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## VOICE NEUTRALITY IN HITTITE INFINITIVES: A RESTRUCTURING ANALYSIS\*

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M O S C O W S T A T E U N I V E R S I T Y

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**ABSTRACT** In this paper we provide evidence for the lexical voice restructuring analysis of a certain type of infinitival complement clause in Hittite – the constructions that appear in both active and passive syntactic configurations. We confront this structure with alternative infinitive constructions which do not involve voice restructuring and show no voice alternation (size restructuring infinitive constructions) as well as with supine inchoative constructions, which are argued to exhibit functional restructuring. We propose that Hittite non-finite constructions are ambiguous as to voice interpretation only if they possess no voice-related head. In this respect, voice restructuring infinitives contrast consistently with other configurations – size restructuring infinitives and supines. In voice restructuring infinitives, we find no evidence of the embedded *vP*, be it active (transitive) or passive (intransitive). Not only is the case feature of the infinitive’s object dependent on the functional structure of the matrix clause; moreover, the causative interpretation of the unaccusative verb is imposed by the obligatory control condition on lexical voice restructuring.

### 1 INTRODUCTION

The question that traditionally arises in connection with ambiguous grammatical forms is whether we are dealing with morphological syncretism in expressing various structures/features or with underspecification of features themselves due to the lack of heads that introduce them. Number neutrality of the morphologically singular object under pseudo-incorporation (Masam 2001, Farkas & de Swart 2003, Dayal 2011, Borik & Gehrke 2015, Lyu-

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Lyutikova & Pereltsvaig 2015), aspect neutrality in Russian and Ossetic nominalisation (Tatevosov & Pazel'skaya 2008, Lyutikova & Tatevosov 2013, 2016), and the inchoative-causative alternation in English result verbs (Levin & Rappaport Hovav 1995, Rappaport Hovav & Levin 1998, Ramchand 2008) are all examples of configurations which pose the question whether the head characterized by an alternating feature (number, voice, transitivity) is spelled out uniformly, or whether the structure undergoing spellout does not contain this head and is consequently underspecified for the feature in question.

In this paper, we raise the issue of the voice feature in Hittite infinitives. The Hittite infinitive is a synthetic non-finite verbal form, which exhibits no morphological marking of voice, but still appears in both active and passive syntactic configurations. We see this very clearly in the following pair of examples, both of which attest the same infinitives *memiyawanzi* 'speak'.<sup>1</sup>

- (1) [GIM]–an=ma kē                      INIM<sup>MEŠ</sup> ʰUTU–i                      menahhanda  
 when=but    this.ACC.PL.N    words    sungod-DAT.SG    against  
 [memi]ya-wanzi    zinnai  
 speak-INF                      finish.3SG.PRS

'When she finishes speaking these words to the Sungod' (NS (CTH. 421.1C) KUB 17.14+ obv<sup>1</sup>. 21'–22'<sup>2</sup> following Kümmel 1967: 60)

1 The glosses used in this paper are: ABL ablative, ABS absolutive, ACC accusative, ALL allative, AUX auxiliary, C common gender, CAUS causative, CONN clause connective, DAT dative, ERG ergative, F feminine gender, FOC focus, FUT future, GEN genitive, IMP imperative, IMPF imperfective, INF infinitive, IRR irrealis, LOCP locative particle, MED middle voice, N neuter gender, NEG negative, NOM nominative, PL plural, PP participle, PRF perfective, PROHIB prohibitive, PRS present, PST past, QUOT quotative, REFL reflexive, SG singular.

2 Hittite texts are quoted using the standard Hittitological convention: first comes the period when the text was composed (OH, MH or NH – Old, Middle and New Hittite), then the time when the text was written down or copied (OS, MS, NS – Old, Middle, New Hittite script). Then comes the text attribution according to the catalogue of Hittite texts (CTH with the text number indicating the genre of the text) currently available online at <http://www.hethport.uni-wuerzburg.de/CTH/>. Then follows the indication of the text according to its primary edition (the two most common series are abbreviated as KBo and KUB), followed by the volume number and then number of the text within the volume. Thus KUB 15.15 stands for volume 15 of the series KUB, text 15 within the volume. The rest of the information concerns the side of the tablet (obv. or rev.), followed by the column number (i-iv) and then by the line(s) on the tablet (15).

Here and elsewhere we follow the basic conventions for transliterating Hittite texts originally written in cuneiform, which generally feature some words or phrases written in the foreign languages Sumerian and Akkadian. Hittite words are transliterated in plain text, while Sumerian words are written in SMALL CAPS, Sumerian determinatives which were not pronounced but which defined the semantic class of the noun are written in SUPERSCRIPT SMALL CAPS, and Akkadian words are written in CURSIVE SMALL CAPS. Hittite clitics which are written in cuneiform as part of a single word with their host are joined to their host by =. Fragments of the text which are not preserved but have been restored on the basis of the context or parallels elsewhere are enclosed with [ ], whereas fragments of the text restored on the basis of

- (2) *nu māḥḥan šA GAL<sup>HI.A</sup> waršiy-aš memiyani-eš*  
 CONN when of cups soothing-GEN.SG words-NOM.PL.C  
*ḥurlili memiya-wanzi zinnandari*  
 Hurrian speak-INF finish.3PL.PRS.MED  
 ‘When they finish speaking in Hurrian the words of soothing the  
 cups’, lit. ‘when the words of soothing the cups are finished to be  
 spoken’ (MH/MS (CTH 777.Tf10.2.A)  
 KUB 29.8 obv. i 1–2 following Haas 1984: 86)

In (1) the infinitive projects the direct object marked as accusative *kē* INIM<sup>MEŠ</sup> ‘these words’ and is itself the argument of the active finite verb *zinna-* ‘finish’. This direct object corresponds in (2) to the matrix subject marked as nominative *šA GAL<sup>HI.A</sup> waršiy-aš memiyani-eš* ‘the words of soothing the cups’. In this case the finite matrix verb *zinnandari* is the passive of the same verb as in the first example. Thus, the same infinitive *memiyawanzi* appears in syntactic configurations implying active (‘to speak’) or passive (‘to be spoken’) interpretation.

The problem as we see it is that the exact characterization of this voice ambiguity should follow from the distribution of “active” and “passive” occurrences of the infinitive, which has escaped the attention of researchers so far. We claim that the interpretation of the infinitive in Hittite is predetermined by its syntactic environment, and that this fact makes the analysis relying on the morphological homonymy of passive and active infinitives untenable. The structure of our argumentation is as follows. First, in section 2 we present the state-of-the-art account of Hittite infinitives and their voice-related properties. Then, in section 3, we argue for a restructuring analysis of voice neutrality in Hittite infinitives. We start by introducing the concept of restructuring and its subtypes (3.1); then we present evidence for a specific type of restructuring — lexical voice restructuring — in Hittite infinitives (3.2). We show that the “passive” interpretation of infinitives in Hittite only obtains in lexical voice restructuring configurations, provided that the matrix predicate selecting for the infinitival complement is intransitive. In the rest of the section, we discuss other properties of lexical voice restructuring configurations, which point to a highly reduced functional structure associated with them (3.3). Section 4 aims to contrast lexical voice restructuring configurations, where the “passive” interpretation of the infinitive can arise, with other constructions involving infinitival complements. Although in these constructions infinitives never involve the full-fledged clausal functional structure, either, they are invariably interpreted as active. We conclude that, in these constructions, size duplicate copies are enclosed with [( )].

restructuring affecting higher functional projections takes place, but the functional head encoding the (active) voice feature is present. Finally, in section 5, we discuss supine inchoative constructions and argue that they exhibit functional restructuring. The purpose of this section is to demonstrate differences between functional restructuring and lexical restructuring constructions in Hittite, which allows us to corroborate our analysis. Section 6 concludes.

## 2 HITTITE INFINITIVES AND THEIR FEATURES

Hittite infinitive is a non-finite verb form, derived from the verb stem by two affixes *-anna* and *-wanzi* (depending on morphological verb class), e.g. *ad-anna* ‘to eat’ from *ed-* ‘to eat’ vs. *šanḫ-ūwanzi* from *šanḫ-* ‘to seek’ (Hoffner & Melchert 2008: 185–6). Diachronically, infinitives are dative-locative and allative forms of an action noun; however, in the historical Hittite texts actual action nouns are different and the infinitive is a separate form of the verb which is not synchronically connected with an action noun either formally or by its properties.

The infinitive retains the valency structure of the verb stem; syntactic encoding of arguments is the same as in the finite clause, except for the subject, which can be expressed by an empty category or receive a structural case under raising. Importantly, the infinitive cannot case-license its overt subject.

Infinitives, like finite verbs, license adverbial modification (3 a) and appear with preverbs (3 b):

- (3) a. DINGIR<sup>MEŠ</sup>=za *kūn* *memian* *kišša[n]*  
 gods=REFL this.ACC.SG.C matter.ACC.SG.C thus  
*iya-wanzi malān* *ḫar-teni*  
 do-INF approve.PP.NOM.SG.N have-2PL.PRS  
 ‘Have you, gods, approved to resolve this matter in this way?’  
 (NS (CTH 423.B) KBo 43.52+ rev. iv 16–17)
- b. *nu=kan* *ištu* ANŠE.KUR.RA<sup>MEŠ</sup> *šarā* *pennu-manzi* UL  
 CONN=LOCP with horses up drive-INF NEG  
*DÙ-ri*  
 be.possible-3SG.PRS.MED  
 ‘It is impossible to drive up with horses’  
 (NH/NS (CTH 61.II.2.A) KUB 14.15+ rev. iii 41)

Infinitives function in complementation constructions, mostly as internal arguments of verbs (4 a), but also as arguments of adjectives (4 b) (Hoffner & Melchert 2008: 337), and nouns (4 c), and as purpose adjuncts (4 d) (but see section 4 on purpose infinitives with motion verbs).

- (4) a. *maḥḥan=ma=an an[īya]-uwanzi zi[nnanzi]*  
as=but=it do-INF finish.3PL.PRS  
‘But when they finish doing it’  
(NH/NS (CTH 277.2) KBo 7.73+ rev. v 26’-27’)
- b. *ek-i BÀD-n-i LUGAL-aš KASKAL-š=a*  
ice-DAT.SG fortification-DAT.SG king-GEN.SG way-DAT.PL=and  
*takš-uanzi* <sup>GIŠ</sup>KIRI<sub>6</sub>.GEŠTIN-aš *tuhḥuš-uanzi šA*  
prepare-INF vineyard-ACC/DAT.PL.C harvest-INF of  
[<sup>LÚ</sup>URUDU.NAG]AR *natta kuiški arawa-š*  
coppersmith NEG someone.NOM.SG.C free-NOM.SG.C  
‘None of the coppersmiths is exempt from “making” ice, a  
fortification, and royal roads, or from harvesting vineyards’  
(OH/OS (CTH 291.I.a.A) KBo 6.2+ rev. iii 21–22)
- c. *nu maḥḥan MU.KAM-za meḥur tiya-zi*  
CONN when year-NOM.SG.C time.NOM.SG.N step-3SG.PRS  
*šeli-aš šunnu-manzi*  
harvest-DAT.PL fill-INF  
‘When the time of the year arrives to store the harvest(ed  
goods)’ (NH/NS (CTH 86.1.A) KUB 21.17 rev. iii 9’–10’)
- d. *nu=za šēnan [I]M-[aš] warp-ūwanzi kattan*  
CONN=REFL figurine.ACC.SG clay-GEN wash-INF down  
*GIṚ<sup>MEŠ</sup>-aš dāi*  
feet-LOC.PL put.3SG.PRS  
‘And she places the figurine of clay near her feet to wash (it)’  
(NS (CTH 409.I.A) KUB 7.53+ obv. ii 63–4)

The two issues we are especially interested in are the syntactic category of the infinitive and its voice feature. Since the Hittite infinitive emerged as a case form of a deverbal noun, which can have its own voice properties (cf. [Koptjevskaya-Tamm 1993](#), [Alexiadou 2001](#)), it is important to clarify this question.

Indeed, infinitives in ancient Indo-European languages showed reanalysis from a case form of an action noun to part of the verbal system at various stages of development. Thus, infinitives in the Rigveda and Avesta (the earliest attested Indic and Iranian languages) as well as in Old Irish (the earliest attested Celtic language) with very few exceptions are various oblique cases (most commonly dative, accusative and locative) of productive action nouns and attest the most archaic state of affairs. In these languages most infinitives are morphologically identical to nouns and are formed from roots, not from verbal stems. As different from verbal nouns, the object is in most cases ac-

cusative, although dative and genitive are also attested, and the subject can be overtly present (see [Otten 1981](#) summarizing the earlier literature; [Lühr 1993](#); [Hettricht 1997](#); [Keydana 2013](#); [Stüber 2015](#)).

Other early Indo-European languages usually have a more advanced stage of development where infinitives are no longer identical to case forms of productive verbal nouns and attest exclusively verbal characteristics. The most advanced stage of development is seen in Ancient Greek and Latin where the infinitive is a fully verbal category and possesses aspect, voice and even tense forms ([Otten 1981](#)).

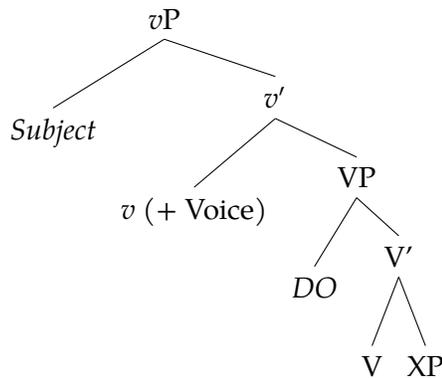
Interestingly, the earliest attested Indo-European language, Hittite, attests an infinitive which had already fully evolved from a case-form of an action noun into a verbal category. This is evidenced by the whole range of properties of the Hittite infinitive discussed above. On the one hand, no nominal functional structure can be detected: the object is never genitive, the modifiers take adverbial, not adjectival, shape, and pluralization and determiners are illicit. The distribution of infinitives does not coincide with that of the dative/allative case forms of nominals: infinitives appear as complements of transitive matrix verbs, which disallow oblique nominal complements. On the other hand, the morphological make-up of the Hittite infinitive indicates that it cannot be synchronically associated with the *nomen actionis*: the form of the infinitive is never identical to that of a synchronically productive verbal noun. Moreover, the Hittite infinitive can host various additional pieces of verbal morphology, such as the causative morpheme and the aspectual morpheme. However, unlike in Greek or Latin, no voice or tense/taxis forms are attested.

Therefore, we conclude that the Hittite infinitive is synchronically a pure verbal category, which involves the verbal lexical head and, presumably, a number of functional heads like *v* or *Asp* belonging to the extended verbal projection (in the sense of [Grimshaw 1991, 1993](#)). We dub all the syntactic material belonging to this extended projection (i.e. its spine consisting of the lexical head *V* and an array of functional heads, as well as arguments and adjuncts projected by them) “infinitival phrase”. We do not intend to take a particular position on the exact syntactic object the infinitive spells out — the specific array of verbal heads or the lexical *V* head in the given syntactic context. We believe that, for the purposes of this paper, this is a purely presentational issue, and either of the options can be employed, at least metonymically. We prefer to use the former option, primarily because it is naturally compatible with the label “infinitival phrase”. Accordingly, we will discuss various structures projected by the infinitive, having in mind that, under the assumption that the infinitive instantiates the lexical *V* head only, this amounts to the di-

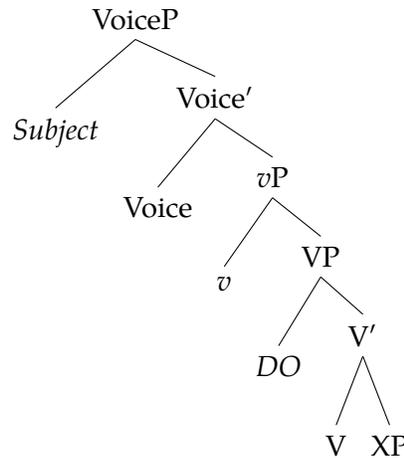
verse set of configurations the infinitive can occur in.

Furthermore, in what follows we assume the minimal structure of the verbal domain (Larson 1988, Hale & Keyser 1993, Chomsky 1995) where transitivity and voice are encoded in a single functional head *v* (5a). In the cross-linguistic perspective, there is evidence that an additional split between *v* and Voice should be assumed, as in (5b) (Bowers 2002, Alexiadou, Anagnostopoulou & Schäfer 2006, Folli & Harley 2005, Marantz 2008, Schäfer 2008, Harley 2009, 2017). However, for Hittite, we stick to the simplest architecture of the transitivity/voice domain, which can result from the bundling option (Pylkkänen 2002, Harley 2017) if the two separate functional heads should be identified.

(5) a. simple *v*P structure



b. more articulated *v*P/  
VoiceP structure



Now we are in a position to discuss voice-related properties of Hittite infinitives, which have to be mapped onto the syntactic representation of the voice domain in (5).

It is standardly observed in Hittitology that “the Hittite infinitive is unmarked for voice and may equate to the active or passive infinitive of other languages” (Hoffner & Melchert 2008: 332). The idea was put forward already at an early stage of the study of the Hittite infinitive (cf. Ose 1944: 55, 85: “diathesenindifferent” and Kammenhuber 1954: 247, see particularly the discussion on pp. 248-250).

The study most recently dealing with the voice alternation in Hittite infinitival constructions is that of Holland (2011). He lists examples where infinitives can be interpreted as either active or passive like (6a) and (6b).

- (6) a. *BELI=NI=wa=nnaš šA URU Aripšā iwar URU Hattuši*  
 lord=our=QUOT=us of Aripša like Hattusa.DAT.SG  
*šārū-wanzi lē maniyah-ti*  
 plunder-INF PROHIB hand-2SG.PRS  
 ‘Our lord, do not turn us over to Hattusa to be plundered like  
 the city of Aripša’  
 (NH/NS (CTH 61.II.5.B) KBo 4.4+ rev. iv 20–1) following  
 CHD (L–N: 298); Holland 2011: 71–72; Goetze 1933: 136)
- b. *n=aš katta aš-anna kuit si×sÁ-at*  
 CONN=she down sit-INF as determine-3SG.PST.MED  
 ‘And since it was determined that she be deposed, ...’  
 (NH/NS (CTH 70.1.A.A) KUB 14.4  
 obv. ii 10’ following Miller 2014: 530)

Example (6a) is interpreted by Holland (2011: 72) as follows:

“the enclitic pronoun *-naš* functions as the object of *maniyah-ti*, but also as the notional object of the infinitive *šārūwanzi*. The question here is whether *-naš* is the grammatical subject of the infinitive or not, that is, can the infinitive, or better, the infinitive construction, be read as passive? Part of the answer to the question depends on the interpretation assigned to *Hattuši*: it is clearly the recipient in the matrix clause, as is shown by its dative ending, but does it also function as the agent of the transitive infinitive *šārūwanzi*? If not, then the passive reading of the infinitival construction is guaranteed. This question cannot be answered with an appeal to the semantics of the construction, since both an active and a passive reading make good sense in the context. *Hattuša* can be read as a metonym for the army of *Hattuša*, but it doesn’t have to be read in this manner.”

Thus, the infinitival object is either represented by an empty category (like in English “give me the book to read *e*”), or the infinitive is passive (cf. English “give me the book to be read”). Example (6b) is different in that the genuine object of the infinitive is overt and bears nominative case marking. Holland assesses the example as follows: “the nominative enclitic pronoun *-aš* is the subject of *si×sÁ-at* but also the notional object of *katta ašanna*. This notional object has been raised into subject position in the matrix clause”. He concludes that “a passive reading of the transitive infinitives seems inescapable” (Holland 2011: 76).

To sum up, there is a consensus in Hittitology that the infinitive is ambiguous between the two voice construals — active and passive. This type of ambiguity is indeed attested in other Indo-European languages like French (Tesnière 1965) or Ossetian (Lyutikova & Tatevosov 2013, 2016). Thus, the French sentence in (7) has two interpretations corresponding to the voice alternation of the infinitive:

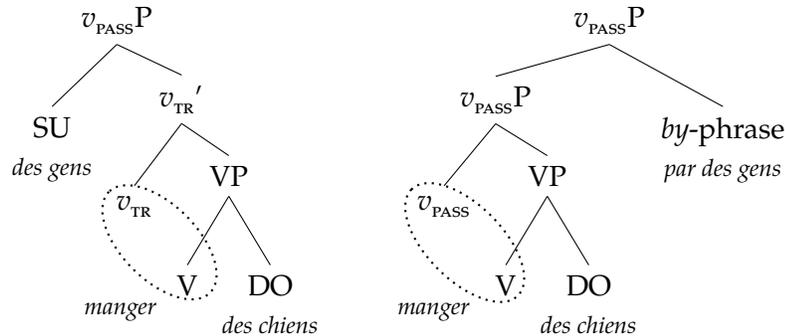
- (7) *J'ai vu manger des chiens.* (Tesnière 1965: 427)
1. 'I saw dogs eating.'
  2. 'I saw people eating dogs.'

The DP immediately following the infinitive is interpreted as its subject; therefore, the reading (7.1) is active, whereas the reading (7.2) is passive. Moreover, the passive construal allows for expressing the demoted agent by a prepositional phrase with *par*, the standard technique used in finite passive clauses (8 a-b); see also the example by Tesnière (1965) in (9).

- (8) a. *J'ai vu manger des chiens par des gens.*  
       'I saw dogs being eaten **by people**.'
- b. *Des chiens sont mangés par des gens.*  
       'Dogs are eaten **by people**.'
- (9) *En 1824, leurs hotes firent tracer la promenade des Anglais sur la grève ou l'on voyait encore tirer les filets par les pêcheurs.*  
       'In 1824, their guests had the English promenade built along the beach where one could still observe **fishermen dragging their nets**.'  
       (lit. '...to drag the nets by fishermen')

The insight of the voice ambiguity of the infinitive translates naturally into the assumption that the same form spells out at least two syntactic configurations that differ in feature specification of the syntactic head encoding voice. Assuming light *v* as the locus of voice encoding we obtain the two structures in (10 a-b) where the two combinations of verbal heads are spelled out uniformly.

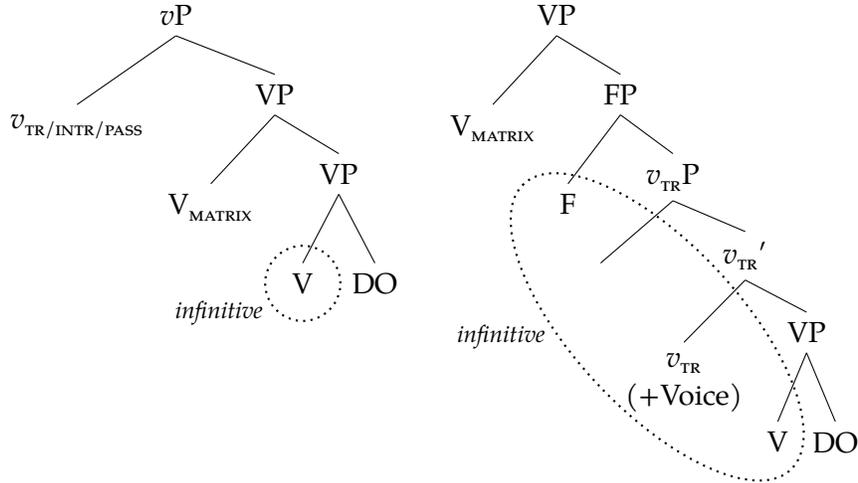
- (10) a. active construal      b. passive construal



We believe that the analysis of French infinitives sketched in (10) cannot be extended to subsume Hittite infinitives as well. The trivial prediction of (10) is that the infinitive can project both active and passive structures in whatever syntactic environment. However, this is not the case in Hittite. In this paper we present evidence that “passive” infinitives are complementarily distributed with “active” infinitives. “Passive” infinitives occur in syntactic contexts that meet two conditions: first, the matrix predicate is intransitive (passive, unaccusative, non-verbal) and second, lexical voice restructuring takes place. “Active” infinitives are found elsewhere.

This evidence motivates an alternative analysis of Hittite infinitives, which we develop in this paper. We argue that Hittite infinitives are indeed able to spell out various syntactic configurations, but the difference between them does not involve alternating voice-encoding heads. We claim that, in Hittite, infinitives appear in at least two shapes: as bare VPs in lexical voice restructuring configurations and as (reduced) clause-level projections in size restructuring configurations. Both “passive” and “active” construals are available for VP-infinitives; however, it is not the infinitive but the external functional structure of the matrix clause that determines encoding of its arguments. Therefore, VP-infinitives are ambiguous with respect to voice not because they can spell out both voice-determining heads, but because they do not contain this head at all. Clause-level infinitives, on the other hand, are explicitly specified for voice as they contain the same light  $v$  head as in finite active clauses. Consequently, clause-level infinitives only support the “active” construal. The two structural alternatives in Hittite infinitives are represented in (11).

- (11) a. VP-infinitives                      b. clause-level infinitives



In the next sections, we provide evidence for the existence of these two types of infinitival phrases in Hittite and demonstrate that voice neutrality is only attested in VP-infinitives.

### 3 LEXICAL VOICE RESTRUCTURING

The aim of this section is to introduce the restructuring approach to the structural homonymy and to apply it to Hittite infinitives exhibiting interpretational voice ambiguity.

#### 3.1 Structural homonymy and restructuring

Phrases projected by infinitives are generally acknowledged to exhibit variable syntactic structure depending on the morphosyntactic context they appear in. Thus, one and the same non-finite verbal form in English (the uninflected citation form) corresponds to quite diverse constituents, which differ in the presence/absence of the infinitival particle *to*, licensing of the overt subject or PRO, expression of tense, and availability of the complementizer *for*, cf. (12 a-h).

- (12) a. *Mary<sub>i</sub> will [t<sub>i</sub> visit her aunt].*  
 b. *We made [Mary visit her aunt].*  
 c. *We saw [Mary visit her aunt].*  
 d. *Mary<sub>i</sub> seems [t<sub>i</sub> to visit her aunt].*

- e. *Mary tried* [PRO *to visit her aunt*].
- f. *We believe* [*Mary to have visited her aunt*].
- g. *We arranged* [*for Mary to visit her aunt*].
- h. [*For Mary to visit her aunt*] *would be a disaster*.

The infinitival phrases in (12) not only differ as to their internal structure, but also to the grammatical head they depend on: the modal verb *will* representing the T head in (12 a), the causative and perceptive light verbs *make* and *see* in (12 b-c), the raising verb *seem* in (12 d), the control verb *try* in (12 e), the ECM verb *believe* in (12 f), the non-control and non-raising verb *arrange* in (12 g), and the predicative head/copula in (12 h).

At least since Rosenbaum (1967) and Postal (1974), this correspondence has been captured in formal syntax as syntactic selection: lexical and functional heads impose restrictions on the syntactic category of their complement. In their turn, the infinitival phrases differ as to the amount of clausal functional structure they contain. Thus, it is claimed that control infinitives are CPs whereas raising and ECM infinitives are TPs, and this is why the former are opaque and the latter are transparent for case assignment to the subject from the matrix clause. Being a lexical property of the matrix verb, selection ensures that a control matrix verb like *try* merges with a CP-infinitive and a raising matrix verb like *seem* or an ECM matrix verb like *believe* merges with a TP infinitive. Causative light verbs have been argued to select for a *vP* — a minimal clausal constituent projecting the full argument structure (see e.g. Folli & Harley 2007, Harley 2008). Trivially, *vP* is a complement of the T head in the modal monoclausal construction (13 a). To sum up, infinitives have been shown to spell out various arrays of functional heads depending on selectional requirements of the embedding category:

- (13) a.  $V_{\text{CONTROL}} [_{\text{CP}} C [_{\text{TP}} T [_{\text{vP}} v [_{\text{VP}} V ] ] ] ] ]$   
 b.  $V_{\text{RAISING/ECM}} [_{\text{TP}} T [_{\text{vP}} v [_{\text{VP}} V ] ] ]$   
 c.  $V_{\text{CAUSATIVE}} [_{\text{vP}} v [_{\text{VP}} V ] ]$   
 d.  $T [_{\text{vP}} v [_{\text{VP}} V ] ]$

The variation in the amount of structure projected by the infinitive which we have outlined above does not involve the thematic layers projecting the argument structure of the verbal predicate. The infinitives in (13) equal the finite verbal form in projecting all the arguments and discharging all the theta-roles, including the external argument in transitive configurations. Infinitival phrases may lack overt subjects, as in (12 d) or (12 e), but these structural positions are filled by empty categories — A-trace or PRO.

The innovative hypothesis put forward by Wurmbrand (1998, 2001) involves further variation in the structure of infinitival phrases. Wurmbrand suggests that there exist still smaller infinitival phrases which lack the *vP* layer and project the bare VP. Being a minimal verbal projection, VP only hosts internal arguments and contains no structural case assigner.

The crucial argument supporting the hypothesis comes from long passives in German discovered by Höhle (1978). (14 a) shows the active infinitival construction where the embedded and matrix verbs are transitive, and the object of the infinitive is accusative. (14 b) differs minimally from (14 a) in that the matrix verb is passive. Interestingly, passivization of the matrix verb affects the case of the infinitive's object — it becomes nominative; moreover, this argument controls predicate agreement of the matrix verb, compare (14 b) and (14 c).<sup>3</sup>

- (14) a. *weil er den Traktor zu reparieren versuchte*  
 because he.NOM the tractor.ACC repair.INF try.PST.3SG  
 '...because he tried to repair the tractor'
- b. *weil der Traktor zu reparieren versucht wurde*  
 because the tractor.NOM repair.INF try.PP AUX.PST.3SG  
 '...because they tried to repair the tractor'
- c. *weil die Traktoren zu reparieren versucht wurden*  
 because the tractors.NOM repair.INF try.PP AUX.PST.3PL  
 '...because they tried to repair the tractors'

The data in (14 b-c) suggests that the infinitive *zu reparieren* 'to repair', despite being morphologically transitive, cannot assign the accusative case to its object. The object has to enter Agree relation with the matrix finite T in order to be case-licensed, and in this way it becomes matrix subject. Wurmbrand concludes that the infinitival phrase in (14) corresponds to a bare VP, and that a number of lexical verbs like *versuchen* 'try' can select for a VP (15). The resulting configuration is dubbed lexical restructuring, and the verb able to select for a VP is a restructuring verb.

- (15)  $V_{\text{RESTRUCT}} [VP V]$

<sup>3</sup> It should be emphasized that the peculiarity of the example (14) lies in the fact that the infinitive's object becomes matrix subject without passivization of the infinitive, although passive infinitives are readily available in German. Accordingly, (14 b-c) cannot be treated along the lines of English raising-to-subject construction in (i):

(i) The tractor<sub>i</sub> is believed [ *t<sub>i</sub> to be repaired t<sub>i</sub>* ].

We thank an anonymous reviewer for raising this issue.

A note of clarification is due at this point. The term “restructuring” has been used as an umbrella term for very diverse phenomena, not only by different authors, but also by the same author reconsidering her previous analysis. The common characteristic of these phenomena is that a configuration involving two clause-like units exhibits syntactic properties of a monoclausal structure (clause union effects). The lists of these effects and their accounts differ.

In this paper, we rely on the tripartite classification of clause union effects, which was introduced by Wurmbrand (1998, 2001) and provided with further support in her subsequent work. This classification involves two parameters. The first parameter is whether the matrix verb undergoes reanalysis as a functional head, or rather preserves its lexical meaning and ability to project and theta-mark its own argument (cf. Cinque 2001). Accordingly, the alternatives created by this parameter are functional restructuring and lexical restructuring. The second parameter concerns the amount of functional structure associated with the predicate embedded under the lexical restructuring verb. In Wurmbrand (1998, 2001, 2002, 2004), this parameter produces two essential alternatives: the embedded verb is either as small as a VP (and this type of configuration is dubbed the “lexical restructuring configuration”), or is equivalent at least to *v*P or a bigger constituent (this type of configuration is dubbed the “non-restructuring configuration”). If a non-restructuring configuration is still smaller than the full-fledged non-finite clause and shows some clause union effects like clitic climbing or scrambling, the term is “reduced non-restructuring configuration”.

In Wurmbrand (2013, 2014) two important innovations are introduced. First, the term restructuring is extended to cover what was previously called “reduced non-restructuring configurations” — it is referred to as (lexical) size restructuring, as opposed to (lexical) voice restructuring. Size restructuring can be further subdivided based on the omitted domain of clausal functional structure (A or A-bar). Second, the analysis of lexical voice restructuring is revised. The embedded predicate in configurations like those in (14) is claimed to involve a special restructuring light verb *v<sub>R</sub>* rather than VP. Since this functional head is dummy, or “expletive” (Schäfer 2008), it does not change anything in the case-licensing of the embedded object by the matrix functional structure. However, it makes it possible to explain overt *v*-related morphology which is found under lexical restructuring in many Austronesian languages, as well as in Chamorro. Moreover, it provides a natural explanation for the cross-linguistic variation in the availability of voice restructuring: if the lexicon lacks *v<sub>R</sub>*, voice restructuring is not attested.

Finally, the analysis has been reformulated within a more articulated structure of voice domain subdivided into *v*P and VoiceP (see (5b)). In this sys-

tem, it is the restructuring Voice<sub>R</sub> head which yields voice restructuring. The advantage of this account is that it provides a principled explanation of the morphological shape of the embedded predicate under voice restructuring attested in a number of world’s languages (Shimamura & Wurmbrand 2014, Pitteroff 2014, Wurmbrand & Shimamura 2017).

It is easy to see that the term “restructuring” may be ambiguous even with reference to Wurmbrand’s work. In Table 1, we summarize the terminological discrepancies discussed above and clarify our use of these terms. Thus, we adopt a more straightforward notation of reduced embedded configurations (voice restructuring vs. size restructuring), but stick to Wurmbrand’s original analysis of voice restructuring as involving a VP complement rather than a  $v_{\text{R}}\text{P}$  complement. The motivation of this decision for Hittite will be provided in 3.3.

Phenomena	Long passive		Other clause union effects	Matrix verb becomes functional
Wurmbrand 1998, 2001, 2002, 2004	lexical restructuring	VP	reduced non-restructuring	functional restructuring
Wurmbrand 2013, 2014	(lexical) voice restructuring	$v_{\text{R}}$	(lexical) size restructuring	functional restructuring
Wurmbrand & Shimamura 2017	(lexical) voice restructuring	Voice <sub>R</sub>	(lexical) size restructuring	functional restructuring
this paper	(lexical) voice restructuring	VP	(lexical) size restructuring	functional restructuring

**Table 1** Types of restructuring

Going back to the main narrative line, we characterize German constructions in (14b-c) attesting long passive as (lexical) voice restructuring.

It is important to note that voice restructuring is only evident if the infinitive’s object is nominative and becomes matrix subject (14b-c). Example (14a) is in principle compatible with two structural analyses: a restructuring analysis in (16a) and a non-restructuring analysis in (16b). In (16a), it is the matrix  $v_{\text{TR}}$  that serves as a case assigner for the infinitive’s object. In (16b), the infinitival phrase contains its own  $v_{\text{TR}}$  and does not need to establish an Agree relation with the functional structure of the matrix clause.

- (16) a. [<sub>vP</sub> er v<sub>TR</sub> [<sub>VP</sub> [<sub>VP</sub> den Traktor zu reparieren] versuchte]]  
 b. [<sub>vP</sub> er v<sub>TR</sub> [<sub>VP</sub> [<sub>XP</sub> ... [<sub>vP</sub> PRO v<sub>TR</sub> [<sub>VP</sub> den Traktor zu reparieren]]] versuchte]]

This prediction is borne out: indeed, the active construal in (14a) allows for extraposing the infinitival phrase — an operation available for non-restructuring configurations, whereas for the passive construal (14b-c) this option is excluded:

- (17) a. ...weil er versuchte, den Traktor zu reparieren  
 ‘...because he tried to repair the tractor’  
 b. \*weil versucht wurde, der Traktor zu reparieren  
 c. \*weil der Traktor versucht wurde, zu reparieren

Thus, the voice restructuring analysis provides a principled explanation for the voice ambiguity of the infinitive induced by the syntactic context.

### 3.2 Voice restructuring in Hittite

Turning back to the Hittite data we observe that nominative and accusative encodings of the infinitive’s object are distributed exactly like in voice restructuring configurations. Let us consider examples (1)–(2), repeated here as (18)–(19):

- (18) [GIM]–an=ma kē                      INIM<sup>MEŠ</sup>    P<sup>UTU</sup>–i                      menahhanda  
 when=but    this.ACC.PL.N    words    sungod-DAT.SG    against  
 [memi]ya-wanzi zinnai  
 speak-INF                      finish.3SG.PRS  
 ‘When she **finishes** speaking these words to the Sungod’  
 (NS (CTH. 421.1C) KUB 17.14+ obv<sup>1</sup>. 21’–22’)

- (19) nu    māhhan šA GAL<sup>HI.A</sup>    waršiy-aš                      memiyani-eš  
 CONN    when    of    cups    soothing-GEN.SG    words-NOM.PL.C  
 hurlili    memiya-wanzi zinnandari  
 Hurrian    speak-INF                      finish.3PL.PRS.MED  
 ‘When they finish speaking in Hurrian the words of soothing the cups, lit. ‘when the words of soothing the cups are finished to be spoken’  
 (MH/MS (CTH 777.Tf10.2.A)  
 KUB 29.8 obv. i 1–2 following Haas 1984: 86)

In (18), the direct object of the infinitive  $kē$  INIM<sup>MEŠ</sup> ‘these words’ is accusative, so the infinitive looks like it is active; note that the matrix verb *zinna-* ‘finish’ is in the active voice, too. It agrees with its own subject expressed by the 3SG.C *pro*, not with the direct object, which is 3PL.C. Note also that the matrix verb *zinna-* ‘finish’ is transitive, as example (20) demonstrates. We conclude that (18) is structurally identical to German (14a).

- (20) *nu* <sup>GIŠ</sup>*armizzi* *hūdāk* *zinna-šten*  
 CONN bridge.ACC.SG/PL.N immediately finish-2PL.IMP  
 ‘And **finish** the bridge quickly!’ (MH/MS (CTH 190)  
 HKM 72 obv. 14–15 following Hoffner 2009: 231)

In (19), the direct object of the infinitive,  $šA$  GAL<sup>HI.A</sup> *waršiyaš memiyanieš* ‘words of soothing the cups’, is nominative. Since Hittite does not license nominative objects, the only possible source of nominative case is the matrix functional structure, namely the finite T. Indeed, the matrix verb shows predicate agreement with the 3PL.C controller, which can only be identified with ‘words of soothing the cups’. Crucially, the matrix verb *zinna-* ‘finish’ is passive in (19). Again, Hittite (19) patterns with German (14b-c).

We argue that, in Hittite, the infinitive’s direct object can only become a derived matrix subject, giving rise to the “passive” reading of the infinitive, if the matrix predicate is intransitive, and voice restructuring takes place. All the examples in our corpus involving the “passive” construal of the infinitive are complementation constructions where the infinitive is embedded under the intransitive predicate. We can identify the following matrix predicates that count as intransitive restructuring predicates:

- (i) the passive form of several transitive verbs, such as *handaye-* ‘prepare, arrange, determine’, *irhaye-* ‘treat in turn’, *zinna-* ‘finish’;
- (ii) the unaccusative verb *ki-* ‘lie, remain’;
- (iii) the verb *eš-* ‘be’ as the matrix verb in the modal auxiliary-infinitive construction;
- (iv) adjectives in *easy-to-please* constructions.

The relevant examples are presented and discussed below.

In examples (21)-(25) we see passive forms of transitive matrix verbs. The passive in Hittite is formed in two ways: by synthetic middle finite verb forms and analytically by combination of the nominative case of the *-ant* participle and the auxiliary verb *eš-* ‘be’, zero in present tense. First, in (21)-(24),





sources of case for the embedded direct object: the embedded  $v_{TR}$ , which assigns it accusative if no voice restructuring takes place, or the matrix T, if the embedded infinitive lacks  $vP$  under restructuring. Both options are found crosslinguistically (cf. (26)-(27)). In Russian, the modal auxiliary-infinitive construction cannot involve restructuring, and the direct object of the infinitive is accusative (the modal construction itself is impersonal, Fleisher 2006). In German, the modal auxiliary-infinitive construction undergoes obligatory voice restructuring, and the infinitive's direct object is promoted to the matrix subject.

- (26) auxiliary-infinitive construction without voice restructuring: Russian

*No nauku mne bylo ne dognat'.*  
but science.ACC I.DAT be.PST.N.SG NEG catch.INF

'But it wasn't possible for me to catch up with the science (lit. to catch the science).'

(National corpus of Russian, <http://www.ruscorpora.ru>)

- (27) auxiliary-infinitive construction with voice restructuring: German

*...weil der Zaun bis morgen zu reparieren ist*  
since the fence.NOM by tomorrow to repair is

'...since the fence must be repaired by tomorrow'

(Wurmbrand 2001: 30)

In Hittite, the modal auxiliary-infinitive construction with the verb *eš* 'be' patterns with the German one. Some examples are given in (28)-(30). In (28) the infinitive's direct object [<sup>URU</sup>]Neriqqaš URU-aš 'the city of Nerik' is NOM.SG.C and thus is promoted to subject. The same holds for [(šeḫe)]Iliškiš 'purification ritual' in (29). [*kī ut*]tar 'this matter' in (30) is neuter and thus can in principle be both nominative and accusative, but by the analogy of unambiguous forms in (28-29) it is interpreted as nominative.

- (28) voice restructuring: auxiliary-infinitive construction

[<sup>URU</sup>]Neriqqa-š=šī=kan URU-aš app-anna eš-ta  
Nerik-NOM.SG.C=him=LOCP city-NOM.SG.C take-INF be-3SG.PST

'It was up to him to take **the city of Nerik**' (NH/NS (CTH 384.1.A)

KUB 21.27+ obv. i 26-7 following Singer 2002: 102,

cf. "Es war ihm (möglich), die Stadt Nerik einzunehmen";

E. Rieken et al. (ed.), hethiter.net/: CTH 384.1 (INTR 2016-01-18))

- (29) voice restructuring: auxiliary-infinitive construction

*namma mān apēdani* DINGIR-LIM-*n-i*  
 then if that.DAT.SG god-DAT.SG  
 [(*šehe*)]*liški-š* *pi-anna ēš-zi*  
 purification\_ritual-NOM.SG.C give-INF be-3SG.PRS  
 ‘Then, if a **purification-ritual** is to be given to that deity, ...’  
 (MH/MS? (CTH 479.1.A) KBo 24.45+ obv. 26’–27’ following [CHD](#)  
 (Š: 348); S. Ünal (ed.), [hethiter.net/](http://hethiter.net/): CTH 479.1 (TX 03.03.2017,  
 TRde 03.03.2017))

(30) voice restructuring: auxiliary-infinitive construction

[*tu(k=ma)* *kī* *ut*] *tar* *šà-t-a*  
 you.DAT.SG=but this.NOM.SG.N matter.NOM.SG.N heart.ALL.SG  
*šiy-anna išhiüll=a* *ēš-[(du)]*  
 press-INF obligation.NOM.SG.N=and be-3SG.IMP  
 ‘But let **this matter** be for you something to be taken to heart and an  
 obligation’ (NH/NS (CTH 68.E) KUB 6.44+ rev. iv 23 following  
[CHD](#) (Š: 17); [Friedrich \(1926: 138–9\)](#). Cf. [Beckman \(1996: 74\)](#))

Finally, voice restructuring can be found in adjectival *easy-to-please* constructions. There is cross-linguistic variation in the type of the movement involved: the English *easy-to-please* construction has been argued to involve A'-movement, whereas in German and Romance the corresponding construction is an instance of A-movement (see [Wurmbbrand 2001: 28ff](#) for discussion). The diagnostics include relativized minimality effects: A-movement cannot cross an A-position. Consequently, an intervening argumental DP blocks the movement in the *easy-to-please* constructions in German, but not in English:

- (31) a. A-movement in *easy-to-please* constructions: German  
 \**Dieses Buch<sub>i</sub> ist schwer Hans zu überzeugen zu lesen t<sub>i</sub>.*  
 intended: ‘This book is hard to convince John to read.’  
 b. A'-movement in *easy-to-please* constructions: English  
*This book<sub>i</sub> was easy to convince John to read t<sub>i</sub>.*

As for Hittite, voice restructuring with adjectives is found in the following examples (32)-(33); in both examples there are nominative enclitic pronouns of common gender *-aš*, both singular and plural. Unfortunately, it is impossible to apply the above diagnostic to the adjectival construction, since only two tokens are attested.

## (32) voice restructuring: adjectives

<sup>URU</sup> *Akitumaš=ma=aš* *SISKUR-eššar* *anda=kan* *u-škiya-uwanzi*  
 Akituma=but=she offering.NOM.SG.N in=LOCP see-IMPF-INF  
*kui-t* *šanizzi*  
 which-NOM.SG.N sweet.NOM.SG.N

‘She is an offering of the Akiti festival which is **pleasant** to look at’  
 (RS 25.421 rev. 54-56 following [Hoffner & Melchert 2008](#): 332;  
[Laroche 1968](#): 774–775, 779)

## (33) voice restructuring: adjectives

[*tu*] *hš-uwanzi=war=aš=ša[n]* *karū* *ar[-ant-]eš*  
 harvest-INF=QUOT=it.NOM.PL.C=LOCP already arrive-PP-NOM.PL.C

‘They are already **ripe**<sup>7</sup> for harvesting’ (MH/MS (CTH 186)  
 HKM 37 obv. 14–15 following [Hoffner 2009](#): 163)

To sum up, the “passive” construal of the infinitive is found exactly in the environment which is argued to involve voice restructuring in languages like German: they include intransitive matrix predicates of different kinds. On the other hand, if the matrix verb is transitive, we only find accusative infinitival objects and the “active” construal of the infinitive. The contrast is particularly evident with those matrix verbs that show voice restructuring when passivized. Some examples are given in (34). In (34b) the form *memian* ‘word’ is unambiguously accusative. In (34a, d) *-at* is in principle ambiguous between nominative and accusative, but in the sentences in question it is unambiguously accusative as nominative enclitic pronouns cannot be used in Hittite with transitive verbs. In (34c) 1 <sup>DUG</sup> *KUKŪB KAŠ* ‘one pitcher of beer’ is written logographically and is unmarked for case but by the analogy of other examples we interpret the form as accusative.

## (34) transitive matrix predicates

a. *n=at* *ANA* <sup>D</sup> *UTU-š=I* *uw-anna* *handā-er*  
 CONN=it/them to majesty=my see-INF arrange-3PL.PST  
 ‘They arranged for His Majesty to consider (literally ‘see’)  
**them**’

(MH/MS (CTH 190) HKM 63 l.e. 20–21 following  
[Hoffner & Melchert 2008](#): 333; [Hoffner 2009](#): 216)

<sup>7</sup> ‘Ripe’ here is expressed by the lexicalized participle of the verb *ar-* ‘arrive’ – *ar-ant-* lit. ‘arriving’.

- b. *nu maḥḥan dTašmišu-š memian*  
 CONN when Tasmisu-NOM.SG.C word.ACC.SG.C  
*memiya-uwanzi zinne-t*  
 speak-INF finish-3SG.PST  
 ‘When Tašmišu finished speaking **the word**’  
 (NS (CTH 345.I.3.1.A) KUB 33.106+ obv. ii 10-11  
 following E. Rieken et al. (ed.), [hethiter.net/](http://hethiter.net/): CTH 345.I.3.1  
 (TX 2009-08-31, TRde 2009-08-30))
- c. [ ... ] 1 <sup>DUG</sup> *KUKŪB KAŠ=ya šipand-uwanzi*  
 1 pitcher beer=and libate-INF  
*irḥāi[z]zi*  
 make\_rounds.3SG.PRS  
 ‘He also libates **one pitcher of beer** in a circle’ (MH/MS<sup>2</sup> (CTH  
 479.1.A) KBo 24.45+ (A) obv. 12’ following [Hoffner & Melchert  
 2008](#): 337, lit. “makes rounds libating also one pitcher of beer”)
- d. *maḥḥan=ma=at ad-anna irḥanzi*  
 when=but=it/them eat-INF make\_rounds.3PL.PRS  
 ‘But when they finish eating **it**’ (MH/MS (CTH 286.2)  
 KUB 29.40 rev. iii 24’ following [HED](#) (A: 130);  
[Kammenhuber 1961](#): 180–1)

Again, Hittite examples in (34), like their German counterpart in (14 a), are ambiguous between the voice restructuring analysis and the analysis not involving voice restructuring (cf. (16 a-b)). However, we believe that voice restructuring in the active configuration is a viable option. The rationale behind this assumption is that voice restructuring is conceived of as a lexical property of the matrix predicate, i.e. the matrix lexical head V, which enables it to syntactically select an embedded VP. This lexical property should be present irrespective of the functional structure dominating the matrix VP ( $v_{TR}$  or  $v_{PASS}$ ). Therefore, we expect voice restructuring to take place in (34) as well.

There is a group of transitive matrix verbs which are not attested in the passive form with infinitival phrases containing an object in our corpus. For this reason, we are not able to tell whether the constructions in (35) may involve voice restructuring.

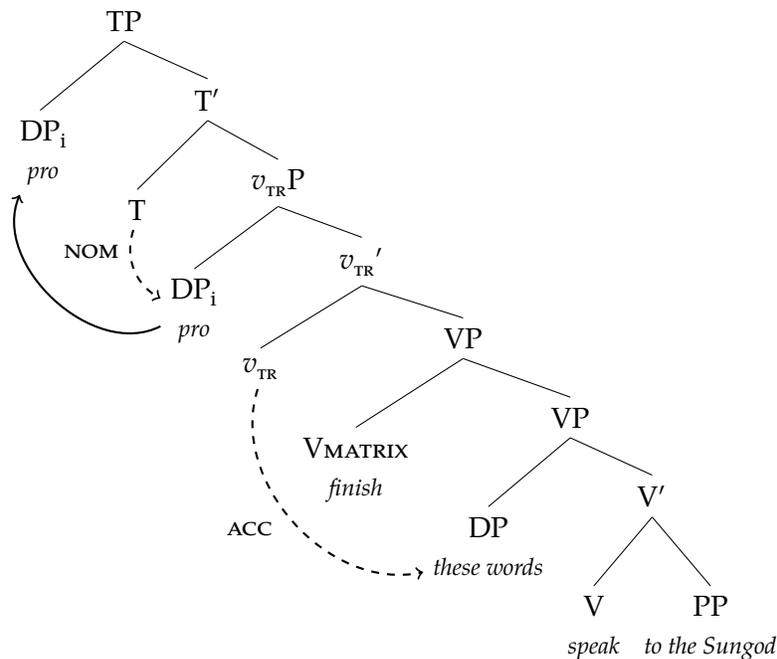
- (35) a. *n=ašta GIM-an ṬUPPA<sup>HL.A</sup>-ašš=a memiyan-uš anda*  
 CONN=LOCP when tablets-GEN.PL=and word-ACC.PL.C in  
*memiya-uwanzi aššanuw-anzi*  
 speak-INF finish-3PL.PRS

- ‘When they finish speaking the words of the tablet’  
(NS (CTH 448.2.A) KUB 17.18+ obv. ii 15’ following S. Görke  
(ed.), hethiter.net/: CTH 448.2.1.1 (INTR 2016-07-01))
- b. *mān=an=kan unu-manzi aššanu-an[zi]*  
when=it=LOCP decorate-INF finish-3PL.PRS  
‘When they finish decorating it’ (NS (CTH 692.4.A)  
KUB 27.49 rev. iii 23 following HED (A: 193))
- c. [... *šume*]nzan BEL GAL *kuinki anda*  
[you]r lord big some.ACC.SG.C in  
*ḫui[ttiya-uwanzi ē]p-zi*  
draw-INF take-3SG.PRS  
‘[... sta]rts draw[ing] in [...] some great lord of yours’  
(MH/MS (CTH 251.A) KBo 16.25(+) obv. i 72’  
following Miller 2013: 174–5)
- d. DINGIR<sup>MEŠ</sup>=za *kūn memian kišša[n] iya-wanzi*  
gods=REFL this.ACC.SG.C matter.ACC.SG.C thus do-INF  
*malān ḫar-teni*  
approve.PP.NOM.SG.N have-2PL.PRS  
‘Have you, gods, approved to resolve this matter in this way?’  
(NS (CTH 423.B) KUB 7.60 rev. iv 16–17 following F. Fuscagni  
(ed.), hethiter.net/: CTH 423 (INTR 2015-01-02))
- e. *apā-š=ma=mu ḫark-anna [(ištū AWAT DINGIR-LIM)]*  
he-NOM.SG.C=but=me destroy-INF with word god  
*ù ištū INIM LÚ šanaḫ-ta*  
and with word man try-3SG.PST  
‘But he sought to destroy me at the command of god and the  
suggestion of man’ (NH/NS (CTH 81.E) KUB 1.6+ rev. iii 9–10  
following CHD (Š: 166-7); Otten 1981: 22–3)
- f. *n=at arḫa ēpp-ūwanzi ul tarah-teni*  
CONN=it away handle-INF NEG can-2PL.PRS  
‘And you are not able to handle it’ (NH/NS (CTH 63.A)  
KBo 3.3+ rev. iii 56’-57’’ following Miller 2007: 127, 130)

Thus, we claim that at least the matrix predicates that are attested in intransitive configurations and promote the infinitive’s direct object to their own subject involve voice restructuring. To be more explicit, we propose the following structures for (18) and (19). In (36), the transitive construal is represented. The restructuring matrix verb *zinna* ‘finish’ takes the VP containing the internal arguments of the infinitive *memiyawanzi* ‘speak’ as its complement. The

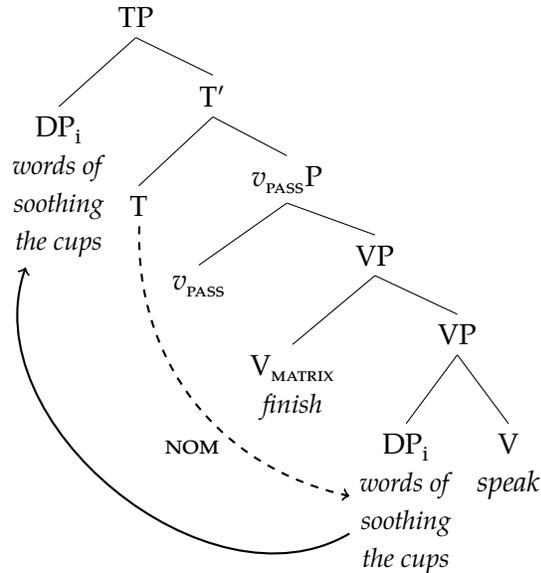
infinitival phrase does not project its own  $vP$  and therefore lacks the structural case assigner for its object  $kē$  INIM<sup>MEŠ</sup> ‘these words’. Therefore, the object is case-dependent from the functional structure of the embedding verb. The closest source of the structural (accusative) case is the matrix transitive light verb  $v_{TR}$ . It assigns accusative to the embedded object. The matrix external argument — the agent of the verb *zinna* ‘finish’ represented by *pro* — receives structural nominative from the matrix finite T and moves to the matrix subject position in the standard way.

(36) syntactic structure of (18) (the relevant part)



The tree in (37) depicts the syntactic structure of the passive construal (19). It differs minimally from the active structure of (18) in that the matrix verb *zinna*- ‘finish’ is now in the passive form, and consequently, the light verb is represented by the intransitive  $v_{PASS}$ . It does not project the external argument and is not able to assign structural case. Accordingly, the closest case assigner for the object of the infinitive *ša GAL*<sup>H.A</sup> *waršiyaš memiyanieš* ‘words of soothing the cups’ is the matrix finite T head. T agrees with the DP, assigns it the nominative case and attracts it to the subject position, Spec, TP. The long passive construction is derived.

(37) syntactic structure of (19) (the relevant part)



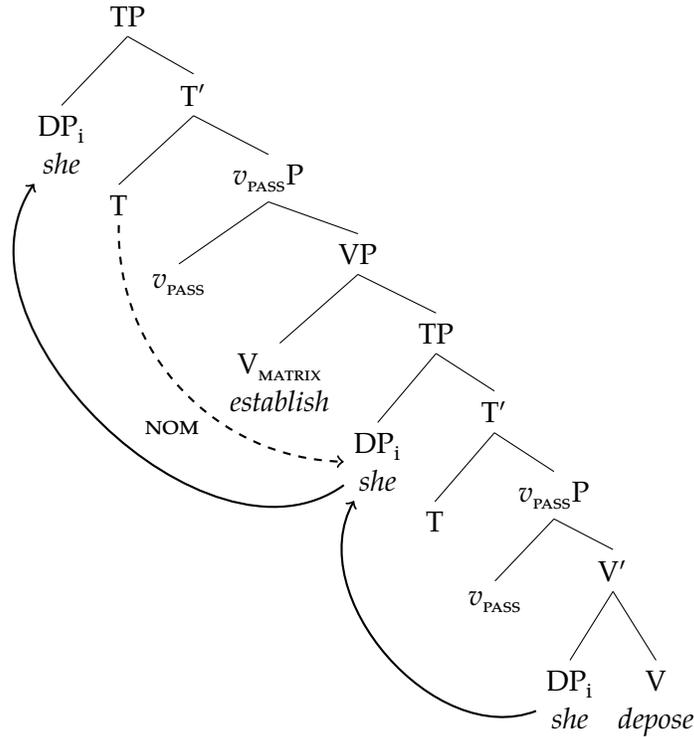
It should be emphasized that our analysis differs significantly from the raising analysis proposed by [Holland \(2011\)](#). Discussing the example (6) repeated here in (38), he states that “the nominative enclitic pronoun *-aš* is the subject of *sixsá-at* but also the notional object of *katta ašanna*. This notional object has been raised into subject position in the matrix clause” ([Holland 2011: 76](#)).

(38) *n=aš katta aš-anna kuit sixsá-at*  
 CONN=she down sit-INF as determine-3SG.PST.MED  
 ‘And since it was determined that she be deposed, ...’ (NH/NS  
 (CTH 70.1.A.A) KUB 14.4 obv. ii 10’ following [Miller 2014: 530](#))

However, Holland assumes that “[t]he constructions [he has] discussed in this paper are raising constructions and thus by definition biclausal” (2011: 78). The standard raising analysis of (38) requires the underlying object to first be promoted to the infinitival subject. In the biclausal analysis, this can only be done by passivizing the infinitival clause. This is why Holland concludes that in such cases, “...a passive reading of the transitive infinitives seems inescapable” (2011: 76). Converting the spirit of Holland’s analysis into the more formalized representation, we obtain the structure in (39). Here the infinitive projects a non-finite passive TP. The (clitic) object DP =*aš* ‘(s)he’ is first promoted to the infinitival subject position (specifier of the embedded TP). Then it is targeted by the matrix finite T; T agrees with it, assigns it nominative case and attracts it to the matrix subject position (specifier of the ma-

trix TP). The derivation outlined here fits well with the standard (passive) subject-to-subject raising.

(39) biclausal raising analysis of (38) (the relevant part)



Crucially, this analysis does not capture the correlation between the passivization in the infinitival clause and the intransitivity of the matrix clause. It predicts that these two parameters should vary independently of each other, to the effect that we should expect the following combinations to be attested:

- (i) transitive matrix verb, active embedded verb: (transitive) subject-to-object raising (*The oracle established him to depose her*);
- (ii) transitive matrix verb, passive embedded verb: (passive) subject-to-object raising (*The oracle established her to be deposed*);
- (iii) intransitive matrix verb, active embedded verb: (transitive) subject-to-subject raising (*He was established to depose her*);
- (iv) intransitive matrix verb, passive embedded verb: (passive) subject-to-subject raising (*She was established to be deposed*).

However, as we argued above, the “passive” reading of the infinitive is only attested with intransitive matrix verbs. Therefore, the alternative analysis involving ambiguity of the infinitive between active and passive construals overgenerates, and the voice restructuring analysis put forward in this paper should be preferred.

An anonymous reviewer raises an important issue regarding availability of voice restructuring with matrix verbs taking oblique DP arguments (e.g. dative or allative) rather than accusative. The question is whether this oblique case can be assigned to the infinitive’s object if voice restructuring takes place. Our answer to this question is negative: an oblique case cannot be “transmitted” from the matrix verb to the argument of the embedded verb. The obvious reason for this is that oblique cases are lexically governed, that is, assigned by a lexical head along with a theta-role. Consequently, a lexical head can only assign an oblique case to its own argument. Structural cases (nominative and accusative), by contrast, are assigned by functional heads to arguments projected and theta-licensed by a distinct lexical head. This is why only structural cases can be assigned by the matrix functional structure in voice restructuring configurations.

### 3.3 *Properties of voice restructuring constructions*

In this section we will characterize the properties of the voice restructuring construction. We start with identifying basic word order attested with voice restructuring, then we discuss clause union effects other than the long passive exhibited by the construction. Finally, we identify restrictions on the embedded verbal predicate and show how they comply with the proposed structure.

Infinitival complements occupy a rigid structural position in the Hittite clause which can be identified with the position of the preverb (Lyutikova & Sideltsev 2019). Hittite is an SOV language with a prominent preverbal position. The peculiar property of Hittite is the split between the lower and higher functional projections of the clause. The elements hosted by the lower projections — focused and *wh*-constituents, relative pronouns, preverbal complementizers, negation, NPIs, indefinite pronouns, and low adverbials — appear preverbally; initial complementizers and the irrealis marker tend to occupy clause-initial positions; arguments appear between these two arrays (Sideltsev 2015). Interestingly, preverbs are often found not adjacent to the verb, but inside the lower functional complex, between relative pronouns/preverbal complementizers and negation. Thus in (40 a-c) the preverb EGIR-*pa* ‘back’ is separated from the verb by the negation marker *ul*. It follows the subordinator *māḫhan* ‘as’:

- (40) a. *kā-š=wa* I[(M-aš)] *māḥhan* <<*māḥhan*>>  
 this-NOM.SG.C=QUOT clay-GEN.SG AS AS AS  
*wappu-[(i)]* EGIR-*pa* UL [(*pai-zzi*)]  
 bank-LOC.SG back NEG go-3SG.PRS  
 ‘As this clay will **not** [(go)] **back** to the (river) ban[(k)]’  
 (MH/MS (CTH 404.1.I.A) KBo 39.8  
 rev. iii 2-3 following Miller 2004: 80)
- b. *nu* *kēdani* *maḥhan* ANA <sup>ciš</sup>MÁ *ūrki-eš*  
 CONN this.LOC.SG AS to ship trace-NOM.PL.C  
 E[GIR-*a*]n UL *duq[q]ā-ri*  
 back NEG be\_visible-3SG.PRS.MED  
 ‘And just **as no** trace of the ship can be found **any more**, ...’  
 (MH/MS (CTH 480) KUB 29.7+ rev. 47 following S. Görke, S.  
 Melzer (ed.), hethiter.net/: CTH 480.1 (TX 15.02.2016, TRde  
 10.02.2016); Torri 2003: 143 and García Trabazo 2002: 506)
- c. *nu* *íd-aš* *māḥhan* EGIR-*pa* UL *aršiei-zzi*  
 CONN river-NOM.SG.C AS back NEG flow-3SG.PRS  
 ‘As the river does **not** flow **back**’ (MH/MS (CTH 480) KUB  
 29.7+ rev. 50–51 following S. Görke, S. Melzer (ed.),  
 hethiter.net/: CTH 480.1 (TX 15.02.2016, TRde 10.02.2016)).

Accordingly, in Lyutikova & Sideltsev (2019), we summarize the linear structure of the Hittite clause as follows:

- (41) C<sub>IN</sub> > Mood > [XP<sub>Rel</sub>] C<sub>PREV</sub> > (Prev) > Neg > [XP<sub>Indef/NPI</sub>] F > Adv  
 > (Prev) > V+Caus+Asp > Aux+T

where C<sub>IN</sub> hosts subordinators at the beginning of the clause, Mood – the particle of optative/irrealis *mān/man*, C<sub>PREV</sub> – subordinators in the immediately preverbal position, and its specifier — relative pronouns and corresponding phrases (XP<sub>Rel</sub>), Prev – preverbs, Neg – negation markers, the specifier of F – indefinite pronouns and NPIs and corresponding phrases (XP<sub>Indef/NPI</sub>), the specifier of Adv – low adverbs like *kiššan* ‘thus’. V+Caus+Asp stands for the verbal complex, also including non-finite verb forms with the markers of causative and aspect. Aux+T stands for the finite form of the auxiliary.

The infinitive in both voice restructuring and size restructuring configurations<sup>8</sup> patterns with the preverb, being placed before negation but after

<sup>8</sup> Size restructuring infinitives will be characterized in section 3. Looking ahead, size restructuring infinitives pattern with voice restructuring infinitives as to their position inside the matrix clause; however, constructions involving functional restructuring differ significantly in this respect, see section 5.

preverbal complementizers, cf. examples (42)-(43). In (42 a) the infinitive *[wa]ršuwanzi* ‘strip’ is in front of the negation marker *lē*. In (42 b) the infinitive *appanna* ‘take’ is in front of the negation marker *ul* and NPI *kui[šk]i* ‘anyone’. In (43) the infinitives follow relative pronouns/complementizers: relative *kuit* in (43 a-b), and complementizers *kuwapi* and *mahḫan* ‘when’ in (43 c-d):

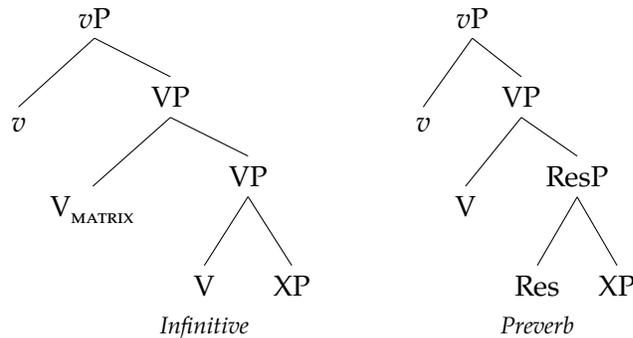
- (42)  $V_{\text{INF}} > \text{Neg} > [\text{XP}_{\text{Indef/NPI}}] \text{F} > V_{\text{MATRIX}}$
- a. *nu=war=at=za namma iyatnuwan*  
 CONN=QUOT=it=REFL then luxuriant.ACC.SG  
*ḫūšuwāi<sup>SAR</sup> [wa]rš-uwanzi lē kuiški*  
 soapwort.ACC.SG strip-INF PROHIB someone.NOM.SG  
*tarḫ-zi*  
 can-3SG.PRS  
 ‘May **nobody** be able to strip the luxuriant soapwort again’  
 (MH/MS (CTH 480.1) KUB 29.7+ rev. 27–28 following S.  
 Görke, S. Melzer (ed.), hethiter.net/: CTH 480.1 (TX 15.02.2016,  
 TRde 10.02.2016))
- b.  $[\text{URU}Ne]riqqa-n=ma$  URU-an *app-anna ul kui[šk]i*  
 Nerik-ACC.SG=but city-ACC.SG take-INF NEG anyone  
*[šan]aḫ-ta*  
 try-3SG.PST  
 ‘But **no one** tried to take the city of Nerik’  
 (NH/NS (CTH 384.1.A) KUB 21.27+ obv. i 21–2  
 following E. Rieken et al. (ed.), hethiter.net/:  
 CTH 384.1 (INTR 2016-01-18), cf. Singer 2002: 102)
- (43)  $[\text{XP}_{\text{Rel}}] C_{\text{PREV}} > V_{\text{INF}} > V_{\text{MATRIX}}$
- a.  $[\text{MUNUS}tawannana]$  *kui-t piran tiyanna*  
 tawananna which-NOM.SG.N before step.INF  
*sixšá-at*  
 establish-3SG.PST.MED  
 ‘As to the fact that the tawananna was ascertained to step  
 forward’ (NH/NS (CTH 569.II.3.B) KUB  
 50.6 obv. ii 31 following van den Hout 1998: 180–1)
- b.  $[mān=ma]nn=aš=mu$  *kui-t šer malt-uwanzi*  
 if=IRR=it=me which-NOM.SG.N up promise-INF  
*sixšá-at*  
 establish-3SG.PST.MED  
 ‘If for the sake of what was determined for me to promise’

(NH/NS (CTH 590) KUB 15.28+ rev. iii 8'  
following de Roos 2007: 194–5)

- c. [LÚ]–LUM *kuwapi* *wašš-ūwanzi* *ti-anzi*  
man when clothe-INF put-3PL.PRS  
'When they begin clothing a man' (NH/NS (CTH 590)  
KUB 31.69 obv. 8', cf. de Roos 2007: 203)
- d. *mahhan=ma=an* *an[īya]-uwanzi* *zi[nnanzi]*  
when=but=it do-INF finish.3PL.PRS  
'When they finish doing it' (NH/NS (CTH 277.2)  
KBo 31.4+ rev. v 26'-27' following Dardano 2006: 104–5)

We believe that this is exactly what we should expect if preverbs are considered as a realization of the Res(ultative) head embedded under the lexical verb (Hoekstra 1988, Koopman 2000, Ramchand & Svenonius 2002, Kratzer 2005, Svenonius 2007, Ramchand 2008). Indeed, ResP and infinitival VP turn out to occupy identical positions within VP, cf. (44).

- (44) a. VP-infinitives                      b. Preverbs



Since voice restructuring infinitives are as small as a lexical verbal projection, no clausal functional structure is introduced by the infinitival phrase. Therefore, we expect the material projected by the embedded verb to be fully integrated in the matrix clause. The clause union effects attested in voice restructuring constructions include movement of constituents out of the embedded VP, as well as agreement of the matrix verb with the nominative argument of the embedded verb. The latter phenomenon has been discussed above in section 3.2; we now proceed to the former.

First, let us consider focalization of the argument of the embedded verb in (45). Although not clearly evident from the word order in (45), this operation involves movement of the focused constituent, *ēšhar* 'blood', to the specifier of the focus/*wh* projection to the left of the preverbal complementizer. Besides,

the focused constituent is marked by the contrastive focus particle =*pat*. This evidence suggests that A'-movement out of the infinitival VP to the higher functional structure of the matrix clause takes place.

- (45) [*nu* DINGIR-LU]<sub>M</sub> *ēšhar=pat* *šarnink-uwanzi*  
 CONN god blood.ACC.SG.N=FOC compensate-INF  
*šanḫ-eški-ši*  
 seek-IMPF-2SG.PRS  
 'Do you, o god, keep seeking to get compensation **for the blood**  
**only?**' (NH/NS (CTH 577.3) KUB 16.77  
 rev. iii 8 following van den Hout 1998: 248–9)

Furthermore, voice restructuring constructions exhibit consolidated clitic clusters which contain clitics originating from both the matrix and the embedded verbal projections. Hittite is known to possess a rich system of second position Wackernagel clitics.<sup>9</sup> The data are usefully summarized in Hoffner & Melchert (2008: 410). Hittite clitics are of several types: (a) locative adverbs *-an*, *-ap(a)*, *-(a)šta*, *-kan*, and *-šan*, (b) quotative particle *-wa(r)*, (c) reflexive particle *-za*, (d) pronominal argument clitics. Hittite clitics in a clause must appear in a clitic chain and have fixed positions within the chain. In traditional Hittitology the positions are described as slots; the sequence of slots is fixed as represented in Table 2.

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6
quotative particle	argument clitics: 1-2 PL.DAT/ACC, 3PL.DAT	argument clitics: 3SG/PL. NOM/ACC	argument clitics: 1-2 SG.DAT/ACC, 3SG.DAT	reflexive particle	locative adverb

**Table 2** The structure of clitic clusters in Hittite

It is important that, in voice restructuring configurations, clitics originating from matrix and embedded constituents form a common pool which is then arranged into a single clitic template, to the effect that c-command relations between clitics do not affect their positioning in the clitic cluster. For instance, examples (46 a-c) show the second position clitic chain which includes enclitic personal pronouns which originate within the projections of the embed-

<sup>9</sup> Accordingly, the landing site for clitic climbing in Hittite is definitely higher than the A-domain of the clause. Wurmbrand's (2014) analysis predicts that in such languages, clitic climbing should be available not only under voice restructuring, but also under size restructuring, which is indeed the case in Hittite; see section 4.



- (47) 1. *nu=za warap-zi*  
 CONN=REFL wash-3SG.PRS
2. *mahhan=ma=za=kan warp-uanzi ašnu-anzi*  
 when=but=REFL=LOCP wash-INF finish-3PL.PRS  
 ‘(1) He washes himself. (2) When he finishes washing himself,  
 ...’  
 (MH/MS (CTH 777.Tf10.2.A)  
 KUB 29.8 obv. ii 13–14 following Haas 1984: 90)

Finally, example (48) shows the same clitic sequence =za=kan as example (47); however, the c-command relation between the base positions of clitics is reversed. In (48), it is the first enclitic in the clitic chain, reflexive -za, which originates within the projection of the matrix verb whereas the second clitic, the locative particle -kan, originates within the projection of the embedded verb.

- (48) *mān=za=kan* <sup>LÚ.MEŠ</sup>KISAL.LUH <sup>É<sup>MEŠ</sup></sup> GIBIL *hanešš-ūwanzi*  
 if=REFL=LOCP courtyard.sweepers houses new plaster-INF  
*app-anzi*  
 take-3PL.PRS  
 ‘When courtyard sweepers begin to plaster new houses, ...’  
 (OH/NS (CTH 414.1.A) KUB 29.1 rev. iii 29 following S. Görke  
 (ed.), hethiter.net/: CTH 414.1 (TX 11.06.2015, TRde 13.03.2015))

To sum up, voice restructuring configurations form a single domain with respect to clitic placement.

The distribution of the subject clitic in voice restructuring constructions is consistent with the generalization by Hoffner & Melchert (2017) building upon Garrett (1990). Hoffner and Melchert contend that subject clitics are complementarily distributed with direct object clitics, so that transitive verbs can only license object clitics. Among intransitive verbs, only unaccusatives and passives combine with subject clitics. Lyutikova & Sideltsev (2020) suggest that Hittite argument clitics are licensed under the *v*P level, and this is why pronominal clitics correspond to internal arguments exclusively. As for voice restructuring constructions, they can contain subject clitics if and only if the matrix predicate is intransitive. Since the embedded verb is represented by a VP, and this VP in its turn is the internal argument of the matrix verb, the arguments of the embedded verb are below the clitic-licensing head of the matrix clause, and therefore are licensed as subject clitics in intransitive configurations (49) and as object clitics in transitive configurations (50). In (49 a-c) the subject clitic -aš is common gender and unambiguously nomina-

tive; in (49 d) it is neuter *-at*, ambiguous between nominative and accusative, but in the context it can only be interpreted as nominative.

- (49) a. *n=aš* *pedi=šši* *INA KUR*  
 CONN=it.NOM.SG.C place.LOC.SG=his.LOC.SG in land  
<sup>URU</sup>*Kummanni* [(INA)] *É.DINGIR-LIM piya-uwanzi*  
 Kummanni in temple send-INF  
*SIXSÁ-at*  
 establish-3SG.PST.MED  
 ‘It was established to send to Kummanni to the temple in his  
 place’ = ‘It was established to be sent’ (NH/NS  
 (CTH 486.C) KBo 4.2 rev. iii 52–3 following S. Görke (ed.),  
 hethiter.net/: CTH 486 (TX 15.12.2015, TRde 17.07.2015))
- b. *n=aš* *INA* <sup>URU</sup>*Zithara pēdu-manz[i SIXSÁ-at]*  
 CONN=he in Zithara bring-INF establish-3SG.PST.MED  
 ‘He was designated by oracle for transportation to Zithara’  
 (NH/NS (CTH 570.1) KUB 5.6+ obv. ii 71’–2’ following  
 Beckman, Bryce & Cline 2011: 194)
- c. [*m*]*ānn=a=aš=mu* *INA* <sup>URU</sup>*Neriqqa 1-edani pid-i*  
 if=and=he=me to Neriq single.LOC.SG place-LOC.SG  
*DÜ-wanzi SIXSÁ-ri*  
 do-INF establish-3SG.PRS.MED  
 ‘And if it is determined for me to celebrate (that) in that very  
 place, ...’  
 (NH/NS (CTH 590) KUB 48.119  
 obv.<sup>?</sup> 7’ following de Roos 2007: 209)
- d. *INA* *É.GAL-LIM=at=kan punušš-uwanzi EGIR-pa*  
 in palace=it=LOCP ask-INF back  
*GAR-ri*  
 lie-3SG.PRS.MED  
 ‘It still remains to inquire about it at the palace’ = ‘it still  
 remains to be inquired at the palace’, lit. ‘lies back to inquire’  
 (NH/NS (CTH 530) KUB 57.108+ obv. ii 15’  
 following Hazenbos 2003: 104)
- e. [*tu*]*hš-uwanzi=war=aš=ša[n] karū*  
 harvest-INF=QUOT=it.NOM.PL.C=LOCP already  
*ar[-ant-]eš*  
 arrive-PP-NOM.PL.C  
 ‘They are already ripe for harvesting’ (MH/MS (CTH 186)  
 HKM 37 obv. 14–15 following Hoffner 2009: 163)

In (50 a, c-d) the object is unambiguously accusative singular pronoun *-an*, in (50 b) it is *-at*, ambiguous between accusative and nominative, but in the context it can only be accusative.

- (50) a. *mān=an=kan unu-manzi aššanu-an[zi]*  
 when=it=LOCP decorate-INF finish-3PL.PRS  
 ‘When they finish decorating **it**’ (NS (CTH 692.4.A) KUB 27.49  
 rev. iii 23 following [HED \(A: 193\)](#))
- b. *n=at ANA ʰUTU-š=I uw-anna handā-er*  
 CONN=them to majesty=my see-INF arrange-3PL.PST  
 ‘They arranged for His Majesty to consider (literally “see”)  
**them**’  
 (MH/MS (CTH 190) HKM 63 l.e. 20–21 following  
[Hoffner & Melchert 2008: 333](#); [Hoffner 2009: 216](#))
- c. *n=an=za PANI BELÍ=šU išiyahh-uwanzi tarḫu-ir*  
 CONN=him=REFL before lord=his inform-INF can-3PL.PST  
 ‘(The citizens) managed to inform on **him** before his lord’  
 (MH/MS (CTH 789) KBo 32.14 rev. iii 32 following  
[Hoffner 1998: 71](#); [Neu 1996: 87](#))
- d. *mahḫan=ma=an an[īya]-uwanzi zi[nnanzi]*  
 when=but=it do-INF finish.3PL.PRS  
 ‘When they finish doing **it**, ...’ (NH/NS (CTH 277.2)  
 KBo 31.4+ rev. v 26’-27’ following [Dardano 2006: 104–5](#))

The matrix clause in voice restructuring constructions corresponds to the single local domain for binding purposes. Hittite possesses a reflexive clitic *-za*, which is a local domain form in the sense of [Déchaine & Wiltschko \(2015\)](#). Examples in (51) show that the reflexive clitic originating in the embedded VP can be bound by the subject of the matrix verb. Non-reflexive argument clitics, on the other hand, require disjoint reference with the matrix subject, cf. (52).

- (51) a. dative *-za*: ‘take for oneself’
- kwi-ēš=(š)maš=za* LÚ.MEŠ APIN.LÁ  
 which-NOM.PL.C=YOU.DAT.PL=REFL plowmen  
 LÚ.MEŠ NU.GIŠ KIRI<sub>6</sub>.GEŠTIN LÚ.MEŠ NU.GIŠ MÚ.SAR MUNUS<sup>MEŠ</sup> NA<sup>4</sup>ARA<sub>5</sub>  
 vinedressers gardeners women grindstone  
*da-nna šanḫiškanzi*  
 take-INF seek.IMPF.3PL.PRS

‘Others wish to take for **themselves** your plowmen,  
vinedressers, gardeners and grinding-women’  
(NS (CTH 377.B) KUB 24.2 rev. 9’-10’ following  
Singer 2002: 56; E. Rieken et al., (ed.), hethiter.net/:  
CTH 377 (TX 2017-10-04, TRde 2017-10-04))

b. dative *-za*: ‘take for oneself’

*da-nna=ma=za lē ilaliya-ši*  
take-INF=but=REFL PROHIB wish-2SG.PRS  
‘You shall not desire to take (her) sexually’ (NH/NS (CTH  
42.A)  
KBo 5.3+ rev. iii 38 following Beckman 1996: 27–8; G. Wilhelm  
(ed.), hethiter.net/: CTH 42 (TX 26.07.2013, TRder 19.02.2014))

c. accusative *-za*: ‘wash oneself’

1. *nu=za warap-zi*  
CONN=REFL wash-3SG.PRS
2. *maḥḥan=ma=za=kan warp-uanzi ašnu-anzi*  
when=but=REFL=LOCP wash-INF finish-3PL.PRS  
‘(1) He washes himself. (2) When he finishes washing  
**himself**, ...’ (MH/MS (CTH 777.Tf10.2.A)  
KUB 29.8 obv. ii 13–14 following Haas 1984: 90)

- (52) *n[(=an=za=an ABU=YA)] zaḥḥiya-uwanzi=pat*  
CONN=him=REFL=him father=my fight-INF=FOC  
*ēp-zi*  
take-3SG.PRS  
‘My father started fighting against **him**’ (NH/NS (CTH 40.II.3.G)  
KUB 19.18 obv. i 25’–26’ following del Monte 2008: 22)

To sum up, voice restructuring constructions exhibit full integration of the embedded material into the matrix clause. However, as we will see in the next section, size restructuring infinitives, which project only reduced functional structure, do not form a clause-level boundary either. Therefore, it is essential to provide diagnostics other than case marking and agreement that enable us to distinguish between voice restructuring and size restructuring infinitives.

Such diagnostics can be provided by the restrictions on the embedded verb. Wurmbrand (1998, 2001, 2002) observes that there is a one-way correlation between voice restructuring and obligatory control:<sup>10</sup> voice restructuring configurations are only compatible with obligatory control, whereas, in

<sup>10</sup> It is significant that, for Wurmbrand, obligatory control implies exhaustive control; consequently, availability of partial or shared control as well as control shift is a hallmark of non-

the absence of voice restructuring, both obligatory control and non-obligatory control options are available. The reason for this correlation is the absence of PRO in voice restructuring configurations and its presence in larger structures involving infinitives. PRO can receive various interpretations — arbitrary, non-exhaustive or exhaustive — in various ways (see Landau 2015 for a persuasive account), and this is why infinitival phrases containing PRO are more flexible with respect to the type of control. In the absence of PRO, however, the implied external argument of the infinitive coincides with the controller in the matrix clause. In this way, the obligatory exhaustive control interpretation emerges in voice restructuring configurations.

Since restructuring matrix verbs involve exhaustive control, they are only compatible with embedded verbs implying the external argument. This is exactly the case in Hittite: all the examples of voice restructuring in our corpus contain transitive embedded verbs. In section 4, we will show that voice restructuring constructions can involve unaccusative construal of the embedded infinitive, and lack obligatory control.

The obligatory transitivity of the embedded verb under voice restructuring is further manifested in the interpretation of VPs projected by otherwise unaccusative verbs. The crucial examples are in (53).

The examples in (53) contain clauses headed by the restructuring verbs *zinna-* ‘finish’ and *ḫandaye-* ‘prepare, arrange, determine’ which embed infinitival phrases headed by the unaccusative verb *eš-* ‘sit’. Remarkably, the construction is understood as if the embedded verb were the causative *ašeš-* ‘make sit, seat, set, put, settle, establish, install’.

- (53) a. GIM-*an=ma* DINGIR-LUM *aš-anna* *zinn[anzi]*  
 when=but god **sit-*INF*** finish.3PL.PRS  
 ‘But when they are finished **installing** the deity’  
 (NS (CTH 456.4.A) KUB 7.13 rev. 13 following Ose 1944: 74;  
 HED (A: 209); Sideltsev 2007: 617 fn. 21; F. Fuscagni (ed.),  
 hethiter.net/: CTH 456.4.1 (TX 01.12.2015, TRde 24.08.2015).  
 Cf. differently and less likely Kammenhuber 1954: 250 and  
 HW2 (E: 113a): “Sobald aber der Gott aufhö[rt] sich zu  
 setzen”, see F. Fuscagni (ed.), hethiter.net/: CTH 456.4.1  
 (TX 01.12.2015, TRde 24.08.2015 n. 20))

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obligatory control. This is in contrast with Landau’s (2000, 2003, 2008, 2013, 2015) approach where non-exhaustive control (which signals the logophoric “route” of control) is subsumed under obligatory control.

- b. 1. *n=aš=mu kun-anna si×sá-at*  
 CONN=she=me kill-INF determine-3SG.PST.MED
2. *katta aš-anna=ya=aš=mu si×sá-at*  
 down sit-INF=and=she=me determine-3SG.PST.MED  
 ‘(1) It was determined by oracle for me that she should be put to death (2) and it was determined for me that she **be deposed**’  
 (NH/NS (CTH 70.1.A.A) KUB  
 14.4 obv. ii 7’-8’ following Miller 2014: 530)
- c. 1. *n=aš katta aš-anna kuit si×sá-at*  
 CONN=she down sit-INF as determine-3SG.PST.MED
2. *n=an katta ašaš-ḥun*  
 CONN=her down seat-1SG.PST  
 ‘(1) And since it was determined that she **be deposed**, (2) I deposed her’  
 (NH/NS (CTH 70.1.A.A) KUB  
 14.4 obv. ii 10’-11’ following Miller 2014: 530)

Hittitological treatment of this pattern is to assume that infinitives from intransitive verbs can occasionally function cross-diathetically as *quasi* “mediopassive” infinitives of transitive verbs, e.g. “*ašanna* (= from the intransitive *eš-* ‘sit’) can occasionally function cross-diathetically as a quasi ‘mediopassive’ infinitive of *ašaš-* (= ‘be seated, be set’)” (HED A: 209). In other words, the standard analysis proposed in the literature involves the causative-inchoative alternation. However, this transitivity alternation is exhibited by the infinitive form exclusively (cf. (53 c), which looks suspicious.

Yet, this “causative coercion” (Lyutikova & Tatevosov 2015) is exactly what we should expect under the voice restructuring analysis. Indeed, the VP selected by the restructuring verb can be spelled out not only by the transitive, but also by the unaccusative stem, since it suits for insertion into the V node as well.<sup>11</sup> At the same time, the voice restructuring configuration is interpreted as involving obligatory control, and this is why the unaccusative infinitive functions as its transitive counterpart.

Unaccusative infinitives functioning as transitive ones in voice restructuring configurations is a challenge for a more recent implementation of voice restructuring analysis in Wurmbrand & Shimamura (2017). Specifically, the authors assume that it is a special Voice<sub>R</sub> head dominating the standard *v*P associated with the embedded verb that gives rise to voice restructuring. Since *v* is the locus of transitivity encoding, unaccusative and transitive verbs differ as to their *v* heads (e.g. *v*<sub>INTR</sub> and *v*<sub>TR</sub>). Consequently, the unaccusative

<sup>11</sup> We do not intend to delve into the issue of feature specification of lexical items and their competition for insertion into syntactic nodes and leave this for future research.



ture, which includes at least the higher thematic layer — *v*P. Demonstrating that the infinitive hosts the full argument structure of a verb is enough for our purpose of distinguishing voice restructuring from other configurations; we leave the precise characterization of these configurations for future research. However, we will contribute to this characterization by providing evidence for a significant reduction of clausal functional structure compatible with the size restructuring analysis.

First, the configuration cannot involve voice restructuring if the matrix predicate cannot be the source of structural accusative case for the direct object of the infinitive. This situation occurs if either the matrix predicate is intransitive or it is transitive but assigns the accusative to its own nominal argument.<sup>12</sup> Yet another option is that the infinitival phrase is the subject of the copular construction. Let us illustrate these cases with specific examples.

Unfortunately, our corpus attests only a couple of examples where the transitive infinitive is embedded under an intransitive matrix verb and the direct object of the infinitive is definitely accusative. This is to be expected in view of the fact that Akkadograms are often unmarked for case, and most pronominal arguments as well as neuter nominals exhibit NOM-ACC syncretism. Our example of this kind is (55). The matrix verb *handalliye-* ‘dare’ is not attested in the passive form either with the infinitival or the nominal argument, neither is it found with the accusative direct object (‘He dares it’). Therefore we conclude that it should be characterized as intransitive. In (55), however, the infinitive’s direct object is accusative. This can only be the case if the infinitival phrase has its own source of structural accusative, that is, no voice restructuring occurs in this configuration.

- (55) *nu=mu=za*      *namma*    UD.KAM<sup>HI.A</sup>    *zahhiya-uwanz[i]*    *ul*  
 CONN=ME=REFL    then    days      fight-INF      NEG  
 [*kuwatqa*]    *handalliyēr*  
 somehow    dare.3PL.PST

‘They no longer **dared** to wage battle against me in daytime’

(NH/NS (CTH 61.II.5.B) KBo 4.4+ iii 62–3  
 following HED (H: 108); Goetze 1933: 132–3)

<sup>12</sup> In the Hittite clause, at most one structural accusative can be licensed. This statement is supported by broad evidence; we will only mention a few arguments. First, in ditransitive constructions, the indirect object receives a specialized encoding (dative). Second, if the ditransitive verb is passivized, no accusative is licensed. Third, the cooccurrence of two objects in ditransitive configurations is subject to the Person Case Constraint (Lyutikova & Sideltsev 2020), which has been argued extensively to result from the competition of two arguments for case licensing (see e.g. Rezac 2011 for a collection of supporting evidence). Based on these facts, we conclude that if the matrix nominal argument is assigned accusative, there is no more source of accusative in the matrix clause for the embedded object.

Examples with transitive matrix predicates selecting for a direct object DP are more numerous. Some of them are shown in (56 a-d).

- (56) a. *nu* <sup>ŠA</sup> <sup>KUR</sup> <sup>URU</sup> *Hatti* <sup>DINGIR</sup><sup>MEŠ</sup> *antuhšušš=[a]*  
 CONN of land Hatti gods man.ACC.PL.C=and  
*ēšhar* *iya-uwanna* *halzi-šš-anzi*  
 blood.ACC.SG.N make-INF call-IMP3PL.PRS  
 ‘(The Kaskaeans) **call** the gods and men of the Hatti land to make blood’ (NS (CTH 422.A) KUB 4.1 obv. ii 19–20 following F. Fuscagni (ed.), hethiter.net/: CTH 422 (INTR 2016-08-04))
- b. *n=an=kan* *kāšma* <sup>ŠA</sup> *ABI=ŠU* <sup>DINGIR</sup><sup>MEŠ</sup> *iya-wanzi*  
 CONN=him=LOCP PERF of father=his gods do-INF  
*parā ne-ḥḥun*  
 out turn-1SG.PST  
 ‘I have just **sent** him (back to Hatti) to worship his ancestral gods’ (NH/NS (CTH 202) KBo 18.15 8-11 following Hoffner 2009: 322)
- c. *n=an=kan* <sup>ANA</sup> <sup>ÉRIN</sup><sup>MEŠ</sup> <sup>ŠA</sup> *KU* [(<sup>R</sup> *UGU-TI*  
 CONN=him=LOCP to troops of land upper  
*ni*)] *nink-uwanzi weria-t*  
 mobilize-INF call-3SG.PST  
 ‘And he **called** him to mobilize the troops of the Upper Land’ (NH/NS (CTH 81.L) KUB 1.9 rev. iii 10–12 following CHD (L-N: 440)).
- d. <sup>D</sup> *Anu-š=ma=tta* <sup>DEN.LÍL</sup> *ašš=a*  
 Anu-NOM.SG.C=but=you Enlil-NOM.SG.C=and  
*šargawann-i* *ḥanda* <sup>ANA</sup> <sup>LÚ</sup><sup>MEŠ</sup> *KÚR=ŠUNU*  
 mightiness-LOC.SG on.account.of to enemies=their  
*wemiya-uwanzi tuk* *wātarnahḥ-er*  
 find-INF YOU.DAT/ACC.SG entrust-3PL.PST  
 ‘Anu and Enlil **commissioned** you, on account of your eminence to find their enemies’ (MH/MS (CTH 313) KBo 3.21 obv. ii 12–13 following Hoffner & Melchert 2008: 333; CHD (Š: 265))

In (56 a), the matrix verb *halziššanzi* ‘they call’ has its own direct object <sup>ŠA</sup> <sup>KUR</sup> <sup>URU</sup> *HATTI* <sup>DINGIR</sup><sup>MEŠ</sup> *antuhšušš=[a]* ‘the gods and men of Hatti’ which is marked as ACC.PL.C on the phonetically written nominal *antuhšušš* ‘men’. The infinitive *iya-uwanna* has a different direct object — *ēšhar* ‘blood’. (56 b) provides a further example of that kind. Here the matrix verb *neḥḥun* ‘I sent’ is used with the accusative personal enclitic *-an* ‘him’. The infinitive has <sup>ŠA</sup> *ABI=ŠU* <sup>DINGIR</sup><sup>MEŠ</sup>

‘gods of his father’ as the direct object. Similarly, in (56c) the matrix verb *weriat* ‘called’ is again used with accusative personal enclitic *-an* ‘him’. The infinitive *nininkuwanzi* ‘mobilize’ has its own direct object instantiated by a prepositional dative nominal *ANA ÉRIN<sup>MEŠ</sup> ŠA KU[(R UGU-TI* ‘the troops of the Upper Land’.<sup>13</sup> The same holds good for example (56d): here, too, the matrix verb projects its own direct object — the 2sg personal pronoun *tuk*; the infinitive’s direct object is again instantiated by dative *ANA LÚ<sup>MEŠ</sup> KÚR=ŠUNU* ‘their enemies’.

Finally, if the matrix predicate is non-verbal, there is no source of the accusative case for the infinitive’s object, either. The examples of this type include copular constructions with the predicative adjective (*natta*) *ara* ‘is (not) right’ (57a) and the predicative noun *zi* ‘is (someone’s) wish’ (57b).

- (57) a. *apēniššuwān*                      *uttar*                                      *ammuk*  
 such.ACC/NOM.SG.N    matter.ACC/NOM.SG.N    me.DAT/ACC  
*m[en]ahh[anda]*    *ammel*    UD<sup>H.A</sup>-*aš*                      EGIR-*pa*  
 against                      my                      days-LOC.PL                      again  
*huittiya-uwanz[i]*    *ul*    *arān*  
 draw-INF                      NEG                      right  
 ‘It is **not permitted** to reopen such a case against me in my  
 reign’                      (NH/INS (CTH 383.1.A) KUB 21.19+ obv. ii 19–20  
    following Cohen 2002: 12; Singer 2002: 99, 109 n. 1;  
    E. Rieken et al. (ed.), hethiter.net/: CTH 383.1  
    (TX 2015-08-28, TRde 2017-12-09))

13 Dative marking of the infinitive’s direct object is attested in Hittite, see Melchert (2012), Hoffner & Melchert (2008: 333), Sideltsev (2020); see (i) for dative marking of the direct object of the infinitive vs. (ii) for accusative marking of the direct object of the finite form of the same verb:

- (i) *nu=wa=šša[n]*                      *hannešnann-i*                      [*h*]ann-uwanzi    *ul*    *tarra-tta*  
 CONN=QUOT=LOCP    judgment-DAT.SG    judge-INF                      NEG    can-2SG.PRS  
 ‘So you have not been able to render judgment **concerning law cases**’  
    (MH/NS (CTH 258.1.A) KUB 13.9+ obv. i 7–8)
- (ii) *nu*                      *ša UR.ZÍR*    [*š*]<sub>A</sub>    *šaḪ*    *hanneššar*                      *zik*                      [*ha*]nna-tta  
 CONN    of    dog                      of                      pig    judgment.ACC.SG.N    you.NOM.SG    judge-2SG.PRS.MED  
 ‘**Judgment** on dog and on pig you pass’  
    (MH/MS (CTH 374.A) KUB 31.135+ obv. 10)

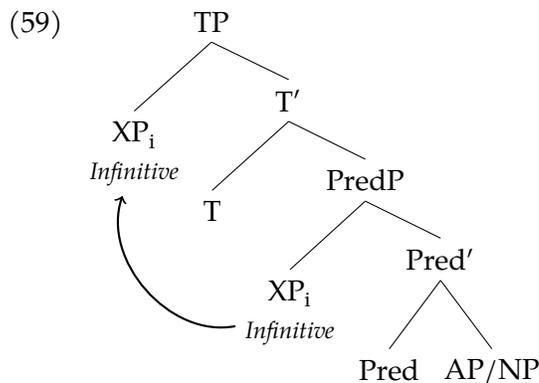
It should be emphasized that this differential encoding does not affect the direct object’s syntactic status and varies regularly with the canonical accusative encoding. To put it differently, dative marking of the infinitive’s direct object is only available in the configuration where the structural accusative is licensed. Consequently, we consider the dative encoding of the infinitive’s direct object as a surface realization of syntactic accusative case.

- b. *nu mān tuk dā-uwanzi kuitki*  
 CONN if YOU.DAT/LOC take-INF something.ACC.SG.N  
 z[I=κ(A)]  
 wish=your  
 ‘If you want to take anything, ...’, lit. ‘if it is a **wish** for you to  
 take anything’ (NH/NS (CTH 62.A) KBo 5.9 rev. iii 26  
 following Beckman 1996: 58; G. Wilhelm, F. Fuscagni (ed.),  
 hethiter.net/: CTH 62 (TX 16.10.2013, TRde 15.10.2013))

The examples in (57) allow for at least two structural interpretations. First, it is possible that the infinitive is the internal argument of the non-verbal lexical category (adjective and noun, respectively), and then raises to the subject position, as in the English examples (58 a-b).

- (58) a. *It is [important [to get enough sleep]].*  
 b. *[To get enough sleep]<sub>i</sub> is [important t<sub>i</sub>].*

Secondly, one could suppose that the infinitive is the external argument of the PredP where the adjective/noun is a complement, as represented in (59):



Both structures are suitable to host non-voice-restructuring infinitives, as neither of them contains an accusative case assigner. We are not inclined to make a definitive decision here, but we lean towards the first option. The reasons for this are as follows. If the infinitival phrase is generated as the internal argument of the non-verbal predicate, it would be transparent for extraction. If, on the other hand, it is merged as a specifier of the PredP, extraction out of it would be excluded by CED. Still, in (57b) we observe the indefinite pronoun *kuitki* ‘something’ extracted out of the infinitive phrase to the lower preverbal position (Spec, FP; see (41)). Therefore, the analysis based on the internal argument position of the infinitive would be preferable.

Moreover, our corpus contains one example of the infinitive embedded under the predicative noun *zi* ‘wish’ that shows case marking characteristic of voice restructuring (60). Here *URU-LUM kuiš našma AŠRU kuitki* ‘some city or place’, which has originated as a direct object of *pai-* ‘give’, is overtly marked as nominative.

- (60) *mān URU-LUM kui-š                      našma AŠRU kuitki*  
 if    city            which-NOM.SG.C    or    place    some.NOM.SG.N  
*ANA mUlmi-DU-up LUGAL KUR URU DU-tašša piy-anna UL*  
 to    Ulmitessup    king    land    Tarhuntassa    give-INF    NEG  
*zi-anza*  
 wish.NOM.SG.C

‘If it is not (His Majesty’s) wish to give **some village or place** to Ulmi-Teššup, ...’, lit. ‘If **some village or place** is not the wish to give to Ulmi-Teššup’ (NH/NS (CTH 106.II.2) KBo 4.10+ rev. 18 following Hoffner & Melchert 2008: 334, cf. van den Hout 1995: 46–7, cf. also “if some city or place to be given to Ulmitešup (is) not the desire (of the king) ...” Holland 2011: 77)

If this example is not a scribal mistake, then the underlying structure should ensure the option for lexical voice restructuring and the possibility for the direct object to undergo A-movement to the matrix subject position. Obviously, this derivation is only available if the infinitive is an argument of a lexical, not functional, head, and occupies a complement, not specifier, position. Both conditions are met if the infinitive is the internal argument of a lexical category, which strongly supports the first option.

To recap, the infinitival configurations without voice restructuring can be identified in Hittite on the base of case-assigning properties of the matrix and embedded predicates. However, this is not the only way to pinpoint them. Another option is to rely on semantic properties of the infinitival construction. Since voice restructuring produces obligatory control structures, the embedded eventuality should be conceived as involving the external argument, and this argument should be subcategorized by the matrix predicate as well. The deviation from this template is thus a hallmark of the absence of voice restructuring.

This is the pattern we observe with the matrix verb *tarna-* ‘let’. It is transitive, as it appears with accusative nominal objects (61) and undergoes passivization (62). In (61 a) the object is the enclitic pronoun *-an* ‘him’ and in (61 b) it is the stressed pronoun *apūn* ‘that’. In (62) the verb is in the shape of a participle *tarnanza* plus zero copula.

- (61) a. *mān=an=za=kan*                      *anda=ma tarnatteni*  
 if=him.ACC.SG=REFL=LOCP in=but let.2PL.PRS  
 ‘But if you let **him** in, ...’  
 (MH/MS (CTH 138.1) KUB 13.27+ rev. 30’-31’)
- b. *nu=za=kan*                      *URU-r-i*                      *šarā apūn*                      *tarna-i*  
 CONN=REFL=LOCP TOWN-LOC.SG up that.ACC.SG let-3SG.PRS  
 ‘But (if) he lets **that** (person) (come) up into his city’ (MH/MS  
 (CTH 146) KUB 23.72+ obv. 34’ following [CHD](#) (Š: 219))
- (62) *našma* *INA* *é=šu*                      *kuiški*                      *tarnanza*  
 or in house=his someone.NOM.SG.C let.PP.NOM.SG.C  
 ‘Or someone has been permitted (to go) to his house’  
 (MH/MS (CTH 262) IBoT 1.36 obv. i 13, cf. Miller 2013: 102–3)

As a matrix verb, *tarna-* ‘let’ produces an ECM/raising configuration.<sup>14</sup> The evidence comes from the fact that *tarna-* ‘let’ does not select for obligatory control infinitives but is compatible with various types of infinitival complements including unaccusative infinitives. This is shown in (63). In (63 a-b), unergative verbs are embedded under *tarna-* ‘let’, and the examples are compatible with both ECM/raising (‘They let [her enter]’) and control (‘They let her<sub>i</sub> [PRO<sub>i</sub> enter]’) construals. In (63 c), on the contrary, the embedded infinitive is unaccusative, and its subject cannot be controlled out of the matrix clause. Therefore, the only option that remains is that *tarna-* ‘let’ produces an ECM/raising configuration.

- (63) a. *nu*    *namma ki-ēl*                      *šA* *KUR.KUR<sup>TIM</sup>*    *LÚ<sup>MEŠ</sup> TEMI*  
 CONN then this-GEN.SG of lands messengers  
*ÉRIN<sup>MEŠ</sup>=ya* *ki-ēl*                      *šA* *KUR.KUR<sup>TIM</sup>*    *MAḪAR* *<sup>D</sup>UTU-š=I*  
 troops=and this-GEN.SG of lands before majesty=my  
*uwa-wanzi* *UL*    *tarna-i*  
 come-INF NEG let-3SG.PRS  
 ‘And furthermore he did not **allow** the messengers of these  
 lands and the troops of these lands to come before My Majesty’  
 (MH/MS (CTH 147) KUB 14.1+ rev. 31  
 following [Beckman 1996](#): 149)

<sup>14</sup> We do not see any way to differentiate between ECM and raising analyses for Hittite, since in all the examples available the infinitive’s subject is positioned at the left edge of the infinitival phrase.

- b. *n=ašta wē-ški-uwanzi anda tarnan[zi]*  
 CONN=LOCP wail-IMPf-INF in let.3PL.PRS  
 ‘They **le[t]** (the t.-women) enter in for wailing’ (OH/NS (CTH 450.1.A.Tg02) KUB 30.18+ rev. iv 10’ following M. Kapelaš (ed.), *hethiter.net*/: CTH 450.1.1.1 (TX 17.08.2011. TRen 17.08.2011); [Kassian, Korolev & Sideltsev 2002](#): 150–1)
- c. *ḫarganna=at :zantalanuna=ya lē tarnā-zi*  
 perish.INF=them be.demoted.INF=and NEG let-3SG.PRS  
 ‘They shall not **allow** them to perish or be demoted’  
 (NH/INS (CTH 106.A.1) Bo 86/299 obv. ii 71  
 following [Beckman 1996](#): 113; [Otten 1988](#): 18–19)<sup>15</sup>

It is instructive to compare (63c) with (53)-(54). Under voice restructuring in (53)-(54), unaccusative infinitives undergo “causative coercion” and are interpreted as transitive control infinitives. In the ECM/raising configuration of (63c), no coercion is involved in the interpretation of the infinitival phrase.

Another characteristic property of ECM/raising predicates is that under passivization they promote the infinitive’s subject to the matrix subject, as demonstrated in (64) for Hittite. Although the nominal <sup>L</sup>TEMU ‘messenger’ is written accadographically and unmarked for case, the fact that the participle *tarnanza* is NOM.SG.C unambiguously means that it is also NOM.SG.C and the participle agrees with it. It is worth noticing that voice restructuring matrix verbs also undergo passivization, but the promoted argument is then the infinitive’s object, not its subject.

- (64) *mān <sup>L</sup>TEMU=ma uwanzi<sup>16</sup> ul tarnanza*  
 if messenger=but come.INF<sup>1</sup> NEG let.PR.NOM.SG.C  
 ‘If the **messenger** is not allowed to come, ...’  
 (NH/NS (68.C) KBo 5.13 rev. iii 15–16  
 following [Friedrich 1926](#): 126–7, cf. [Beckman 1996](#): 73)

Finally, the third type of configuration embedding infinitival phrases where voice restructuring is not attested is provided by purpose constructions with verbs of motion. They involve both intransitive verbs of motion, *pai-* ‘go’, *uwa-* ‘come’, *tiye-* ‘step’, *nanna-* ‘drive’ in (65), and transitive verbs denoting causation of motion in (66), *pēḫute-* ‘bring’, *ḫūinu-* ‘make run’.

15 *-at* ‘them’ is in Hittite ACC.PL/SG.N referring back to the neuter singular noun NUMUN ‘progeny’.

16 The copy here has a mistake. Ex. A 11 has the expected correct form *uwauwanzi*.

## (65) intransitive motion verbs

- a. *nu=za=kan*      *INA KUR*      <sup>URU</sup>*Hatti kui-n*  
 CONN=REFL=LOCP in land Hatti which-ACC.SG.C  
<sup>URU</sup>*-an walh[-uwanzi pai-zz]i*  
 city-ACC.SG.C strike-INF go-3SG.PRS  
 ‘The city in the land of Hatti that he **goes** to attack’  
 (MH/MS (CTH 138.1) KUB 23.77+ obv. 36’)
- b. *LUGAL-u-š*      <sup>URU</sup>*Hattuša*      *DINGIR*<sup>DIDL</sup>*-uš ar-uwanzi*  
 king-NOM.SG.C Hattusa gods-ACC.PL.C worship-INF  
*uē-t*  
 come-3SG.PST  
 ‘The king **came** back to Hattusa to venerate the gods’ (OH/MS  
 (CTH 3.1.A) KBo 22.2 rev. 13 following Otten 1973: 12–13)
- c. *mān*      *DINGIR*<sup>MEŠ</sup>      [(*ak*)]*uw-[(a)nna] tiyē-zz[(i)]*  
 if gods drink-INF step-3SG.PRS  
 ‘When he **steps** to drink the god, ...’  
 (NS (CTH 701.b.VII.A) KBo 23.42+ rev. iv 10’-11’  
 following Salvini & Wegner 1986: 140–1)
- d. *mān zēn-i*      *šuppi-š*      <sup>LÚ</sup>*SANGA*      [<sup>URU</sup>*Zippal]anda*  
 if autumn-LOC.SG pure-NOM.SG.C priest Zippalanda  
<sup>MU</sup>*-t-i*      <<MU>>      *INA É=šU*      [<sup>DUG</sup>*haršiyal]li*  
 year-LOC.SG year in house=his vessel.ACC.SG.N  
*kinu-manzi nanna-i*  
 open-INF drive-3SG.PRS  
 ‘When in autumn, once a year, the pure priest **drives** to  
 Zippalanda to open a sacrificial vessel, ...’  
 (NH/NS (CTH 276.11) KUB 30.60 obv. l. col. 30’-2’  
 following Dardano 2006: 75–76)

## (66) transitive motion verbs

- a. <sup>D</sup>*LAMMA-ašš=a*      *kue*      *KARAŠ*<sup>HI.A</sup>      *INA KUR*      <sup>URU</sup>*Nuhašši*  
 LAMMA-NOM.SG.C=and which troops in land Nuhasi  
<sup>HI.A</sup>*halki-uš*      *harnink-uwanzi pēhudan*      *har-ta*  
 crops-ACC.PL.C destroy-INF bring.PP.NOM.SG.N have-3SG.PST  
 ‘And which troops <sup>D</sup>LAMMA **brought** to the Nuhasi land to  
 destroy crops ...’  
 (NH/NS (CTH 61.II.5.B) KBo 4.4+ obv. ii 63-64  
 following Goetze 1933: 132)

- b. *piran=ma* <sup>LÚ.MEŠ</sup><sub>NAR</sub> *išhamiya-uwanzi* <sup>D</sup>*IŠTAR.LÍL=pat*  
 before=but singers sing-INF Sausga.field=FOC  
<sup>D</sup>*Ninatta* <sup>D</sup>*Kulitta* *pantani* *hūi-nu-škanzi*  
 Ninatta Kulitta p. run-CAUS-IMPF.3PL.PRS  
 ‘They **make** the singers **run** in front to sing Sausga of the Field,  
 Ninatta, Kulita and the right-hand weapon of Sausga’  
 (NS (CTH 712.A) KUB 27.1 rev. iv 12–14  
 following [Wegner 1995](#): 50, 53)

It is clear that intransitive verbs of motion cannot assign accusative case to the infinitive’s object; transitive verbs of motion license their own direct object and cannot be a source of accusative case for the infinitive’s object, either. In this respect, the verbs of motion pattern with other intransitive matrix predicates and transitive matrix predicates assigning the accusative case to their own nominal argument, which we have discussed at the beginning of this section. The anticipated property of infinitival constructions with verbs of motion is that purpose infinitives should behave like adjuncts rather than complements. The adjunct status of purpose infinitives would then make restructuring theoretically impossible.

Interestingly, purpose infinitives with verbs of motion exhibit all clause union effects except for long passives, which suggests that they may occupy an argumental position in the matrix clause.<sup>17</sup> This is evidenced by clitic climbing out of the infinitival phrase, cf. (67). In (67a) the matrix verb is intransitive thus it cannot have a direct object; it entails that the enclitic direct object *-at* can only come out of the transitive infinitival phrase. In (67b) the reflexive enclitic particle *-za* is more likely to have originated within the infinitival phrase. Additionally, (67b) contains a *wh*-phrase *INA KUR* <sup>URU</sup>*Hatti kui-n URU-an* ‘which city in the Hatti land’, that should have moved to the matrix preverbal position in order to be interpreted as a relative phrase.

<sup>17</sup> [Wurmbrand \(2001\)](#) argues that, in German, intransitive verbs of motion (*gehen* ‘go’, *kommen* ‘come’) function as semi-functional predicates hosted by Voice/Aspect *v* when they embed infinitives, and produce functional restructuring. In Hittite, however, verbs of motion in the purpose construction project their own arguments and adjuncts (e.g. ‘he returns **to Hattusa** to worship gods’) and in this respect behave like lexical verbs. Moreover, the functional restructuring construction identified for Hittite in section 5 differs significantly from the purpose construction with respect to word order options and combinatorial varieties. For this reason we reject the functional restructuring analysis of the purpose construction with verbs of motion but still assume that it may involve the argumental status of the infinitive.

- (67) a. *n=at wappū-i wappūw-aš* <sup>D</sup>MAḪ-n-i  
 CONN=it bank-LOC.SG bank-GEN.SG mother.goddess-DAT.SG  
*watarnahh-ūwanni pai-zzi*  
 announce-REFL-INF go-3SG.PRS  
 ‘And to the river bank she goes to announce **it** to the mother  
 goddess of the river bank’ (NS (CTH 409.I.A) KUB 7.53+ obv.  
 i 25-6 following [Goetze 1938](#): 6–7, cf. wrongly [Ose 1944](#): 6)
- b. *nu=za=kan INA KUR URUḪatti kui-n*  
 CONN=REFL=LOCP in land Hatti which-ACC.SG.C  
*URU-an walh[-uwanzi pai-zz]i*  
 city-ACC.SG.C strike-REFL-INF go-3SG.PRS  
 ‘The city in the land of Hatti that he goes to attack’  
 (MH/MS (CTH 138.1) KUB 23.77+ obv. 36’)

Importantly, the examples in (67) not only support the argumental status of the purpose infinitive with motion verbs, but also demonstrate the absence of the clausal boundary between the matrix verb and the infinitival phrase. As long as clause union effects are assumed to diagnose reduced functional structure of the embedded infinitival phrase ([Wurmbrand 2014](#)), the corresponding construction should be treated as involving size restructuring. Other configurations presented in this section show clause union effects as well. For instance, clitic climbing out of the infinitival phrase is attested in (59) and (63b,c), and indefinite XP raising in (57b). Accordingly, we characterize them as size restructuring configurations, too; the important issue concerning availability of various degrees of size restructuring in Hittite infinitives is a matter for future research.

As for word order, size restructuring configurations do not differ from voice restructuring, the infinitival phrase occupying the position of the preverb inside the preverbal position (cf. (41)), between preverbal complementizers (67b) and negation (68).

- (68) *nu namma ki-ēl šA KUR.KUR<sup>TIM</sup> LÚ<sup>MEŠ</sup> TEMI*  
 CONN then this-GEN.SG of lands messengers  
*ÉRIN<sup>MEŠ</sup>=ya ki-ēl šA KUR.KUR<sup>TIM</sup> MAḪAR DUTU-š=I*  
 troops=and this-GEN.SG of lands before majesty=my  
*uwa-wanzi UL tar-na-i*  
 come-REFL-INF NEG let-3SG.PRS  
 ‘And furthermore he did not allow the messengers of these lands  
 and the troops of these lands to **come** before My Majesty’  
 (MH/MS (CTH 147) KUB 14.1+ rev. 31  
 following [Beckman 1996](#): 149)

The fact that size restructuring configurations pattern with the voice restructuring ones as to the wide variety of clause union effects except for long passives suggests that the amount of the clausal functional structure projected by size restructuring infinitives is scant and hardly exceeds *vP*/AspP. Embedded size restructuring infinitives cannot host negation but can contain aspectual and causative affixes; cf. (69)-(70). In (69) the infinitive hosts the causative affix *-nin-* whereas in (70) it hosts the imperfective affix *-ške-*:

- (69) <sup>D</sup>LAMMA-*ašš=a*            *kue*    KARAS<sup>HLA</sup> INA KUR    URU *Nuhašši*  
 LAMMA-NOM.SG.C=and which troops    in    land Nuhassi  
*ḫalki<sup>HLA</sup>-uš*    *ḫarnink-uwanzi*    *pēḫudan*            *ḫar-ta*  
 crops-ACC.PL.C perish.CAUS-INF bring.PP.NOM.SG.N have-3SG.PST  
 ‘And which troops <sup>D</sup>LAMMA brought to the Nuhassi land to destroy  
 crops ...’

(NH/NS (CTH 61.II.5.B) KBo 4.4+ obv. ii 63-64  
 following [Goetze 1933](#): 132)

- (70) *n=ašta*            *wē-ški-uwanzi*    *anda*    *tarnan[zi]*  
 CONN=LOCP wail-IMPV-INF in    let.3PL.PRS  
 ‘They le[t] (the t.-women) enter in for wailing’

(OH/NS (CTH 450.1.A.Tg02) KUB 30.18+ rev. iv 10’  
 following M. Kapełuś (ed.), [hethiter.net/](#): CTH 450.1.1.1  
 (TX 17.08.2011. TRen 17.08.2011); [Kassian et al. 2002](#): 150–1)

Given this evidence, we conclude that size restructuring configurations in Hittite are always smaller than NegP,<sup>18</sup> and that we lack structural diagnostics other than those examining presence/absence of the *vP* layer to tell apart voice restructuring and size restructuring configurations.<sup>19</sup>

Yet another possible way to distinguish between voice restructuring and size restructuring control constructions is to rely on semantic properties of control. The key assumption here is that voice restructuring yields exhaustive (obligatory) control, whereas size restructuring is compatible with non-exhaustive control, which can be enforced contextually as partial or split control (see discussion in section 3.3). Below we show several examples that

18 Interestingly, Hittite data do not conform to [Wurmbrand’s \(2014\)](#) hypothesis that size restructuring uniformly affects the A-bar domain of the clause. Size restructuring infinitives are definitely smaller than TP, but at the same time they are larger than voice restructuring infinitives.

19 [Wurmbrand \(2001: 273ff\)](#) proposes non-focus scrambling as an additional diagnostic and shows that it turns out positive for lexical restructuring and negative for reduced non-restructuring configurations. In Hittite, however, both lexical restructuring and reduced non-restructuring configurations allow for the same range of movement operations.

may involve non-obligatory control. In (71), the controlled PRO in the infinitival phrase refers to the troops as well as to the warlord who is leading them, thus apparently instantiating split control. In (72), the embedded verb *lahhiya-* ‘fight, go on campaign’ accompanied by the reflexive clitic *-za* favors the plural argument construal (as in ‘they fought’); if this interpretation is supported in (72), the partial control emerges.

- (71) <sup>D</sup>LAMMA-*ašš=a*            *kue*    KARAŠ<sup>HLA</sup>    INA    KUR    <sup>URU</sup>*Nuhašši*  
 LAMMA-NOM.SG.C=and    which    troops    in    land    Nuhassi  
*ħalki<sup>HLA</sup>-uš*    *ħarnink-uwanzi*    *pēħudan*            *ħar-ta*  
 crops-ACC.PL.C    destroy-INF    bring.PP.NOM.SG.N    have-3SG.PST  
 ‘And which troops <sup>D</sup>LAMMA brought to the Nuhassi land to destroy  
 crops’  
 (NH/NS (CTH 61.II.5.B) KBo 4.4+ obv. ii 63–64  
 following Goetze 1933: 132)

- (72) [(*nu=za*    *kuitman* <sup>mT</sup>)]*udħaliya-š*            LUGAL.GAL    IN[(A    KUR  
 CONN=REFL    while    Tudhaliya-NOM.SG.C    king.great    in    land  
<sup>URU</sup>*Āššuwā*    *lahhiya-uwanzi*)]    *eš-un*  
 Assuwa    go\_on\_campaign-INF    be-1SG.PST  
 ‘While I, the Great King Tudhaliya, was in Assuwa for military  
 operations, ...’  
 (MH/MS (CTH 142.2.B) KUB 23.12 rev. iii 10’–11’ following  
 CHD (L-N: 8), cf. “while I was in A. on campaign” (HED L: 3))

Thus, in this section we have identified size restructuring infinitival constructions. We have shown that they differ systematically from voice restructuring constructions in that the former project the full thematic domain whereas the latter lack their own *vP*. This difference is manifested in mechanisms of case assignment to embedded arguments, possible interpretations of embedded verbs and semantic types of control available in control structures. At the same time, we have found no difference between the two types of configurations with respect to extraction options, which leads to the conclusion that size restructuring infinitives project a highly reduced clausal structure and arguably lack higher functional layers above *vP*/AspP. In the next section we introduce a construction involving functional restructuring. Contrasting it with lexical restructuring, instantiated by voice restructuring and size restructuring configurations, helps to highlight their properties and effectively distinguish between lexical and functional verbs.

## 5 FUNCTIONAL RESTRUCTURING IN INCHOATIVE CONSTRUCTIONS

Hittite inchoative constructions provide a prime example of functional restructuring. They are built by combining the finite form of the verbs *dai-* ‘put’ or *tiya-* ‘step’ with the supine of a lexical verb, as represented in (73).<sup>20</sup>

- (73) a. *nu=za*      *GE<sub>6</sub>-and-aš*      *teš<sup>h</sup>luš*      [EGI(R-*pa* AN)]<sub>A</sub>  
 CONN=REFL night-GEN.SG dream.ACC.PL.C back to  
*AMA=šU*      *memi-ški-uwan dāi-š*  
 mother=his speak-IMPf-SUP put-3SG.PST  
 ‘He **started telling** his mother dreams of the night’  
 (NS (CTH 361.I.1.B) KUB 17.1 obv. ii 15’  
 following E. Rieken et al. (ed.), [hethiter.net/](http://hethiter.net/): CTH 361.I.1  
 (TX 2009-08-31, TRde 2009-08-30))
- b. <sup>URU</sup>*Aš[tat]a-š*      [<sup>URU</sup>*Šukzi*]ya-š      <sup>URU</sup>*Hurpana-š*  
 Astata-NOM.SG Sukziya-NOM.SG Hurpana-NOM.SG  
<sup>URU</sup>*Kargami[š ....-t]i* [... ÉRIN<sup>MEŠ</sup> *pe-šk*]i-uwan *tiyēr*  
 Kargamis troops give-IMPf-SUP step.3PL.PST  
 ‘The cities of Astata, Sukziya, Hurpana, Carchemish troops they  
**began to give**’  
 (OH/NS (CTH 19.II.A) KBo 3.1+ obv. i 36-8 following  
[van den Hout 2003](#): 195; cf. [Hoffmann 1984](#): 20–1)

The resulting structure has the following properties. First, although both *dai-* ‘put’ and *tiya-* ‘step’ select for an agentive external argument as lexical verbs, they impose no restrictions on the semantics of the embedded verb in the inchoative construction. Thus, they are perfectly compatible with non-animate and non-agentive subjects, as (74) demonstrates. In (74 a) the subject is *šumenzan* <sup>GIŠ</sup>TUKUL<sup>HL.A</sup>=*KUNU* ‘your weapon’, in (74 b) – *ki-aš* ‘earth’, in (74 e) – *aši memiaš* ‘this matter’, all clearly non-animate, even though earth is personified. In (74 c) the subject is enclitic pronoun *-aš* with personal reference. In (74 d) the subject is [D(A)]<sub>M</sub> <sup>m</sup>*Appu* ‘Appu’s wife’.

20 Interestingly, an analysis involving functional restructuring has been proposed for Hittite, albeit with respect to another configuration. [Koller \(2015\)](#) analyzes Hittite phraseological constructions containing two finite verbal forms — the clause-final lexical verb and the clause-second motion verbs *pai-* ‘come’ or *uwa-* ‘go’ — as a functional restructuring configuration, although the amount of functional structure associated with the embedded clause in this work is much larger than we suppose it to be in the aspectual inchoative construction. The phraseological constructions studied by Koller differ significantly from the aspectual inchoative construction presented here as to the form of the embedded verb (it is finite) and as to the position of the two verbs in the clause (the aspectual verb appears at the left edge of the clause, and the lexical verb is clause-final).

- (74) a. [nu=w]a ui-zzi šumenzan <sup>GIŠ</sup>TUKUL<sup>HI.A</sup>=KUNU  
 CONN=QUOT come-3SG.PRS your weapon=your  
 [harpa]nalli-uš hullanni-wan dāi  
 enemy-ACC.PL defeat.IMPF-SUP put.3SG.PRS  
 ‘And **your weapon** will start defeating your enemies’  
 (MH/MS (CTH 789) KBo 32.19 rev. iii 41’-42’  
 following Neu 1996: 392–3; Hoffner 1998: 76)
- b. [nu INA] ITU 10<sup>KAM</sup> KI-aš wiwe-ški[-wan  
 CONN in month 10 earth-NOM.SG.C cry-IMPF-SUP  
 dāi-š]  
 put-3SG.PST  
 ‘In the tenth month **the Earth Goddess** began to cry out in  
 labor pains’  
 (NS (CTH 344.A) KUB 33.120+ rev. iv 16’  
 following E. Rieken et al. (ed.), hethiter.net/: CTH 344  
 (TX 2012-06-08, TRde 2009-08-31))
- c. n=aš=za duški-ški-wan dāi-š  
 CONN=he=REFL rejoice-IMPF-SUP put-3SG.PST  
 ‘**He** rejoiced’  
 (NS (CTH 345.I.3.1.A) KUB 33.106+ rev.  
 iv 16’ following Hoffner 1998: 64; E. Rieken et al. (ed.),  
 hethiter.net/: CTH 345.I.3 (TX 2009-08-31, TRde 2009-08-30))
- d. [D(A)]M <sup>m</sup>Appu šumre-ški-wan dāi-š  
 wife Appu be\_pregnant-IMPF-SUP put-3SG.PST  
 ‘**Appu’s wife** became pregnant’  
 (INS (CTH 360.1.A) KUB 24.8+ rev. iii 2’ following  
 Hoffner 1998: 84; E. Rieken et al. (ed.), hethiter.net/:  
 CTH 360.1 (TX 2009-08-31, TRde 2009-08-31))
- e. nu=mu ui-[(t)] aši memiaš  
 CONN=me come-3SG.PST this.NOM.SG.C matter.NOM.SG.C  
 tešhani-ški-uwan tiya-t  
 appear\_in\_dream-IMPF-SUP step-3SG.PST  
 ‘Then **this thing** started to appear to me in dreams’  
 (NH/NS (CTH 486.C) KBo 4.2 rev. iii 46–7  
 following S. Görke (ed.), hethiter.net/:  
 CTH 486 (TX 15.12.2015, TRde 17.07.2015))

Secondly, the distribution of subject clitics in the inchoative construction is fully predetermined by the syntactic class of the embedded verb. Hoffner &

Melchert (2017) convincingly show that subject clitics in the inchoative construction are only attested if the embedded verb is unaccusative and feeds subject clitics in its finite form. (75)-(76) provide the corresponding examples. In (75 a), the unaccusative verb *akk-* ‘die’ licenses the subject clitic in the inchoative construction, exactly as it does in the finite form (75 b). (76) shows the absence of the subject clitic with the unergative verb *tarwaye-* ‘dance’ in both inchoative and finite configurations.

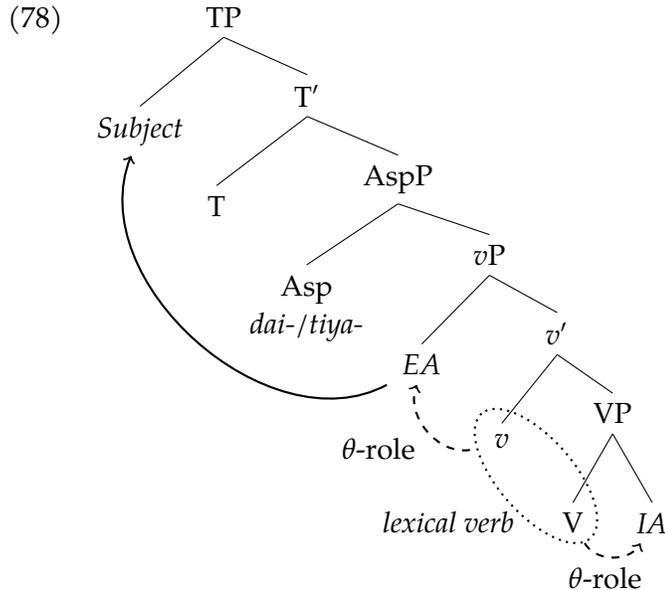
- (75) a. *n=aš*                      *akki-ške-wan da[i-š]*  
 CONN=he.NOM.SG.C    die-IMPF-SUP    put-3SG.PST  
 ‘He began to die’  
 (NH/NS (CTH 378.2.A) KUB 14.8 obv. 28 following  
 Singer 2002: 58; Hoffner & Melchert 2017: 4.  
 Cf. E. Rieken et al. (ed.), hethiter.net/  
 CTH 378.2 (TX 2017-09-07, TRde 2017-10-18))
- b. *aki-š=ma=aš*              *teššauwann-i*  
 die-3SG.PST=but=he    disgrace-LOC.SG  
 ‘But he died in disgrace’  
 (NS (CTH 8.A) KBo 3.34 obv. ii 12  
 following Dardano 1997: 47)
- (76) a. *namma tarwi-ški-wan dāi*  
 then    dance-IMPF-SUP    take.3SG.PRS  
 ‘(He) starts dancing’  
 (OH/NS (CTH 771.1) KUB 25.37+ obv. ii 15’  
 following Starke 1985: 345)
- b. *nu tarwi-skanzi*  
 CONN    dance-IMPF.3PL.PRS  
 ‘(They) dance’  
 (INS (CTH 611.b.A) KBo 4.9 obv. i 43  
 following HEG (T2: 236))

Thirdly, the use of the ergative encoding of the inanimate transitive subject in the inchoative construction mirrors the pattern observed in finite clauses. When a neuter noun functions as the subject of a transitive verb, it obligatorily takes the ergative affix (Hoffner & Melchert 2008: 66). We see this in the examples in (77): in (77 a) involving the inchoative construction the neuter noun *utne* ‘land’ is ergative *utne-ant-eš*, exactly as in the finite clause (77 b), where the neuter noun *idālu* ‘evil’ is (partially logographically written) *ḫUL-uw-anza*:

- (77) a. *kinuna arahzenant-eš udne-ant-eš hūmant-eš* KUR  
 now neighboring-NOM.PL.C lands-ERG-PL all-NOM.PL.C land  
<sup>URU</sup>KÙ.BABBAR-ti [w]al[h]-annieške-uwan dā-er  
 Hatti strike-IMPF-SUP take-3PL.PST  
 ‘But now, **all the surrounding lands** have begun to attack Hatti’  
 (MH/NS (CTH 376.1.A) KUB 24.3+ obv. ii 49’-50’ following  
 Singer 2002: 53; E. Rieken et al. (ed.), hethiter.net/: CTH 376.1  
 (TX 2017-12-02, TRder 2017-10-04))
- b. **ḪUL-uw-anza** mukeššar i[nn]arawatarr=a  
 evil-ERG.SG prayer.ACC.SG.N weakness.ACC.SG.N=and  
 ME-aš  
 take-3SG.PST  
 ‘**Evil** took prayer and weakness’  
 (NH/NS Kp 15/09+ obv. i 42)

Predictably, ergative encoding of the subject in the inchoative construction reflects the incompatibility of the animacy feature of the subject nominal and the agentivity of the embedded, not matrix, verb. (77 a) shows the ergative inanimate subject (*arahzenanteš udneanteš hūmanteš* ‘all the surrounding lands’) in the inchoative construction with the embedded agentive transitive verb *walḫ-* ‘attack’. In (74 e), the inanimate subject *aši memiaš* ‘this matter’ does not receive the ergative encoding, because the embedded verb is unaccusative.

Taken together, these facts strongly suggest that, in the inchoative construction, all the thematic properties of the predicate are provided by the embedded verb. The matrix verb is athematic in that it does not project any nominal argument and does not presuppose any thematic structure of the embedded verb. It is worth noting that both matrix verbs used in the inchoative construction have lost their lexical meaning and structural encoding (in the sense of the l-syntactic approaches of Hale & Keyser 1993, 2002; Ramchand 2008 and similar work). These are properties of functional, not lexical verbs (Cinque 2001). We conclude that, in the inchoative construction, the verbs *dai-* ‘put’ and *tiya-* ‘step’ are functional verbs associated with an aspectual functional projection dominating the *v*P, as represented in (78).



In (78), the structure of the inchoative construction with the transitive embedded verb is sketched. The lexical verb projects the whole argument structure and assigns theta-roles to all the arguments. The  $vP$  is further embedded under the aspectual head instantiated by the functional verb *dai-* 'put' or *tiya-* 'step'. It is not surprising that this aspectual head delimits the inner aspectual properties of the  $vP$  it combines with and selects for imperfective  $vPs$  exclusively: this is why the supine form in the aspectual construction is built from the imperfectivized stem bearing the suffix *-ške-*, unless the verb is inherently imperfective. Crucially, the aspectual head does not affect either theta-marking or case assignment in the inchoative construction: the arguments get theta-licensed by the lexical verb (the internal argument *IA* by *V*, the external argument *EA* by  $v_{TR}$ ) and case-licensed by the clausal functional structure (the direct object by  $v_{TR}$ , the subject by the finite *T*). In this way, the matrix verb appears as transparent for argument licensing processes.

The analysis of the inchoative construction as involving functional restructuring is further supported by the word order pattern. As Lyutikova & Sideltsev (2019) demonstrate, in the inchoative construction, the lexical verb is strictly adjacent to the functional verb. Moreover, the functional verb is incompatible with perfective and passive analytical constructions, which are readily available in lexical voice restructuring and size restructuring configurations. Therefore, aspectual functional verbs are complementarily distributed with auxiliaries and occupy the same linear position. The scheme in (79) shows the position of the lexical and functional verb in the inchoative construction as compared to the position of the embedded and matrix verbs

in infinitival complementation constructions, namely in voice restructuring and size restructuring configurations.

- (79)  $C_{IN} > Mood > [XP_{Rel}] C_{PREV} > (Prev) > Neg > [XP_{Indef/NPI}] F > Adv > (Prev) > V+Caus+Asp > Aux+T$
- a.  $V_{SUP}$  *dai-/tiya-*
- b.  $V_{INF}$   $V_{MATRIX}$

(78) and (79) make further predictions about possible combinations of the inchoative and complementation constructions. Given that the matrix verb in the infinitival complementation construction is a lexical verb, we expect the complementation construction to be freely embedded under the aspectual construction. On the other hand, the aspectual functional verb, being outside the *vP*, might be too high in the structure for the size restructuring infinitive to incorporate it. As for the voice restructuring infinitive, it definitely cannot comprise the aspectual construction, as the former is as small as a bare VP, and the latter is as large as an AspP.

These predictions are borne out. Our corpus lacks examples of aspectual constructions embedded under a lexical matrix verb. On the other hand, voice restructuring and size restructuring configurations embedded under the aspectual functional verb are readily available, cf. (80) where the infinitive *danna* ‘to take’ is embedded under the inchoative construction *šanḫiškiwan dāir* ‘began to seek’.

- (80) *nu=wa tuel šA <sup>P</sup>UTU <sup>URU</sup>Arinna GAŠAN=YA ZAG<sup>HI.A</sup>*  
 CONN=QUOT your of sungod Arinna lady=my territories  
*da-nna šanḫ-iški-wan dā-ir*  
 take-INF seek-IMP-F-SUP take-3PL.PST  
 ‘They began to seek to take your territories, o sungoddess of Arinna,  
 my lady’ (NH/NS (CTH 61.I.A) KBo 3.4+ obv. i 24-25  
 following CHD (Š: 167); Goetze 1933: 22–23)

To recap section 5, we observe that functional restructuring configurations in Hittite (as shown by inchoative constructions) differ drastically from both voice restructuring and size restructuring configurations. The differences include selection of the non-finite form, structural position of the matrix and embedded verb, thematic restrictions on the embedded predicate, and case licensing of the embedded arguments. With functional restructuring all the thematic properties of the predicate are provided by the embedded verb, not by the matrix verb. The matrix verb is athematic in that it does not project any nominal argument and does not presuppose any thematic structure of the embedded verb. It is a functional verb associated with an aspectual functional projection dominating the *vP*. As distinct from lexical restructuring constructions, in functional restructuring configurations the lexical verb is strictly ad-

jacent to the functional verb. Moreover, the functional verb is incompatible with perfective and passive analytical constructions, which are readily available in lexical voice restructuring and size restructuring configurations.

Thus, the properties of the Hittite aspectual construction fit nicely with the profile of functional restructuring as identified by Wurmbrand (1998, 2001, 2004); moreover, the comparison of the aspectual construction and purpose construction with the verbs of motion allows us to soundly reject the functional restructuring analysis for the latter.

## 6 CONCLUSIONS

In this paper we examined voice-related properties of Hittite infinitives. In contrast with the standard Hittitological assumption that Hittite infinitives can instantiate both active and passive functional structure, we argue that voice ambiguity in Hittite infinitives is epiphenomenal. We present evidence for the claim that Hittite non-finite constructions are interpretationally ambiguous as to voice only if they possess no voice-related head, that is, are structurally voice-neutral rather than voice-ambiguous. In this respect, voice restructuring infinitives contrast consistently with other non-finite configurations — size restructuring infinitives and supines.

In voice restructuring infinitives, we find no evidence of the embedded *v*P, be it active (transitive) or passive (intransitive). Not only is the case feature of the infinitive's object dependent on the functional structure of the matrix clause; moreover, the causative interpretation of the unaccusative verb is imposed by the obligatory control condition on lexical restructuring.

On the other hand, in size restructuring infinitives structure reduction affecting higher functional projections of the clause takes place, but the functional head encoding the (active) voice feature is present. In supine inchoative constructions, an essentially different type of restructuring, namely functional restructuring, is attested: the matrix verb is a functional verb associated with an aspectual functional projection dominating the *v*P. Accordingly, all the thematic properties of the predicate are provided by the embedded verb, not by the matrix verb.

Thus, the choice between two approaches to the analysis of voice neutrality – syncretism of the voice forms or lack of the voice head – can be made on the basis of the external grammatical context where the form in question can appear. Whenever the voice construal of the embedded clause is determined by the transitivity of the matrix clause, the analysis based on the morphological syncretism overgenerates. In this case, the underspecification analysis should be preferred.

## CORPUS FOR THE STUDY

The study of the Hittite infinitive was based on the following corpus.

OH/OS texts: Anitta text (Neu 1974), tale of Zalpa (Otten 1973), OS fragment of the Palace chronicle (Dardano 1997), rituals and myths as in Otten & Souček (1969); Neu (1970, 1980, 1983), a Royal Reprimand of the Dignitaries (Miller 2013: 73–5), Laws (Hoffner 1997), oracle letter KBo 18.151 (Soysal 2000).

OH/NS copies: Palace chronicle (Dardano 1997), Edict of Telipinu (Hoffmann 1984), Hittite-Akkadian bilingual of Hattusili I (Sommer & Falkenstein 1938), historical fragments in Soysal (2005); Soysal (1989: 71–74, 75–78); de Martino (2003: 84–87), palace chronicle (Dardano 1997), fragments of the palace chronicle Soysal (1989: 31–38), hethiter.net/: CTH 9.6 (INTR 2012-07-10), edict of Hattusili I (de Martino 1991), edict of Pimpira (Archi 1979: 41–44, Cammarosano 2006), campaign of Mursili I (?) against the Hurrians (Soysal 1989: 39–45; de Martino 2003: 132–153), fragments concerning Mursili I and Babylon (Soysal 1989: 54–55), Anatolian campaigns of Mursili I (Soysal 1989: 8–13; de Martino 2003: 160–185), deeds of Hantili I (de Martino 2003: 194–200, 206–209; Soysal 1989: 74–5), annals of Hattusili I (de Martino 2003: 21–80), deeds of Hattusili I (de Martino 2003: 96–125), KBo 22.6 (Rieken 2001).

Complete body of MH/MS texts.

New Hittite originals and copies of earlier texts: rituals, myths and prayers as at <http://www.hethport.uni-wuerzburg.de/HPM/index.php>; as well as Mursili II's Prayer Concerning the Misdeeds and the Ousting of Tawananna (Miller 2014); instructions (Miller 2013), letters (Hoffner 2009; Hagenbuchner 1989; Giorgieri & Mora 2004), court proceedings (Werner 1967), dreams and vows (Mouton 2007, de Roos 2007); deeds of Suppiluliumma (del Monte 2008), deeds of Mursili (Goetze 1933) with subsequent additions; Apology of Hattusili III (Otten 1981); other texts relating to Hattusili III (Ünal 1974); restoration of Nerik (Cornil & Lebrun 1972); Memorandum concerning Mursili III (Cammarosano 2009), Bronzetafel (Otten 1988), dictate of Mursili II (Miller 2007), catalogue entries (Dardano 2006), cult inventories (Hazebos 2003), oracles (Ünal 1978; Berman 1983; Lebrun 1994; van den Hout 1998; Imperati 1999; Beckman et al. 2011: 183–209), treaties as in Friedrich (1926, 1930); del Monte (1986); González Salazar (1994), Ulmitešub treaty (van den Hout 1995) and at [http://www.hethport.uni-wuerzburg.de/txhet\\_svh/textindex.php?g=svh&x=x](http://www.hethport.uni-wuerzburg.de/txhet_svh/textindex.php?g=svh&x=x), hyppological texts (Kammenhuber 1961), medical texts (Burde 1974), liver models (de Vos 2013), Tunnawi ritual (Goetze 1938; Hutter 1988) with subsequent additions, texts of the cult of tutelary deities (McMahon 1991), funerary ritual (Kassian et al. 2002), Muwa-

lanni ritual (Lebrun 1996), ritual against depression (Beckman 2007), birth rituals (Beckman 1983), rituals of the Hurrian cultural layer (Haas 1984; Salvini & Wegner 1986; Wegner 1995; Wegner & Salvini 1991; Wegner 2002), rituals of the Hattian cultural layer (Klinger 1996), Hittite speech in Luwian rituals (Starke 1985) as well as some other rituals (Lebrun 1977), texts from Ras Shamra (Laroche 1968).

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