Case and agreement puzzle in the Moksha debitive

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Abstract: This paper is dedicated to the debitive construction in Moksha Mordvin, which exhibits patterns unusual for a dative-infinitive construction (DIC). The non-finite verb can agree with its internal argument but not with the external one. The internal argument can bear both the definite nominative case, which is otherwise restricted to subjects of finite clauses, and the definite genitive case, which can mark both direct objects and definite possessors. Personal agreement is mandatory in the former case but prohibited in the latter. I propose that the Moksha debitive construction includes a null modal verb that assigns dative to the external argument of the infinitive. The case marking on the internal argument is determined by its structural position, in accordance with Dependent Case theory (Marantz 2000, Bobaljik 2008). The case of Moksha demonstrates that the dative case in DICs can be inherent (contra what Efremov (2020) suggests on the basis of Russian DICs) and that an argument for biclausality can be constructed based on case and agreement patterns.

Keywords: Moksha, Mordvin, Uralic, syntax, morphology, dative-infinitive constructions, agreement, Dependent Case theory

1. Introduction

Dative-infinitive constructions (DICs) feature a dative argument and a non-finite predicate and often express a modal meaning.[1] In Moksha Mordvin, a language in the Finno-Ugric branch of the Uralic languages, there is a DIC with a meaning of necessity, which exhibits a peculiar pattern of case marking and agreement: the non-finite predicate agrees with its direct object.[2] The internal argument (IA) can bear both the definite nominative case, which is restricted to subjects of finite clauses, and the definite genitive case, which can mark both direct objects and definite possessors.[3] Personal agreement is mandatory in the former case but prohibited in the latter.

[1]For the discussion of some particular DICs see, for instance, Bailyn (2004), Tsedryk et al. (2017) about Russian, Rivero (2003), Marušič et al. (2006) about Slovenian and Holvoet & Grzybowska (2014) about Latvian.

[2]The Moksha data used in the present paper comes from fieldwork in Lesnoje Tsibajevo (Republic of Mordovia, Russia) in 2021 and on online surveys conducted with the same consultants in 2022. Unless stated otherwise, all examples are from the Moksha language.

[3]From now on, I am going to refer to the direct object as the internal argument (IA) and to the subject as the external argument (EA) to avoid confusion, because the exact structural position of the IA is going to be disputed and direct object is not its only possible position. As noted by an anonymous reviewer, this use of the terms IA and EA is not unproblematic, since IAs can be subjects (e.g. of unaccusative verbs). However, I choose to prefer convenience over the conventional use of these terms.

There are thus two questions about the Moksha debitive that beg to be resolved: (1) the nature of the dative case on the external argument (EA) of the non-finite predicate, (2) the IA's structural position. In order to construct a possible solution to the puzzle, I am going to apply the Dependent Case Theory (Marantz 2000, Bobaljik 2008, Preminger to appear) and also make use of the generalisations about the connection between structural case and agreement discussed in Preminger (2014) and Bobaljik (2008).

First of all, I suggest that the dative case is assigned to the EA by a phonetically null modal verb that takes the infinitival clause as a complement. The evidence for positing a null modal comes from ambiguous negation scope and modification with adverbs (see Section 2.1). In Section 2.2, I will also discuss why the dative is better analysed as an inherent case.

Next, the status of the IA is ambiguous: its case marking does not suggest a single structural position. It can be marked with the definite nominative case, which is otherwise restricted to subjects of finite clauses. It can bear the definite genitive case too, which can mark definite direct objects as well as definite possessors. Given that the nominative IA in the debitive can control agreement and the genitive IA cannot, it seems plausible that two distinct structures correspond to the two case marking options. I propose that the nominative on the IA results from the movement to the matrix subject position and the genitive appears when the IA stays in the embedded object position.

1.1. The Moksha debitive

The debitive construction in Moksha is a dative-infinitive construction, meaning that it features a non-finite verb and a dative argument. The meaning of the debitive is root necessity (see the simple example in (1) below).

(1) *pet'ɛ-n'd'i tu-ma kud-u*
P.-DAT go-NZR house-LAT

'Petya needs to go home'.

The dative argument is always the obligation/necessity holder; it can be omitted, which results in an impersonal reading (2). The subject of the infinitive is mandatorily coreferential with the obligee/needer and cannot be expressed overtly (3).

(2) *pid'-əma jam/ jam-s'/ jam-t'*
cook-NZR cereal cereal-DEF.NOM cereal-DEF.GEN

'It's necessary to cook some cereal'.

(3) **mon'-d'ejə-n wit'a/ wit'a-n'/ wit'a-n'd'i kud-u tu-ma*
I.OBL-PRON.DAT-ISG.POSS W./ W.-GEN/ W.-DAT house-LAT go-NZR

Expected: 'I need Witya to go home'.

The internal argument of the debitive has three case marking options: definite nominative, definite genitive and the unmarked nominative. There is no difference in interpretation between definite nominative and definite genitive on the IA; the unmarked nominative, on the other hand, is generally associated with non-definite

meanings.[4] This case marking pattern is not typical of either the verbal or the nominal domain. Direct objects in finite clauses never bear definite nominative, and the marking of the event nominalisations' arguments is different as well. The comparison between the case marking in finite clauses, event nominalisations and the debitive is provided in Table 1 below, based on Toldova (2018), Zakirova (2018).

Case marking	**EA**	**IA**
Finite clause (active voice)	DEF.NOM, unmarked NOM	DEF.GEN, unmarked NOM
nominalisation	DEF.GEN, GEN	DEF.GEN, GEN
Debitive	DAT	DEF.GEN, DEF.NOM, unmarked NOM

Table 1: Case marking of internal and external arguments in Moksha transitive clauses

As for the agreement pattern in the debitive, when the internal argument is in the definite nominative case, the nominalisation must agree with it (4a). Agreement with a DEF.GEN-marked argument is prohibited (4b), and with the unmarked form it is optional (4c).

(4) a. *wit'a-n'd'i kn'iga-**t'n'ə** luvə-ma-t/ *luvə-ma*
W.-DAT book-**DEF.NOM.PL** read-NZR-PL read-NZR

'Witya needs to read the books'.

b. *wit'a-n'd'i kn'iga-**t'n'ən'** *luvə-ma-t/ luvə-ma*
W.-DAT book-**DEF.GEN.PL** read-NZR-PL read-NZR

'Witya needs to read the books'.

c. *wit'a-n'd'i kn'iga-**t** luvə-ma-t/ luvə-ma*
W.-DAT book-**PL** read-NZR-PL read-NZR

'Witya needs to read books'.

The agreement markers are similar to the verbal subject agreement markers, except for the third person, which is the same as in the nominal paradigm. As shown in Table 2 adapted from Zakirova (2018), the agreement morphology is close to the subject agreement paradigm and identical to the agreement markers that appear on nominal predicates.[5]

[4]The notion of 'definite' cases in Moksha is more of a naming convention than an accurate representation of their distribution, since those cases do not necessarily encode definiteness (see Toldova (2017), Bikina (2021) for a detailed investigation of the definite cases in Moksha).

[5]Moksha verbs can have subject and subject-object agreement (see Kozlov (2018) on differential object marking in Moksha), and it is the subject agreement morphology that appears in 1st and 2nd person in the debitive.

	***vrač* 'doctor'**	***vanəms* 'look/watch'**	***učə-ma* 'wait-NZR'**
NPST.1SG	*vrač-an* doctor-NPST.1SG	*van-an* watch-NPST.1SG	*učə-m-an* wait-NZR-NPST.1SG
NPST.2SG	*vrač-at* doctor-NPST.2SG	*van-at* watch-NPST.2SG	*učə-m-at* wait-NZR-NPST.2SG
NPST.3SG	*vrač* doctor	*van-i* watch-NPST.3SG	*učə-ma* wait-NZR
NPST.1PL	*vrač-tamə* doctor-NPST.1PL	*vat-tamə* watch-NPST.1PL	*učə-ma-tamə* wait-NZR-NPST.1PL
NPST.2PL	*vrač-tadə* doctor-NPST.2PL	*vat-tadə* watch-NPST.2PL	*učə-ma-tadə* wait-NZR-NPST.2PL
NPST.3PL	*vrač-t* doctor-PL	*van-ijt'* watch-NPST.3PL	*učə-ma-t* wait-NZR-PL

Table 2: Person and number agreement on nominal predicates, verbs and the debitive.

Apart from the agreement markers, several other aspects of the debitive nominalisation are important to note. First, the non-finite forms produced with the nominalizer suffix *-əma* can act, for instance, as event nominalisations (5a) or sentential arguments (5b).

(5) a. *s't'ər'-n'ɛ-t'* *l'ɛm-ən'* *pid'-əma-c* *zan'ɛ-s'* *kaftə* *čast-t*
girl-DIM-DEF.GEN soup-GEN cook-NZR-3SG.POSS.SG take-PST[3SG] two hours-PL

'The girl's cooking of the soup took two hours' Zakirova (2018: 760)

b. *mon'* *mɛl'-əzə-n* *tu-s'* *lofc-tə* *s'im-əma-s'*
I.GEN wish-ILL-1SG.POSS go-PST.3[SG] milk-ABL drink-NZR-DEF.NOM

'I like drinking milk'. Egorova (2018: 669)

Outside of the debitive construction, the *-əma* nominalisation can be case-inflected and attach possessive markers (Zakirova 2018). In the debitive, however, it cannot be inflected in either of those ways. As already mentioned, it can agree in person and number with its nominative-marked internal argument. Also, an imperfective suffix *-l'* can appear before agreement markers, shifting the tense to the past (15)[6].

(6) *jalga-t'n'ə* *ivad'ə-ma-l̥'-t'*
friend-DEF.PL invite-NZR-IMPF-NPST.3PL

'We should have invited some friends (lit. Some friends should have been invited)'.

[6]As correctly noted by an anonymous reviewer, the imperfective *-l'* can appear before agreement markers on nominal and verbal predicates as well. Also, an attentive reader might notice that in third person plural *-l'* 'IMPF' is followed by the verbal *-t'* 'NPST.3PL' instead of the nominal *-t* 'PL'. This is true of nominal predicates as well. I am not addressing this curious detail here, since I believe that it is not crucial for my proposal.

The precise semantic contribution of this suffix is irrelevant for the present study, however, it can give some insight into the location of the agreement probe (see Section 2.3.2 for the discussion of the probe's location).

The debitive is different from other constructions in Moksha involving nominalisations: the case marking of its IA is unique and it does not attach case endings or possessive markers like other nominalisations do.

2. Analysis

I now proceed to the analysis of the debitive that I propose. In Section 2.1, I focus on the argumentation in favour of a null modal verb that is responsible for the meaning of necessity. Next, I discuss the status of the dative case in Moksha in Section 2.2 and the position of the IA in Section 2.3.

2.1. Null matrix modal verb

The debitive construction has a meaning of root necessity or obligation. I propose that there is a phonetically null modal verb above the embedded nominalisation; the dative EA is in its specifier and is thus assigned inherent dative case (see Figure 1 below corresponding to example 7). The meaning of necessity is not expected given the constituent parts of the debitive construction, therefore it is reasonable to assume that there is a modal head in the structure. The possibility of modifying the modal with adverbs, as well as scope ambiguities involving negation, support this assumption.

(7) *pet'ɛ-n'd'i tu-ma kud-u*
P.-DAT go-NZR house-LAT

'Petya needs to go home'.

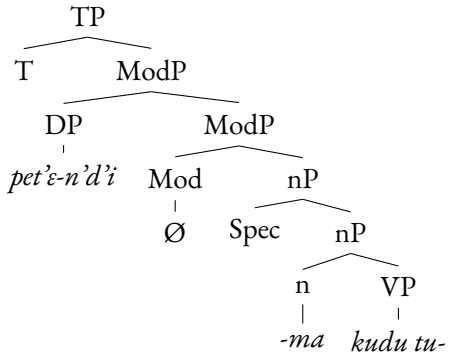

Figure 1: Tree representation of the debitive's structure with a null modal

First, an adverb *pɛk* 'very' can be added to make the necessity seem more urgent (8). No interpretations are available for the adverb other than the one where it contributes to the modal's meaning, hence there must be a modal head to modify.

(8) *mon'-d'ejə-n s'im-əma* ***pɛk*** *t'ɛ tabletka-s'*
I.OBL-PRON.DAT-ISG.POSS drink-NZR **very** this pill-DEF.SG

'I really need to take this pill'.

Another argument comes from a scope ambiguity involving negation, which not only indicates the presence of a modal but also serves as evidence for biclausality of the debitive: the availability of embedded clausal negation is associated with greater independence of the embedded clause (Wurmbrand 2003, Cable 2004). Consider example (9) below:

(9) *mon'-d'ejə-n* ***af*** *mol'ə-ma* *škola-v*
I.OBL-PRON.DAT-ISG.POSS **NEG** go-NZR school-LAT

'I do not have to go to school (I might though)'. NEG > modal
'I can't go to school (I am not allowed)'. modal > NEG

There are two possible readings of this sentence: either the negation scopes over the modal and the speaker means that they do not need to go to school (but they might) or the modal scopes over the negation and the meaning is changed: now the speaker must *not* go to school (maybe they have to skip classes because they are sick with a virus). The negation can be interpreted in two positions with respect to the modal, so the modal must be present in the syntactic structure. What remains unexplored is whether the dative on the EA is actually inherent.

2.2. Is dative structural?

On the standard view, dative is assumed to be an inherent or a lexical case, that is, determined by a functional or a lexical head respectively rather than a particular relationship with other nominals in the same case assignment domain (see Chomsky (1981), Woolford (2006) and the discussion of Dependent Case theory in Section 2.3).[7] However, Baker (2015) proposes that the dative (as well as genitive) case can be inherent *or* structural, based on cross-linguistic evidence. Anagnostopoulou & Sevdali (2020) demonstrate for the genitive that over different stages in the development of Greek, it has changed its mode of assignment: the genitive case used to be inherent in Classical Greek and became structural in Standard Modern Greek.

When it comes to DICs, there are reasons to believe too, contrary to the standard assumptions, that the dative case on the EA is not always inherent. For example, Efremov (2020) defends this claim for Russian by demonstrating some shared properties of the dative and the nominative arguments. First, the promoted IA in passive DICs can receive dative case, therefore the dative in passivised DICs functions in the same way as the nominative in passivised finite clauses, so the two cases must be derived in a similar way. Since nominative is, by all accounts, a structural case, dative must be structural too. Also, Russian DICs cannot be formed with predicates that have no nominative arguments in finite clauses, which, again, is used as an argument in favour of the connection between nominative and dative. The evidence leads Efremov (2020) to conclude that 'agreement-based approaches positing a functional head as a case assigner cannot account for the structure of DICs'.

The Moksha data points in the opposite direction. The dative argument of the debitive construction can be absent (10), which indicates that there is no such bond between the dative and the nominative in Moksha

[7] According to Woolford (2006), the difference between inherent and lexical case is that the inherent case is linked to a specific theta-role (e.g. dative is often associated with goals and benefactives), whereas lexical case is idiosyncratically licensed by lexical heads (specific verbs or prepositions). For the discussion at hand, this distinction will not be as relevant, since inherent and lexical are two types of non-structural cases, whereas the issue with the Moksha dative is whether it is at all non-structural.

that would render the dative structural.

(10) *pid'-əma jam/ jam-s'/ jam-t'*
cook-NZR cereal cereal-DEF.NOM cereal-DEF.GEN

'It's necessary to cook some cereal'.

In the Moksha language in general, dative can serve various purposes, for instance, it can have a locative meaning or mark recipients (for instance, arguments of verbs like 'help' or 'give'; see Kholodilova (2018), Toldova (2018) for a description of the dative's distribution). Dative-marked indirect objects cannot be promoted to the subject position (11), which is consistent with the assumption that dative is inherent: should it be structural, we would expect dative-marked arguments to be able to participate in structurally conditioned case alternations.

(11) a. *kn'iga-t' maks-əz' t'ejə-nzə*
book-DEF.GEN give-PST.3.O.3PL.S PRON.DAT-3SG.POSS

'They gave the book to him/her'.

b. **son maks-əv-s' kn'iga/ kn'iga-t'/ kn'iga-sə*
he/she give-PASS-PST.3SG book book-DEF.GEN book-IN

Expected: 'He/she was given a/the book'. Stenin (2018: 497)

When the Moksha dative marks a verb's arguments that can otherwise bear nominative case, it is accompanied by a modal meaning. In passivised clauses, when the A-participant is not omitted, it receives dative case (12a). Note that the meaning of the sentence is distinct from both the non-passivised example in (12b) and the passivised one without an overt A-participant in (12c). After this participant was added, there appeared an additional meaning of an accomplishment that took some time or effort.

(12) a. *ir'əctə al'ɛ-s' pet'-u-s'* ***pet'ɛ-n'd'i*** *sɛngɛr'ɛ čɛj-sə*
drunk man-DEF.NOM fix-PASS.PST.3[SG] **P.-DAT** green tea-IN

'Petya **managed to** alleviate the drunk man's hangover with green tea'.

b. *pet'ɛ pet'-əz'ə ir'əctə al'ɛ-t' sɛngɛr'ɛ čɛj-sə*
P. fix-PST.3SG>3SG drunk man-DEF.GEN green tea-IN

'Petya alleviated the drunk man's hangover with green tea (lit. fixed the drunk man with green tea)'.

c. *ir'əctə al'ɛ-s' pet'-u-s' sɛngɛr'ɛ čɛj-sə*
drunk man-DEF.NOM fix-PASS-PST.3[SG] green tea-IN

i. 'The drunk man alleviated his hangover with green tea (lit. fixed himself with green tea)'.
ii. 'Someone alleviated the drunk man's hangover with green tea'. Stenin (2018: 499)

This pattern in the passivised sentences suggests that the dative is connected with the meaning of accomplishment rather than with structural case assignment. A point can be made about nominal dependents of various non-finite verb forms in Moksha as well: they are never dative-marked, so we have no reason to suspect that

subjects of infinitives bear dative case. Subjects of event nominalisations, purpose clauses and other non-finite verb forms that can have subjectival dependents bear unmarked genitive or definite genitive case (Egorova 2018, Zakirova 2018).

In light of the evidence above I will assume that dative is inherent in the debitive construction. I now turn to the debitive's argument that receives structural case – the IA.

2.3. Position of the internal argument and the case and agreement pattern

The Dependent Case Theory (DCT) – the framework I am going to apply in order to determine the IA's position – supposes that case can be determined by syntactic environments as well as case-assigning heads. Cases can be divided into the four groups presented in (13), which form a hierarchy.

The non-structural cases, that is inherent and lexical case (Woolford 2006) are not sensitive to the wider structural environment, unlike structural cases (dependent, unmarked and default), which are determined solely by the syntactic environment that the nominals are in. The dative assigned by the null modal verb in Moksha is an inherent case, by Woolford's (2006) criteria. As a non-structural case it is assigned before the structural ones. When it comes to structural cases, dependent case (accusative or ergative) is received by the nominal that is in an asymmetric c-command relationship with another nominal in the same case assignment domain. The DP that has not yet received case after the assignment of the dependent case, gets unmarked case. The default case is reserved for the nominals that have not been assigned any case on account of not being within a domain (see Schütze (2001) for a detailed discussion of default case).

(13) Case realization disjunctive hierarchy (based on Marantz 2000)

1. Non-structural case – inherent or lexical
2. "dependent" case (accusative and ergative)
3. unmarked case (environment-sensitive)
4. default case

(14) Moravcsik hierarchy (Bobaljik 2008)
unmarked > dependent > inherent/lexical

It has been established within DCT that agreement is case-sensitive (Sigurðsson 1989, Bobaljik 2008, Preminger 2014). That is, given the case hierarchy presented in (14), if some case allows nominals to control agreement, then all of the above cases do.

2.3.1. Moksha case system

A comprehensive study of Moksha in terms of DCT is currently lacking. However, plausible assumptions can be made about the nature of its case hierarchy. Table 3 below gives a summary of what case marking is like in Moksha, leaving out the inherent cases.[8]

[8]Besides definite and non-definite declensions there is a set of case endings that is used with possessive markers (possessive declension), which is omitted here.

Case marking	S	A	P
Verbal domain (finite clause)	DEF.NOM, unmarked NOM	DEF.NOM, unmarked NOM	DEF.GEN, unmarked NOM
Nominal domain (nominalisation, definite arguments)	DEF.GEN	DEF.GEN	GEN

Table 3: Case marking in Moksha

There is a plethora of inherent cases in Moksha that are also morphosyntactically different from the structural cases, dative being an exceptional inherent case that patterns with the structural ones in terms of morphosyntax (Pleshak 2022). The difference is in the order of possessives and case markers: structural cases like nominative or genitive either form a portmanteau with the possessive marker or come afterwards, whereas inherent cases like ablative, inessive or illative precede them (Kholodilova 2018b).

I will assume that the dependent case in the verbal domain is DEF.GEN, whereas the unmarked case is DEF.NOM, because it is restricted to the highest argument in the structure: it marks subjects of transitive clauses and promoted objects of passivised clauses (Toldova 2018, Stenin 2018). As for the nominal domain, it is more difficult to establish a case hierarchy, since there seems to be no designated dependent case but rather a ban on using two DEF.GEN-marked arguments in the same case assignment domain.[9] For the purposes of this paper, it is important to note that we expect GEN to appear at least sometimes on the arguments of nominals and never on direct objects in the verbal domain.

With the case hierarchy for Moksha tentatively outlined, I proceed to discuss how the debitive's internal argument can receive structural case depending on its position, thus determining what positions are actually possible. Before I delve into the analysis, I have to account for the agreement probe's position.

2.3.2. The agreement probe

The position of the probe is a crucial point in explaining the case and agreement phenomena in the debitive, hence it is important that it be accounted for without making use of the case and agreement patterns themselves, so that a circular argument would be avoided. I argue that the agreement probe is located on the matrix T. This claim can be supported by the Mirror principle: the generalisation that morphological derivations necessarily reflect syntactic derivations and vice versa (Baker 1985). The debitive nominalisation can attach an imperfective suffix corresponding to the past tense, which comes before the agreement marker and after the nominaliser (see 15 repeated below).

(15) *jalga-t'n'ɔ* *ivad'ɔ-ma-l̥'-t'*
friend-DEF.PL invite-NZR-IMPF-NPST.3PL

'We should have invited some friends (lit. Some friends should have been invited)'.

[9]Pleshak (2021) has argued that DEF.GEN and GEN mark DPs and NPs respectively, and the unavailability of two arguments in the definite genitive in the same domain is effected by the restriction on two DPs being too close in the structure.

Also, the nominaliser suffix *-əma* and the imperfective suffix *-l'* can cliticise to the negative auxiliary *af* (16).

(16) *sin' af-əma-l'-t' t'erd'ə*
they NEG-NZR-IMPF-NPST.3PL invite.CN

'They should not have been invited.'

This morphemic order and the affix hopping in (16) is problematic for the assumption that the agreement probe is in the embedded nominalization: not only do the tense and agreement markers follow the nominaliser (15), but they can also keep their order when cliticised to the matrix auxiliary verb. These morphemes exhibit the exact same behaviour on verbal predicates (17).

(17) a. *mon af udə-l'-ən'*
I NEG sleep-IMPF-PST.1SG

b. *mon af-əl-ən' udə*
I NEG-IMPF-PST.1SG sleep.CN

'I have not slept'. Kholodilova (2018a: 389)

The agreement probe in a clause with a verbal predicate is commonly assumed to be located on the T head. Since the affixation pattern is the same in the debitive, I consider it as morphosyntactic evidence for locating the probe on the matrix T.

2.3.3. Where is the internal argument?

There are three structural positions the IA of the debitive can occupy: possessor of the nominalisation, embedded object (the position the IA is base-generated in) and matrix subject. The first option is the dependent of the nominalisation, or its possessor. This option seems viable at the first glance, since event nominalisations, which are formed with the same nominalizer morpheme, mark their internal arguments with the genitive case (definite or unmarked) and attach possessive agreement markers (see example (5a) repeated below in 18). However, the debitive's IA cannot bear unmarked genitive (19).

(18) *s't'ər'-n'ɛ-t' l'ɛm-ən' pid'-əma-c zan'ɛ-s' kaftə čast-t*
girl-DIM-DEF.GEN soup-GEN cook-NZR-3SG.POSS.SG take-PST[3SG] two hours-PL

'The girl's cooking of the soup took two hours'. Zakirova (2018: 760)

(19) **mon'-d'ejə-n morə-n' mora-ma*
I.OBL-PRON.DAT-1SG.POSS song-GEN sing-NZR

Expected: 'I need to sing a song'. Zakirova (2018: 772)

This fact raises the question: if the IA is the possessor, why is the unmarked genitive not possible? Also, Moksha possessive constructions allow for 5 different head and dependent marking configurations displayed in Table 4

below. The configuration that the debitive nominalisation with a definite genitive-marked IA would have is in bold: no possessive marker and definite genitive on the possessor.

Construction	Example	Translation
Dep Head	*vir' ki-va* forest road-PROL	'along a forest path'
Dep-GEN Head	*ava-n' panar-s'* woman-GEN dress-DEF.NOM	'women's dress'
Dep-GEN Head-POSS (proper name heads only)	*petɛ-n' d'əd'a-c* P.-GEN mother-3SG.POSS.SG	'Petya's mother'
Dep-DEF.GEN Head (oblique case heads only)	*c'ora-n'ɛ-t' kuc'u-sə* boy-DIM-DEF.GEN spoon-IN	'with the boy's spoon'
Dep-DEF.GEN Head-POSS	*c'ora-t' al'a-c* boy-DEF.GEN father-3SG.POSS.SG	'the boy's father'

Table 4: Five types of possessive constructions in Moksha.

A DEF.GEN-marked dependent and no possessive marking on the head noun is only possible if the head noun is in one of the inherent cases (Pleshak 2015).[10] The debitive nominalisation cannot bear case, so the hypothesis that the IA is the possessor appears to be untenable.

Another piece of evidence ruling out the possessor position for the IA comes from the use of demonstratives with GEN. Definite dependents in the nominal domain can be marked with GEN in the presence of a demonstrative (20). This is not true of DEF.GEN-marked direct objects, which never bear GEN, the only exception being proper names, for which both GEN and DEF.GEN are available (Kashkin 2018).

(20) *[t'ɛ ava-n']* *sumka-s'* *pra-s'*
this woman-GEN bag-DEF.NOM fall-PST.3SG

'This woman's bag has fallen'. Pleshak (2021: 633)

The debitive's DEF.GEN-marked IA patterns with direct objects in this respect: GEN is unacceptable even with a demonstrative (21). This further proves that this argument does not receive the definite genitive like possessors do (i.e. in the nominal domain).

(21) **t'ɛ kn'iga-n' wit'a-n'd'i luv-əma*
this book-GEN W.-DAT read-NZR

Expected: 'Witya needs to/should read this book'.

The next two options presuppose that the IA is in the verbal domain. It can stay in the embedded object position or move to the matrix Spec, TP (see the tree in Figure 2 for the exact positions in bold). The empty

[10] By inherent cases I mean ablative, inessive, elative, illative, prolative, caritive and equative that can cooccur with possessive markers on postpositions and relational nouns but not on other nouns (Murav'ëva & Kholodilova 2018). Therefore, if the possessor is in DEF.GEN, the head noun must bear possessive marking, unless it is in an inherent case.

category in the embedded Spec, vP is coreferent with the EA; I do not specify the exact type of this empty category for now, but it will become relevant later in the discussion of movement and control.

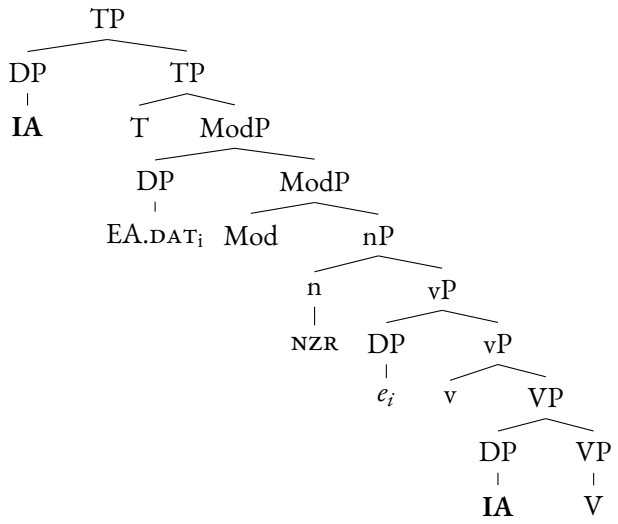

Figure 2: The two positions of the IA in the verbal domain

We now arrive at the puzzle of case and agreement in the debitive construction. Recall that the IA in the definite nominative (i.e. unmarked) case can and must control agreement, whereas the definite genitive-marked IA cannot. Hence, the nominative IA must be the highest nominal in its case assignment domain (which is, by the way, verbal) and also be the first nominal eligible for agreement that the agreement probe sees. The only position that meets these requirements is the matrix Spec, TP. The IA moves there, receives unmarked case by virtue of being the only nominal in its domain with no inherent case, and is subsequently found by the agreement probe.[11]

When it comes to the embedded object position, the derivation is not as straightforward. Definite genitive is the dependent case in the verbal domain, so the IA must be c-commanded by another nominal in its domain, namely, in the embedded nominalized clause. This can be the trace of the EA (see Figure 3) or the PRO bound by it (see Figure 4). If the EA undergoes movement and receives inherent case from the modal, its case features are preserved on all of its copies (see (Chomsky 1995: 251–253) about the copy theory of movement), so the EA's copy in the embedded clause will get inherent case as well. The assignment of dependent case to the IA is thus impossible, since the EA's lower copy is not involved in the process of structural case assignment anymore. However, if there is an embedded PRO, as in Figure 4, the derivation of the dependent case is trivial: the IA is dominated by the PRO in the same verbal domain and hence receives DEF.GEN.

The application of the DCT to the debitive construction shows that it is impossible to derive the DEF.NOM and DEF.GEN on the internal argument while maintaining the same syntactic structure. As I have demonstrated earlier in this section, DEF.GEN on the debitive's IA cannot be assigned in the nominal domain, so it is the same DEF.GEN that the direct objects of finite clauses bear. Now, we have to concede that there is a PRO in the nominalized clause controlled by the EA. Thus, the IA cannot be reached by the probe on the matrix T, because

[11] A potential problem with postulating this movement is that it is a long movement, crossing a vP, nP and ModP boundary. Arguably such a long movement would proceed in more than one step, so at least one intermediate position would need to be specified. I leave the precise location of such a position for future research, though. An alternative to movement is control, but first, object PRO is a dubious entity (Martin 2001), and second, a control relation would have an even worse problem with locality than movement, as it cannot proceed in several steps.

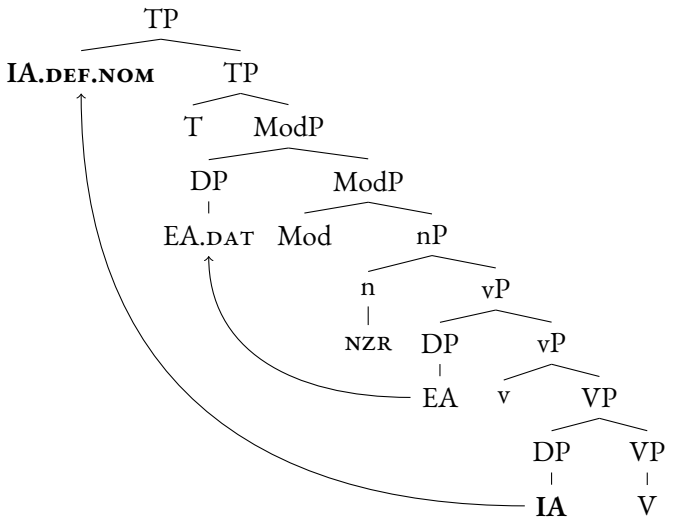

Figure 3: The structure of the debitive with a DEF.NOM internal argument

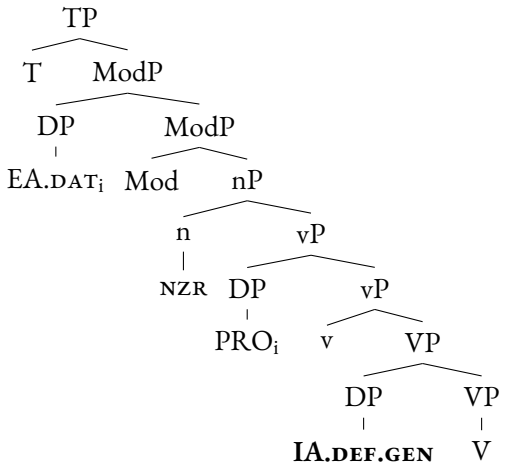

Figure 4: The structure of the debitive with a DEF.GEN internal argument

the PRO is in the way. The EA is not available for agreement either because of its inherent case. What results on the debitive nominalisation after the probe fails to find a suitable goal is default agreement (see Preminger (2014) for the definition and discussion of default agreement).

3. Conclusion

The Moksha debitive features a nominalised embedded clause subcategorised by a null modal verb. Its optional argument is marked with the dative case, which I argue to be inherent. The debitive construction actually comprises two constructions with different syntactic structures, based on the case and agreement patterns. The debitive can exhibit control, then the internal argument will stay in the embedded clause. If the external argument is moved to the matrix clause, the IA undergoes movement as well, occupying the matrix Spec, TP and thus being able to control agreement on the debitive nominalisation. As noted by the editor of JUL, the existence of two distinct debitive constructions implies that the null modal comes in two varieties as well: a control verb and a raising verb. This might be due to an ongoing change from one structure to the other, where

the coexistence of the two is expected at an intermediate stage. Also, verbs have been found in other languages that can participate in two different structures (see, for instance, Burukina (2020) on Russian mandative verbs with dative arguments that alternate between control and exceptional case marking, or ECM). The status of the English mandative verbs as control or raising/ECM verbs is debatable, as shown in Barrie & Pittman (2010), and in the context of this debate, the Moksha debitive is likely to have a double nature, which I claim it has.

What remains unexplained is the distribution of the unmarked nominative. I leave this issue to be resolved in future research, because this unmarked form is probably not only semantically, but also structurally different from DEF.GEN and DEF.NOM, similarly to GEN as opposed to DEF.GEN in the nominal domain as analysed by Pleshak (2021). The Moksha language is yet to be thoroughly explored in terms of DCT, and so is the hypothesis that the distribution of the unmarked form can be modelled structurally rather than semantically.

Acknowledgements

I am grateful to the editor and two anonymous reviewers for Journal of Uralic Linguistics, whose comments were incredibly valuable to improving this paper. All of the remaining errors and inconsistencies are my own. I thank my Moksha consultants and everyone who has contributed to the thorough description of Moksha in Toldova et al. (2018), especially Svetlana Toldova and Alexey Kozlov, who have been my primary advisors. This paper could not possibly be created without all of this prior work on the Moksha language. I also thank Polina Pleshak and Daniar Kasenov for the insightful discussions of my analysis.

Funding information

The research was supported by the Russian Foundation for Basic Research, grant No. 19-012-00627.

Glossing abbreviations

1 first person
2 second person
3 third person
ABL ablative
CN connegative
DAT dative
DEF definite
DIM diminutive
GEN genitive
ILL illative case
IMPF imperfective
IN inessive case
LAT lative case
NEG negative
NOM nominative
NPST non-past
NZR nominalizer
OBL oblique
PASS passive
PL plural
POSS possessive
PROL prolative case
PRON pronoun
PST past
SG singular

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