

## Passive or Intransitive? The case of *hark-* ‘perish’ and voice / transitivity in Hittite

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**Abstract.** The paper discusses the use of intransitive verbs as passives in Hittite. In particular, it offers a new assessment of a number of uses of the verb *hark-* which is traditionally analyzed as intransitive ‘perish’. The careful study of the contexts as well as cross-linguistic parallels suggest that in a number of cases the verb functions as passive to the two verbs that are derived from the same root—*harnink-* and *harganu-*, both meaning ‘destroy’. More generally, the paper argues that any intransitive verb in Hittite can potentially be used as passive if there is a transitive verb from the same stem, root or even just a semantically compatible verb. This happens irrespective of whether the intransitive verb is active or middle and holds true for the New Hittite period. In this way the paper presents a single account of three classes of verbs: suppletive passives (*akk-* ‘be killed’ alongside *kuen-* ‘kill’), intransitive verbs alongside a derived causative (*hark-* ‘be destroyed’ alongside *harganu-/harnink-* ‘destroy’) and middles alongside active verbs (*šarra-* ‘be divided’ alongside *šarra-* ‘divide’) in Hittite.

In the broader cross-linguistic perspective the Hittite data attest the standard alternation *anticausative*—*causative* from the same stem with anticausative attesting a supplementary passive function for the causative verb, also common in the languages of the world. The curious fact that one of the passives for the causative verbs *harnink-* and *harganu-* derived from the anticausative *hark-* is supplied by the anticausative *hark-* itself is important evidence in favor of the indistinguishability of anticausatives and passives and an argument to divorce passive from the formally marked middle voice or from analytical forms.

Hittite is a language with morphological marking of voice as middle or analytical passives. However, voice in Hittite is closely tied in with anticausatives. It was shown by [Luraghi 2010; 2012; Inglese 2018] that passive voice is diachronically a reanalysis of anticausative and synchronically in one of the periods of the Hittite language evolution it cooccurs with anticausatives. I extend the proposal to the broader domain and show that passive in Hittite is not associated with any formal voice marking, but

rather with anticausatives generally. Anticausatives marked both by active verbal morphology and by middle verbal morphology (both synthetically and analytically) can occasionally function as passives to the alternating causative verb.

**Keywords:** Hittite, syntax, (in)transitivity, voice, unaccusative, anticausative, causative, passive.

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## Пассив или непереходный глагол? Хеттское *hark-* ‘погибать’ и залог / переходность в хеттском

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**Аннотация.** В статье рассматривается употребление непереходных глаголов в качестве пассива в хеттском. В частности, предлагается новый анализ ряда употреблений глагола *hark-*, который традиционно анализируется как непереходный ‘погибать’. Тщательный анализ контекстов и учет общих диагностик позволяет предположить, что в ряде случаев этот глагол употребляется как пассив к однокоренным *harnink-* и *harganu-* ‘уничтожать’. В более общем плане при анализе материала других глаголов хеттского языка выдвигается предположение о том, что любой непереходный глагол в хеттском языке может использоваться в качестве пассива в том случае, если от той же основы или хотя бы корня имеется переходный глагол (в ряде случаев для этого достаточно и просто семантической сопоставимости без фонетического подобия). Такое развитие характерно для новохеттского периода и происходит вне зависимости от формы непереходного глагола, а именно от того, имеет ли он активные или медиальные формы. Таким образом в статье предлагается единый анализ трех классов глаголов в хеттском языке: супплетивных пассивов (*akk-* ‘быть убитым’ при *kuen-* ‘убивать’), непереходных глаголов при производном от них каузативе (*hark-* ‘быть уничтоженным’ при *harganu-* / *harnink-* ‘уничтожать’) и при парах медиальная форма — активная форма (*šarra-* ‘быть разделенным’ при *šarra-* ‘делить’).

**Ключевые слова:** хеттский язык, синтаксис, (не)переходность, каузатив, неаккузативные глаголы, антикаузатив, пассив.

## 1. Introduction

Verbal classes of the Hittite language have been largely neglected in the literature. A very influential exception is [Garrett 1990; 1996]. He sketched an outline of verbal classes in Hittite, but still did not deal with all the numerous problems. One of the peculiarities of his classification is that he did not distinguish between intransitive unaccusative verbs and passives. The fact that these two classes are demonstrably different was observed in [Shatskov 2010; Luraghi 2010; 2012; 2022; Inglese 2018]. However, only part of the data was discussed in those works. The present paper adds to the discussion previously overlooked facts about *hark-* ‘perish’ that allow reevaluating the evidence relating to transitivity and voice in Hittite.

## 2. *hark-* ‘perish’

### 2.1. Finite forms of *hark-*

The verb *hark-* ‘perish’ is intransitive. Within the intransitive verbs it is unaccusative as it forms its analytical perfect with *ēš-* ‘be’, not *hark-* ‘have’ and has subject clitics [Garrett 1996: 94]. As an intransitive unaccusative verb it does not possess an external argument (agent), its only argument (subject) is patient:

- (1) *hark-ir=war=at*  
 perish-3PL.PST=QUOT=they  
 ‘(The mules that they mention) they died’ [Werner 1967: 14–15; HED, H: 158; Hoffner 2003: 61]; NH/NS (CTH 293) KUB 13.35+ obv. iv 48.

However, in some attestations the verb functions as a passive, for instance:

- (2) *nu=wa ammuk GIM-an innarā ḫarak-mi*  
 CONN=QUOT I as purposely perish-1SG.PRS  
 ‘When I am purposely ruined, ...’ [HED, E–I: 366–367, H: 157],  
 cf. ‘siccome io sono chiaramente rovinato’ [Covini 2018: 35], and  
 unconvincingly ‘Und ich werde wie von selbst zugrundegehen’ [Archi,  
 Klengel 1985: 56, 60]; NH<sup>1</sup>/NS (CTH 389.1) KUB 54.1+ obv. ii 48.

That we deal here with a passive and not with an intransitive unaccusative follows from the use of *innarā* ‘purposely, willfully, of one’s own accord’ [HED, E–I: 366–367]. As follows from its semantics, in the cross-linguistic perspective the adverb falls into the group of volitional adverbs, which are oriented at the agent and which therefore cannot be used with unaccusative verbs as they have only patients in their argument structure. On the contrary, passives readily cooccur with agent-oriented adverbs [Alexiadou, Anagnostopoulou, Schäfer 2006: 176; Kallulli 2007: 770 with references] because passives imply agents even if the agent is not overtly expressed. The use of agent-oriented adverbs as a diagnostic for passive has not been previously noticed in the studies on the topic [Shatskov 2010; Luraghi 2010; 2012; Inglese 2018], nor has *hark-* been ever identified as functioning as a passive.

In other instances, the verb is accompanied by some noun phrases in addition to its patient subject:

- (3) *araḫzenan=wa ŠA LÚKÚR KUR.KUR–TIM*  
 neighbor.NOM.SG.N=QUOT GEN enemy lands  
*labarnaš kiššar-az ḫarkiyai-ttaru*  
 labarna.GEN.SG hand-ABL perish-MED.IMP.3SG  
 ‘May the neighboring lands of the enemy perish by the hand of the  
 labarna’; NS (CTH 385.10.A) KUB 57.63 obv. ii 6–8.

The understanding is universally accepted, cf.

‘Die umliegende Feindesländer sollen durch die Hand des Labarna umkommen’ [Neu 1965a: 48],

<sup>1</sup> Hattusili III period [Archi, Klengel 1985: 63].

‘Das umliegende Gebiet des Feindes soll durch die Hand des Labarna eine Niederlage erleiden’ [HW<sup>2</sup>, H: 299],

‘Die umliegenden Feindesländer sollen durch die Hand des Labarna zugrunde gehen’ E. Rieken et al. (ed.), *hethiter.net*: CTH 385.10 (TX 2016-11-24, TRde 2016-11-24),

‘Die umliegenden Feindesländer sollen durch die Hand des Labarnas umkommen’ [Archi 1988: 18–19],

‘May the hostile foreign lands perish by the hand of the labarna’ [Singer 2002: 26].

The only deviating translation is due to Puhvel:

‘The adjoining enemy lands shall perish at Labarna’s hands’ [HED, H: 159].

However, it simply follows the Hittite text less closely.

Curiously, this is the only middle form made from the finite verb *hark-* apart from one *-ske-* form according to the collections in [HED, H: 157–159; HW<sup>2</sup>, H: 297; Neu 1965a: 48; Luraghi 2012: 18].

There are also some active forms of *hark-* ‘perish’ which involve an additional noun phrase besides the patient subject:

- (4) *man=wa* INIM SUM-*annaš* *apez* *arha* *ḫarak[-zi]*  
if=QUOT matter give.GEN.SG that.ABL away perish-3SG.PRS

‘Wenn (es) aufgrund dieser Angelegenheit des Gebens völlig beseitigt wird’ [HW<sup>2</sup>, H: 301]; NS (CTH 582) KBo 8.58 9.

- (5) *ḫUL-lu* *apizza* INIM-*za* *arḫa* *ḫarak-zi*  
evil.NOM.SG.N that.ABL word.ABL away perish-3SG.PRS

‘Evil is destroyed by that word’ [HW<sup>2</sup>, H: 301]; NS (CTH 577) KUB 22.40+ rev. iii 23–24.

- (6) *man=ma* *ḫUL-lu* *apiz* *arḫa* *ḫarak-zi*  
if=but evil.NOM.SG.N that.ABL away perish-3SG.PRS

‘Wenn das Böse deswegen völlig beseitigt wird, ...’ [HW<sup>2</sup>, H: 301]; NS (CTH 563.1.A) KUB 5.3+ obv. i 10.

The contexts all involve a noun phrase in the ablative that is interpreted ‘because of X’, ‘from X’, ‘by X’. All contexts (3–6) involve not prototypical agents but rather instruments or cause, as in (7):

- (7) *kištant-it ħark-ueni*  
hunger-INSTR perish-1PL.PRS

‘We will perish from hunger’ [HED, H: 158]; OH/MS (CTH 324.I.A)  
KUB 17.10+ obv. i 30.

The noun phrase in (7) is in the instrumental case. This context, along with many others, falsifies the claim of Luraghi [2012: 13] that *ħark-* occurs with typically inanimate subjects. Curiously, she discusses a similar context in her paper [*ibid.*: 18], see [Covini 2018: 34–38] for further discussion of the animacy of the subject of *ħark-*, which can be both animate and inanimate.

That the thematic role of instrument or cause is different from that of agent is universally accepted in linguistics. I will demonstrate the distinction between agent and instrument using the material of a spoken language, namely, Russian.

The first sentence demonstrates the intransitive active verb *pogibat*’, an exact translational and categorial equivalent of Hittite *ħark-* ‘perish’, used with instrumental:

- (8) *Pust’ on pogibnet ot ruki Vasji*  
let he perish.3SG.PRS from hand.GEN.SG Basil.GEN.SG

‘May he perish by the hand of Vasja’

Here the nominal *ot ruki* ‘by the hand (of)’ is either instrument or cause. It freely cooccurs with the intransitive verb.

Now compare the following modification of the sentence where the agent is now present and marked in the prototypical agentive way, namely, by the by-phrase *Vasjej* ‘by Vasja’. This sentence with the same intransitive active verb is entirely ungrammatical:

- (9) \**Pust’ on pogibnet Vasjei*  
let he perish.3SG.PRS Basil.INSTR

‘May he perish by the hand of Vasja’

The standard passive which in Russian is formed with the help of the copula and a passive participle is, however, perfectly well-formed with the explicit marking of the agent:

- (10) *Pust' on budet ubit Vasjei*  
 let he be.3SG.PRS kill.PTCP.NOM.SG.M Basil.INSTR  
 'May he be killed by Vasja'.

The use of the thematic role of instrument, preferably as a prepositional phrase, with intransitive verbs which do not take the thematic role of agent (whether unaccusatives or anticausatives) is also recorded for English, German and Greek [Alexiadou, Schäfer 2006: 41]:

- (11) 1. *\*The window broke by John / by the pressure / by Will's banging.*  
 2. *The window broke from the pressure / from the explosion / from Will's banging.*  
 3. *\*The window broke from John.*

See the literature summarized in [Alexiadou, Schäfer 2006] on agent, instrument and causer, the three different main thematic roles taken by the elements that can fill one syntactic argument position.

This cross-linguistic digression serves the sole purpose of demonstrating the interaction between the thematic roles of agent, instrument, and causer with intransitive verbs in a number of well-described languages. The observations made on the data of these languages can be claimed to be cross-linguistically valid. They are not intended to replace the analysis of Hittite with the analysis of other languages, but they provide a cross-linguistic perspective.

Turning back to Hittite and assessing the Hittite data in exx. (1)–(7) against the cross-linguistic background introduced in exx. (8)–(11), we can now see that there is a significant difference between Hittite finite synthetical sentences (1) and (2) containing active verb forms. The difference boils down to the difference in the argument structure: (1) does not involve agent, whereas (2) does, even though the agent is not explicitly marked. Thus (1) is intransitive unaccusative whereas (2) is passive, even though both inflect actively. The cross-linguistic data from languages that allow using of negative linguistic material introduced in (8–11) show that Hittite examples like (3)–(7) involving instrument or cause can be compatible with intransitive unaccusative usage and

do not require passive interpretation. They *can* be passive as an implicit agent might be present in at least some of them, but this cannot be demonstrated on the basis of the available data. It has to be born in mind that out of examples (3–7) only one is middle — (3) — while the rest are active (4)–(7).

Thus I explicitly reject the claim of Luraghi [2012: 18] that in (3) the basic intransitive *hark-* can co-occur with an agent phrase, which *kiššar-az* is not, as I have argued at length above.

It follows from examples like (1)–(7) that Hittite does not formally distinguish between passive and intransitive unaccusatives: both can be middle, active or analytical (participle + be)<sup>2</sup> verb forms. Both can be used with noun phrases in the instrumental or ablative — *by*-phrases and *from*-phrases, to use the English equivalents. This is very clearly seen in (3) where the ablative marking of instrument with an intransitive verb is the same as one of the two ways of marking agent in passive constructions, as will be shown immediately below in (12). Instrumental case for intransitive verbs was illustrated above in (3)–(7). For the agent of passives being expressed by an ablative or an instrumental in Hittite see the treatment in [Neu 1968b: 113; Hoffner, Melchert 2008: 304; Shatskov 2010: 445; Inglese 2018]. Thus Hittite is just like a number of other languages including Albanian, Latin and Modern Greek [Kallulli 2007: 772].

The difference between passive and intransitive verbs in Hittite is thus exclusively semantic. There are no formal indications (type of inflection, type of accompanying noun phrase) of whether a given clause contains a passive or an intransitive unaccusative verbal form.

## 2.2. Non-finite forms of *hark-*

Passive in Hittite is not only expressed by middle verbal forms. The preferred choice for expressing the passive is by analytical construction

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<sup>2</sup> In the analytical *participle + be* construction is also not limited to passive — it can be stative, continuous or perfect, see specifically for *hark-* below.



employing the passive participle and a finite form of the verb ‘to be’ [Hoffner, Melchert 2008: 304; Shatskov 2010]. Cf. [Inglese 2018].

Accordingly, analytical verbal forms which involve the participle of the verb *hark-* ‘perish’ also demonstrate uses which can be interpreted as passive and not just intransitive:

- (12) *kui-t*                      [I]šTU              LÚKÚR=šU              ḥ[arg]-an  
 which-NOM.SG.N              with              enemy=his              perish-PTCP.NOM.SG.N  
*ēš-ta*  
 be-3SG.PST

‘Which had been ruined by its enemy’ [HED, H: 159]; ‘[nel territorio] che era devastata dal suo nemico’ [del Monte 2009: 14, 41]; NH/NS (CTH 40.II.2.D) KUB 19.11+ obv. i 12’.

The context involves the agent proper [I]šTU LÚKÚR=šU ‘by its enemy’, not the instrument. Thus the context is passive, not intransitive or ambiguous like the previous contexts. The use of agent is quite rare with Hittite passive [Neu 1968b: 6f; Hoffner, Melchert 2008: 305; Shatskov 2010: 445], but it still remains the clearest indication of passive and this case is therefore particularly probative. Curiously, this context contradicts the definition of Hoffner and Melchert [2008: 304] according to which analytical passive is only formed for transitive verbs. *Hark-* is intransitive in all its finite forms, and yet the present context can only be interpreted as passive.

This example was noticed by Luraghi [2012: 18] who remarks that *ḥargan ēšta* in this example has virtually the same meaning as a periphrastic passive formed from the causative *harnink-* would have. However, she does not make any further conclusions and does not discuss example (2) in this connection. As an alternative, she thinks it is possible to interpret the sentence as ‘has perished because of the enemy’ (*ibid.*), assessing the noun phrase as the cause, not the agent. This interpretation cannot be dismissed out of hand because ablative, instrumental, and Akkadian preposition *išTU* in fact mark cause. However, as pointed out to me by Andrei Shatskov (pers.comm.), because of the animacy of the referent the interpretation ‘by its enemy’ (agent) is much more natural than ‘because of the enemy’ (cause). Therefore I stick to understanding ex. (12) as passive.

This analysis is all the more likely in view of the use of *ki-* ‘lie’ as passive to *dai-* ‘put’ in the following context:

- (13) *nu mān ištū lúKÚR katta ki-ttari*  
 CONN when by enemy down lie-3SG.PRS.MED  
 ‘When (the region) is being oppressed by the enemy’ [Hazenbos 2003: 31, 36; Inglese 2018: 270]; NH/NS (CTH 526.14) KUB 25.23+ obv. i 12.

First, the context is virtually lexically identical to (12). Secondly, it uses the same agent noun phrase *ištū lúKÚR* ‘by the enemy’. Thirdly, (13) appears an unambiguous case of the passive use of an intransitive verb, in this case *ki-* ‘lie’ [Inglese 2018: 270].

Most of the attestations of the participle of *hark-* in our New Hittite database (see the corpus in the Appendix) are actually ambiguous between intransitive unaccusative and passive. Passive interpretation is likelier for purely semantic reasons: the referents of the subjects of the verb forms are likely to be destroyed by somebody else, i.e. by some agent, not to perish on their own:

- (14) [(*nu Neriqqa-š kuit ištū UD-UM mHantili*  
 CONN Neriq-NOM.SG.C because from day Hantili  
*arḫa ḫarg-anza ēš-t*)*a*  
 away perish-PTCP.NOM.SG.N be-3SG.PST

‘Because the city of Nerik had been destroyed since the days of king Hantili’ [van den Hout 2003: 202], cf. [HED, H: 161] ‘Nerik had been in ruins’; NH/NS (CTH 81.A) KUB 1.1+ rev. iii 46–47.

- (15) *kui-š=ma DINGIR-[LIM] arḫa*  
 which-NOM.SG.C=but god away  
*ḫark-anza ēš-ta*  
 perish-PTCP.NOM.SG.N be-3SG.PST

‘Or whatever image of god had been destroyed (my father restored what he could)’ [Singer 2002], ‘welcher Gott (scil. welche Götterstatue) aber zerstört war’ [E. Rieken et al. (ed.), *hethiter.net*/: CTH 378.4 (TX 2015-08-29, TRde 2017-10-18)]; NH/NS (CTH 378.4.A) KUB 14.13+ obv. i 40–41.

- (16) *kui[-š ... ] arḫa ḫark-anza*  
 which-NOM.SG.C away perish-PTCP.NOM.SG.N  
 ‘And whichever [god] has been destroyed, (I will restore for them a statue)’ [E. Rieken et al. (ed.), *hethiter.net*: CTH 378.4 (TX 2015-08-29, TRde 2017-10-18)], cf. [Singer 2002: 64]; NH/NS (CTH 378.4.B) KBo 22.71 obv. 9’–10’.
- (17) KUR<sup>URU</sup> *Ner[ik] ḫūd[a]k=pat karuwiliy-aš ANA*  
 land Nerik suddenly=FOC former.DAT.PL to  
 LUGAL<sup>MEŠ</sup> [ ... ] *ḫark-anza ēšta*  
 kings perish-PTCP.NOM.SG.N be-3SG.PST  
 ‘Das Land Ner[ik] war plö[tz]lich [unter] den früheren Königen zugrunde gegangen’ [E. Rieken et al. (ed.), *hethiter.net*: CTH 383.1 (TX 2015-08-28, TRde 2017-12-09)], ‘The land of Nerik was suddenly ruined under the former kings’ [Singer 2002: 99]; NH/NS (CTH 383.1) KUB 21.19+ rev. iii 11–13.
- (18) *kēz=ma=wa=tta KUR=KA arḫa*  
 this.ABL=but=QUOT=you.DAT land=your away  
*ḫark-an*  
 perish.PTCP.NOM.SG.N  
 ‘By that time, however, your land was completely destroyed’ [Götze 1933: 18–19]; NH/NS (CTH 61.II.1) KUB 19.29 rev. iv 17.

### 2.3. Synthesis

On the one hand, we find in Hittite an intransitive unaccusative finite verb *hark-* ‘perish’ (inflecting mostly in the active, rarely in the middle) where only the patient is explicitly expressed as the subject (‘somebody or something perishes’) and no agent is ever expressed. On the other hand, we have evidence showing that the same verb is occasionally used as a passive ‘be destroyed’, with the agent marked either directly (by a noun phrase) or indirectly (through an agent-oriented adverb). This passive use has not been explicitly described before.

### 3. Parallels

#### 3.1. Other verbs of the same type?

The intransitive unaccusative *hark-* ‘perish’ is thus occasionally used as passive to causative verbs *harnink-* and *harganu-* ‘destroy’ which are derived from it. This derivation has been repeatedly observed [HED, H: 167; Luraghi 2010: 144; 2012: 18; Shatskov 2017: 25; Covini 2017: 56; 2018: 15], but the use of the unaccusative *hark-* ‘perish’ as passive to the causative verbs has not been signalled before. Cf. Inglese [2018: 155] who implicitly remarks that in case of alternating pairs “the distribution results in a threefold pattern in which the base verb indicates the plain event, the active derived verb its induced counterpart, and the middle derived verb the passive counterpart of the latter”.

However, there are yet further comparable uses of unaccusative verbs serving as passives to the causative derived from an unaccusative verb.

##### 3.1.1. *war-*

One of the clearest cases is *war-* ‘burn’ (intr.) alongside causative *war-nu-* ‘burn’ (tr.). Although Inglese [2018: 155] claims that this verb best exemplifies the distribution he describes (see immediately above), in reality some of the uses of *war-* can only be understood as passive, following [Neu 1965a: 189–190]:

- (19) EGIR-ŠU=*ma* SILÁ *ambašši* ***war-āni***  
 then=but lamb offering.NOM.SG.N burn-3SG.PRS.MED  
 ‘And thereafter the lamb is burnt as a burnt-offering’ cf. [Miller 2004: 293];  
 NS (CTH 481.A) KUB 29.4+ rev. iii 58.

Luraghi [2012: 21] discusses the context and is inclined to analyze it as showing the use of an intransitive verb.

The clause occurs in a series of active verb clauses with unknown 3PL referents. For the sake of space, I reproduce the context in Miller’s translation (which I keep intact, with the clause under discussion marked bold

in the translation): “Then they perform the ritual of blood with a kid, and thereafter they perform the praise (ritual) with a lamb, **and thereafter he burns the lamb as a burnt-offering**. And thereafter, along with the table-men, they bring to the deity all the soups, [...] They give (it) to the deity to eat. Further, they carry the *ulihī* into the house of the ritual patron accompanied by a harp (and) a drum. And beneath her they scatter sourdough bread, crumbled cheese and fruits. Further, they wave some *husti*-mineral substance over the deity, and then they set the deity in the storehouse” [Miller 2004: 293].

The following example from the same text is similar to (19):

- (20) <sup>uzu</sup>i=ma arḥa war-āni  
fat=but away burn-3SG.PRS.MED

‘The fat, however, is burnt completely’ cf. [Miller 2004: 297]; NS (CTH 481.A) KUB 29.4+ rev. iv 40–1.

This clause occurs in a series of active verb clauses with unknown 3PL referents: “And they smear with blood the golden deity, the wall and all the paraphernalia of the new deity, and the new deity becomes pure. **The fat, however, they burn completely**; no one eats it” [Miller 2004: 297].

It is true that in both contexts there is no overt agent [Luraghi 2012: 18]. However, the absence of an overt agent in passive is common both in Hittite and beyond and does not by itself prove anything; the fact that in both cases the middle verb *warāni* occurs in a context in which all the rest of actions have indefinite 3PL agents implies the presence of an implicit agent for the middle form as well. Thus, despite the position of Inglesse [2018: 155], who argues that middle forms in such cases indicate the plain event ‘burn (intr)’, I suppose that the forms are indeed ambiguous between an anticausative and a passive reading and, on the basis of the broader context, are much closer to the passive reading.

The passive interpretation of (19) and (20) and the presence of an external argument receives additional support from another context in the same ritual, lexically identical to (19) above, in which 3pl active form is used. This example proves that the action in (19) was perceived as agentive:

- (21) E[(GIR-š)]*U=ma* SILÁ *ambaššitī* *war-nuw-anzi*  
 then=but lamb offering.ACC.SG.N burn-CAUS-3PL.PRS  
 ‘Afterwards, however, they **burn** a lamb for a burnt-offering’  
 [Miller 2004: 283]; NS (CTH 481.A) KUB 29.4+ obv. ii 38.

It is important to note that even though this line of argumentation is not strictly syntactic, the actions within a ritual are extremely standard and cannot be altered unconditionally. I thus take such contexts as (19) and (20) to be yet another possible, although indirect, indication of the passive use of the verb *war-*.

These examples are even likelier to be passive in view of prototypical unaccusative contexts like the following:

- (22) *kēdani=ma pahhur ur-āni*  
 this.LOC.SG=but fire.NOM.SG.N burn-3SG.PRS.MED  
 ‘The fire **is burning** on this’ [Hoffner 1998: 31; HEG, W: 305; E. Rieken et al. (ed.), *hethiter.net*/:CTH 336.2 (INTR 2009-08-12)]; OH/OS (CTH 336.2.A) KUB 33.59 rev. iii 9’.

It is obvious that in this case no external argument is present, even implicitly. Unaccusative contexts like (22) thus demonstrate presence of an implicit external argument in *exx.* like (19) and (20).

Finally, the following context shows a simultaneous use of the causative verb and the intransitive one that can only be interpreted as passive:

- (23) 1. ANA 9 KAŠKAL-*NI=ma* MUŠEN<sup>HL.A</sup> *kiššan war-nu-zi*  
 to 9 ways=but birds thus burn-CAUS-3SG.PRS  
 2. 1 M[UŠEN] *huwalzi-ya dalahulzi-ya war-āni*  
 1 bird h.-DAT.SG d.-DAT.SG burn-3SG.PRS.MED

‘(1) But (the priest) **burns** the birds for the nine paths thus: (2) 1 bird **is burned** for *huwalzi* and *dalahulzi*’ etc. [Haas 1998: 39], cf. ‘(1) ma (il sacerdote esorcista) brucia uccelli per nove sentieri nel modo seguente: (2) brucia un uccello per il *huwalzi* e per il *talahulzi* ...’ [F. Fuscagni (ed.), *hethiter.net*/: CTH 484 (TX 07.10.2013, TRit 02.02.2017)]; MH/NS (CTH 484.1.A) KUB 15.31+ obv. ii 1–2.

The passive interpretation is based on the presence of the implicit agent of the passive, coreferential with the explicit subject of the causative verb, in the broader context.

### 3.1.2. *kišt-*

Another intransitive — transitive verb pair that functions in the same text as part of the same paradigm is *kišt-* ‘be extinguished’ — *kišt-anu-* ‘extinguish’, where the transitive verb is derived from the intransitive one.

The following two texts with two contexts from the same text presented in each case unambiguously show that *kišt-* ‘be extinguished’ vis-à-vis its causative *kišt-anu-* ‘extinguish’ functions in the same way as a passive construction with the passive participle directly derived from *kišt-anu-* ‘extinguish’:

- (24) a. *n=aš=kan*                      *kiš(ta)-nu-zi*  
 CONN=them=LOCP    be\_extinguished-3SG.PRS  
 ‘He **extinguishes** them’ [F. Fuscagni (ed.), hethiter.net/: CTH 458.1.1 (TX 06.01.2017, TRde 06.01.2017)]; MH/MS (CTH 458.1.1.A) KBo 17.54+ rev. iv 8’–9’.
- b. [*nu*]    *kī*                      *mahhan*    *kišt-āri*  
 CONN    this.NOM.SG.N    as                      be\_extinguished-3SG.PRS.MED  
 ‘As this **is extinguished**, ...’ [HED, H: 167], cf. [F. Fuscagni (ed.), hethiter.net/: CTH 458.1.1 (TX 06.01.2017, TRde 06.01.2017)]; MH/MS (CTH 458.1.1.A) KBo 17.54+ rev. iv 13’.

It is important that the two contexts (24a–b) refer to the same action at different points of the text.

- (25) a. *n=ašta*            IZI    *ištū*    10 DUG    KAŠ    1[0 DUG    GEŠTIN]  
 CONN=LOCP    fire    with    10 vessel    beer    10    vessel    wine  
 10 DUG    *walhi*    *kišta-nuw-anzi*  
 10 vessel    w.                      extinguish-CAUS-3PL.PRS  
 ‘They **extinguish** the fire with beer and wine’ [Kassian et al. 2002: 260–261]; OH/NS (CTH 450.I.Tg3) KUB 30.15+ obv. 2.

b. *pa[hḥ]ur=ma=kan*    *ī[šT]U*    KAŠ    GEŠTIN    *k[a]rū*  
 fire.NOM.SG.N=but=LOCP    with    beer    wine    already

***kišta-nuw-an***

extinguish-CAUS-PTCP.NOM.SG.N

‘The fire **has** already **been extinguished** with beer and wine’  
 [Kassian et al. 2002: 262–263]; OH/NS (CTH 450.I.Tg3) KUB  
 30.15+ obv. 12–13.

It is important that the two contexts (25a–b) refer to the same action at different points of the text, just like (24a–b). While (25b) has the prototypical passive verb form (*kišta-nuw-an*), (24b) attests a middle intransitive verb form (*kišt-āri*) in the context identical to (25b).

It is hard to interpret the evidence as showing anything other than the use of intransitive *kišt-* ‘be extinguished’ as the passive to *kišt-anu-* ‘extinguish’. In any case, it is identical to the use of the analytical passive directly formed from *kišt-anu-* ‘extinguish’. Cf. [Neu 1965a: 99].

Similar examples can be found with virtually any other intransitive which is attested frequently enough.

At this point I will remind again that the position — that appears to have gained ground in post-Neu studies of Hittite passive voice — according to which the lack of an explicit agent *by*-phrase in a concrete clause should be taken as an indication that the form is not passive, is wrong. Agent *by*-phrases are very often implicit in any language that has passive: they function as tests that a particular verb form is passive in spoken languages. Thus while its presence may confirm that the form is passive, its absence, however, does not imply that the form is not passive.

### 3.1.3. *ze-*

*Ze-* ‘cook (intr.)’ alongside a derived causative *za-nu-* ‘cook (tr.)’ is used both as an intransitive verb and as passive to the causative, see for the latter (26a clause 2). The causative forms its own passive as the participle *za-nuw-ant-* + ‘be’, illustrated in (26b). Everything that has been said about the previous verb is true for this one:



(26) a. 1. *nu* <sup>UZU</sup>NÍG.GIG <sup>UZU</sup>ŠÀ IZI-[*it* **za-]nu-anzi**  
 CONN liver heart fire-INSTR cook-CAUS-3PL.PRS

2. *maḥḥan=ma=at ze-ari*  
 when=but=it be\_cooked-3SG.PRS.MED

‘(1) They **cook** liver and heart with fire. (2) When it **is cooked**, ...’, cf. [A. Chrzanowska (ed.), *hethiter.net*: CTH 396.1.1 (TX 10.05.2012, TRde 21.05.2012); Neu 1965a: 206]; MH/MS (CTH 396.1.1) KBo 15.25 rev. 6.

b. <sup>UZU</sup>NÍG.GIG<sup>HLA</sup>=*ma* ŠA GU<sub>4</sub>.ÁB.ŠE U ŠA UDU<sup>HLA</sup> *karū*  
 livers=but GEN cow.fat and GEN sheep already  
**za-nu-anta**  
 cook-CAUS-PTCP.NOM.PL.N

‘But the livers of a fat cow and of the sheep had already **been cooked**’ [Popko, Taracha 1988: 97, 99; HEG, Z: 659]; MH/MS (CTH 616.2.D) KBo 9.140 rev. iii 8–9.

Even though the actual description of the cooking procedure is not preserved in this case, it is clear that it was mentioned earlier and is now being referred to.

### 3.1.4. *waršiyē-*

*Waršiyē-* ‘be lifted, be appeased’ alongside *warš(iy)anu-* ‘lift, appease’ is used as passive:

(27) 1. [*nu katterran ḥ]ān*  
 CONN lower.ACC.SG.C draw.2SG.IMP

2. IM-*aš=kan warš-ta*  
 clay.NOM.SG.C=LOCP lift-3SG.PRS.MED

3. *šarāzziyan [(ḥān)]*  
 upper.ACC.SG.C draw.2SG.IMP

4. [(*m*)]*āl=az=kan warš-ta*  
 m.=REFL=LOCP lift-3SG.PRS.MED

5. *nu ištarniyan [ḥān]*  
 CONN middle.ACC.SG.C draw.2SG.IMP

6. [<sup>o</sup>(<sup>iš</sup>ša)]*mma=ma=kan warš-ta*  
 s.-nut=but=LOCP lift-3SG.PRS.MED

‘(1) Dip the lower (2) and the clay will be lifted. (3) Dip the upper (4) and the *mal* will be lifted. (5) Dip the middle (6) and the *sammama*-nut will be lifted’ following [Kloekhorst 2008: 970], cf. [Glocker 1997: 35; CHD, Š: 115]; MH/MS (CTH 330.1.M) KUB 33.62 obv. ii 4–6.

The context is a very good candidate for the passive use of the intransitive verb. This is admitted even by Inglese [2018: 495] who is normally very reluctant to admit a passive interpretation.

No passive forms are attested directly from causative *warš(iy)anu*- ‘lift, appease’.

Other forms of *waršiyē*- ‘be lifted, be appeased’, for which see [Kloekhorst 2008: 969], are also easy to interpret as passive, although it cannot be excluded that they are intransitive [Inglese 2018: 496]. The likeliest candidate for the passive use is:

- (28) *mān=ma ANA DINGIR<sup>MES</sup> ZI-anza memiyan-az*  
 if=but to gods soul-NOM.SG.C matter-ABL  
***waršia-ttaru***  
 appease-3SG.IMP.MED

‘Now, if for you, o gods, your soul by that deed will be pacified’ [van den Hout 1996: 246–247], cf. ‘But if the spirit of the gods is lifted by these words’ [Inglese 2018: 496]; NH/NS (CTH 577.3) KUB 16.77 obv. ii 36.

The context does not involve a proper agent: ‘by that deed’ is best interpreted as instrument. However, the instrument may be the subject of clauses with the causative *warš(iy)anu*- ‘lift, appease’:

- (29) *nu=tta kī mu[ki]šn-aš udd[ār] DIN<sup>GIR=YA</sup>*  
 CONN=you this.NOM.PL.N prayer-GEN.SG words.NOM.PL.N god=my  
*ekunaz<sup>1</sup> wetenaz ma[h]h an šà=(t)it warša-nu-ddu*  
 cool.ABL water-ABL.SG as heart=your soothe-CAUS-3SG.IMP

‘May these words of supplication soothe you in the heart, my god, as with cool water’ [Singer 2002: 40; E. Rieken et al. (ed.), *hethiter.net/*:

CTH 372 (TX 2017-11-19, TRde 2017-12-11)], cf. [HEG, W: 362]; OH/NS (CTH 372.A) KUB 31.127+ rev. iv 23.

This example obviously simultaneously supports the intransitive form functioning as passive to the causative and the analysis of *waršia-ttaru* in (28) as passive.

This case is a bit more complex than the others, because the stem *waršīye-* itself can be used transitively [Inglese 2018: 493–495]. However, as observed by Inglese [2018: 496], active forms from the stem *waršīye-* are demonstrably late and sporadic (there is only one attestation), whereas some of the passive uses certainly predate them. On the contrary, the causative verb is attested quite frequently and occurs in OH/NS texts [Kloekhorst 2008: 969], which ensures its antiquity. Thus in this case, too, the intransitive *waršīye-* ‘be lifted, be appeased’ functions as passive to the causative *warš(iy)anu-* ‘lift, appease’, derived from it.

### 3.1.5. Other verbs

Competing use of intransitive verbs and middles from transitive verbs in the alternating pair intransitive verb — transitive verb has been observed for other verbs by Inglese [2018: 156]: “middle forms of [putatively transitive] *nakkiyahh-tta(ri)* are virtually identical to the verb *nakkēšš-zi* ‘become difficult, important’. In this respect, intransitive verbs and the middle voice [from the transitive verbs] constitute competing strategies in the encoding of the anticausative alternation, and the higher productivity of *ēšš-*verbs can be seen as one of the reasons behind the limited distribution of intransitivizing middle forms of *ahh-* and *nu-*verbs”.

It is important to stress that Inglese [2018] does not posit the *passive* use of intransitives of this kind for transitives. He merely observes the competing use as intransitives of the middles derived from transitives and intransitives not derived from transitives. However, even by itself, this falls neatly into the picture I am drawing here, namely, that intransitives not derived from transitives compete with the forms that are derived from transitives and thus demonstrably are drawn into their paradigm.

### 3.2. Hittite parallels from other verbal classes

Parallels to the use that I have illustrated with *hark-* ‘perish’ and *war-* ‘burn’ (with the same verb with the same inflection used as both intransitive unaccusative and passive alongside a transitive verb) come from two verb classes in Hittite. Differently from *hark-*, these cases have been the object of much research recently.

The group that comes to mind immediately is suppletive passives, namely, finite forms of active or middle unaccusative verbs used as passives to transitive verbs. Both unaccusative and passive uses coexist for these verbs and are formally indistinguishable.

“Some transitive verbs form no passive at all but employ forms of other verbs of related meaning (so-called suppletives). Thus forms of *akk-* ‘to die’ are used to express the passive of *kuen-* ‘to kill’. Similarly forms of *ki-* ‘to be situated, lie, be placed’ are used instead of passive forms of *dai-* ‘to put, place’; *šer tiya-* appears as a passive for *šer dai-* ‘to place upon’; and *-za kiš-* ‘to become’ as a passive for *iya-* ‘to make’” [Hoffner, Melchert 2008: 305], basically following Neu [1968b: 110].

The second parallel for unaccusative and passive uses of the same verb with the same inflection comes from the class of middle verbs illustrated by *šarra-* ‘divide’ which in its middle forms can be both unaccusative (with subj.cl.) as in (31) and passive [CHD, Š: 232], as in (30):

- (30) TU<sub>7</sub><sup>H1.A</sup> *takšan šarra-ttari*  
 stews in.half divide-3SG.PRS.MED  
 ‘The stews are divided in half’ [CHD, Š: 232]; NS (CTH 634.1.A)  
 KUB 20.76 obv. i 15.
- (31) DUMU<sup>MES</sup>=ŠU<<NU>>=ma=za *arḫa šarrandat*  
 sons=his=but=REFL away split.3PL.PST.MED  
 ‘His sons, however, split up’ [CHD, Š: 232]; NH/NS (CTH 61.I.A)  
 KBo 3.4+ obv. ii 52–3.

Once again, there is no explicit agent in (30), but the comparison with (31) clearly shows the difference and an implicit external argument in (30).

Differently from suppletive passives, this use cooccurs with the transitive use of the same verbal stem (both as active and middle) [CHD, Š: 231]. This verb falls into the larger class of middle verbs that attest both intransitive and passive usages alongside active transitive verbs from the same stem [Neu 1968b; Hoffner, Melchert 2008: 304; Shatskov 2010: 445–447; Inglese 2018].

*Hark-* ‘perish’ attests the same intransitive unaccusative — passive alternation as both of these classes of verbs. The three classes have been distinguished before on a slightly different basis, namely, as alternating intransitive and transitive verbs, see [Luraghi 2012; Inglese 2018]. It has not been observed that the parallelism between these three classes goes further, as they all display coexistence of both unaccusative (see below) and passive uses of the intransitive verb. Commonly only the middle class and suppletive passives have been claimed to show this coexistence. The seemingly minor finding which I present here (that intransitive — causative class shows it, too) is, however, of significance.

What is unusual is that active transitive forms in case of *hark-* are morphologically derived from the unaccusative verb [HED, H: 167; Luraghi 2010: 144; Shatskov 2017: 25]. The forms in question are causatives *harnink-* and *harganu-*<sup>3</sup>, both with the meaning ‘destroy’, i.e. ‘cause to perish’, the former is derived from *hark-* with the help of infix *-nin-*, the latter — with the help of suffix *-nu-* [HED, H: 167; Luraghi 2010: 144; 2012: 8, 13, 18; Shatskov 2017: 25; Covini 2017: 56; 2018: 15]. For causative formation in Hittite see generally [Luraghi 2012: 6–9; Shatskov 2017].

Forms that appear to be analogous are at a closer sight different. Suppletive passives amply demonstrate both passive and unaccusative uses for the same verb, but in their case there is no active transitive verb from the same root. For the middle type *šarra-* ‘divide’, the passive-unaccusative use of the middle cooccurs with the transitive use of the same verbal stem (both as active and middle) without any morphological derivation.

Only *hark-* displays a very complex distribution where the unaccusative verb first derives causative verbs and then functions as passive to these derivative forms.

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<sup>3</sup> New formation in comparison with *harnink-* [Covini 2018: 33].

It is important to observe that both derived causatives form their own passives, compare the following analytical passive form formed with the help of the participle of *harganu-* [Luraghi 2012: 18]:

- (32) *karū* KUR.KUR<sup>MES</sup> URU<sup>URU</sup>*Hatti*[ *ī*]*šTU* LÚ<sup>LÚ</sup>*KÚR*  
 formerly lands Hatti with enemy  
*arḥa* *harganuw-an* *ēš-ta*  
 away destroy-PTCP.NOM.SG.N be-3SG.PST

‘Formerly the lands of Hatti were completely **destroyed** by the enemy’ [HED, H: 167; Goedegebuure 2014: 457], cf. [Luraghi 2012: 18]; NH/NS (CTH 88) KBo 6.28+ obv. 6.

Thus *hark-* functioning as passive to its own causatives *harnink-* and *harganu-* ‘destroy’, alongside proper passives derived directly from both *harnink-* and *harganu-*, is unusual for Hittite. The distribution is to my knowledge has not been described before. The same is true for *war-* — *warnu-* where the causative verb forms its own passive *warnutari* [Shatskov 2010; Luraghi 2012: 20–21] alongside the passive use of intransitive *warani*.

The passive function of *hark-* to *harnink-* and *harganu-* is thus a kind of back-formation, made possible by the frequent coexistence of both unaccusative and passive uses of a verb in case where there is a semantically close alternating transitive verb, irrespective of the fact whether it is the same verb with active inflection, verbs with different roots, or a morphologically derived verb. In the first case we get the *šarra*-type, in the second — the suppletive passives, and in the third — the case of *hark-* ‘perish’.

It remains at present an open question whether the coexistence is universal — i.e. whether any intransitive unaccusative verb in Hittite can be passive if there is a semantically close transitive verb. This, naturally, applies to the New Hittite period, as for Old Hittite the particular paucity of passives is frequently observed, see [Luraghi 2010: 148; Shatskov 2010] with references to [Neu 1968a, 1968b], and most recently [Inglese 2018]. The question cannot be definitively answered for a dead language like Hittite with no possibility of elicitation, limited corpus, rare attestations of many verbs, and many damaged or ambiguous contexts. Rarity of passives has repeatedly been emphasized, see most recently [Shatskov

2010; Inglese 2018], but this statement was made only concerning middle verb forms not taking into consideration suppletive passives.

It is suggested by Luraghi [2010: 152] that “[i]n its further development, middle inflection extended to once only active verbs, and the middle voice acquired passive meaning”, also [*ibid.*: 151]. The view was taken up and considerably elaborated by Inglese [2018]. He provided a diachronic scenario by which passive function developed out of anticausative in the alternating anticausative — causative pairs. His scenario was explicitly formulated only for middle verbs and operated mostly in the post-OH period. By the New Hittite period, this produced the coexistence of anticausative and passive functions of the middle verbs alongside active transitive uses of the same stem.

Thus the use of middle unaccusative verbs as passives for the alternating active transitive verbs from the same root is a late development.

I would like to broaden the dataset beyond the middle verbs and extend it from unaccusative middles to any unaccusative verb, irrespective of the type of inflection (synthetic active, middle or analytical). Many unaccusatives that function as suppletive passives and unaccusative *hark-* in its passive use (*hark-* — *harnink-* / *harganu-*) have active inflection of the passive use of the unaccusative verb and have nothing to do with the middle voice. Thus, quite expectedly, the unaccusatives from all the three classes of alternating unaccusative — transitive verbs attest passive uses, not solely unaccusatives belonging to the class of middles.

The diachrony of unaccusative > passive in the post-OH period with frequent coexistence of passive and unaccusative in the NH period is independently supported by the pair *hark-* — *harnink-* / *harganu-*: the two most probative passive uses of intransitive active *hark-* that I know of are attested only in New Hittite texts.

So the diachronic development unaccusative > passive in the post-OH period was possible for any unaccusative verb, whatever voice (active or middle, whether in synthetic or in analytical forms) or verbal class they represent. The only obligatory prerequisite is the availability of an alternating transitive verb, either made from the same root or stem or even simply lexically compatible. Whether the development obligatorily actually took place for any verb which satisfies the conditions cannot be

established for a dead language with a limited corpus. The development and synchronic coexistence was a possibility for any unaccusative verb in an alternating pair. Whether the possibility was realized for *any* verb is an open question. There are several rather frequently attested unaccusatives like *huiš-* ‘live’ alongside *huišnu-* ‘make live, save’, *mer-* ‘disappear’ alongside *marnu-* ‘make disappear’ or *nink-* ‘get drunk’ alongside *ninganu-* ‘make drunk’, *park(iye)-* ‘rise’ alongside *parkanu-* ‘raise’ that are never attested as passives to their causative verbs. For some verbs like *arš-* ‘flow’ alongside *aršanu-* ‘make flow’ the causatives are too seldom attested, and in general, the majority of potentially relevant verbs are simply too rare for the lack of passive use in the extant texts to be significant. These are: *lap-* ‘glow’ alongside *lapnu-* ‘make glow’, *pukk-* ‘be hateful’ alongside *pukkanu-* ‘make hateful’, *šamen-* ‘pass by’ alongside *šamenu-* ‘make pass by’, *šamešiyē-* ‘burn (intr)’ alongside *šamešanu-* ‘burn (tr)’, *tariye-* ‘get tired’ alongside *dariyanu-* ‘make tired’ or *hatuk-* ‘be terrible’ alongside *hatuganu-* ‘terrify’. Some verbs like *impai-* ‘be depressed’ alongside *impanu-* ‘burden’ are unclear. *Hašik-* ‘be saturated’ alongside *hašiganu-* ‘saturate’ and *werite-* ‘be frightened’ alongside *weritenu-* ‘frighten’ may attest forms ambiguous between passive and unaccusative. Yet others have semantics not suitable for the passive use like *zappiye-* ‘drop’ alongside *zappanu-* ‘sprinkle’.

Thus, synchronically in New Hittite the passive voice should be dissociated from the middle<sup>4</sup> and instead be seen as a potential (possibly sporadic) passive use of any unaccusative verb that exists alongside a transitive semantically close verb, whether the two (unaccusative and transitive verbs) are derivationally related or not. The potential passive use of an unaccusative is based on structural similarity of passive and anticausative for which see [Kallulli 2007]. That the data cannot be explained by simply stating that in New Hittite every transitive verb could form passive follows from the fact that in case of the pair *hark-* — *harnink-* / *harganu-* the transitive verbs do not form passive directly from their own stems, although the option was available. Instead, the passive is furnished by the

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<sup>4</sup> See [Luraghi 2010] for dissociating unaccusativity from the middle voice in historical Hittite.



intransitive verb. This is quite surprising in the logic that a passive is normally derived from a transitive verb. It is necessary to stress that passive uses of unaccusative *hark*-synchronically are prototypical passives.

Actually, in view of the fact that Hittite, just like a number of other languages like Albanian, Latin, and Modern Greek [Kallulli 2007: 772], does not formally distinguish passive and intransitive verbs either in the synthetic or in analytical<sup>5</sup> domain (both in regard to the inflection and for the nominals that accompany them — *by*-phrases and *from*-phrases, to use the English equivalents), the alternation should probably be termed formal indistinguishability that is based on very similar structures underlying passives and intransitives and obscuring the distinction between thematic roles of agents, instruments, and oblique causes, see generally [Kallulli 2007: 772–773]. More specifically, both the ability of passive to combine with a *by*-phrase and the ability of intransitive anticausative to combine with a *from*-phrase have been taken as evidence for the existence of an external argument in passives and an external cause of the event in antitransitives and as evidence that passives / anticausatives are formed in the same module of grammar [Kallulli 2007: 772].

Alternatively, the fact that in languages like Greek and German, anticausatives can be marked with the same morphological markers that are employed in other verbal alternations, such as passives, anticausatives in these languages have been argued to contain an additional Voice layer, just as in Voice, which is, however, semantically inert. Building on Schäfer [2008b], this layer is labelled expletive Voice [Alexiadou et al. 2015: 2]. “[W]hile anticausatives indeed lack an implicit external argument, they do contain a cause component similar to passives” (*ibid.*: 3). This version of the proposal also naturally extends to Hittite.

The finding that it is the intransitive unaccusative / anticausative verb that can be used as passive to its transitive alternating member of the pair irrespective of the type of inflection (active or middle) is important in that it provides a common explanation of passives in three classes

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<sup>5</sup> In the analytical domain *participle + be* construction is also not limited to passive — it can be stative, continuous or perfect.

of verbs — active / middle anticausative passives alongside a derivative causative, suppletive passives, and middle passives alongside a transitive verb from the same stem.

### 3.3. Broader Parallels

The behavior of intransitive *hark-* functioning as passive to causative *harnink-* / *harganu-* is quite trivial in the cross-linguistic perspective.

From the broader perspective, the pair *hark-* ‘perish’ — *harganu-* / *harnink-* ‘destroy’ falls into anticausative / causative alternation, “characterized by verbs with transitive and intransitive uses, such that the transitive use of a verb V means roughly ‘cause to V-intransitive’” [Alexiadou et al. 2015: 2, 175]. See explicitly for Hittite [Luraghi 2010: 144].

Cross-linguistically, the derivational relationship can be of several types [Alexiadou et al. : 179; Luraghi 2010: 143–144]:

Anticausative is marked by special morphology:

Russian *katat* ‘-s’*a* ‘roll (intr)’ — *katat* ‘roll (tr)’

Causative is marked by special morphology:

Khalka Mongolian *ongoj-x* ‘open (intr)’ — *ongoj-**lg**-ox* ‘open (tr)’

Non-directed alternations:

both members are derived from a common stem:

Japanese *atum-**aru*** ‘gather (intr)’ — *atum-**eru*** ‘gather (tr)’

suppletive when different roots are used:

Russian *goret* ‘burn (intr)’ — *žeč* ‘burn (tr)’,

labile when the same form is used:

English *open* ‘intr’ — *open* ‘tr’ [Alexiadou et al. 2015: 4, 179].

Much less commonly, there are triplets of two intransitive verbs and one causative like Russian unaccusative *zam’orznut* ‘get cold’ — transitive causative *zamorozit* ‘freeze’ — anticausative *zamorozit’s’a* ‘get frozen’.

Cross-linguistically, there has been much debate as to which of the two variants is basic [*ibid.*]. What is important is that the properties of the type are homogeneous despite direction of morphological derivation [Alexiadou et al. 2015].

In Hittite *hark-* ‘perish’ derives *harnink-* / *harganu-* as causatives ‘make somebody / something perish’ [HED, H: 167; Luraghi 2010: 144; Shatskov 2017: 25]. Other alternating pairs in Hittite are of different types — suppletive and equipollent (*šarra*-type) [Luraghi 2010: 143–145]. Thus, curiously, Hittite never attests triple sets of verbs unlike Russian. In view of the fact that cross-linguistically alternating anticausative / causative behave in the same way irrespective of the direction of derivation, the Hittite situation becomes less surprising.

Cf. the alternating pair in Modern Greek which is lexically identical to Hittite *hark* — *harganu-* / *harnink-*, but shows the opposite direction of derivation: anticausative / passive *katastrafike* ‘get destroyed’ — causative *katastrefo* ‘destroy’ where the basic verb is causative ‘destroy’ [Alexiadou et al. 2006: 194 n. 8]:

- (33) a. *O Petros / i fotia / i vomva katestrepse to paketa*  
 Peter / the fire / the bomb destroyed the package  
 ‘Peter destroyed the package with the fire / by the bomb.’
- b. *To paketo katastrafike apo / me tin fotia /*  
 the package destroyed.Nact by / with the fire /  
*me tin vomva*  
 with the bomb  
 ‘The package was destroyed with the fire / by the bomb.’

It is particularly stressed that *katastrafike* ‘get destroyed’ is ambiguous between the intransitive anticausative and passive interpretations [*ibid.*]. Other languages where ‘destroy’ has an unaccusative variant are Hebrew and French [*ibid.*: 195 n. 11].

It has been explicitly observed that “anticausative verbs are prototypical instances of unaccusative verbs” [Alexiadou et al. 2015: 2]. It is important to stress that in some approaches a distinction is drawn between the intransitive verbs that are used in the alternating pairs *anticausative* — *causative* and intransitive verbs that are not used in this way, like ‘arrive’. It has been argued that anticausatives differ from unaccusatives by the presence of the external cause of the event [Kallulli 2007: 774, 775].

However, it must first be stressed that cross-linguistically there is considerable variation as to what verbs are used in the alternating pairs and which ones are not. E.g., Modern Greek *katastrefo* ‘destroy’ forms anticausatives unlike English and German. Languages like Russian that distinguish *three* members from the same verb like unaccusative *zam’orznut’* ‘get cold’ — transitive causative *zamorozit’* ‘freeze’ — anticausative *zamorozit’s’a* ‘get frozen’ are uniquely rare. Second, some unaccusatives can combine with causes [Kallulli 2007: 771]. Third, for a dead language like Hittite it is virtually impossible to distinguish between an intransitive verb which has the external cause of the event and the one that does not. Hittite *hark-* ‘perish’ is in many instances ambiguous between anticausative, unaccusative, and passive understanding. Thus Hittite *hark-* is actually ambiguous between unaccusative and antitransitive interpretation.

### 3.4. Infinitive

A still more curious phenomenon is presented by the infinitive from *hark-*.

- (34) *apāš=ma=mu*      *hark-anna* [(*IŠTU AWAT DINGIR-LIM*)]  
 he-NOM.SG.C=but=me    **perish-*INF***    with    word    god  
 Û    *IŠTU*    INIM    LÚ    *šanaḥ-ta*  
 and    with    word    man    try-3SG.PST

‘But he sought to **destroy** me at the command of god and the suggestion of man’ [CHD, Š: 166–167; Otten 1981: 22–23]; NH/NS (CTH 81.E) KUB 1.6+ rev. iii 9–10.

Here the intransitive verb *hark-* ‘perish’ is used as transitive ‘to destroy’ in the form of the infinitive. No active uses like this are ever attested for the finite forms of the verb. However, see [Lyutikova, Sideltsev in press<sub>2</sub>] for the explanation which separates this infinitive form from the rest of the paradigm. In any case, similar uses of infinitive are attested for other intransitive verbs and cannot be considered a unique feature of *hark-*: it is rather a property of the infinitive as a grammatical form, see [Lyutikova, Sideltsev in press<sub>2</sub>].

## 4. Conclusion

*Hark-* ‘perish’ is unique in the verbal taxonomy of Hittite.

On the one hand, it has both intransitive unaccusative (‘perish’) and passive (‘be destroyed’) uses that put it in the same class as *akk-* ‘die’, ‘be killed’, namely, intransitive unaccusative verbs which simultaneously function as suppletive passives.

On the other hand, *hark-* behaves differently from suppletive passives in that active *hark-* functions as passive to the causative verbs derivationally related to (and actually derived from) *hark-*, namely, *harnink-* and *harganu-* both with the meaning ‘destroy’.

The latter feature sets it apart from the class of verbs like *šarra-* ‘divide’ which in its middle forms can in the New Hittite period be both unaccusative and passive alongside the same verbal stem *šarra-* which is active transitive = middle transitive.

A closer look at unaccusatives in Hittite reveals that *hark-* with its twofold use as an unaccusative and passive to its own causative is not unique and this twofold use may be typical of other unaccusatives in alternating unaccusative — causative pairs.

In the broader cross-linguistic perspective the Hittite data attest the standard alternation *anticausative* — *causative* from the same stem (as seen already by Luraghi [2010; 2012] and Inglese [2018]) with anticausative attesting a supplementary passive function for the causative verb, also common in the languages of the world. The curious fact that one of the passives for the causative verbs *harnink-* and *harganu-* derived from the anticausative *hark-* is supplied by the anticausative *hark-* itself is an important piece of evidence in favor of the indistinguishability of anticausatives and passives and an argument in favor of divorcing passive from formally marked middle voice or from analytical forms.

It appears that in New Hittite every anticausative with an alternating causative verb is capable of functioning as a passive to it, at least sporadically. This explains the strange fact that many unaccusative / anticausative verbs function as passive to their alternating transitive counterpart

(even suppletive), irrespective of the type of inflection (middle or active). Whether the potential was realized with every verb remains impossible to determine in view of the limited corpus and scarce attestations of many relevant verbs.

The finding that it is the intransitive unaccusative / anticausative verb that can be used as passive to its transitive alternating member of the pair irrespective of the type of inflection (active or middle) is important in that it provides a common explanation of passives in three classes of verbs — active / middle anticausative passives alongside a derivative causative, suppletive passives, and middle passives alongside a transitive verb from the same stem.

Along more general lines, Hittite is a language with morphological marking of voice as middle or analytical passives. However, voice in Hittite is closely tied in with anticausatives. It was shown by [Luraghi 2010; 2012; Inglese 2018] that passive voice is diachronically based on reanalysis of anticausative and synchronically in one of the periods of the Hittite language evolution it cooccurs with anticausatives. I extend the proposal to show that passive in Hittite is not associated with any formal voice marking, but rather with anticausatives generally. Anticausatives marked both by active verbal morphology and by middle verbal morphology (both synthetically and analytically) can occasionally function as passives to the alternating causative verb.

This conclusion has a broader implication for general linguistics. It provides novel data on the anticausative / passive in comparison with the languages standardly adduced for the discussion of anticausative, such as Greek or German where anticausatives are marked with the same morphology which is employed in passives. Anticausatives in Hittite are marked by both active and middle voice verbal morphology, but irrespective of this fact they occasionally function as passives to their causative alternating member of the pair.

Thus Hittite appears to violate the generalization that “[s]ince we take the causative alternation to be a Voice alternation, our core proposal is that unmarked anticausatives, as well as pure unaccusatives (e.g. English *wilt*), in all languages under discussion, simply lack VoiceP, the functional layer that introduces the external argument.” [Alexiadou et al. 2015: 10].

## Corpus of participles

The corpus includes texts composed only in the New Hittite times: prayers (CTH 377, CTH 378.1, CTH 378.2, CTH 378.3, CTH 378.4, CTH 378.5, CTH 378.6, CTH 378.7, CTH 378.8, CTH 379, CTH 381, 382, 383.1, 384.1) 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], dreams and vows [de Roos 2007]; deeds of Suppiluliumma [del Monte 2009], deeds of Mursili [Götze 1933] with subsequent additions; deeds of Hattusili III [Gurney 1997]; Apology of Hattusili III [Otten 1981]; other texts relating to Hattusili III [Ünal 1974]; restoration of Nerik [Cornil, Lebrun 1972]; edict concerning hekur of Pirwa (KBo 6.28+); Memorandum concerning Mursili III [Cammarosano 2009], Bronzetafel [Otten 1988], dictate of Mursili II [Miller 2007], Mursili's Aphasia [S. Görke (ed.), [hethiter.net/](http://hethiter.net/): CTH 486 (TX 15.12.2015, TRde 17.07.2015)], cult inventories [Hazenbos 2003], oracles [Ünal 1978; van den Hout 1998; Sakuma 2009], treaties (CTH 42, CTH 62, CTH 69, CTH 89, CTH 105, CTH 123, CTH 141) [Friedrich 1926, 1930; del Monte 1986; González Salazar 1994] 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), Ulmitešub treaty [van den Hout 1995], inventory texts [Siegelová 1986]. Middle and Old Hittite texts, including Middle and Old Hittite compositions, have not been included in the Corpus.

## Abbreviations

1, 2, 3 — 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> person; abl. — ablative; acc. — accusative; c. — common gender; caus. — causative; conn. — connective; dat. — dative; foc. — focus particle; gen. — genitive; imp. — imperative; instr. — instrumental; loc. — locative; locp. — locative particle; med. — middle voice; n. — neuter gender; nact. — non-active; nom. — nominative; pl. — plural; prs. — present; pst. — past; ptcp. — participle; quot. — quotation particle; refl. — reflexive; sg. — singular.

## Sources

Archi 1988 — A. Archi. Eine Anrufung der Sönnengottin von Arinna. *Documentum Asiae minoris antiquae. Festschrift für Heinrich Otten zum 75. Geburtstag*. Wiesbaden: Harrassowitz, 1988. P. 5–31.

- Archi, Klengel 1985 — A. Archi, H. Klengel. Die Selbstrechtfertigung eines hethitischen Beamten (KUB LIV 1). *Altorientalische Forschungen*. 1985. Vol. 12. P. 52–64.
- Cammarosano 2009 — M. Cammarosano. A Coregency for Mursili III? *Altorientalische Forschungen*. 2009. Vol. 36. Pt. 1. P. 171–202.
- Friedrich 1926 — J. Friedrich. *Staatsverträge des Hatti-Reiches in hethitischer Sprache*. 1. Teil (MVAeG 31/1). Leipzig: Hinrichs, 1926.
- Friedrich 1930 — J. Friedrich. *Staatsverträge des Hatti-Reiches in hethitischer Sprache*. 2. Teil (MVAeG 34/1). Leipzig: Hinrichs, 1930.
- Giorgeri, Clelia 2004 — M. Giorgieri, C. Mora. *Le lettere tra i re ittiti e i re assiri ritrovate a Hattuša*. (HANEM 7). Padova: S.a.r.g.o.n Editrice e Libreria, 2004.
- Glocker 1997 — J. Glocker. *Das Ritual für den Wettergott von Kuliwisna*. Firenze: LoGisma, 1997.
- Götze 1933 — A. Götze. *Die Annalen des Mursilis*. (MVAeG 38). Leipzig: Hinrichs, 1933.
- González Salazar 1994 — J. M. González Salazar. Tiliura, un ejemplo de la política fronteriza durante el imperio hitita (CTH 89). *Aula orientalis*. 1994. Vol. 12. P. 159–176.
- Groddek 2004 — D. Groddek. *Hethitische Texte in Transkription KUB 20*. (DBH 13). Dresden: Verlag der technischen Universität Dresden, 2004.
- Gurney 1997 — O. R. Gurney. The Annals of Hattusili III. *Anatolian Studies*. 1997. Vol. 47. P. 127–139.
- Hagenbuchner 1989 — A. Hagenbuchner. *Die Korrespondenz der Hethiter. 2. Teil. Die Briefe mit Transkription, Übersetzung und Kommentar*. (THeth 16). Heidelberg: Winter, 1989.
- Hazenbos 2003 — J. Hazenbos. *The Organization of the Anatolian Local Cults During the Thirteenth Century B. C.* (CM 21). Leiden; Boston: Brill; Styx, 2003.
- Hoffner 2009 — H. Hoffner, Jr. *Letters from the Hittite kingdom*. (SBL WAW 15). Atlanta: Society of Biblical Literature, 2009.
- van den Hout 1995 — Th. van den Hout. *Der Ulmitešub-Vertrag*. (StBoT 38). Wiesbaden: Harrassowitz, 1995.
- van den Hout 1998 — Th. van den Hout. *The Purity of Kingship. An Edition of CTH 569 and Related Oracle Inquiries of Tudhaliya IV*. (DMOA 25). Leiden; Boston: Brill, 1998.
- Hutter 1988 — M. Hutter. *Behexung, Entsühnung und Heilung*. Freiburg, Schweiz: Universitätsverlag, Göttingen: Vandenhoeck & Ruprecht, 1988.
- Kassian et al. 2002 — A. Kassian, A. Korolev, A. Sideltsev. *Hittite Funerary Ritual šalliš waštaiš*. (AOAT 288). Münster: Ugarit Verlag, 2002.
- McMahon 1991 — G. McMahon. *The Hittite State Cult of Tutelary Deities*. (AS 25). Chicago: The Oriental Institute, 1991.



- Miller 2004 — J. Miller. *Studies in the Origins, Development and Interpretation of the Kizzuwatna Rituals*. (StBoT 46). Wiesbaden: Harrassowitz, 2004.
- Miller 2007 — J. Miller. Mursili II's dictate to Tuppi-Teššup's Assyrian antagonists, *KASKAL*. 2007. Vol. 4. P. 121–152.
- Miller 2013 — J. Miller. *Royal Hittite Instructions*. (SBL Writings from the Ancient World 31). Atlanta, Georgia: Society of Biblical literature, 2013.
- Miller 2014 — J. Miller. Mursili II's Prayer Concerning the Misdeeds and the Ousting of Tawananna. P. Taracha (ed.). *Proceedings of the Eighth International Congress of Hittology Warsaw, 5–9 September 2011*. Warsaw: Agade, 2014. P. 516–557.
- del Monte 2008 — G. del Monte. *Le gesta di Suppiluliuma. Traslitterazione, traduzione e commento. L'opera storiografica di Mursili II re di Hattusa*. Vol. I. Pisa: Edizioni Plus Pisa University Press, 2008.
- Otten 1961 — H. Otten. Eine Beschwörung der Unterirdischen aus Boğazköy. *Zeitschrift für Assyriologie*. 1961. Vol. 54. P. 114–57.
- Otten 1981 — H. Otten. *Die Apologie Hattusilis III*. (StBoT 24). Wiesbaden: Harrassowitz, 1981.
- Otten 1988 — H. Otten. *Die Bronzetafel aus Boğazköy*. (StBoT Bh 1). Wiesbaden: Harrassowitz, 1988.
- Popko 2003 — M. Popko. *Das hethitische Ritual CTH 447*. Warsaw: Agade, 2003.
- Popko, Taracha 1988 — M. Popko, P. Taracha. Der 28. und der 29. Tag des hethitischen AN.TAH.ŠUM-Festes. *Altorientalische Forschungen*. 1988. Vol. 15. Pt. 1. P. 82–113.
- de Roos 2007 — J. de Roos. *Hittite Votive Texts*. (PIHANS CIX). Leiden: Nederlands Instituut voor het Nabije Oosten, 2007.
- Sakuma 2009 — Y. Sakuma. *Hethitische Vogelorkeltexte*. PhD Dissertation, Julius Maximilians-Universität, Würzburg, 2009.
- Siegelová 1986 — J. Siegelová. *Hethitische Verwaltungspraxis im Lichte des Wirtschafts- und Inventardokumente*. Prague: Národní museum v Praze, 1986.
- Ünal 1974 — A. Ünal. *Hattušili III*. Teil I. Hattušili bis zu seiner Thronbesteigung. Bd. 2. Quellen und Indices (THeth 4). Heidelberg: Winter, 1974.
- Ünal 1978 — A. Ünal. *Ein Orakeltext über die Intrigen am hethitischen Hof (KUB XXII 70 = Bo 2011)*. (THeth 6). Heidelberg: Winter, 1978.
- Werner 1967 — R. Werner. *Hethitische Gerichtsprotokolle*. (StBoT 4). Wiesbaden: Harrassowitz, 1967.

## References

- Alexiadou, Schäfer 2006 — A. Alexiadou, F. Schäfer. Instrument Subjects are Agents or Causers. D. Baumer, D. Montero, M. Scanlon (eds.). *Proceedings of the 25<sup>th</sup>*

- West Coast Conference on Formal Linguistics*. Somerville, Mass.: Cascadilla, 2006. P. 40–48.
- Alexiadou et al. 2015 — A. Alexiadou, E. Anagnostopoulou, F. Schäfer. *External Arguments in Transitivity Alternations*. Oxford: Oxford University Press, 2015.
- CHD — H. Güterbock, H. Hoffner, Th. van den Hout (eds.). *The Hittite Dictionary of the Oriental Institute of the University of Chicago*. Chicago: The Oriental Institute of the University of Chicago, 1989–.
- Covini 2017 — A. Covini. *Formazioni causative nelle lingue indoeuropee di più antica attestazione*. PhD Dissertation, Università per stranieri di Siena, Universität zu Köln, 2017.
- Covini 2018 — A. Covini. Ersatzkontinuanten e ricostruzione indoeuropea: ie. \**h<sub>3</sub>elh<sub>1</sub>* [...] > itt. *hark(iye/a)<sup>-mi</sup>* ‘cadere in rovina’, *harni(n)k<sup>-mi</sup>*, *harganu<sup>-mi</sup>* ‘mandare in rovina’. *Annali del Dipartimento di Studi Letterari, Linguistici e Comparati. Sezione linguistica*. Vol. 7. 2018. P. 13–46.
- Garrett 1990 — A. Garrett. *The syntax of Anatolian Pronominal Clitics*. PhD Dissertation, Harvard University, 1990.
- Garrett 1996 — A. Garrett. Wackernagel’s Law and Unaccusativity in Hittite. A. L. Halpern, A. M. Zwicky (eds.). *Approaching Second. Second Position Clitics and Related Phenomena*. (CSLI Lecture Notes Number 61). Stanford, California: CSLI Publications Center for the Study of Language and Information, 1996. P. 85–134.
- Goedegebuure 2014 — P. Goedegebuure. *The Hittite Demonstratives*. (StBoT 55). Wiesbaden: Harrassowitz, 2014.
- HED — J. Puhvel. *Hittite Etymological Dictionary*. (Trends in Linguistics, Documentation 1). Berlin; New York; Amsterdam: Mouton, 1984–.
- Hoffner 1998 — H. Hoffner, Jr. *Hittite Myths*. 2<sup>nd</sup> ed. (SBL WAW 2). Atlanta: Society of Biblical Literature, 1998.
- Hoffner 2003 — H. Hoffner, Jr. The Case Against Ura-tarhunta and his Father Ukkura. W. Hallo, K. Younger (eds.). *The Context of Scripture*. Vol. 1. Leiden; Boston: Brill, 2003. P. 57–60.
- Hoffner, Melchert 2008 — H. Hoffner, Jr., H. Craig Melchert. *A Grammar of the Hittite Language*. Pt. 1. Reference Grammar. Winona Lake: Eisenbrauns, 2018.
- van den Hout 2003 — Th. van den Hout. Apology of Hattusili III. W. Hallo, K. Younger (eds.). *The Context of Scripture*. Vol. 1. Leiden; Boston: Brill, 2003. P. 199–204.
- Inglese 2018 — G. Inglese. *The Hittite Middle Voice*. PhD Dissertation, University of Bergamo, 2018.
- Kloekhorst 2008 — A. Kloekhorst. *Etymological Dictionary of the Hittite Inherited Lexicon*. Leiden; Boston: Brill, 2008.

- Luraghi 2010 — S. Luraghi. Transitivity, Intransitivity and Diathesis in Hittite. *Indo-European Linguistics and Classical Philology*. 2010. Vol. 14. P. 133–154.
- Luraghi 2012 — S. Luraghi. Basic valency orientation and the middle voice in Hittite. *Studies in Language*. 2012. Vol. 36. Pt. 1. P. 1–32.
- Luraghi 2022 — S. Luraghi. Basic valency orientation, the anticausative alternation, and voice in PIE. M. Malzahn, H. Fellner, Th.-S. Illés (eds.). *Zurück zur Wurzel — Struktur, Funktion und Semantik der Wurzel im Indogermanischen. Akten der Tagung der Indogermanischen Gesellschaft vom 13. bis 16. September 2016 in Wien*. Wiesbaden: Reichert, 2022. P. 185–196.
- Lyutikova, Sideltsev in press<sub>1</sub> — E. Lyutikova, A. Sideltsev. Voice alternations in Hittite non-finite verbal forms (under review).
- Lyutikova, Sideltsev in press<sub>2</sub> — E. Lyutikova, A. Sideltsev. Voice neutrality in Hittite infinitives: a restructuring analysis (under review).
- Neu 1968a — E. Neu. *Interpretation der hethitischen mediopassiven Verbalformen*. (StBoT 5). Wiesbaden: Harrassowitz, 1968.
- Neu 1968b — E. Neu. *Das hethitische Mediopassive und seine indogermanische Grundlagen*. (StBoT 6). Wiesbaden: Harrassowitz, 1968.
- Shatskov 2010 — A. Shatskov. Passive Uses of Middle Verb Forms in Hittite. *Indo-European Linguistics and Classical Philology*. 2010. Vol. 14. P. 444–449 (in Russian).
- Shatskov 2017 — A. Shatskov. *Hittite Nasal Presents*. PhD Dissertation, Leiden University, 2017.
- Singer 2002 — I. Singer. *Hittite Prayers*. (SBL Writings from the Ancient World 11). Atlanta, Georgia: Society of Biblical literature, 2002.