

## В ПОИСКАХ СКРЫТЫХ ИМЕННЫХ ВЕРШИН В КОМПАРАТИВАХ (И НЕ ТОЛЬКО) МАЛОКАРАЧКИНСКОГО ЧУВАШСКОГО\*

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В малокарачкинском диалекте чувашского языка причастие прошедшего времени на *-пд* может оформлять относительные клаузы, сен-тенциальные актанты и стандарты сравнения, а также употребляться независимо. В статье для всех этих случаев предлагается единый син-таксический анализ, который предполагает, что суффикс *-пд* озвучива-ет вершину T[ense] (или иную подобную вершину, расположенную вы-соко в расширенной глагольной проекции). Возглавляемые причастия-ми группы в актантных и сравнительных клаузах могут рассмат-риваться как комплементы/определения при произносимых именных вер-шинах. Однако альтернативный анализ в терминах смешанных расши-ренных проекций также не может быть полностью отвергнут.

**Ключевые слова:** чувашский язык, сравнительные конструкции, сен-тенциальные актанты, параметрические имена, смешанные проек-ции, причастие, относительные клаузы.

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## LOOKING FOR HIDDEN NOMINAL HEADS IN POSHKART CHUVASH COMPARATIVES (AND BEYOND)\*

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In the Poshkart dialect of Chuvash, the past participle in *-nə* is used in relative clauses, sentential complements, phrasal standards of comparison, as well as independently. I argue that all these uses can be subsumed under a unified syntactic account that treats the suffix *-nə* as an exponent of T[ense] (or other similar head high in the extended verbal projection). Apparently nominalized participles in complement and comparative clauses can be analyzed as complements/modifiers to unpronounced nominal heads. However, an alternative analysis in terms of mixed extended projections can not be at present completely ruled out.

**Keywords:** Chuvash, comparative construction, degree nominals, mixed projection, nominalization, participle, relativization, sentential complementation.

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## 1. Introduction

As is typical for Turkic languages, Poskarta Chuvash<sup>1</sup> employs what Stassen [1985] calls a locational strategy for encoding comparison of inequality, with the gradable predicate optionally (but preferably) bearing the comparative suffix *-(dA)rAk* and the standard of comparison invariably marked with the ablative case:

- (1) *xër atça aržin atça-ran çylë(-rek)*  
 girl child man child-ABL tall-CMPR  
 ‘The girl is taller than the boy.’

- (2) *xër atça-ja aržin atça-ran numaj(-rak) pədarkə par-za*  
 girl child-OBJ man child-ABL many-CMPR gift give-CV\_SIM  
 ‘More presents were given to the girl than to the boy.’

This strategy is inherently phrasal<sup>2</sup>: the standard introduced by the ablative can only be a DP and when comparing to a standard referred to by a non-DP constituent, the latter must undergo nominalization in one way or another. In particular, any standard involving a VP or a larger projection has its main verb in the form of a past participle bearing a 3<sup>rd</sup> person possessive suffix to which the ablative marker is then attached:

- (3) *jep kamba tət-n-in-ðen polə lajk-rax təd-a-p*  
 I mushroom grab-PC\_PST-P\_3-ABL fish good-CMPR grab-NPST-1SG  
 ‘I am better at fishing than at gathering mushrooms.’

The same participial form (*-nð*) is one of the primary means of encoding relativization in Chuvash [Pavlov 1957: 221–223], cf. (4a–c) from [Logvinova 2019b]. It also appears in a wide range of complement clauses (5):

- (4) a. *xoligan-zam aržin atça-ja xən-etçë*  
 hooligan-PL man child-OBJ beat-NPST.3PL  
 ‘The hooligans beat the boy.’

<sup>1</sup> The data for this study mostly comes from original fieldwork (2017–2021) in the village of Maloe Karachkino (Poskarta), Yadrinsky district, Chuvash Republic. All native speakers consulted display a mixture of dialectal and standard Chuvash features in varying proportions, which is reflected in the transcription used (cf. *-rak~ -rax* for the comparative degree marker). To what extent the findings of the present study may be relevant for other varieties of Chuvash, remains an open question.

<sup>2</sup> Poskarta Chuvash also possesses a genuinely clausal strategy of comparison calqued from Russian, with a borrowed standard-introducing conjunction *təm* [Gerasimov 2020]. This is beyond the scope of the present paper.

b. [[*ëner aržin atça-ja xëne-në*] *xoligan-zam*] *tërme-re lar-atça*  
 yesterday man child-OBJ beat-PC\_PST hooligan-PL prison-LOC sit-NPST.3PL  
 ‘The hooligans who beat the boy yesterday are in prison.’

c. [[*ëner xoligan-zam xëne-në*] *aržin atça*] *bolniž-ra virđ-at*  
 yesterday hooligan-PL beat-PC\_PST man child hospital-LOC lie-NPST[3SG]  
 ‘The boy whom the hooligans beat yesterday is in the hospital.’

(5) *vəl kaj-n-i man-a pəžərgan-dar-tç-ə*  
 s/he go-PC\_PST-P\_3 I.OBL-OBJ get.sad-CAUS-PST-3SG  
 ‘That s/he has left saddened me.’

Can different uses of the past participle in Poshkart Chuvash be given a uniform structural account? In the present paper, I will explore the possibility for such an analysis, drawing inspiration mainly from two sources: the parametric typology of participle-nominalizer polysemy proposed in [Dékány, Georgieva 2020, 2021] and the analysis of Japanese comparatives in terms of covert nominal heads argued for by [Sudo 2009, 2015]. The rest of the paper is structured as follows. Section 2 recaps Dékány and Georgieva’s proposal. In Section 3, I then try to apply their model to Poshkart Chuvash data, with the main bulk of the section dedicated to the syntactic status of nominalized complements, as a more contentious question that I ultimately leave open for now. In Section 4, I extend the covert noun analysis to comparative clauses and also discuss outstanding questions and possible alternative accounts. Section 5 concludes the paper.

## 2. Theoretical background: Participle-nominalizer polysemy

The pattern exemplified by Chuvash, wherein the same suffix (or other such morphosyntactic device) appears both in forms heading adnominal clausal constructions and in deverbal nominalizations occupying argument positions (6), is wide-spread in the languages of the world [Koptjevskaja-Tamm 1993: 43–44; Noonan 1997; Serdobolskaya, Paperno 2006; Shagal 2019: 41–44; inter alia].

- (6) a. [<sub>VP</sub> [<sub>nominalization</sub> V-*sfx*] matrix-V] (nominalization)  
 b. [<sub>DP</sub> [<sub>relative</sub> V-*sfx*] N] (relative)

Most recently, [Dékány, Georgieva 2020, 2021] have argued that such cases should not be viewed as disconnected instances of accidental homonymy, but rather call for a principled, structure-based account. They argue that this pattern,

which they label “participle-nominalizer polysemy” for convenience (although no polysemy as such is involved), arises when the structure of deverbal nominals (henceforth DVNs) properly contain those of participial relative clauses (henceforth pRCs). This may happen in various configurations, depending on a few parameters.

The first analytical ramification to consider is whether the shared suffix spells out a functional head in the extended VP or a nominalizing head that selects an extended VP as its complement. In the latter option, the “nouny” character of the suffix provides straightforward explanation of its use in DVNs, yet forces us to posit that for whatever reason, pRCs cannot directly modify nouns and need to undergo nominalization (yielding a mixed extended projection in terms of [Borsley, Kornfilt 2000]) before being merged in adnominal position.

I see at least three arguments to reject this particular line of analysis for Poshkart Chuvash<sup>3</sup>. First, it suggests more structure precisely where we see less overt morphology, and vice versa (cf. possessive marking in (5) vs. lack thereof in (4a–b)). Second, as we shall see in the next section, there is no independent evidence for nominalized status of participial relatives. Finally, the forms marked with *-nə* can appear as predicates of independent clauses (7), suggesting that the suffix merges at a verbal extended projection hosting temporal/aspectual information:

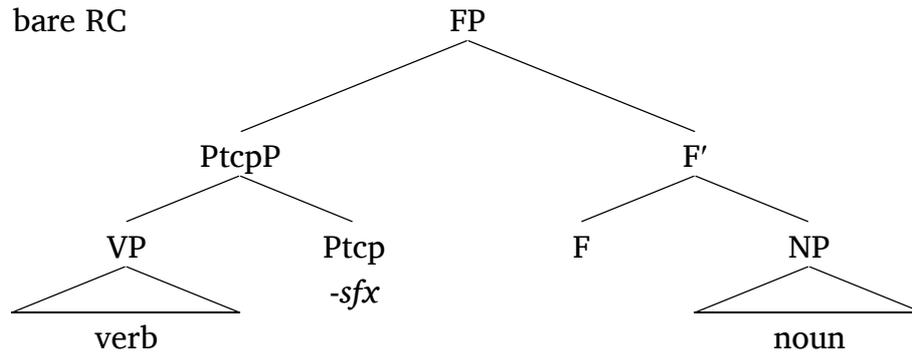
- (7) *vaça-ba pet'a kugəl' pëzer-në*  
 Vasja-INS Petja pie cook-PC\_PST  
 ‘Vasja and Petja baked some pies.’

Assuming that the shared suffix expones a “verby” head, two further parameters come in play. First, RCs may modify nouns directly or undergo nominalization (as it was obligatory under the “nouny” option sketched above). See the tree diagrams in (8), adopted from [Dékány, Georgieva 2021], where Ptcp is the head in the extended VP spelled out by the morpheme under consideration and FP is a functional projection within the extended NP responsible for the composition of the pRC and its head noun<sup>4</sup>. (8b) only differs from (8a) in the presence of an additional nominal layer between PtcpP and FP:

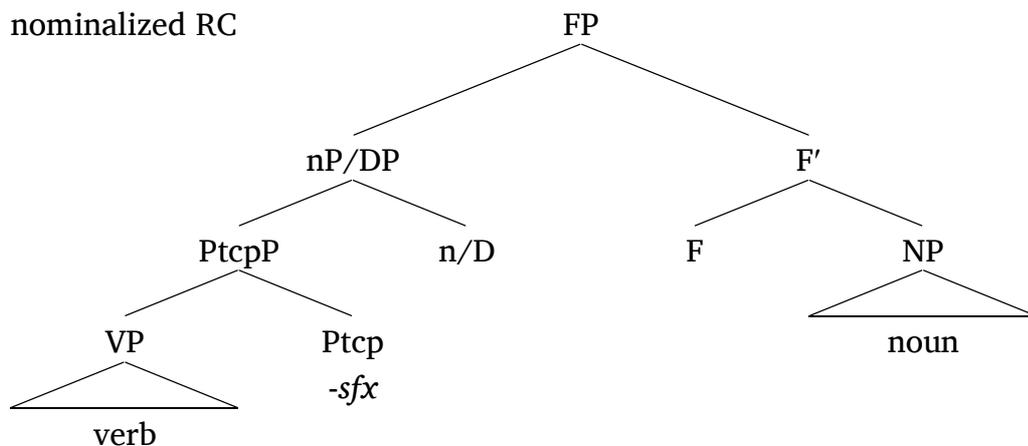
<sup>3</sup> Dékány and Georgieva also do not find any instantiations of this type among Turkic and Uralic languages they have studied. Some of the languages surveyed in [Shibatani 2009] seem like fitting candidates, but more research is needed.

<sup>4</sup> Note that this parameter is absent from [Dékány, Georgieva 2020] and has only been introduced in [Dékány, Georgieva 2021]. In this latter work, the projection in question is labeled AspP instead of PtcpP, but the designation is again conventional: nothing in the proposed analysis hinges on the precise identity of this projection.

(8) a. bare RC



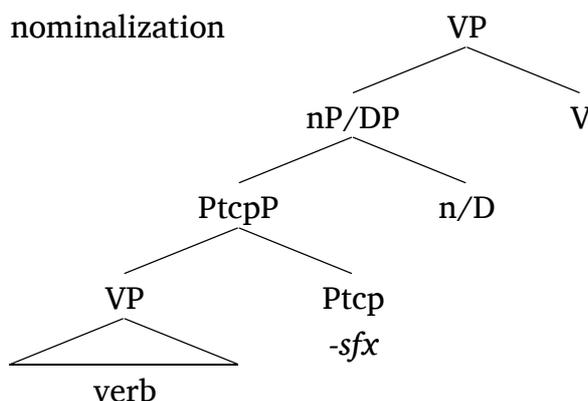
(8) b. nominalized RC



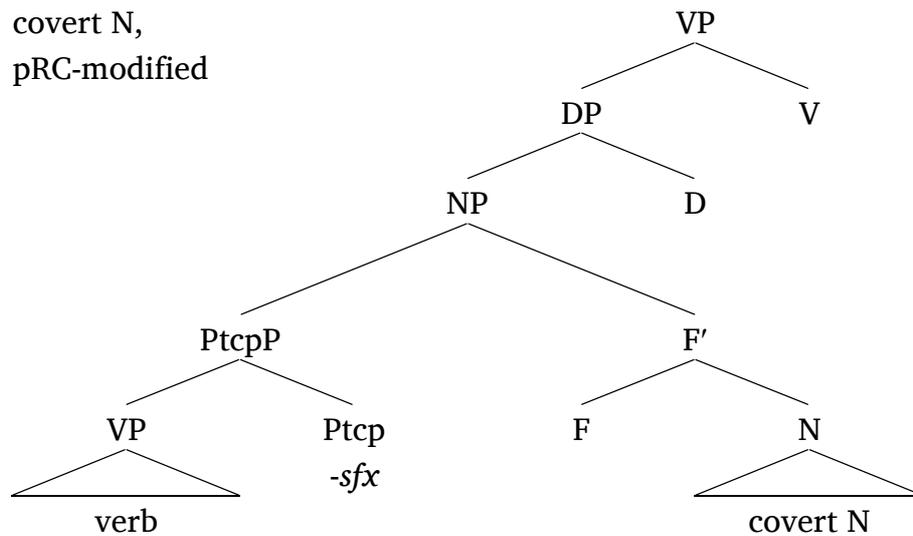
RC nominalization need not be overtly marked. It is evidenced by nominal properties displayed by the RC: Genitive marking on the subject, obligatorily possessive morphology, determination, availability of pluralization, etc.

The second parameter deals with the nature of the “nouny” element that distinguishes DVNs from RCs and gives the former their nominal distribution. This can be either a functional head like *n* or *D*, making a DVN a mixed extended projection (9a), or a covert lexical noun that takes PtcpP as a clausal modifier/complement (9b–c). The latter type can be diagnosed by the alternation between overt and covert nouns or by the presence of over light nominals.

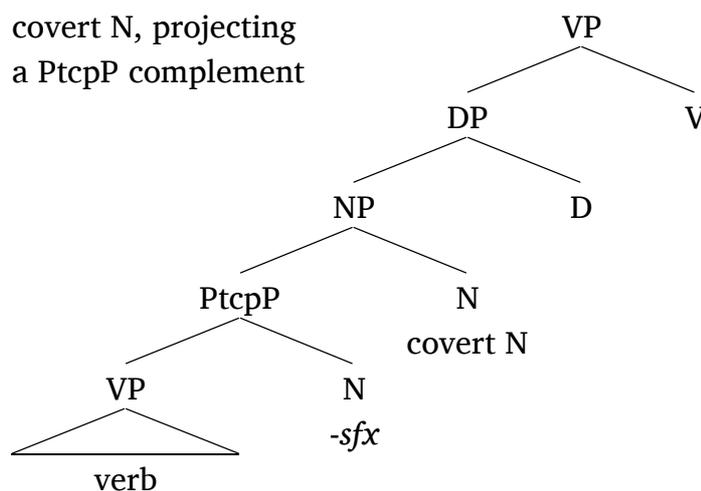
(9) a. nominalization



- (9) b. covert N,  
pRC-modified



- (9) c. covert N, projecting  
a PtcpP complement



The interaction of these two binary parameters (bare *vs.* nominalized pRCs; mixed extended projections *vs.* covert nouns in DVNs) produces three principal configurations wherein participle-nominalizer polysemy can arise: (i) bare pRCs and mixed extended projections in DVNs (Kazakh, Udmurt); (ii) mixed extended projections in both pRCs and DVNs (Modern Standard Turkish); (iii) bare pRCs and DVNs projected from a nominal head, covert (Uyghur) or overt (Korean, Kazym Khanty). The fourth logically possible type is not expected to be attested, since if a language has mixed extended projections in relative clauses, nothing should prevent them from appearing in argument positions [Dékány, Georgieva 2021]. So, what place do Chuvash *nə*-forms occupy in the proposed typology and what consequences does it have for comparative constructions with participial standards?

### 3. Participle-nominalizer polysemy in Chuvash

#### 3.1. Towards an analysis

The status of Poshkart Chuvash pRCs does not appear to pose any problems, as they do not bear any formal trappings of nominalization. The argument marking scheme of main clauses is retained<sup>5</sup>, as illustrated in examples (4a–c) above. No possessive or D-like marking is involved, either: when an explicit nominal head is present, a 3<sup>rd</sup> person possessive maker may attach to it, but not to the participle itself. I thus conclude that the structures in question are bare pRCs that directly compose with their head nouns via a dedicated functional projection. The same morphological profile is characteristic of participial complements selected by content nouns such as *sazə* ‘rumor’, *xəbar*, *novəç* ‘news’, etc. [Logvinova 2019b; forthc.].

The situation with DVNs in complement clauses is less straightforward, as is often the case (cf. competing analyses of Turkish data in [Lees 1965; Aygen 2002, 2011; Kornfilt 2003; Kornfilt, Whitman 2011; Dékány, Georgieva 2021; a.o.]). Past Participle forms used in such structures differ from those in relative clauses in the obligatory presence of the 3<sup>rd</sup> person possessive suffix<sup>6</sup>:

- (10) *vəl kaj-n-\*(i) terəs mar*  
 s/he go-PC\_PST-P\_3 true NEG\_ASCR  
 ‘That s/he has left is not true.’

It must be noted that in Poshkart Chuvash, the system of possession marking has largely decayed; only the 3<sup>rd</sup> person marker remains fully productive and it has developed an array of determiner-like uses beyond its original function [Logvinova 2019a]. That in the case of DVN complements we are not dealing with possession or agreement, is clearly evidenced by examples like (11), where the 3<sup>rd</sup> person possessive suffix appears on the participle despite its subject being the 2<sup>nd</sup> person:

<sup>5</sup> In fact, genitive-marked subjects in pRCs are allowed by a distinct minority of speakers, but this seems to be an ideolectal ideosyncrasy.

<sup>6</sup> Somewhat unexpectedly, omission of the possessive suffix appears acceptable (or even preferable), at least for some speakers, in DVNs marked with the causal case:

- (i) *jep xər-a-p vəl yg-n-(i)-zən*  
 I be.afraid-NPST-1SG s/he fall-PC\_PST-P\_3-CSL  
 ‘I am afraid that s/he will fall.’

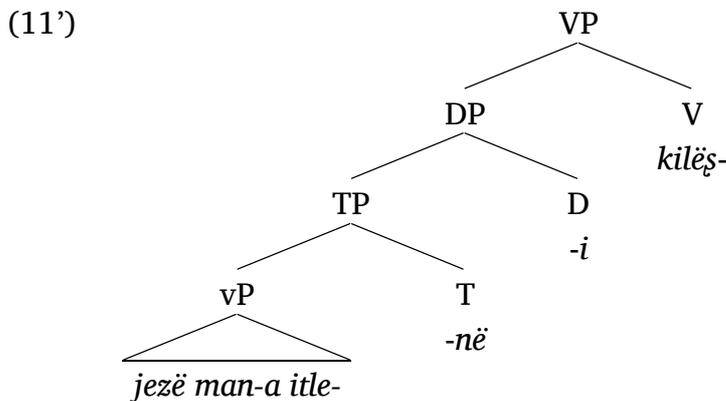
This may be connected to the adverbial rather than argument status of the clauses in question, but further study is required. I isolate this case as exceptional and postpone the explanation for the future.

- (11) *jezë man-a itle-n-i kil-ëz-et*  
 you I.OBL-OBJ listen-PC\_PST-P\_3 come-REC-NPST[3SG]  
 ‘(I) like it that you listen to me.’

It thus appears tempting to assume that the possessive suffix on DVNs spells out precisely the D head that tops the PtcpP projection without an intermediate nominal layer and is responsible for the overall nominal distribution. Since all participial clauses discussed in this section have nominative subjects and also may contain various light verbs expressing an array of aspectual meanings, cf. (12), the Ptcp head must be located fairly high within the extended VP, enabling the PtcpP to retain a significant amount of clausal structure.

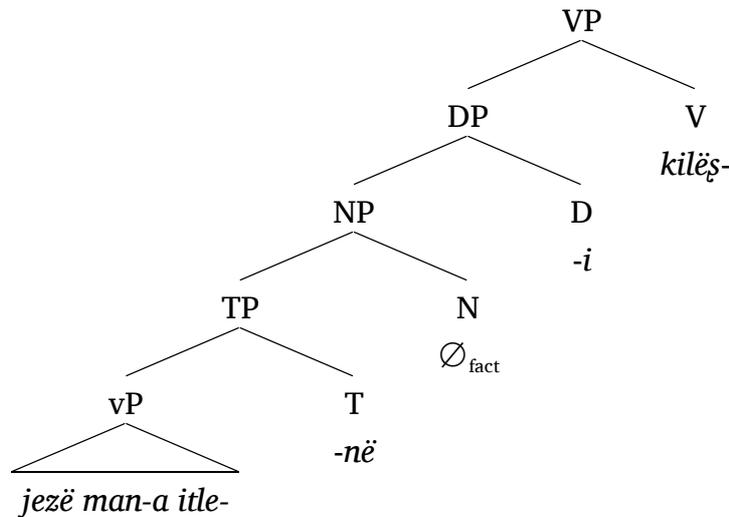
- (12) *vəl kaj-z=er-n-i terës mar*  
 s/he go-CV\_SIM=AUX-PC\_PST-P\_3 true NEG\_ASCR  
 ‘That s/he has left is not true.’

We may thus tentatively equate PtcpP with TP, the layer where the subject DP receives its nominative case exempting it from the need to raise further to Spec, DP. This makes sense, given that participial main clauses such as (7) can only refer to the past. Taken together, these assumptions result in the following structure for (11):



The second possibility to consider is that Poshkart Chuvash DVNs are able to fulfill argument positions by virtue of being headed by covert nouns with abstract meanings such as ‘fact’, ‘news’, ‘event’, etc. As [Logvinova 2019b; forthc.] shows, *nə*-marked participial clauses combining with overt content nouns are categorically different from true pRC, despite superficial similarity and a number of shared properties. Consequently, covert nominal heads must likewise occur in a complement configuration (9c), rather than a relative clause configuration (9b). We thus arrive at the following alternative structure:

(11'')



How to choose between the two competing hypotheses in (11') and (11'')? In the following three sub-sections I will review different diagnostics pro and contra the covert noun analysis proposed in the literature and apply them to Poshkart Chuvash data.

### 3.2. Alternation between covert and overt nominal heads

The primary diagnostics for the presence of covert nominal heads used by [Dékány, Georgieva 2020, 2021] is the possibility of inserting an overt noun after the participle. This “overt head noun test” has been used in [Asarina, Hartman 2011] for Uyghur:

(13) Uyghur [Asarina, Hartmann 2011: 24]

a. *Ötkür [Tursun-niñ tamaq yi-gen]-i-ni bil-i-du / di-d-i*  
 Ötkür Tursun-GEN food eat-PC\_PST-P\_3-ACC know-IMPF-3 say-PST-3  
 ‘Ötkür knows/said that Tursun ate food.’

b. *Ötkür [Tursun-niñ tamaq yi-gen] heqiqet-i-ni bil-i-du / di-d-i*  
 Ötkür Tursun-GEN food eat-PC\_PST fact -P\_3-ACC know-IMPF-3 say-PST-3  
 ‘Ötkür knows/said the fact that Tursun ate food.’

For Poshkart Chuvash, the condition holds, but with a caveat. Compare (5) (repeated below as (14a)) vs. (14b–c):

(14) a. *vəl kaj-n-i man-a pəzərgan-dar-tə-ə*  
 s/he go-PC\_PST-P\_3 I.OBL-OBJ get.sad-CAUS-PST-3SG  
 ‘That s/he has left saddened me.’

b. *vəl kaj-nə novəç man-a pəzərgan-dar-tç-ə*  
 s/he go-PC\_PST news I.OBL-OBJ get.sad-CAUS-PST-3SG  
 ‘The news that s/he has left saddened me.’

c. *vəl kaj-nə fakt man-a pəzərgan-dar-tç-ə*  
 s/he go-PC\_PST fact I.OBL-OBJ get.sad-CAUS-PST-3SG  
 ‘The fact that s/he has left saddened me.’

As we can see, the P\_3 marker is in complementary distribution with overt nominal heads (again, idiolectal fluctuations exist, but the default pattern is as illustrated in (14)). This is in contrast to both Uyghur, where either the head noun or the participle bears the possessive suffix (13), and Turkish, where the possessive agreement obligatorily manifests on the participle regardless of the presence of an overt noun [Kornfilt 2003: 181]. Thus, (14b–c) differ from (14a) in more than just addition of an overt noun, which casts doubt over the possibility of assigning the same structure to them.

Given that possessive marking on participles in Poshkart Chuvash is not a manifestation of agreement, can we still explain its appearance in examples like (14a) assuming a zero head noun structure for them? As [Logvinova 2019a: 89–93] shows, similar distribution of possessive marking is found in most other cases of alternation between an overt noun and lack thereof, including nominal ellipsis (15a–b), although the degree of obligatoriness varies from context to context. She even identifies “zero nominal head marking” («маркирование нулевой именной вершины») as one of non-possessive functions of the suffix in question.

(15) a. *siməs / \*siməs-i / \*simöz-ë<sup>7</sup> olma*  
 green green-P\_3 green-P\_3 apple  
 ‘green apple’

b. *xərlə olma tutlə, siməs / siməs-i / simöz-ë tutlə mar*  
 red apple tasty green green-P\_3 green-P\_3 tasty NEG\_ASCR  
 ‘The red apple tastes good, the green one doesn’t taste good.’ [Logvinova 2019a: 90]

It is, however, not clear what category the P\_3 suffix may represent in such uses. That it expones a D head still remains the most plausible possibility, but this removes the need for a covert noun to account for the nominal distribution, bringing us back to a structure more akin to (11’).

<sup>7</sup> See [Logvinova 2019a: 98–99, 113–121] on the distribution of different variants of the P\_3 suffix.

Another non-possessive function of *-i/-ə* in Poshkart Chuvash is the selection of a member from a previously established set [Logvinova 2019a: 106–107]. One could, in principle, hypothesize that the presence of possessive marking in (14a) as opposed to (14b–c) is due to a peculiarity of the lexical semantics of the covert nominal involved: the latter refers to propositional entities of a different kind than those referred to by overt nouns like *fakt* and *novəç*, of a kind such that a set of them is always present and salient in discourse. It is unclear, however, what kind of entities this might be, especially given the wide range of proposition-selecting predicates that may have participial complements.

### 3.3. Differences in distribution

Differences in distribution between overt nominal heads and their presumed covert counterparts can be construed as an argument against positing the latter. Thus, [Asarina, Hartman 2011: 24] emphasize that in Uyghur it is always possible to substitute a null head with an overt noun, while [Dékány, Georgieva 2020: 195] note that an analysis relying on phonologically null nouns with idiosyncratic selectional properties lacks a solid empirical foundation. Differences in distribution may come in two flavors: either (i) there are environments where an overt noun can not be inserted/restored after the participle; or (ii) there are environments where an overt noun is obligatory and can not be omitted.

I find the first type of cases unrevealing, because unavailability of a suitable overt noun can be due to a gap in the lexicon, rather than any difference in structure. Poshkart Chuvash, in particular, does not have semantically bleached all-purpose nouns such as Korean *kes* [Horie 2000; Kim 2009] or Kazym Khanty *wər* [Starchenko 2019]; neither *jabala* ‘thing’ or *ëç* ‘work, deed’ can be used in this manner:

- (16) \**vəl dok-sa gaj-nə jabala / ëç jabəx*  
 s/he exit-CV\_SIM go-PC\_PST thing work bad  
 Int.: ‘That s/he has left is bad.’

In languages like this, speakers need to select a specific noun with appropriate lexical semantics for each matrix predicate and in particular cases an appropriate overt noun may simply be missing. Note that some purist-minded speakers of Poshkart Chuvash disprefer examples like (14c) precisely because they do not acknowledge the Russian borrowing *fakt* as part of their Chuvash vocabulary — and there doesn’t appear to be a native noun with quite the same meaning. Covert nominal lexemes, on the other hand, can be reasonably ex-

pected to have a more abstract semantics<sup>8</sup> and thus be suitable for environments in which no appropriate overt noun is available.

Cases of type (ii), where an overt noun is obligatory, are more of interest. For example, Turkish DVNs (specifically, the so-called “factive gerunds” in *-tlk*, roughly analogous to Chuvash *nə*-forms and glossed below as past participles) can not appear as subjects of emotive predicates, while overt nouns with nominal complements can, contrast (17a–b) with (18a–b):

(17) Turkish [Kornfilt 2003: 181]

a. *Ben [Hasan-ın gel-diğ-in]-i bil-iyor-um.*  
 I Hasan-GEN come-PC\_PST-P\_3-ACC know-PROG-1SG  
 ‘I know that Hasan came.’

b. *Ben [Hasan-ın gel-diğ-i] gerçeğin-i bil-iyor-um.*  
 I Hasan-GEN come-PC\_PST-P\_3 fact-ACC know-PROG-1SG  
 ‘I know the fact that Hasan came.’

(18) Turkish [Kornfilt 2003: 187, 188]

a. \**[Ali-nin ev-den kaç-tığ-ı] ben-i üz-dü.*  
 Ali-GEN house-ABL flee-PC\_PST-P\_3 I-ACC sadden-PST  
 Int.: ‘Ali’s running away from home saddened me.’

b. *[Ali-nin ev-den kaç-tığ-ı] söylenti-si ben-i üz-dü.*  
 Ali-GEN house-ABL flee-PC\_PST-P\_3 rumor-P\_3 I-ACC sadden-PST  
 ‘The rumor of Ali’s running away from home saddened me.’

Arguments of truth-value predicates are another suspicious environment. [Moulton 2020] argues that a number of matrix predicates such as ‘true’/‘false’/‘believe’ select individuals and eventualities with propositional content rather than propositions per se, and since reference to such objects can only be provided by content nouns, these predicates can not take mixed extended projections as their arguments. Consequently, one would expect DVNs either to be incompatible with truth-value predicates or to be projected from covert content nouns<sup>9</sup>.

<sup>8</sup> This is not, however, what is argued for Uyghur by Asarina and Hartmann [2011], who suggest a one-to-one correspondence in meaning between overt and covert head nouns.

<sup>9</sup> It must be noted, however, that K. Moulton limits his claim to Indo-European languages like Spanish or English and remains agnostic about its wider applicability. As Dékány and Georgieva [2021] themselves acknowledge, truth-value predicates in Turkish, unlike emotive verbs, can take DVN subjects [Kelepir 2001: 14; Göksel, Kerslake 2005: 116, 367].

No such discrepancies in the distribution of overtly headed vs. superficially headless participial clauses are found in Poskart Chuvash. In particular, *nə*-forms unaccompanied by overt head nouns can freely function as subjects of both emotive predicates and truth value predicates, as has already been shown in (5) and (10) respectively.

### 3.4. Differences in scrambling options

The analysis in terms of covert nominal heads predicts that the presence or absence of an overt noun will have no effect on the possibilities of scrambling out of the participial clause. As [Kornfilt 2003: 183–186] demonstrates, this is not the case in Turkish. Despite its relatively strict verb-final order, most speakers of Modern Standard Turkish find right extraposition of a backgrounded constituent out of an embedded factive clause somewhat acceptable (19a), but addition of an overt nominal head degrades the example significantly (19b):

(19) Turkish [Kornfilt 2003: 184]

- a. <sup>?</sup>[*Hasan-ın*  $t_i$  *nihayet kaç-tığ-ın*]-1      *duy-du-m*      *karı-sın-dan\_i*  
 Hasan-GEN      finally    flee-PC\_PST-P\_3-ACC    hear-PST-1SG    wife-P\_3-ABL

‘I heard that Hasan finally ran away from his wife.’

- b. <sup>??/\*</sup>[[*Hasan-ın*  $t_i$  *nihayet kaç-tığ-t*]      *söylenti-sin*]-i  
 Hasan-GEN      finally    flee-PC\_PST-P\_3    rumor-P\_3-ACC

*duy-du-m*      *karı-sın-dan\_i*  
 hear-PST-1SG    wife-P\_3-ABL

Int.: ‘I heard that Hasan finally ran away from his wife.’

This contrast is even more pronounced when the entire argument clause is extraposed to a post-verbal position (the possibility of which J. Kornfilt considers to be in itself problematic for the covert noun analysis):

(20) Turkish [Kornfilt 2003: 185, 186]

- a.  $t_j$  *Duy-du-m* [[*Hasan-ın*  $t_i$  *nihayet kaç-tığ-ın*]-i] $_j$       *karı-sın-dan*  
 hear-PST-1SG    Hasan-GEN      inally      flee- PC\_PST-P\_3-ACC    wife-P\_3-ABL

‘I heard that Hasan finally ran away from his wife.’

- b. <sup>??/\*</sup> $t_j$  *Duy-du-m* [[*Hasan-ın*  $t_i$  *nihayet kaç-tığ-t*]      *söylenti-sin*]-i] $_j$   
 hear-PST-1SG    Hasan-GEN      finally    flee- PC\_PST-P\_3    hear-PST-1SG

*karı-sın-dan\_i*  
 wife-P\_3-ABL

Int.: ‘I heard that Hasan finally ran away from his wife.’

The same effect does not obtain in Poshkart Chuvash, which, being in an intense contact with Russian, generally has a less rigid word order than Turkish. Speakers vary considerably in their evaluation of examples similar to (19)–(20), but unanimously find them less preferable than corresponding sentences without scrambling out of the *nə*-clause. Most importantly, presence of an overt noun does not visibly affect their judgements:

(21) a.  $t_j$  *man-a*     *xərat-s = er-t̩-ĕ*  
 I.OBL-OBJ     frighten-CV\_SIM = AUX-PST-3SG

[*ĕner*     *jal-a*     *politsĕ*     *kil-n-i*]<sub>j</sub>  
 yesterday     village-OBJ     police     go-PC\_PST-P\_3

‘I was frightened by the police coming to the village yesterday.’

b. ?? $t_j$      *man-a*     *xərat-s = er-t̩-ĕ*  
 I.OBL-OBJ     frighten-CV\_SIM = AUX-PST-3SG

[*ĕner*      $t_i$      *politsĕ*     *kil-n-i*]<sub>j</sub>     *jal-a*  
 yesterday     police     go-PC\_PST-P\_3     village-OBJ

‘I was frightened by the police coming to the village yesterday.’

c. ?? $t_j$      *man-a*     *xərat-s = er-t̩-ĕ*  
 I.OBL-OBJ     frighten-CV\_SIM = AUX-PST-3SG

[[*ĕner*      $t_i$      *politsĕ*     *kil-nĕ*]     *xəbar*]<sub>j</sub>     *jal-a*  
 yesterday     police     go-PC\_PST-P\_3     news     village-OBJ

‘I was frightened by the news of the police coming to the village yesterday.’

It must be noted that while word order in Turkish has been studied extensively (see e.g. [Özsoy 2019] and references therein), little is known yet about Poshkart Chuvash in this regard. Options for scrambling out of complement clauses merit a more systematic study in the future.

### 3.5. Section summary

In this section, I tried to locate the Poshkart Chuvash case of participle-nominalizer polysemy within the hypothesis space laid out in [Dékány, Georgieva 2020, 2021]. It has to be admitted that while the bare, non-nominalized status of Poshkart Chuvash pRCs can be established with certainty, available evidence is inconclusive as to the analysis of DVNS in complement clauses. Applicable diagnostics mostly point towards the presence of covert nominal heads, but the observed distribution of possessive marking presents problems for this solution,

being more in line with the account in terms of mixed extended projections. I now turn to comparative clauses with participial standards, still bearing both strands of analysis in mind.

## 4. Comparative clauses

### 4.1. More on participial standards

As has already been shown in the Introduction, the same past participial form that unites relative and complement clauses in Poshkart Chuvash also appears in standards of comparison when those contain an extended verbal projection. One notable fact is that in comparative clauses, in contrast to relatives, this same form is used uncontestedly, regardless of the temporal reference. Consider the following set of examples:

- (22) a. {Context: A new worker has been added to your brigade, who turned out to be grossly incompetent. Commenting on this the next day, you say:}

*vəl ėner numaj-rak męset-le-r<sup>i</sup>-ė polęš-n-in-čęn*  
 he yesterday many-CMPR hinder-VBLZ-PST-3SG help-PC\_PST-P\_3-ABL

‘Yesterday he hindered (us) more than he helped.’

- b. {Context: A new worker has been added to your brigade, who turned out to be grossly incompetent. A passer-by asks you about his performance. You say:}

*vəl xal<sup>i</sup> numaj-rak męset-l-et*  
 he now many-CMPR hinder-VBLZ-NPST[3SG]

*polęš-n-in-čęn / #polęš-agan-ėn-čęn / \*polęš-agan-čęn*  
 help-PC\_PST-P\_3-ABL help-PC\_PRS-P\_3-ABL help-PC\_PRS-P\_3

‘He now hinders (us) more than he helps.’

- c. {Context: A new worker is proposed to join your brigade, whom you know to be unskilled in the kind of work planned for tomorrow. You object to it saying:}

*vəl iran pėr-e numaj-rak męsettu-at*  
 he tomorrow we-OBJ many-CMPR hinder do-NPST[3SG]

*polęš-n-in-čęn / #polęš-agan-ėn-čęn / \*polęš-agan-čęn /*  
 help-PC\_PST-P\_3-ABL help-PC\_PRS-P\_3-ABL help-PC\_PRS-P\_3

*\*polęš-az-ėn-čęn / \*polęš-as-ran*  
 help-PC\_FUT-P\_3-ABL help-PC\_FUT-ABL

‘Tomorrow he will hinder us more than he will help.’

In (22b), like in (22a), only the past participle can be used, although the standard of comparison involves a situation ongoing in the present. Likewise, neither the present nor the future participle is a possible substitute for the past participle in (22c)<sup>10</sup>, despite the future temporal reference.

Bearing ablative case marking, participial standards of comparison show nominal distribution (compare ex. (3) and (22a–c) with (1)–(2) involving DP standards). Pursuing the hypothesis that use of past participles in relative, complement and comparative clauses is due to shared underlying structure, we are led to view participial standards as DVNs and are faced with the question whether they are best treated as mixed extended projections or as complements to covert nouns.

#### 4.2. A parallel from Japanese

An analysis of comparative clauses in terms of covert nominal heads has been proposed for Japanese in [Sudo 2009, 2015]. The author notices that constructions with *-yori* (23a), previously often viewed as clausal comparatives [Hayashishita 2009; Shimoyama 2012; inter alia], allow for insertion of overt degree (23b) or content nouns (23c) that take the preceding clause as a modifier:

(23) Japanese [Sudo 2015: 8]

a. *John-wa [Bill-ga katta] -yori takusan hon-o katta*  
 John-TOP Bill-NOM bought than many book-ACC bought  
 ‘John bought more books than Bill bought.’

b. *John-wa [Bill-ga katta ryoo] -yori takusan hon-o katta*  
 John-TOP Bill-NOM bought amount than many book-ACC bought  
 ‘John bought more books than the amount (of books) that Bill bought.’

c. *John-wa [Bill-ga katta hon] -yori takusan hon-o katta*  
 John-TOP Bill-NOM bought book than many book-ACC bought  
 ‘John bought more books than the books that Bill bought.’

<sup>10</sup> Versions of (22b–c) with *poləz-agan-ën-dzen* ‘help-PC\_PRS-P\_3-ABL’ are in fact acceptable, but with a different meaning that requires a rather specific context: ‘He hinders/will hinder us more than the one who helps’ (presupposing existence and unique identifiability of the latter referent). While present participles in *-AgAn* are capable of targeting the same wide range of grammatical relations as past participles, in the corpus they show great preponderance for subject relativization. In the Chuvash variety under study, the so-called future participles in *-As* never appear in relative clauses, being confined to sentential complements and a few modal constructions [Logvinova, *forthc.*].

Y. Sudo further argues that constructions like (23a) are derived from underlying structures similar to (23b–c) via head ellipsis licensed by (incomplete) morphological identity and provides a number of empirical arguments in favor of this claim.

(23') Japanese (adopted from [Sudo 2015: 9])

b. *John-wa* [*Bill-ga katta ɾyøø*] *-yori takusan hon-o katta*  
 John-TOP Bill-NOM bought amount than many book-ACC bought  
 'John bought more books than Bill bought.'

c. *John-wa* [*Bill-ga katta høn*] *-yori takusan hon-o katta*  
 John-TOP Bill-NOM bought book than many book-ACC bought  
 'John bought more books than Bill bought.'

Thus, what may superficially look like a finite clause introduced by a comparative conjunction is shown to be a DP with a clausally modified head deleted under ellipsis. The primary piece of evidence, summarized in (23a–c) is very much like the overt head noun test discussed in 3.2 above.

As we shall see shortly, Poshkart Chuvash participial comparatives also permit insertion of an overt degree noun (cf. (24a–b) below). Both Japanese and Chuvash have morphologically productive suffixes (*-sa* [Sudo 2015: 11–12] and *-lək*, *-əʂ*, respectively) that derive degree nouns from gradable predicates, thus there is no shortage of possible overt heads in comparative constructions.

Superficial similarities notwithstanding, the Japanese data that motivate Sudo's analysis differ from those of Poshkart Chuvash in a number of important respects. First, in Japanese there is a nearly total homonymy between the past tense form and the adnominal form used in relative clauses, which made it possible to put forth both clausal and phrasal accounts of comparatives introduced by *-yori*. Relevant Chuvash standards wear their non-finite nature on their sleeve: the verb is unambiguously in a participial form and further attaches nominal morphology. Second, with respect to a number of phenomena, standards of comparison in Japanese pattern together with relatives and only with relatives, excluding formally identical complement clauses. In Chuvash, we are concerned with a three-way polyfunctionality between adnominal, complement and comparative uses of past participles and there are no similar phenomena that would set one type of clauses apart from the other two. Finally, there is no independent evidence for the existence of headless relative clauses in Japanese,

which is one of the reasons behind Sudo's reliance on head ellipsis<sup>11</sup>, while Chuvash makes ample use of headless relatives. It thus does not appear reasonable to just import Sudo's analysis for Chuvash. Still, the Poshkart Chuvash data fit well into a version of a covert head noun analysis.

#### 4.3. Invisible nominal heads in Poshkart Chuvash comparatives

Crucially, as has been mentioned previously, in Poshkart Chuvash participial comparatives it is possible to insert (or reinstate) an overt degree noun:

(24) a. *jes tɕəm-n-in-ɖɛn tɛp tarən-rax*  
 you dive-PC\_PST-P\_3-ABL bottom deep-CMPR  
 'The bottom lies deeper than you have dived.'

b. *jes tɕəm-nə tarənəz-ən-ɖɛn tɛp tarən-rax*  
 you dive-PC\_PST depth-P\_3-ABL bottom deep-CMPR  
 'The bottom lies deeper than the depth you have dived to.'

The parallelism between (24a) and (24b) is even greater than that between overtly headed (14b–c) and superficially headless (14a) participial complement clauses discussed in section 3.2, as the possessive suffix marks standards of comparison in both examples. The obligatory presence of possessive marking in (24b) easy receives straightforward semantic explanation. The comparative operator picks up a specific degree on the scale of depth (the maximal degree such that the Addressee have reached it in their dive) out of a contextually salient interval on the scale of depth. The possessive marker here thus fulfills its function of selecting a member from a set, mentioned at the end of section 3.2 above.

Variants like (24a) and (24b) appear identical in their semantics and distribution. Notably, Poshkart Chuvash does not show contrasts of the kind reported in [Bylinina 2017: 461–462] for Mishar Tatar:

(25) Mishar Tatar [Bylinina 2017: 461–462]

a. *ul min äjt-kän nyrma-dan küp-räk aš-a-dɣ*  
 he I say-PC\_PST-P\_3 norm-ABL many-CMPR eat-ST-PST  
 'He ate more than (the norm that) I told him.'

<sup>11</sup> [Beck et al. 2004] analyze complements of *-yori* as headless relatives that are limited in distribution to only comparative clauses for some syntactic reasons. Their account, however, runs into serious empirical problems, as shown in [Shimoyama 2012: 88–90; Sudo 2015: 37–38].

- b. <sup>??</sup>*ul min äjt-kän-nän küp-räk aš-a-dʏ*  
 he I say-PC\_PST-ABL many-CMPR eat-ST-PST  
 ‘He ate more than I told him.’

Dropping the parametric noun in (25a) degrades the example (25b), which is unexpected under the assumption that covert nominal heads are generally available in participial standards of comparison. While E. Bylinina ultimately leaves open the question whether comparatives in Mishar Tatar shall be treated along the lines proposed by [Sudo 2009], she notes that pairs like (25a–b) pose a problem for such an analysis. No such pairs are found in Poshkart Chuvash.

It thus seems natural to assume that (24a) is structurally identical to (24b), the only difference being that in the former case the nominal head is covert. This results in the following (simplified) structure for the standard in (24a)<sup>12</sup>:

- (24')  $[_{DP} [_{FP} [_{TP} [_{VP} \textit{jes } t_{\textit{çam}}] - \textit{T} n\textit{ə}}] ] - \textit{F}' [_{NP} \emptyset]] - \textit{D} \textit{in} - \textit{ç}en \textit{t}ep \textit{tar}an - \textit{r}ax$

Two questions remain, however: (i) what is the precise nature of the covert nominal element in (24') and (ii) how does this analysis fare against the competing account in terms of a mixed extended projection? I will discuss these in the following two subsections, in both cases tentatively suggesting directions for further investigation, rather than binding myself to a definite answer.

#### 4.4. Nature of the covert noun

With respect to the first question, three options are possible. First, participial standard in (24a) may simply involve head ellipsis of an appropriate degree noun, licensed by the cognate gradable predicate in a higher position, as in Sudo's [2015] analysis for Japanese. Second, it can be headed by a covert degree noun  $\emptyset_{\textit{depth}}$ , in free alternation with its overt counterpart *tarənəʃ* 'depth', in the spirit of Asarina and Hartmann's [2011] account of Uyghur complement and adverbial clauses. Third, it can be headed by a covert abstract parametric noun  $\emptyset_{\textit{deg}}$  denoting an operator that takes a specification of a gradable scale and returns a set of degrees on that scale. The three options are schematically summarized below<sup>13</sup>:

<sup>12</sup> Since *tarənəʃ* 'depth' is an oblique argument of *tçam*- 'dive', we are dealing with relative, rather than nominal complement structure here.

<sup>13</sup> An essentially similar triad of options is conceivable for attributive comparatives of the kind 'The girl was given a more interesting book than the one/book that the boy has read', the only difference being that the deleted/covert nouns must denote individuals rather than degrees (including the assumed  $\emptyset_{\textit{thing}}$  covert abstract lexeme). I haven't studied this class of examples systematically, however, and won't focus on them here.

- (26) a.  $[_{DP} [_{FP} [_{TP} [_{VP} \text{jes } t\check{c}\acute{a}m]-_{T}n\acute{a}]]-_{F'}[_{NP} \text{tar}\acute{a}n\acute{a}\check{s}]]-_{D}in]-\check{c}en \text{ t}\acute{e}p \text{ tar}\acute{a}n-rax$
- b.  $[_{DP} [_{FP} [_{TP} [_{VP} \text{jes } t\check{c}\acute{a}m]-_{T}n\acute{a}]]-_{F'}[_{NP} \emptyset_{depth}]]-_{D}in]-\check{c}en \text{ t}\acute{e}p \text{ tar}\acute{a}n-rax$
- c.  $[_{DP} [_{FP} [_{TP} [_{VP} \text{jes } t\check{c}\acute{a}m]-_{T}n\acute{a}]]-_{F'}[_{NP} \emptyset_{deg}]]-_{D}in]-\check{c}en \text{ t}\acute{e}p \text{ tar}\acute{a}n-rax$

The second solution is utterly implausible, because it posits a considerable number of different phonologically unrealized nouns with rather specific semantic content. The choice between head ellipsis and a covert generic degree noun is a tricky matter, however, because predictions of the two approaches are rather similar. Just like the former option requires a gradable predicate in a c-commanding position to license deletion, the latter requires it for  $\emptyset_{deg}$  to get its interpretation from. The scale to which  $\emptyset_{deg}$  applies can not be calculated based on its participial modifier alone, because formally identical pRCs may appear in different comparative contexts denoting different standards of comparison:

- (27) a. *atça kozak-pa [jida-ba vil'a-n-in-çen] numaj-rak vil'-at*  
 child cat-INS dog-INS play-PC\_PST-P\_3-ABL many-CMPR play-NPST[3SG]  
 'The child plays with the cat more than (s/he plays) with the dog.'
- b. *atça kozak-pa [jida-ba vil'a-n-in-çen]*  
 child cat-INS dog-INS play-PC\_PST-P\_3-ABL
- numaj-rak vil'a-ma jurad-at*  
 many-CMPR play-INF love-NPST[3SG]  
 'The child likes playing with the cat more than (s/he likes playing) with the dog.'

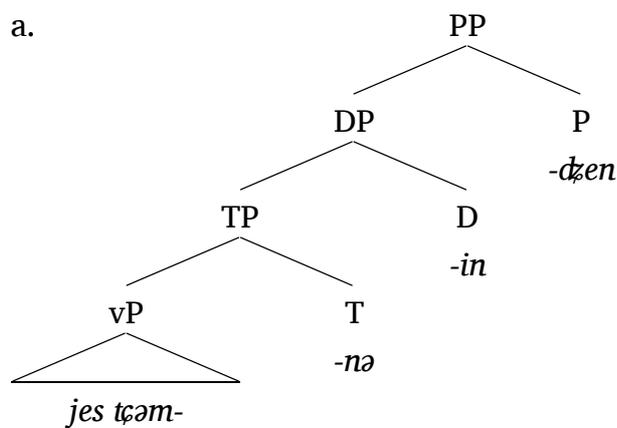
In (27a), it is the amount of time spent playing with the dog that is compared to, while in (27b), the level of enjoyment of such play, although in both examples the standard phrase looks the same. If it is indeed composed as  $[[jida-ba \text{ vil}'a-n\acute{a}]] [\emptyset_{deg}]-in]-\check{c}en$  in both cases, we must admit that  $\emptyset_{deg}$  cannot take its reference from the pRC and must rely on material elsewhere in the clause for interpretation.

The choice between the head ellipsis account and the covert generic degree noun account thus runs into a much broader question of how the semantics of comparison is calculated in phrasal comparatives under investigation and what denotation for the comparative operator [Hochaus, Bochnak 2020] best fits the Poshkart Chuvash data. This choice can not be made solely on the basis of syntactic evidence, and I must leave it for a future semantic study.

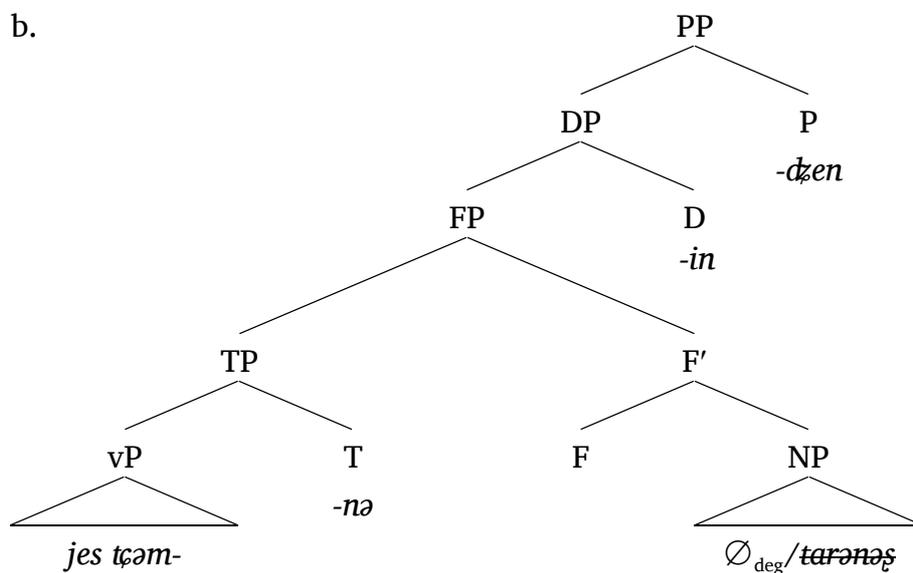
#### 4.5. Covert nouns vs. mixed projections

The underlying structures for the standard phrase in (24a) under the mixed extended projection approach and the covert noun approach are given in (24''a) and (24''b), respectively. I assume here that the Ablative suffix on the standard, being a marker of lexical case, spells out a head of category P. The two structures differ in that (24''b) contains an additional functional layer under D, where the participial TP is combined with a phonologically null head noun (or a deleted nominal lexeme).

(24'') a.



(24'') b.



Again, both approaches make similar predictions, treating the standard of comparison as a DP embedded under P (just like canonical DP standards without underlying extended VP structure). At present, I am in no position to make a decisive empirically motivated choice. On the basis of the overt head noun test embraced by [Asarina, Hartmann 2011; Dékány, Georgieva 2021] as the

primary diagnostics for covert nominals, the structure in (24''b) should be preferred: as shown in (24a–b), alternation between overt nouns and lack thereof is even more straightforward in comparatives than in complement clauses (14a–c). However, while (24''b) indeed offers a uniform analysis for (24a–b), the competing account in terms of mixed projections posits a simpler structure for (24a) and is thus not without its merits.

Note that (24''b) has a full NP merged under F', which may in principle contain other material besides the parametric noun. One line of research to be pursued in the future is whether in sentences of the type '...deeper than the awful depth you have dived to' it is possible to remove the parametric noun while retaining the adjective. Grammaticality of such examples would speak in favor of the covert noun approach, and vice versa.

Syntactic differences between (24''a) and (24''b) may also have semantic repercussions. The latter structure, which contains a parametric noun, straightforwardly accounts for the degree semantics of the standard. The denotation of the DP in (24''a) and the way it enters the semantic computation are less clear and may require positing additional mechanism. It is, however, independently clear that Poshkart Chuvash allows phrasal standards denoting either degrees or individuals (as in (1)). Any compositional account of the semantics of comparison in Poshkart Chuvash must necessarily have means to deal with this, regardless of a particular structural analysis of participial standards.

## 5. Conclusions

In this paper, I have explored possibilities for a unified structural account of various uses of the Poshkart Chuvash past participle in *-nə*, taking into consideration its functioning in relative, complement, comparative and independent clauses. My primary interest was in situating the Chuvash case of participle-nominalizer polysemy within the parametric typology proposed in [Dékány, Georgieva 2020, 2021] and in seeing whether the covert head noun analysis along the lines of [Sudo 2009, 2015] is viable for Chuvash participial comparatives.

While a unified account under which the suffix *-nə* spells out a head high in the extended VP, most likely T, appears to be working, its specific details turn out harder to pinpoint. While Poshkart Chuvash definitely employs bare, as opposed to nominalized, relative clauses, available evidence as to the syntactic status of its participial complement clauses remains inconclusive. Likewise, while the covert noun analysis neatly captures the data of Poshkart Chuvash

comparatives, at present I have no decisive empirical arguments to rule out the alternative account in terms of mixed projections. Chuvash differs in subtle, but significant ways from other Turkic languages previously studied in this regard (Turkish, Uyghur and, to a lesser extent, Kazakh), which makes it difficult to apply some of the tried diagnostics. This pushes one to search for new criteria and I surmise that in the domain of comparative clauses at least, this search should be primarily directed towards compositional degree semantics, rather than just plain syntax.

## Abbreviations

1–3 — 1<sup>st</sup>–3<sup>rd</sup> person; ABL — ablative case; ACC — accusative case; CAUS — causative; CMPR — comparative degree marker; CSL — causal case; CV\_SIM — simultaneity converb; IMPF — imperfective; INF — infinitive; INS — instrumental case; LOC — locative case; NEG\_ASCR — ascriptive negation; NPST — non-past tense; OBJ — object (accusative/dative) case; P\_3 — 3<sup>rd</sup> person possessive/definiteness marker; PC\_PST — past participle; PL — plural; PROG — progressive; PST — past tense; REC — reciprocal; SG — singular; ST — stem marker.

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