to seat on the womb dropping with ghee]
- (29) a. [Robed in a grossamery garment]_i [e_i to look on like the sun], you danser, you_i have become vivacious_i

But while in sentences with rationale clauses the subject of the matrix clause, the covert subject of the infinitive construction and the comparison all exhibit nominative case, in a purpose clause the case does not match that of the controller in the matrix clause, i.e. it refers to a non-nominative antecedent (cf. Keydana 2013: 56f., 227).

- (30) RV 1,25,17

sám nú vocāvahai púnar yáto me
 together ptcl speak: 1pl.subj.aor.med. again as soon I: dat.sg.
mádhv ábhṛtam | hóteva
 mead: nom.sg.n. brought: nom.sg.n. sacrificer: nom.sg.m.=like
kśádaṣe priyám
 eat: inf. dear: acc.sg.n.

Once more together let us speak, because the mead is brought to me_i
 [e_i to eat the dear like the priest_i]

‘Once more together let us speak, because the mead is brought to me that
 I eat the dear like the priest’

However, *hótā iva* ‘like a sacrificer’ may be formulaic, or perhaps the nominative case represents the default case,¹⁰ as in German comparisons;¹¹ cf. the similar structure in (31):

- (31) RV 8,12,33

suvíryam svásvyam sugávyam
 brave men: acc.sg.n. good steeds: acc.sg.n. good cows: acc.sg.n.
indra daddhi naḥ | hóteva
 Indra: voc.sg.m. give: 2sg.imp.pres.act. us: dat.sg. sacrificer: nom.sg.m.= like

¹⁰ Cf. *kṣṇó rūpám kṛtvā* (TS.) ‘taking on a black form (i.e. making shape for himself as one that is black)’ (Whiteny 1896).

¹¹ In German the nominative in comparison constructions can be assigned by default, as the nominative is unmarked with respect to all other cases (Hudson 1998; Sigurdsson 1991: 338; McFadden & Sundaresan 2011).

*pūrvācittaye**prādhvaré*

for the first thinking: dat.sg.f. pfx=sacrifice: loc.sg.m.

Indra, give us_k wealth in brave men, good steeds and good cows
[for e_{arb} first thinking [of us_k] like the priest_k]‘Indra, give us wealth in brave men, good steeds and good cows, that we
may be remembered first like the priest at the sacrifice.’

pūrvācittaye ‘at the first thinking (of us)’ is an event nominalization with null elements as in purpose clauses. It comprises an arbitrary null subject and a null object controlled by the dative ‘us’ in the matrix clause, with the comparison in the nominative *hōtā iva* referring to this object. If Keydana’s explanation for *hōtā iva* in (30) were true, the accusative *hōtaram iva* would have been expected.

3.2.3 Overt subjects

Finite purpose clauses, rather than infinitives, are attested in sentences with the following characteristics: The finite subordinate clause contains an overt expression for the subject in the nominative. This construction is obligatory, for in infinitive constructions there is no overt subject in the nominative (cf. Keydana 2013: 57).

(32) RV 5,6,4

ā te agna idhīmahī dyumāntam

pfx your Agni: voc.sg.m. kindle: 1pl.opt.pres.act. resplendent: acc.sg.m.

devājāram

unfading: acc.sg.m

yād dha syā te pānīyasī samīd

that ptcl this: nom.sg.f. your very glorious: nom.sg.f. fuel: nom.sg.f.

*dīdāyati**dyāvi*

may shine: 3sg.pres.subj. heaven: loc.sg.m./f.

‘God, Agni, we will kindle your resplendent, unfading (fire), so that this
glorious fuel may send forth by day its light for thee’ (cf. Hettrich 1988: 386)

The noun phrase *syā te pānīyasī samīd* ‘this your glorious fuel’ anaphorically refers to *te dyumāntam devājāram* ‘your resplendent unfading (fire)’, where the nominative expression in the subordinate clause is a nominal substitution of

an expression in the superordinate structure. Thus, binding principle A¹² in the version of Pollard & Sag (1992) applies:

- (33) An anaphor must be coindexed with a less oblique coargument if there is one.

Another example is (34). Here, referential *śakrāḥ* is coreferent with the preceding dative NP *indrāya*:

- (34) RV 1,10,5

ukthām *indrāya* *śāmsyaṁ*
said: nom.sg.n. Indra: dat.sg.m. laud: nom.sg.n.
vārdhanam *puruniṣṣídhe*
strengthening: nom.sg.n. living many gifts: dat.sg.m
śakró *yáthā* *sutéṣu* *ṇo*
mighty: nom.sg.m. that pressed Soma drink: loc.pl.m. our
rāraṇat *sakhyéṣu* *ca*
take pleasure: 3sg.subj.pres.act. friendship: loc.pl.n. and

‘To Indra must a laud be said, strengthening him who gives many gifts, that the mighty one may take pleasure in our friendship and drink-offerings.’
(cf. Hettrich 1988: 279)

And with an overt subject in the subordinate purpose sentence, too:

- (35) RV 1,89, 5

tām *íśānaṁ* *jágatas* *tasthúṣas*
he: acc.sg.m. mighty: acc.sg.m. going: gen.sg.n. standing: gen.sg.n.
pátim *dhiyaṁjinvám* *ávase*
lord: acc.sg.m. exciting devotion: acc.sg.m. favour: dat.sg.n.
hūmahe *vayám* | *pūṣá* *no yáthā*
invoke: 1pl.ind.pres.med. we: nom.pl. Pūṣan: nom.sg.m. our that
védasām *ásad* *vṛdhé*
wealth: gen.pl.n. be: 3sg.subj.pres.act. prosperity: dat.sg.f.
rakṣitā *pāyúr* *ádabdhaḥ* *svastáye*
keeper: nom.sg.m. guard: nom.sg.m. infallible: nom.sg.m. fortune: dat.sg.f.

‘Him we invoke for aid who reigns supreme, the Lord of all that stands or moves, inspirer of the soul, that Pūṣan may promote the increase of our wealth, our keeper and our guard infallible for our good’
(cf. Hettrich 1988: 283)

¹² Cf. Keydana (2013: 147 note 123); Fanselow & Felix (1990).

3.2.4 Number of words

As Keydana (2013: 151f.) states, completely parallel examples, one with an infinitive on *-ave*, and one with a finite purpose sentence, are provided by (36) and (37):

(36) RV 1,134,3

vāyúr *yuñkte* *róhitā* *vāyúr*
 Vāyu: nom.sg.m. yoke: 3sg.ind.pres.med. red: acc.dual.m. Vāyu: nom.sg.m
aruṇā́
 reddish brown: acc.dual.m.

vāyú *ráthe* *ajirá* *dhurí*
 Vāyu: nom.sg.m. chariot: loc.sg.m. swift-footed: acc.dual.m. pole: loc.sg.f.
vólhave *váhiṣṭhā* *dhurí* *vólhave* |
 draw: inf. best: acc.dual.m. pole: loc.sg.f. draw: inf.

‘Two red steeds Vāyu yokes, Vāyu two purple steeds, Vāyu the swift-footed, to the chariot, to the pole to draw, most able, at the pole, to draw.’

(37) RV 3,35,2

úpājirā́ *puruhūtāya* *sápti*
 towards=swift: acc.dual.m. much invoked: dat.sg.m. joined: acc.dual.m.

hārī *ráthasya* *dhūrṣv* *ā́*
 dun: acc.dual.m. chariot: gen.sg.m. pole: loc.pl.m. pfx

yunaḡmi / *dravád yáthā sámhṛtaḡ*
 harness: 1sg.ind.pres.act quickly that completely arranged: acc.sg.m.

viśvátaś *cid / úpemáḡ* *yajñám* *ā́*
 from all sides ptcl towards=this: acc.sg.m. sacrifice: acc.sg.m. pfx

*vahāta*¹³ *índram*
 carry: 3dual.subj.pres.act. Indra: acc.sg.m.

‘For him, who is invoked by many, the two swift bay steeds to the pole I harness, that they in fleet course may bring Indra hither, to this sacrifice arranged completely.’

In both constructions, an agent is harnessing horses, and the *yáthā*-sentence and the infinitive phrase denote the goal of the undertaking, namely that the horses shall carry the chariot or Indra in the chariot (Keydana 2013: 151). But there is

¹³ *vahāta* is unstressed (Hettrich 1988: 288 note 97).

a fundamental difference between the purpose structures. The finite form has many more words than the infinitive one: *dravád yáthā sámbhṛtaṃ viśvátaś cid / úpemám yajñám á vahāta índram* consists of five constituents. Moreover, the structure *sámbhṛtaṃ ... úpemám yajñám* is a hyperbaton, a stylistic phenomenon which is due to its sequential information structure.

In the competition of syntactic structures word number may not be neglected as can also be seen with causal *hí-* and *yád-*sentences in Vedic. The main sentence-like *hí-*clauses are mostly longer than the subordinate *yád-*clauses (cf. Lühr 2015).

3.2.5 Information structure

Information structure may also be responsible for the choice of the finite structure in (38):

(38) RV 1,138,2

prá hí tvā pūṣann ajiráṃ ná yāmani
 pfx ptcl you Pūṣan: voc.sg.m. swift: acc.sg.m. like way: loc.sg.n.
stómebhiḥ kṛṇvá ṛnávō
 laud: instr.pl.m. urge: 1.sg.ind.pres.med. make get going: 2sg.subj.pres.act.
yathā mṛdhaḥ
 that contemner: acc.pl.m.
 ‘For I urge you, Pūṣan, like a swift one on his way, that you make the contemnners get going.’

Instead of a possible purpose clause the poet used a finite structure. However, this structure allows for positioning the most stressed word of the new information focus in the finite sentence, *mṛdhaḥ* ‘contemner’, behind the conjunction at the end of the sentence, which is a special focus position.¹⁴

In describing the similarities between finite and infinitive purposive constructions Keydana (2013: 147, Note 124), and also elsewhere, does not consider such features relevant to stylistics or information structure.

Thus, he also ignores the fact that the poet used an overt pronoun in the nominative in the subordinate clause in (39). He is, therefore, wrong in assuming that RV 10,159,6 is a counterexample to the competition between finite and infinitival purpose structures. The pronoun is highlighted and therefore bears stress. It functions as contrast focus in the triumph song of a woman:

¹⁴ For an older opinion cf. Lühr (1994: 214ff.).

(39) RV 10,159,6

sám ajaiṣam imā ahám sapátnīr
 pfx subdue: 1sg.ind.aor.act. this: acc.pl.m. I: nom.sg. corrival: acc.pl.f
abhibhūvarī yáthāhám asyá vīráśya
 superior: nom.sg.f. that=I: nom.sg. this: gen.sg.m. man: gen.sg.m.
virājāni jánasya ca
 dominating: nom.sg.f. people: gen.sg.n. and
 ‘I have subdued these corrivals, I the superior, that I hold sway over this man and his people’.

Therefore, the infinitive structure (39’) is not an equivalent:

(39’) *sám ajaiṣam imā ahám_i sapátnīr abhibhūvarī e_i asyá vīráśya jánasya ca jánasya ca*

I_i have subdued these corrivals, I the superior [e_i to sway over this man and his people]

‘I have subdued these corrivals, I the superior, to sway over this man and his people’. (Keydana 2013: 150).

3.2.6 Speech acts

Sentences with speech act verbs and a finite subordinate structure require quite another interpretation, cf. (40) and (41):

(40) RV 7,28,5

vocéméd índram maghávānam enam
 call: 1pl.opt.pres.act.=ptcl Indra: acc.sg.m. liberal: acc.sg.m. he: acc.sg.m.
mahó rāyó rādhaso yád
 great: gen.sg.m./f. wealth: gen.sg.m./f. gift: acc.pl.n. that
dádan naḥ
 give: 3sg.subj.pres.act. us: dat.pl.
 ‘We will call him the liberal Indra, that he may grant us gifts of ample riches.’¹⁵

¹⁵ According to Keydana (2013: 152), in this example a purpose clause with object control would have been also possible.

But none of Bach's (1982: 38) conditions permitting a purpose clause are met. His second condition, which seems to come into question here, is not met in the case of a speech act verb: A change of a state of affairs has to be denoted yielding a state of availability. Therefore, the object of the matrix clause is no "affected object", which means that it is created, transferred or transformed such that "a change in the state of affairs . . . of a positive sort" occurs (Johnston 1998: 89).

Consider furthermore (43) (Keydana 2013: 110f.) and (44) (Gathā Avestan):

(43) RV 8,71,15

agnīṃ dvéšo yótavái no
Agni: acc.sg.m. hatred: abl.sg.n. keep away: inf. us: acc.pl.

gṛñimasy agnīṃ śám
praise: 1pl.ind.pres.act. Agni: acc.sg.m. blessing: acc.sg.n.

yóś ca dātave
happiness: acc.sg.n. and give: inf.

We praise Agni_i [e_i to protect us against hatred, e_i to give us happiness and blessings]

'We praise Agni [for we wish] that he protects us against hatred, that he gives us happiness and blessings'

(44) Y 51,10

maibiiō zbaiiā aṣəm vañuiiā
I: dat.sg. call: 1sg.ind.pres.act truth: acc.sg.m. good: instr.sg.f.

aṣī ga.ṭē
reward: instr.sg.f. come: inf.

I call truth_i [e_i to come to me with a good reward]

'I call truth [for I wish] that he comes to me with a good reward.'

(Keydana 2013: 110: note 62)

Those constructions come close to sentences where the infinitive construction may function as an infinitive complement with exceptional case marking. Accordingly, in (45) the accusative *vām* is externally checked from outside its containing IP.¹⁷ Hence, it is not an obvious instance of a purpose clause, either:

¹⁷ For infinitive constructions which can be a manipulative complement or a purpose clause cf. Keydana 2013: 314. Keydana (2013: 278) prefers an alternative solution here: *vām* would be the object of *uśmahi*, for dative complements are not documented with VAŚ otherwise.

(45) RV 5,74,3

vayám vām uśmasiṣṭāye

we: nom.pl. you: acc.dual wish: 1.pl.ind.pres.act.=further: inf.

We want [you to further us]

'We long for you to further us'

To sum up so far: After the discussion of Keydana's counter examples against the assumed complementary distribution of finite and non-finite purposive constructions, it is doubtful whether his claim is right that finite purpose structures compete with infinitival purpose structures whenever a rationale or a purpose clause cannot be used. The crucial factors were, in the case of finite purpose structures, the number of words, aspects of information structure, overt subjects and adjectives in the nominative; in the case of infinitive constructions, the use of speech act verbs in the matrix sentence hardly allowing for purpose clauses. Furthermore, it was stated that the missing infinitive of *as-* 'to be' could have been substituted by *bhuvé* 'to become, to be' if the author of a Vedic hymn would have liked to provide an infinitive construction with an attributive nominative and if such a nominative would have been allowed in such constructions, but with an attributive nominative only finite purpose structures with *as-* appear. Finally, the very seldom use of such a nominative in rationale clauses is striking, while it is often documented in finite purpose sentences, and with a comparison the case nominative appears only once in a purpose clause. However, in rationale clauses the nominative could be an apposition to the subject in the superordinate structure and the nominative in a comparison in a purpose clause possibly is the default case. Leaving the nominatives aside, most of the alternating constructions clearly differ in their pragmatic functionality. However, the choice of finite purpose structures with overt subjects is obligatory and a matter of syntax.

3.3 Purpose infinitives

With the infinitive on *-dhyai* and other infinitives different kinds of control are documented.

3.3.1 Subject control

Subject control infinitives are often controlled by a covert subject in the first person singular. The infinitive construction is a rationale clause:

(46) RV 1,61,3

asmā íd u tyam upamám svaršám
 he: dat.sg.m. ptcl ptcl this: acc.sg.m. highest: acc.sg.m. sun winning: acc.sg.m.

bhárāmy āngūśám āsyēna
 offer: 1sg.ind.pres.act. song of praise: acc.sg.m. mouth: instr.s.g.n.

mámhiṣṭham áchoktibhir matínám
 most generous: acc.sg.m. invocation: instr.pl.f. devotional hymn: gen.pl.f.

svṛktībhiḥ sūrīm vāvṛdhádhvai
 hymn: instr.pl.f. the glorious: acc.sg.m. magnify: inf.

To him then I_i offer this highest sun winning song of praise [e_i to magnify with songs of invocation and with hymns the glorious]

‘To him then I offer this highest sun winning song of praise, to magnify with songs of invocation and with hymns the glorious.’

The controller is the intentional subject of the matrix sentence and the matrix verb denotes an atelic activity (cf. Keydana 2013: 52, 61, 119).

Subject control is also found in cases where the main clause is a request. The mood in the main clause is the imperative:

(47) RV 4,16,2

áva¹⁸ sya śūrādhvano nānte
 pfx this: voc.sg.m. hero: voc.sg.m.=journey: gen.sg.m. as=end: loc.sg.m.

’smín no adyá sávane mandádhvai
 this: lok.sg.m. of us today libation: loc.sg.n. delight: inf.

Unyoke, o hero_i, as at this journey’s end [e_i to delight today in our Soma sacrifice]

‘Unyoke, o hero, as at this journey’s end, to delight today in our Soma sacrifice!’

3.3.2 Object control

An example of object control and, therefore, of a purpose clause is provided by (48):

¹⁸ With verbal ellipsis of the verb *sā-*, to unyoke’.

(48) RV 4,22,7

átrāha te harivas tā u
 then=ptcl of you having tawny coursers: voc.sg.m. this: nom.pl.f. ptcl
devīr ávobhir indra stavanta
 goddess: nom.pl.f. help: instr.pl.n. Indra: voc.sg.m. praise: 3pl.inj.pres.med.
svāsāraḥ yát sim ánu prá mucó
 sister: nom.pl.f. when ptcl pfx pfx release: 2sg.inj.aor.act.
*badbadhānā dīrghām ánu prásitim syandayádhyai*¹⁹
 prisoned: acc.pl.f. long: acc.sg.f. pfx duration: acc.sg.f. flow: inf.

Then, o Indra, lord of tawny coursers, these sisters_i, goddesses, are praised, when you released the prisoned ones_i with your help [e_i to flow after a long time (i.e. captivity)]

‘Then, o Indra, lord of tawny coursers, these sisters, goddesses, are praised, when you released the prisoned ones with your help, to flow after a long time (i.e. captivity).’

The subject of the infinitive construction is identified on the basis of semantic information and world knowledge. From mythology it is well known that the Indo-Aryan deity Indra defeats the huge serpent Vṛtra and releases the waters fenced in by this dragon. Therefore, the infinitive *ánu syandayádhyai* ‘to flow’ can only refer to the object of the matrix clause, the waters, referred to here as ‘sisters’.

A special use of object control exists if the subject of the infinitive construction is derived from a possessive pronoun of the matrix clause; cf. with reference to *asya* ‘his’:²⁰

(49) RV 4,29,3

śrāváyéd asya kárṇā vājayádhyai
 make hear: 2sg.imp.pres.act. his ear: acc.dual.m. show vigor: inf.
júṣṭām ánu prá díśam mandayádhyai
 habitual: acc.sg.f. pfx pfx direction: acc.sg.f. to get excited: inf.
 Make his_i ears hear [e_i to show his vigor and (steer him) in the habitual direction e_i to get excited]

‘Make his ears hear, to show his vigor and (steer him) in the habitual direction to get excited.’

¹⁹ For tmesis with forms on *-dhyai* cf. Keydana (2013: 180) (against Benveniste 1935: 99).

²⁰ Cf. Keydana (2013: 109).

In (50), the controller is the beneficiary *nah* ‘us’, the gap in the infinitive construction is the accusative object *pathás*. Keydana (2013: 113) convincingly compares such examples to English sentences like (7c)(iv):

(7) c. (iv) I_i used it_j [e_i to slice the salami with e_j].

(50) RV 4,37,7

ví no vājā ṛbhukṣaṇaḥ pathás
 pfx we: dat.pl. Vāja: voc.pl.m. Ṛbhukṣan: voc.pl.m. path: acc.pl.m.

citana yáṣṭave |
 explore: 2pl.imp.aor.act. sacrifice: inf.

asmábhyaṃ sūraya stutā víśvā
 we: dat.pl. master: voc.pl.m. lauded: nom.pl.m. all: acc.pl.f.

āśās tariṣāṇi
 direction: acc.pl.f. press forward: inf.

O Vājas and Ṛbhukṣans, explore the paths to sacrifice for us, masters,
 lauded [e_i to press forward to each direction]

‘O Vājas and Ṛbhukṣans, explore the paths to sacrifice for us, masters,
 lauded, that we may press forward in each direction.’

3.3.3 Arbitrary control

In the purpose clause in (51), arbitrary control could be assumed if the Hittite example (18a) were comparable to it:

(18) a. *one jug of wine_k* [e_{arb} to libate e_k]

(51) RV 3,32,2

sékteva kóśaṃ sisice
 pourer: nom.sg.m. like vessel: acc.sg.m. pour out: 1sg.ind.perf.med.

píbadhyai
 drink: inf.

‘Like a pourer I have poured out the vessel for drinking.’

But the context shows that the subject of the infinitive construction is *Indra*.

(51) a. $Indra_i$... Like a pourer I have poured out the vessel [e_i to drink]

This shows that in Vedic the null subject of a purpose clause can also be inferred from a preceding sentence.

3.4 Constructions with double datives

In Old Indic, constructions with double datives consisting of a noun and an infinitive are also documented. Gonda (1962: 145–150) assumes a combination of a dative of reference with a dative of purpose, other explanations are based on case attraction. By contrast, Keydana (2013: 133f.) assumes a purpose clause. A familiar construction is *āhaye hāntavā*:

(52) RV 8,96,5

ā yād vājram bāhvór indra
 pfx when club: acc.sg.m. arm: loc.dual.m. Indra: voc.sg.m.

dhātse madacyútam āhaye
 lay: 2sg.ind.pres.med. reeling with excitement: acc.sg.m. snake: dat.sg.m.

hāntavā u
 slay: inf. ptcl

‘When you, Indra, take the club reeling with excitement in the arms to slay the snake’

The infinitive construction would contain a null object whose reference would be identical with that of the dative *āhaye* in the matrix clause (Keydana 2013: 128; but cf. 170). For the function of such an adjunct dative he suggests that this case denotes “Ding (im logischen Sinne), zu dem das vom Satz bezeichnete Ereignis in eine Relation gestellt wird . . .” (131).

(52) When you_i, Indra, take the club reeling with excitement in the arms for the snake_k [e_i to slay e_k]

Another suggestion was made by Lühr (1997): As predicative infinitives exist in copular sentences, she proposes a transfer to structures which could be understood as attributive constructions:

(53) RV 5,62,9

yād bāṃhiṣṭhaṃ nātvídhe
 which: nom.sg.n. strongest: nom.sg.n. not= penetrate: inf.

sudānū áchidraṃ śárma
 bounteous: voc.dual.m. undestroyable: nom.sg.n. shelter: nom.sg.n.

bhuvanasya gopā
 world: gen.sg.n. shepherd: voc.dual.m.

‘Which shelter is strongest, not to be penetrated, undestroyable, bounteous gods, shepherds of the world’²¹

²¹ Gippert (1978: 89). According to Keydana (2013: 126, 156 note 142), this structure is likely to be predicative.

(54) is an example with reference to an accusative:

(54) RV 9,102,6

yám *ī gárbham* *ṛtāvṛdho*
 who: acc.sg.m. as body fruit: acc.sg.m. increasing truth: nom.pl.m.

drśé *cārum* *ájījanan*
 see: inf. lovely: acc.sg.m. generate: 3pl.ind.aor.act.

‘the babe whom they who strengthen law have generated fair to see’

The next step is the connection of a dative of purpose with such an attributive infinitive. Hettrich (1984 passim) calls this dative *Patiensdativ*. The result is the construction *für die zu erschlagende Schlange* ‘for the snake being slain’.

Arguing against this proposal, Keydana (2013: 126) first notes that an appositive infinitive would also have been used with cases other than the dative. However, as Lühr considers the whole construction to be one of purpose, and whereas only the dative functions as a case of purpose, no other case is in line with that. The second objection is even more serious. Keydana (133) gives an example where an appositive accusative in an infinitive construction is co-referent with a noun in the dative in the superordinate structure:

(55) RV 9,61,22

yá *āvithéndram* *vṛtrāya*
 who: nom.sg.m. help: 2sg.ind.perf.act.=Indra: acc.sg.m. Vṛtra: dat.sg.m.
hántave | *vavrivāṃsam* *mahír* *apáh*
 slaughter: inf. compass: part.perf.act.acc.sg.m. large: acc.pl.f. water: acc.pl.f.

‘thou who has helped Indra to slaughter Vṛtra who encompassed the mighty floods.’

*yá āvithéndram*_i *vṛtrāya*_k *e*_j *hántave* [_{DPe}_k *vavrivāṃsam mahír apáh*]
 ‚der du den Indra gegen Vṛtra unterstützt hast, damit er ihn töte, der
 [die großen Wasser] eingeschlossen hielt.‘ (Keydana 2007)

The theme *Indra* of the relative clause would control the subject of the adjunct infinitive phrase, with the verb *han-* ‘to slay’ providing the null object with the object case accusative (the infinitive phrase could either be a purpose clause or a complement clause dependent on the verb *av-* AV ‘to help’). Appositive *vavri-āṃsam* would then agree with the null object.

An objection can be raised against this suggestion, too. In this regard Williams’ second and fifth controll properties play a role:

(3) 2. The antecedent precedes the controlled PRO.

5. There must be an antecedent.

Actually, there are sentences such as (56) showing a different word order:

(56) RV 4,32,9

abhī tvā gótamā girānūṣata
pfx you: acc.sg. Gotama: nom.pl.m. song of praise: instr.sg.f.=

prā dāvāne | índra

shout towards: 3pl.ind.aor.med. pfx give: inf. Indra: voc.sg.

vājāya ghīṣvaye
benefit: dat.sg.m. pleasing: dat.sg.m.

‘The Gotamas have sung their song of praise to you that you may give, Indra, expected benefit.’

The dative *vājāya ghīṣvaye*, the presumed controller of the null object of the infinitive construction, follows this construction:

(56) a. The Gotamas have sung their song of praise to you_i [e_i to give e_k] for the expected benefit_k

Similar for *ḍṛśāye sūryāya*:

(57) RV 10,14,12

tāv asmābhyaṃ ḍṛśāye sūryāya pūnar
he: nom.dual.m. us: dat.pl. see: inf. sun: dat.sg.f. again

dātām ásum adyēhá bhadram ||
give: 3dual.imp.aor.act vigor: acc.sg.m. today=here auspicious: acc.sg.m.

‘May they (Yama’s envoys) restore to us a fair existence here and to-day, that we may see the sunlight.’ (Lühr 1997: 165f.)

(57) a. May they give to us_i [e_i to see e_k] for the sun_k a fair existence here and to-day

Though Williams’ precedence requirement is not generally accepted today (cf. Stiebels 2007), the assumption of a topicalization of the infinitives *prā dāvāne* or *ḍṛśāye* in front of the controller of the null object in the infinitive construction remains problematic.

By contrast, as an attribute can appear before as well as behind its reference word in Old Indic, the assumption of a connection of a dative of purpose with an attributive infinitive seems more obvious. But if Keydana’s interpretation of the

infinitive construction in (52) as a purpose clause cannot be maintained, an explanation for the use of the accusative *vavrivâṃsam* is necessary. Here, it must be remembered that the accusative *vavrivâṃsam* can be found three times in the Ṛgveda, also with reference to *Ṛtra*:

(58) a. RV 6,20,2

âhiṃ *yád* *ṛtrám* *apó*

dragon: acc.sg.m. when *Ṛtra*: acc.sg.m. water: acc.pl.f.

vavrivâṃsam *hânn*

having enclosed: acc.sg.m. smite: 3sg.impf.act.

‘when you (Indra) slew *Ṛtra*, the dragon who enclosed the waters’

b. RV 4,16,7

apó *ṛtrám* *vavrivâṃsam*

water: acc.pl.v. *Ṛtra*: acc.sg.m. having enclosed: acc.sg.m.

pârāhan

smite away: 3sg.impf.act.

‘He smote away *Ṛtra*, who enclosed the waters’

c. RV 2,14,1

yó *apó* *vavrivâṃsam* *vtrám*

who: nom.sg.m. water: acc.pl.f. having enclosed: acc.sg.m.

jaghâna

slay: 3sg.pf.ind.act.

‘who has slain *Ṛtra* who enclosed the waters’

Therefore, it is conceivable that *ṛtrám vavrivâṃsam* has become a stereotyped phrase which triggered an association with an attributive accusative *vavrivâṃsam* to yield the construction *ṛtrâya hántave vavrivâṃsam*.

3.5 Complementary distribution of infinitive purpose structures

Passing now from the syntax and semantics of purpose constructions to the original functions of the infinitives it must be kept in mind that in the oldest Indo-European languages infinitives normally stem from verbal nouns. In Hittite, the infinitive in *-anna* is derived from the allative of the heteroclitic actions nouns in *-atar* and verbs with verbal substantive in *-war* form their infinitive in *-wanzi*,

originally the ablative-instrumental of the verbal substantive in *-war* (Hoffner and Melchert 2008: 76, 130), whereas in Old Indic the infinitival verbal nouns mostly have dative endings, but also accusative ones, as later in Sanskrit.²² However, there seems to be one exception, the infinitive on *-dhyai*. Here, it is essential that with this infinitive no overt expression of a subject or agent appears.

Hence, Keydana's (2013: 136–141) example RV 7,92,2 (*Der flinke Presser ist bei den Opfern vorgetreten, damit Indra und Vāyu den Soma trinken*), presumably containing an infinitive on *-dhyai* with an overt dative subject (*indrāya vāyāve*) and topicalization of the accusative object *sóman*, must be assessed in a different way:

(59) a. RV 7,92,2

<i>prá sôtā</i>	<i>jīró</i>	<i>adhvaréšv</i>
pfx presser: nom.sg.m.	swift: nom.sg.m.	sacrifice: loc.pl.m.
<i>asthāt</i>	<i>sómam</i>	<i>indrāya</i>
come forth: 3sg.ind.aor.act.	Soma: acc.sg.m.	Indra: dat.sg.m.
<i>vāyāve</i>	<i>pībadhyai</i>	
Vāyu: dat.sg.m.	drink: inf.	

'Prompt at the holy rites the presser came forth (to press) the Soma for Indra and Vāyu to drink'

The sentence contains two infinitive constructions, a rationale clause and a purpose clause. The rationale clause exhibits an elliptical verb (*sótave* 'to press') being inferable from the agent noun *sótar-* 'presser', which is also the controller of the subject of this infinitive.²³ By contrast, the controller of the subject of the purpose clause is the beneficiary *indrāya vāyāve* and the empty accusative object refers to the accusative *sóman* of the matrix clause.²⁴

(59) b. *prá sôtā_i . . . asthāt [e_i (sótave) sómam_k indrāya_j vāyāve_j [e_j pībadhyai e_j]*

Thus, as there is no overt subject with infinitives on *-dhyai*, the author of a Ṛgvedian hymn had to choose another non-finite structure if he wanted to produce an infinitive purpose phrase with an overt subject, for example an infinitive on *-é*, which derives from a dative form (Keydana 2013: 222ff.).

²² For infinitives in the ablative and genitive cf. Keydana (2013: 76f.)

²³ For ellipsis in Old Indic cf. Delbrück (1900: 122–27); Gonda (1960); Zeilfelder (2000).

²⁴ Keydana's (2013: 137) second example of an overt dative subject in an infinitive construction on *-dhyai* is not convincing (RV 1,183,3 = 6,49,5). Cf. Geldner's translation.

(60) RV 1,50,1

úd u tyám jātāvedasam

pfx ptcl this: acc.sg.m. Jātavedas: acc.sg.m.

devám vahanti ketávaḥ

god: acc.sg.m bear up aloft: 3pl.ind.pres.act. ray: nom.pl.m.

ḍṛsé víśvāya sūryam

look: inf. all: dat.sg.m. son god: acc.sg.m.

The rays bear Jātavedas_k up aloft, the god for all_i [in order e_i to look on e_k]

‘The rays bear Jātavedas up aloft, the god, that all may look on him.’

The overt subject of the infinitive clause is the dative *víśvāya* ‘everybody, the whole world’ (cf. also Lühr 1997; Keydena 2013: 210). In other words, the infinitive on *-é* and the infinitive on *-dhyai* show complementary distribution in this respect.

The fact that with infinitives on *-dhyai* an overt expression of a subject or agent never occurs must be taken into consideration when discussing the possible pre-form.

3.6 The reason for a missing subject with the infinitive on *-dhyai*

As for the history of the element *-dhyai*, Rix (1976) connects the Indo-Iranian infinitives on **-d^hiāi* (Vedic *-dhyai*, Avestan *-diiāi/-δiiāi*) with the Sabellic passive infinitive ending */-fē:/* (Umbrian *-f(e)i*, Oscan *-fir* with added mediopassive *-r*) and derived the Indo-Iranian and the Sabellic endings from the same pre-form **-d^hiōi*. However, García Ramón (1993), assuming that **-d^hiōi* would have given *+fiūi* in Sabellic rather than */-fē:/*, took an instrumental **-d^hiēh_i* as the basis, separating the Indo-Iranian and the Sabellic endings from each other. Examples of the use of the instrumental as an infinitive would be Vedic *ūtā* ‘with the help’ and *svastī* ‘with good luck’, occurring in the same contexts as the datives *āvase* or *ūtāye* ‘for help’ and *svastāye* ‘for good luck’. But as Fortson (2013: 50) rightly says, the dative is the most common case taken by verbal nouns functioning as infinitives. Fortson himself checks some other derivations of Indo-Iranian **-d^hiāi* found in the literature, for example the old connection of the Greek mediopassive *-σθαι*, but he does not consider “the ultimate source of **-d^hiō-* to be accessible under current knowledge.” (Fortson 2013: 57).

are used in the subjunctive present (Hoffmann & Forssman 1996: 194f.). Concerning the medium, the starting point must be denotations of complex cognitive events, one of Kemmer's (1993) middle voice categories; cf. Greek βούλωμαι 'wish, want', οἴομαι 'believe', Latin *obliviscor* 'forget'.

However, in specific contexts finite verbs with *-dhyai* / *-diiāi* were reanalyzed as infinitives. These contexts are sentences like (63), where a main clause with a verb in the first person singular precedes the structure with the form on *-dhyai*:

(63) a. RV 8,39,1

agnīm astoṣy ṛgmīyam
 Agni: acc.sg.m. praise: 1sg.ind.aor.med. glorious: acc.sg.m.
agnīm īlā yajādhyai
 Agni: acc.sg.m. ghee: instr.sg.f. I will worship: 1sg.subj.pres.med./inf.
 'I have the glorious Agni praised, I will worship him with ghee.'²⁷

The phrase *ṛgmīyam agnīm īlā yajādhyai* can also be interpreted as a non-finite purpose construction with subject control, i.e. as a rationale clause. The result is (63b) (Lühr 1994a: 82; Keydana 2013: 108):

(63) b. RV 8,39,1

agnīm astoṣyi ṛgmīyam ei agnīm īlā yajādhyai
 I_i praised the glorious Agni [e_i to worship Agni with ghee]
 (Geldner; cf. Sgall 1958: 226)

After reanalysis as an infinitive ending this ending could also be used with other persons than the first singular.

To answer the question of why infinitives on *-dhyai* are not connected with an overt subject expression,²⁸ it has to be supposed that in speaker awareness verb forms on *-dhyai* were originally finite. This knowledge must have endured over time. Thus, used in purpose contexts, with reference to the first person singular an inherent subject was implied which resulted in subject control. This means that in the case of the infinitive on **-d^hiāi* rationale clauses were the first purpose constructions. But being used in that way, in a next step purposes clauses could be built with this infinitive formants as well.

²⁷ Cf. Sgall (1958: 226); Keydana (2013: 108). Cf. Griffith's translation: 'THE glorious Agni have I praised, and worshipped with the sacred food.'

²⁸ For a possible verbal form cf. Lühr (1994a).

3.7 A parallel development of an original verbal ending to an infinitive ending

The objection that the infinitive ending Indo-Iranian $*-d^hiāi$ cannot be the ending of a first singular subjunctive medium, because there is no such ending known anywhere in Indo-European, must be rejected.

A parallel for the change of a verbal ending into an infinitive ending can be seen in the development of the inflected infinitive in Romance languages (Scida 2004: 94ff.). This infinitive is founded on the Latin imperfect subjunctive:²⁹

(64)	Latin	Portuguese	Galician
	<i>amārem</i>	<i>amar</i>	<i>amar</i>
	<i>amārēs</i>	<i>amares</i>	<i>amares</i>
	<i>amāret</i>	<i>amar</i>	<i>amar</i>
	<i>amārēmus</i>	<i>amarmos</i>	<i>amáremos, amarmos</i>
	<i>amārētis</i>	<i>amardes</i>	<i>amarédes, amardes</i>
	<i>amārent</i>	<i>amarem</i>	<i>amaren</i>

The first parallel to the development of the first person singular Indo-Iranian $*-d^hiāi$ into an infinitive ending in purpose constructions is the fact that the inflected infinitive in Portuguese and Galician often occurs in clauses expressing purpose, generally introduced by Portuguese *para*, Galician *par* ‘in order to’. The second parallel is that in Romance in these clauses the uninflected infinitive can also be used:

(65) a. *Para aquecermos um pouco,*
 in-order-to warm-up: inf.1pl. a bit
vamos fazer este pequeno exercício.
 we-go do this small exercise

b. *Para aquecer um pouco,*
 in-order-to warm-up: inf. a bit
vamos fazer este pequeno exercício.
 we-go do this small exercise

‘In order to warm up a bit, we are going to do this small exercise.’

(Vanderschueren & Diependaele 2013: 161)³⁰

²⁹ Conjugated infinitives can also have other sources. An example is Welsh where reanalysis of inflected prepositions to infinitives with agreement yielded conjugated infinitives (Miller 2003).

³⁰ For the exact distribution cf. Vanderschueren & De Cuypere (2014); further Vandenschueren (2013); Mensching (2000).

Hence, purpose constructions are the place where the transition of inflected verbal forms into uninflected ones can occur (see also Dékány this volume for anti-agreeing infinitives in Old Hungarian).

4 Conclusion

The emergence of Hittite and Vedic structures denoting purposivity indicated that the oldest Indo-European languages partly overlap and partly differ from each other in their strategies. Hittite as well as Old Indic use infinitive purpose structures, rationale clauses and purpose clauses, allowing for subject, object and arbitrary control, where the infinitive could not only have active, but also passive meaning. But while Hittite displays no finite purpose clauses, Vedic has fully developed finite purpose sentences. Here, complementary distribution between finite purpose and infinitival purpose constructions is necessary if no rationale or purpose clause can be construed. But there are other cases as well where these structures compete with each other. This was shown to depend on the number of words, matters of information structure, overt subjects and adjectives in the nominative. On the other hand, speech act verbs display finite and infinitive constructions, but it is doubtful if these are really purpose constructions, for none of Bach's conditions for purposes clauses are met. Furthermore, the missing infinitive of *as-* 'to be' could have been substituted by *bhuvé* 'to become, to be' if the author of a Vedic hymn would have liked to provide an infinitive construction with an attributive nominative, but only a great deal of finite purpose structures with *as-* 'to be' and attributive nominatives appear. All in all, attributive nominatives in rationale clauses are documented very seldom. They can be referred to the subject of the matrix clause. Only with a comparison does nominative case appear once in a purpose clause. Leaving this nominative aside, because it may represent the default case used in comparisons, most of the alternating constructions clearly differ in their pragmatic functionality. However, the choice of finite purpose structures, if there is an overt subject, is obligatory and a matter of syntax.

The next item was constructions with double datives in Old Indic. While Lühr (1997) explained these structures as the connection of a dative of purpose with an attributive infinitive, Keydana (2013) suggested a purpose clause structure with null object controlled by the adjunct dative. But there are sentences where the infinitive must have been topicalized in front of the dative controller of the null object in the infinitive construction, which is hard to explain. Finally the origin of the infinitive ending Vedic *-dhyai* was discussed. It was stated that

infinitives with this ending emerge from verb forms of the first person singular subjunctive denoting a wish. One can draw a parallel between this development and the use of subjunctives as infinitives in Romance languages. Nevertheless, being used in appropriate contexts, verbs on *-dhyai* could be reanalyzed as purpose infinitives. In this case, the rationale clause must be the oldest infinitive construction. But like the infinitives built of case forms, they then exhibit subject and object control. To conclude, it can therefore be said that constructions with subject and object control are the oldest devices in Indo-European for the expression of purpose.

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