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Two modalities of case assignment: case in Sakha

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Abstract Two distinct ideas about how morphological case is assigned exist in the recent generative literature: the standard Chomskyan view that case is assigned by designated functional heads to the closest NP via an agreement relationship, and an alternative view in which case is assigned to one NP if there is a second NP in the same local domain (Marantz 1991). We claim that these two ways of assigning case are complementary, based on data from the Turkic language Sakha. Accusative case and dative case in this language are assigned by Marantz-style configurational rules that do not refer directly to functional categories. This is shown by evidence from passives, agentive nominalizations, subject raising, possessor raising, and case assignment in PPs. In contrast, there is evidence that nominative and genitive are assigned by functional heads in the Chomskyan way, as shown by the distribution of nominative case and the relationship between case marking and agreement. The two methods of case assignment thus coexist, not only in Universal Grammar, but even in the grammar of a single language.

Keywords Case assignment · Sakha · Turkic languages · Dependent case · Agreement

1 Some theoretical background on Case theory

In the recent generative literature, there are (at least) two major ideas about how morphological case markers like nominative and accusative come to be associated

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with individual noun phrases in ways that reflect aspects of the syntactic structures that those noun phrases appear in.

The more widely-used idea is that all structural case features are assigned to NPs by nearby functional heads. For example, nominative case might be assigned by (finite) T to the nearest NP that T c-commands. Similarly, accusative case might be assigned by (active, transitive) v to the nearest NP it c-commands, genitive case might be assigned by (possessive) D to the nearest NP, and dative case might be assigned by applicative heads and/or by (certain) Ps. This is the view of Chomsky (2000, 2001) and others within the main line of the Minimalist Program. It is the result of a fairly direct line of development from the first Chomskyan ideas about case assignment, presented in Chomsky (1981). See Legate (2008) for a recent defense of this approach.

There is also an alternative view that has garnered some following, especially among those for whom Case theory is a primary object of study. This is the idea that case is assigned to noun phrases on a configurational basis. More specifically, in this view what case an NP has can depend on whether there are other nominals ('case competitors') in the same local domain or not. The first and purest proposal of this sort is that of Marantz (1991).[1] Marantz distinguishes four distinct kinds of case, as follows:

(1) *Case realization disjunctive hierarchy:* (Marantz 1991:24)
   a. Lexically governed case (i.e. case determined by the lexical properties of a particular item, such as quirky case assigning verbs in Icelandic, or adpositions in many languages)
   b. 'Dependent' case (accusative case and ergative case)
   c. Unmarked case (e.g. nominative case assigned to any NP in a clause; genitive case assigned to any NP inside an NP/DP)
   d. Default case (assigned to any NP not otherwise marked for case)

The most distinctive part of Marantz's system, and the one we concentrate on here, is his approach to 'dependent cases', such as accusative and ergative. He claims that they are assigned by the following rule:

(2) Dependent case is assigned by V + I to a position governed by V + I when a distinct position governed by V + I is:
   a. not 'marked' (does not have lexically governed case)
   b. distinct from the chain being assigned dependent case

Marantz then says that dependent case assigned upward to the subject is what is normally called ergative case, whereas dependent case that is assigned downward to the object is what is known as accusative case. In this theory, individual functional

[1] An important precedent to Marantz's approach is the Case-in-Tiers approach of Yip et al. (1987), which is like Marantz's in certain significant ways. We use Marantz's approach as our starting point instead because (a) it has a more ready account of constructions in which accusative case is assigned but nominative case apparently is not (e.g. the passives in Sect. 3.3 and the nominalizations in Sect. 3.4), and (b) it predicts the existence of tripartite systems of case of the kind found in languages like Nez Perce (Woolford 1997). Space does not permit us to go into a detailed comparison here.

heads play no direct role in case assignment, although they might play an indirect role in helping to define the domain in which the two distinct NPs must both be found, as I does in the formulation in (2). In addition to Marantz (1991), Bittner and Hale's (1996) rather intricate Case theory also has this core idea as an important part of its inspiration. Marantz's conception has also been adopted in work by Bobaljik (2008), and it is reasserted and developed at length by McFadden (2004), among others.

In this article, we argue that these two conceptually distinct ways of assigning structural case—the functional category view and the configurational case assignment view—are in fact complementary. These two modalities of case assignment can coexist side by side, some cases being assigned in one way and some in the other, not only in Universal Grammar, but even internal to a single language. We support this claim by offering a rather detailed analysis of case assignment in the Sakha language (also called Yakut), a Turkic language spoken in Northern Siberia.

Sakha has four distinct cases that we take to be structural: nominative, accusative, dative, and genitive. Some very ordinary examples are shown in (3).[2]

(3) a. Min kel-li-m.
I.NOM come-PAST-1sS
'I came.'

b. Masha aqa-ta yt-y kör-dö.
Masha(GEN) father-3sP(NOM) dog-ACC see-PAST.3sS
'Masha's father saw the dog.'

c. Masha Misha-qa at-y bier-de.
Masha(NOM) Misha-DAT horse-ACC give-PAST.3sS
'Masha gave Misha a horse.'

Our specific thesis is that this four-case system divides neatly in half. Accusative case and dative case are assigned by the Marantz-inspired configurational rules stated in (4).

(4) a. If there are two distinct argumental NPs in the same VP-phase such that NP1 c-commands NP2, then value the case feature of NP1 as dative unless NP2 has already been marked for case.

b. If there are two distinct argumental NPs in the same phase such that NP1 c-commands NP2, then value the case feature of NP2 as accusative unless NP1 has already been marked for case.

[2]The following abbreviations are used in the glosses of examples cited in this article: ACC, accusative case; ACCEL, accelerative aspect; AG.NOML, agentive nominalizer; AOR, aorist tense/participle; AUX, auxiliary; CAUS, causative; DAT, dative case; EV.NOML, eventive nominalizer; FUT, future tense/participle; GEN, genitive case; INST instrumental case; LOC, locative case; NEG, negation; NOM, nominative case; PASS, passive; PAST, past tense; PL, plural; PROG, progressive; PRT, particle; PTPL, past participle; REC, reciprocal voice. Agreement morphemes are glossed with a triple symbol that begins with a number expressing the person of the agreed-with element (1, 2 or 3), followed by a lower case letter expressing the number of that argument (s for singular or p for plural), followed by an upper case letter indicating the grammatical function of the agreed-with element (S for subject or P for possessor).

These rules are in the tradition of Marantz's (2) in that what is crucial for the assignment of these cases to a given nominal is whether there is a second nominal not already marked for case in the same domain, and if so what structural configuration holds between the two nominals. No direct role is attributed to functional categories. In stating the accusative rule as in (4b), we make explicit that by 'object' in this framework we mean the structurally lower of the two core NPs of a clause, as defined by c-command, prior to or abstracting away from movement. One significant update is that we replace Marantz's use of V + I as defining the domain of dependent case assignment with the more contemporary notion of a phase as the unit of a syntactic derivation in (approximately) the sense of Chomsky (2000, 2001) and related work; we return to the implications of this below. Finally, following a suggestion of Bobaljik and Branigan (2006) for Chukchi, we extend Marantz's notion of dependent case to apply to some instances of dative case in Sakha as well: just as ergative is assigned to the higher of two NPs (the subject) in a clause in some languages, so dative is assigned to the higher of two NPs in a VP phase, we claim. (Marantz (1991) did not discuss dative case in any detail. He implicitly treats it as a lexically governed case, as is appropriate for many if not all instances of dative case in Icelandic. Like him, we assume that dative case can also be assigned as a lexical/inherent case, at least by postpositions (including null postpositions); see Sects. 3.2 and 3.7 for discussion.)

In contrast, we claim that nominative and genitive should *not* be treated simply as unmarked or default cases in the sense of Marantz's (1); nor are they other kinds of dependent case. Rather, functional categories are integrally involved in the assignment of these cases in Sakha, just as in the standard Chomskyan conception. This modality of case assignment is stated explicitly in (5), which synthesizes the discussion in Chomsky (2001: 4–6) into a single statement (and narrows it to apply to T and D only); see also the closely related discussion in Chomsky (2000: 121–124).

(5) If a functional head F ∈ {T, D} has unvalued phi-features and an NP X has an unvalued case feature [and certain locality conditions hold], then agreement happens between F and X, resulting in the phi-features of X being assigned to F and the case associated with F (nominative or genitive) being assigned to X.

If we are right about this, then distinctive elements of two prior Case theories are combined within the grammar of a single language.

There is an obvious superficial difference between the two subtypes of structural case in Sakha that gives our position some a priori plausibility. Chomsky's approach is designed to capture the intuition that case and agreement are two morphological consequences of the same abstract linguistic relationship (Agree), which holds between a functional head and a nearby noun phrase. For nominative and genitive case, the idea that case and agreement are intimately related in this way is attractively transparent in Sakha: having a nominative NP in a clause goes in lockstep with having nontrivial subject agreement on the finite verb (see (3a–c)), and having a genitive NP in a DP goes along with having possessive agreement on the noun (3b). This is built into (5), but there is no overt object agreement to flag a relationship between an NP with accusative or dative case and any particular functional head in Sakha. One can of course assume that a v agrees with the object covertly in Sakha, as Chomsky assumes for English. But it is also possible that the lack of overt agreement with accusative or dative NPs is telling us something theoretically more significant, making

it not implausible that accusative and dative case are assigned in a different way from nominative and genitive. We present arguments that this is correct.

We develop our argument as follows. First we provide some background information on Sakha in Sect. 2. We then concentrate on the accusative and dative case rules in (4), showing a range of phenomena that they account for and pointing out why these are best treated as dependent cases in Marantz's sense (Sect. 3). This exploration starts with simple transitive and ditransitive constructions, proceeds through causatives, anticausatives, passives, and nominalizations, and then discusses some complex data from a set of raising constructions. We then ask whether nominative and genitive case should be treated as default cases or unmarked cases in the sense of (1), arguing that the answer is no (Sect. 4). In contrast, the Chomskyan rule in (5) works very nicely in all the places where simply saying that nominative is a default case fails. We conclude that there are two distinct modes of case assignment in Sakha, and close with some tentative remarks about how they are integrated into a single coherent Case theory (Sect. 5).

Throughout this article, we keep attention almost exclusively on Sakha, making no explicit claims about how case is assigned in other languages. Sakha itself is enough, we claim, to provide an existence proof that both kinds of case assignment are allowed by Universal Grammar. This knowledge can then form the basis (we hope) for more comparative and typologically-oriented studies, which seek to learn about how these two kinds of case assignment are distributed within and across languages. Case has already been the subject of many rather wide-ranging studies, and we think that new detailed language-particular studies are needed to advance understanding in this area.

Finally, we must clarify from the outset that, in addition to the specific principles that assign particular cases in (1) and (2), Marantz's (1991) overall conception of Case theory differs from the Chomskyan one in two other significant ways. First, Marantz argues that case assignment to NPs is completely independent of how overt NPs are licensed in syntax. In effect, this means there is no Case filter, and no sentence is ever ruled out simply because an NP fails to get case—unlike in Chomsky's approach, which is ultimately rooted in a suggestion by Jean-Roger Vergnaud. Second, Marantz (1991) assumes that the case assignment rules apply in the PF branch of the grammar, whereas Chomsky assumes that case assignment happens in the narrow syntax. These three theoretical claims are largely logically independent of each other. Since ours is a hybrid view, we need to clarify what we assume in these other respects. In fact, we adopt the Chomskyan tradition on both counts. We hold that both (4) and (5) happen in the narrow syntax; they thus interact with one another, as well as with processes of agreement and movement (see also Legate 2008). We also hold that NPs do need to be assigned case by either (4) or (5) (or by a lexical case assigner, such as a postposition), and if some NP slips through the cracks of these rules, the structure is indeed filtered out. Evidence for these views is pointed out along the way, but we do not treat them as the primary focus of inquiry, and the reader can take them (for now) as choices of expository convenience; see Sect. 5 for some additional discussion.

2 Some background on Sakha

Sakha is a rather typical head-final language with agglutinative morphology, fairly free word order, and extensive consonant and vowel harmony. In these superficial respects, it is not unlike its better-known relative, Turkish. Much information about this language can be gleaned from Vinokurova (2005), which we build on and follow in many particulars, especially her investigation of accusative case.[3] See also Krueger (1962) and Stachowski and Menz (1998) for some basic information about the language.

The accusative and dative cases have relatively straightforward morphological exponents in Sakha, although both have many surface allomorphs as a result of phonological processes. Accusative case is generally /I/ after a consonant and /nI/ after a vowel, the high vowel harmonizing with the vowels of the stem in backness and roundness, as in Turkish. Dative is marked by /KA/, the nonhigh vowel undergoing harmony and the velar consonant also undergoing phonological changes. As in many languages, NPs in nominative case bear no overt case affix. We assume nevertheless that these NPs are assigned case in the syntax, an assumption we justify in Sect. 4.

Genitive case raises some special morphological issues. All other Turkic languages have a robust genitive case suffix (e.g. $-(n)In$ in Turkish), but this affix has largely been lost in Sakha (Stachowski and Menz 1998: 421). As a result, an NP with genitive case is indistinguishable on the surface from an NP with nominative case in most environments (compare genitive *Masha* in (3b) with nominative *Masha* in (3c)). But there is one significant exception. Case markers in many Turkic languages have special allomorphs when they follow (third person) possessive agreement markers (Stachowski and Menz 1998: 422). This is true for Sakha as well; for example, accusative is realized as /n/ after a possessive suffix, and dative is realized as /qAr/. Nominative is realized as /Ø/ even after the possessive suffix (see (3b)). But genitive is not; after a third person possessive suffix, the genitive is (like the accusative) realized as /n/ (Krueger 1962: 77). In this context, then, genitive can be seen to be different from nominative in Sakha:

(6) Masha-(Ø) aqa-ty-**n** at-a (compare: aqa-(Ø) at-a)
Masha-GEN father-3sP-GEN horse-3sP father-GEN horse-3sP
'Masha's father's horse' 'the father's horse'

We therefore assume that genitive still exists as a distinct value of the case feature in Sakha syntax. Its allomorphy can be accounted for within a Distributed Morphology-style framework (Halle and Marantz 1993) by positing a morphological rule that spells out genitive case as /n/ after a third person possessive suffix, and as /Ø/ elsewhere. This test for distinguishing nominative case from genitive case plays a crucial role in our argument in Sect. 4.1.

[3] However the theory of accusative case in which Vinokurova couches her work is the largely unpublished one developed within the 'Theta System' by Reinhart, Reuland, and Siloni (see, for example, Reinhart and Siloni 2005). Since that approach to Case theory is less familiar and not easily compared with the others we are investigating here, we use Vinokurova's empirical discoveries and generalizations more than her specific proposals.

Sakha also has several inherent cases: ablative, instrumental, comitative, and so on. These are related to particular semantic roles, and do not participate in syntactic alternations. Like most investigators into Case theory, we assume that this is a different phenomenon, and do not include it in our analysis. More specifically, we tentatively follow McFadden (2004) in assuming that the inherent case markers are either postpositions themselves, or they are lexically governed cases (see (1a)) assigned by various null postpositions. Some instances of dative case in Sakha also fall into this category, including dative on location- and time-denoting expressions. (These bear locative case in other Turkic languages, but locative case was also lost in Sakha.)

3 The configurational case marking of objects

With this background in hand, we are ready to begin our theoretical investigation by demonstrating the virtues of the rules for the assignment of dative and accusative case given in (4). Our discussion moves from relatively simple data, for which Sakha is like many other languages, to more complex and surprising data, where the advantages of treating these cases as dependent cases can be seen most clearly.

3.1 Simple active sentences

It comes as no surprise that the objects of simple active dyadic predicates in Sakha are marked in accusative case, simple triadic predicates have one object in accusative case and one object in dative case, and the subjects of most predicates bear neither accusative nor dative. (3) presented some examples; (7) gives another set.

(7) a. Min ülel-ii-bin.
I.NOM work-AOR-1sS
'I work.'

b. Erel kinige-ni atyylas-ta.
Erel book-ACC buy-PAST.3sS
'Erel bought the book.'

c. Masha aqa-ty-gar surug-u yyt-ta.
Masha father-3sP-DAT letter-ACC send-PAST.3sS
'Masha sent her father a letter.'

And, not surprisingly, these simple patterns follow from our rules in (4). In sentences like (7c) there are two NPs inside the VP. Therefore the structurally higher one—the goal argument—is marked dative by (4a).[4] In sentences like (7b) there is only one

[4]If goal phrases are generated in the specifier of an applicative head, distinct from the core verb, then we must consider the ApplP to be a kind of extended VP, with the *maximal* VP (i.e, ApplP) counting as the relevant phase for purposes of (4a). The structure would then be identical to the one shown (24b), except with an applicative head instead of a causative head. We have no objection to this analysis, but there is no overt applicative morpheme in Sakha that clearly calls out for it either.

NP in the VP domain, the subject being generated outside VP in SpecvP. Therefore, (4a) does not apply. The clause as a whole does contain more than one NP, however. Hence (4b) applies on the CP phase, marking the lower NP (the direct object) as accusative.

One important detail of the rule in (4) is that it applies only if the two NPs under consideration are both argumental. By this, we mean that a nominal must bear a thematic role such as agent, theme, or goal with respect to some theta-role assigning head in order to be case-marked or to count as a case competitor for purposes of (4). One consequence of this qualification is that bare NP adverbs are not marked accusative in Sakha, even though they may be c-commanded by the subject, as shown in (8a) and (8b). In contrast, the very same nouns must be marked accusative when they function as the object of a transitive verb, as shown in (8c).[5]

(8) a. Bihigi beqehee ystan. (< ystan-ny-byt). (NV:241)
we yesterday jump.PAST.1pS
'We jumped yesterday.'

b. Bihigi tya-qa sajyn-(*y) kös-tü-büt
we countryside-DAT summer-(*ACC) move-PAST-1pS
'We moved to the countryside in the summer.'

c. Masha sajyn-*(y) axt-ar.
Masha summer-ACC miss-AOR.3sS
'Masha misses the summer.'

Nor do these adverbial NPs interact with the direct object for purposes of case. Thus, when both are present neither the adverbial NP nor the object triggers dative case on the other, as shown in (9).

(9) a. Bihigi beqehee Saaska-ttan suruk tut (NV:241)
we yesterday Saaska-ABL letter receive
'We received a letter from Sakha yesterday.'

b. Bihigi Masha-ttan sajyn suruk tut-tu-but.
we Masha-ABL summer letter receive-PAST-1pS
'We received a letter from Masha in the summer.'

A further consequence of this qualification is that expletive subjects (if they exist in Sakha) do not trigger accusative case on an unmarked NP in their c-command domain. This is relevant to some of the data discussed in Sects. 3.5 and 3.7 below.

[5] Vinokurova (2005: 395) also shows that 'two kilometers' is marked accusative in a phrase like 'run two kilometers' in Sakha. She gives independent evidence from causatives and passives that 'two kilometers' is a true direct object of the verb 'run', not an adverb.

We note that accusative case marking does seem to apply to (some) NP adverbs in some other languages, including Quechua (Lefebvre and Muysken 1988: 50), Korean, Finnish, Greek, Latin, and Russian, among others. Hence, whether an NP needs to be an argument in order to undergo case marking by a rule like (4b) is a possible point of crosslinguistic variation.

Another detail of the rules in (4) helps to account for a somewhat less trivial property of case marking in Sakha. Like Turkish (Enç 1991) and quite a few other languages (Aissen 2003 and references cited there), Sakha is a *differential object marking* language—one in which not all direct objects bear accusative case marking. The accusative case marker $-(n)I$ only appears on NPs that receive a definite or specific interpretation; when the thematic object is a nonspecific indefinite, then it bears no case suffix, as shown in (10) (see also (9)).

(10) a. Erel kinige atyylas-ta. (Vinokurova 2005: 322)
Erel book buy-PAST.3sS
'Erel bought a book/books.'

b. Min saharxaj sibekki-(ni) ürgee-ti-m.
I.NOM yellow flower-(ACC) buy-PAST-1sS
'I picked (the/a certain) yellow flower(s).'

A way of capturing this phenomenon emerges from (4), where we assume that the locality domains in which case competition is evaluated are phases in something like Chomsky's sense. There are two phases in an ordinary clause, CP and (let us assume) VP.[6] The indefinite object stays strictly inside the VP phase, and so is never in the same domain as the subject, whose lowest position is SpecvP. Since the object and the subject are the only NPs in their respective domains, neither is case-marked by the rules in (4) (see (11a)). In contrast, definite and specific objects undergo object shift out of VP, in order to escape the domain of existential closure, as in Diesing (1992) and much related work. This movement places the object in the same phase as the subject. The two now count as case competitors, and accusative is assigned to the lower NP, the object, as in (11b). (Notice that it does not matter for this whether the subject moves to SpecTP or not.)

[6]There are controversies in the literature about whether vP or VP is the smaller phase in the clause; Fox and Pesetsky (2004) even assume that this varies across languages. It is crucial to our account that the smaller domain be VP in Sakha, as the reader can easily verify. However, other languages might designate vP as the smaller phase; in such a language, even indefinite objects would be marked accusative, because they are in the same phase (vP) as the thematic subject even when there is no object shift. We also assume crucially that VP is a phase even in passive and unaccusative clauses, to account for dative case assignment to goals in such clauses; see Legate (2003) for some relevant discussion.

It should be possible to implement the substance of our account within a more orthodox view of phases by taking advantage of the fact that, in Chomsky's (2000, 2001) view, when a vP phase is completed only its VP complement is shipped off to the interfaces. The rules in (4) could then be seen as applying to these 'Spell Out Domains' at the point in the derivation when they are actually spelled out. This would, however, force us to make more use of the A/A-bar distinction in the way alluded to in note 7 to make sure that scrambling internal to a single phase does not mess up the case assigning configurations before Spell Out happens. This would make the presentation more complex, and as far as we can see there would be no gains in empirical coverage. We thus do not pursue this alternative here.

It is also possible, of course, that the locality domains that are relevant to case assignment are simply not the same as the locality domains (phases) that are relevant for other syntactic purposes, such as movement. But that would be a position of last resort, and the two notions are close enough that we optimistically use the term "phase" here.

(11) a. [[$_{vP}$ Erel [$_{VP}$ book buy] v] T] (=(10a))
phase 1 *phase 2*

b. [[$_{vP}$ Erel [$_{VP}$ book-ACC [$_{VP}$ t buy] v] T] (=(7b))
phase 2 *phase 1*

Support for the claim that syntactic movement plays a role in whether an object is marked accusative or not comes from the interaction of case marking and word order with respect to adverbs. Objects that are not marked for case must come before the verb and must follow VP-adverbs like 'thoroughly' and 'quickly', whereas objects with accusative case come before this class of adverbs in the unmarked order, as shown in (12) (and they can follow the verb as well).

(12) a. Masha salamaat-*(y) türgennik sie-te.
Masha porridge-ACC quickly eat-PAST.3sS
'Masha ate the porridge quickly.'

b. Masha türgennik salamaat-(#y) sie-te.
Masha quickly porridge-ACC eat-PAST.3sS
'Masha ate porridge quickly.' (ACC on 'porridge' only if it has contrastive focus)

Assuming that adverbs like *türgennik* 'quickly' are generated at or near the left edge of the VP, they reveal whether the movement shown in (11b) has happened or not—and that this movement determines the case marking in the manner described by (4b). (One complication is that accusative case marking on the post-adverbial object in (12b) is not strictly impossible, but it is given a special interpretation, as having contrastive focus on the accusative-marked object. We tentatively assume that this is not a syntactically simple structure; rather it is derived by a series of movements into the left periphery of the clause, driven by considerations of focus and topic. See Vinokurova (2005: 211) for some possible derivations.)

The dependence of accusative case marking on object shift can also be seen in ditransitive clauses. The goal in such clauses is always marked dative, but the theme can be unmarked or accusative, depending on its specificity and its position with respect to the goal. When the theme is unmarked for case, it must be a nonspecific indefinite and it must follow the goal; when the theme is marked accusative, it is specific or definite and it comes before the goal unless additional, focus-driven movements occur:

(13) a. Min Masha-qa kinige-(#ni) bier-di-m.
I Masha-DAT book-ACC give-PAST-1sS
'I gave Masha books/a book.'

b. Min kinige-*(ni) Masha-qa bier-di-m.
I book-ACC Masha-DAT give-PAST-1sS
'I gave the book to Masha.'

Prior to any (relevant) movement, the theme and the goal are both in VP, with the goal c-commanding the theme. (This can be shown using standard Barss-Lasnik-Larson tests involving the binding of pronominals (Barss and Lasnik 1986; Larson 1988).) (4a) then assigns dative to the goal on the VP cycle. (4a) is ordered before (4b) by very general 'Elsewhere' considerations, because the context of (4a) is more specific than that of (4b): (4a) applies only to one kind of phase (VP), whereas (4b) applies to any phase. When (4a) applies, it bleeds the application of (4b) on the VP cycle: once the higher NP has dative case, it is marked for case, and hence does not trigger dependent case on its phase-mate, the theme. Hence, the theme is not marked accusative simply by virtue of being in the same VP as the goal. If no movement occurs, the theme never enters the CP phase, the situation described in (4b) never holds, and accusative case is not assigned. The result is sentences like (13a). Alternatively, the theme NP can undergo object shift to the edge of the VP phase, thereby crossing the goal and escaping the domain of existential closure. If it does, then it is visible on the CP phase, as is the subject *Masha*. The two are case competitors, and accusative is assigned to the theme by (4b). The derivations of examples like (13a) and (13b) are shown in (14a) and (14b), respectively.

(14) a. [[$_{vP}$ Erel [$_{VP}$ Masha-DAT [book give]] v] T] (=(13a))
phase 1 *phase 2*

b. [[$_{vP}$ Erel [$_{VP}$ book-ACC [$_{VP}$ Masha-DAT [t give]] v] T] (=(13b))
phase 2 *phase 1*

It is also possible to move the goal NP out of the VP proper into the CP phase, for reasons of specificity or topic-focus structure. As a result, the goal NP can appear before a VP adverb, and (given the right topic-focus structure) before an accusative object:

(15) Min Masha-qa/*ny sorujan kinige bier-di-m.
I.NOM Masha-DAT/ACC intentionally book give-PAST-1sS
'I gave Masha books/a book intentionally.'

However, this movement does not affect surface case marking: the goal NP remains dative, even though it is now in the right structural configuration for (4b) to apply and mark it accusative. One might think that (4b) simply cannot apply to an NP that already has a valued case feature, but we see that this is not always true in Sakha when we come to raising constructions in Sects. 3.5 and 3.6. Instead, we say that the goal NP can in principle be remarked for accusative case, giving a syntactic representation like [[NP-DAT]-ACC], but only the innermost of two overt case markings is spelled out morphologically in Sakha, so this representation surfaces simply as NP-DAT (see Lefebvre and Muysken 1988: 146–148 for a very similar situation in Quechua, which does allow some overt case stacking). It then follows from this additional assumption that there is differential object marking but no 'differential indirect object marking' in Sakha.

Given that movement of the object into the CP phase can feed accusative case assignment, we need to consider what happens when the object moves to a position higher than the thematic subject. This kind of scrambling may not be as common in Sakha as it is in Japanese and some other head final languages, but it is possible, as shown in (16).

(16) Deriebine-ni orospuonnjuk-tar xalaa-byt-tar.
village-ACC robber-PL raid-PTPL-3pS
'Some robbers raided the village.'

Note that the case marking does not change with the word order: it is the object and not the subject that is marked accusative in (16), as in (3b) and (7b). The issue here is that (4b) might predict accusative case marking on the subject if the object moves directly to the highest position in the clause. We can appeal to phase theory to rule out this kind of direct movement. Chomsky's (2000, 2001) Phase Impenetrability Condition (PIC) says that an NP can only move from inside a phase like VP into a higher phase by first moving to the edge of the lower phase. A sentence like (16) must thus have a representation like (17):

(17) [$_{TP}$ [$_{NP}$ village-ACC]… [$_{vP}$ robbers [$_{VP}$ ⟨*village*⟩ [$_{VP}$ ⟨*village*⟩ raid]] v]-PAST]
phase 2 ACC *phase 1*

In other words, there must be an occurrence of 'village' that is lower than the subject 'robbers' and yet accessible on the CP cycle, in addition to the visible occurrence of 'village' that is higher than 'robbers'. We assume that the rules in (4) apply immediately when the configurations they describe are first created—in this case, at the point of the derivation when 'village' is at the edge of VP and the subject has just been merged into SpecvP. Assuming strict bottom-up derivations, it is impossible for the object to move higher than the subject before the subject has been merged, so the thematic object must be the lower NP at the first point when (4b) could apply. (4b) then assigns it accusative case—a feature assignment that can never be removed.[7] If the object then moves to a position that c-commands the subject, it does not induce accusative case on the subject because the c-commanding NP has already been marked for case (see the last clause of (4b)). Thus, the scrambled object does not trigger accusative case on the subject for the same reason that a dative NP does not trigger accusative on a theme NP that stays inside VP. This reasoning also applies to other kinds of movement into the CP domain: for example, extraction of the object in a relative clause also does not make possible accusative case on the subject in Sakha.

Of course, these data do not distinguish the dependent Case theory of accusative and dative from the view that case is assigned by the functional head v. All these facts

[7] There might be other ways to achieve this result that depend less on the exact sequence of operations in a derivation. For example, one could say that copies of NPs in A-bar positions—including the object in pre-subject position—do not count for the rules in (4). Note, however, that if the raising of NP to adjoin to CP discussed in Sect. 3.5 counts as an A-bar movement—as seems likely—that clearly does feed accusative case assignment. We do not investigate the pros and cons of the various technical possibilities here (see also note 6).

have familiar analyses within that framework. So far, then, all we have done is show that the configurational rules in (4) are contenders.

3.2 Case marking of thematic subjects

An elementary consequence of a dependent case account like (4) is that truly monadic predicates should never have arguments with (structural) accusative or dative case in Sakha. This follows because the rules in (4) assign case to an NP only if there is another argumental NP in the same domain, and that is never the situation when the predicate is monadic. Indeed, we know of no intransitive verb that takes a dative or accusative subject in Sakha. Even verbs with experiencer arguments have nominative subjects:[8]

(18) Masha-(*qa/*ny) accykt(aa)-yyr.
Masha-(*DAT/*ACC) hunger-AOR.3sS
'Masha hungers.'

In contrast, the rules in (4) do admit the possibility that there could be *dyadic* predicates that have dative case 'subjects' in Sakha. This could arise when two NPs are generated inside VP, but there is no NP with an agent role generated in SpecvP. In that situation, dative case would be assigned by (4a) to the highest thematic position in the clause, resulting in a dative NP that might act like a subject in some respects. Sakha does not have many predicates of this sort; psych verbs, for example, consistently have a nominative-accusative case pattern, like English rather than Icelandic. But Sakha does have a handful of dative subject constructions in the possessive domain, such as (19).[9]

(19) Ejiexe massyyna tiij-bet/ baar/ naada.
you.DAT car reach-NEG.AOR.3sS/ exist/ need
'You lack/have/need a car.'

These examples can look superficially like examples with predicates like *üŋ* 'pray to', *toŋχoj* 'bow to', and *kömölös* 'help', which have a nominative subject and a dative internal argument:

(20) Min presidieŋ-ŋe kömölöh-ö(r)-bün.
I.NOM president-DAT help-AOR-1sS
'I help the president.'

While (19) and (20) give what seem to be pragmatically neutral word orders, word order is not a perfect guide to base structure in Sakha, given that the language allows a certain amount of scrambling. There is, however, evidence from anaphor binding that

[8] We also conclude from this that no (monadic) verb assigns dative or accusative as a lexically governed case in Sakha, whereas this is common in Icelandic.

[9] In fact, *baar* and *naada* are adjectival predicates, not true verbs. We assume that this category difference is largely irrelevant to the point at hand. It does, however, imply that (4a) must be generalized to apply within AP (or PredP, see Baker 2008) constituents as well as within VPs.

the dative argument asymmetrically c-commands the nominative argument in the base structure of (19), whereas it is the other way around in (20). The sharpest contrasts are seen when the first NP in linear order contains a reflexive anaphor and the second is a question word that is intended to bind that anaphor. Under these circumstances, the dative argument can bind into the nominative argument with a predicate like 'need', but the nominative argument cannot bind into the dative argument. In contrast, exactly the opposite binding pattern is seen with a verb like 'help':

(21) a. *Beje-tin ije-ti-ger kim naada?
self-3s.GEN mother-3sP-DAT who need
'Who does his/her own mother need? Who is needed by his/her mother?'

b. Beje-tin oqo-to kim-iexe naada?
self-3s.GEN child-3sP(NOM) who-DAT need
'Who needs his/her own child?'

(22) a. Beje-tin oqo-tu-gar kim kömölös-tö?
self-3s.GEN child-3sP-DAT who help-PAST.3sS
'Who helped his/her own child?'

b. *Beje-tin ije-te kim-iexe kömölös-tö?
self-3s.GEN mother-3sP(NOM) who-DAT help-PAST.3sS
'Who did his/her own mother help? Who was helped by his/her own mother?'

That the nominative argument in (21b) can be bound into by the dative question word that follows it suggests that it can be reconstructed into a base position lower than the dative argument. This binding is not possible in the superficially similar (22b), showing that the nominative here is a true subject, higher than the dative argument at all stages of the representation. Conversely, that the dative argument in (22a) can be bound into by the nominative question word that follows it shows that it can reconstruct into a lower base position, whereas the analogous binding is not possible in the superficially similar (21a). This shows that the dative argument in (21a) is structurally higher than the nominative one at all stages. Assuming that it is generated in SpecVP(/AP) rather than SpecvP (it is not, after all, an agent), the needer/haver/lacker argument in (19) can get its dative case from (4a). Notice also that the lower argument (the needed one) in these sentences is not accusative but rather nominative. This shows once again that when (4a) applies it bleeds the application of (4b), as we saw also in our discussion of (13a).

We note in passing that the rule in (4a) cannot account for the dative case of the internal argument in examples like (20). We analyze this as an instance of lexically governed dative case being assigned by a null postposition. This analysis is not implausible given that some overt postpositions clearly assign dative case in Sakha as a lexical property (e.g. *ojuur-ga dieri* 'forest-DAT until'). We therefore follow Emonds (1985); McFadden (2004), and others and assume that Sakha has null Ps with locative, temporal, and benefactive meanings that assign dative case. (20) contains one of these. Some additional evidence in favor of this view comes from agentive nominalizations, as discussed in Sect. 3.4.

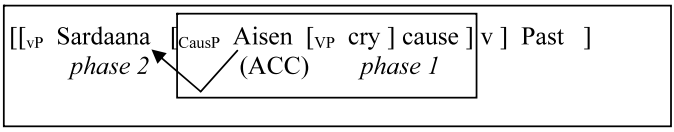
There is one other, more productive circumstance in which a thematic subject receives accusative or dative case: namely, morphological causative constructions. Sakha has a productive causative suffix *–t/-tar* that attaches to many types of verb root. Vinokurova (2005: 306–312, 352–359) shows that, as in many other languages, when an intransitive verb appears in the causative construction, its thematic subject is marked with accusative case (if it is definite or specific). When a transitive verb appears in the causative construction, its thematic subject can be marked with dative case:[10]

(23) a. Sardaana Aisen-y/*Aiseŋ-ŋa yta(a)-t-ta.
Sardaana Aisen-ACC/*DAT cry-CAUS-PAST.3sS
'Sardaana made Aisen cry.'

b. Misha Masha-qa miin-(i) sie-t-te.
Misha Masha-DAT soup-(ACC) eat-CAUS-PAST.3sS
'Misha made Masha eat (the) soup.'

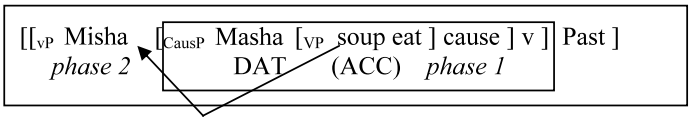
This familiar pattern also follows readily from the case-marking rules in (4). Agent phrases are usually the highest NPs in the clause, and they are not contained in VP; hence they usually do not qualify for dative or accusative case. But the causative morpheme is an additional verbal element. It integrates the agent of the verb root into a larger VP that it heads, and it licenses a still higher argument, the causer. Since, the agent of the base verb is now contained in the maximal VP, it receives dative case if and only if there is another, lower NP inside that VP—if and only if the base verb is transitive. If the lower verb is not transitive, then the agent of the lower verb is the only NP inside the VP headed by the causative morpheme. If it stays inside that VP, it remains unmarked, but if it shifts to the edge of the VP to get a definite or specific reading, then it enters the same domain as the higher causer NP and it is marked accusative. Many different structures have been proposed for morphological causative constructions, and many of them would fit fine with this analysis; perhaps the simplest is the one in (24).

(24) a.



[10]Vinokurova shows that when the base verb is transitive, the causee can also be marked with accusative case or with instrumental case. As an oblique case, instrumental falls outside the domain of this inquiry. We might be able to include the possibility of accusative case on the causee within our analysis by tinkering with our assumptions about what counts as the smaller phase in a causative construction. In (24b) we assume that the *maximal* VP, including the projection of the causative morpheme, is the phase; this yields dative case on the causee. Now suppose that the *minimal* VP can optionally count as another, distinct phase. Then there would be no VP phase that contains both the causee and the thematic object, so (4a) would not assign dative case to the causee. However, the causee and the thematic object could both object-shift into the CP phase. When they do, (4b) assigns them both accusative case, because they are both c-commanded by the causer.

b.



The fact that dative case can be used on the causee if and only if there is another lower NP is perhaps the single strongest reason for saying that dative case can be a dependent case in Sakha.

Although this range of facts fits well with our configurational rules of case assignment, there are also familiar ways of capturing them within theories that have case assigned by functional heads. So we still have not found evidence that chooses between these two approaches. But we are now ready to consider those areas in which case assignment in Sakha is somewhat different from case assignment in more familiar languages—areas in which the advantages of (4) are more evident.

3.3 Passive and case assignment

Like many other languages, Sakha has two distinct detransitivizing constructions, the anticausative and the passive. (25) shows a simple transitivity alternation, with (25b) the anticausative member of the pair.

(25) a. Min oloppoh-u aldjat-ty-m. (Vinokurova 2005: 285)
I.NOM chair-ACC break-PAST-1sS
'I broke the chair.'

b. Caakky/*caakky-ny aldjan-na.
cup/*cup-ACC break-PAST.3sS
'The cup broke.'

The theme argument cannot be marked accusative in (25b), whereas it can be in (25a). This is expected. The intransitive version of 'break' does not have an agent generated in SpecvP. As a result, there is no case competitor for the theme argument in the CP phase, and it is not marked accusative by (4b).

What is interesting about this is that it contrasts with the passive. Unlike the anticausative in Sakha and the passive in Western European languages, the theme argument in a Sakha passive *can* be marked accusative, although it can also be nominative (Vinokurova 2005:336–338), as shown in (26).

(26) a. Caakky/caakky-ny aldjat-ylyn-na.
cup/cup-ACC break-PASS-PAST.3sS
'The cup was broken.'

b. Kinige/kinige-ni aaq-ylyn-na.
book/book-ACC read-PASS-PAST.3sS
'The/a book was read.'

It is not entirely unexpected that there would be such a difference, given our proposal. Although the agent argument is completely absent in anticausatives, it is well-known

that the agent of a passive sentence can still be present syntactically and semantically in various ways. Given that the agent can be present in the passive—for concreteness, say it is an uncontrolled PRO in the specifier of the vP (Collins 2005: 101–104)—it can count as a case-competitor, triggering accusative case on the definite object. In contrast, there is no agent phrase that c-commands the theme at any syntactic level of representation in an anticausative, so there is no accusative case assigned in (25b).

This contrast can also be seen internally to the passive construction in Sakha. Vinokurova (2005: 336) compares passives that have an accusative theme argument with passives that have a nominative theme. She shows that passive clauses with an accusative theme show implicit argument effects in syntax: they can contain purposive clauses, agent-oriented adverbs, and instrumental phrases. In contrast, passives with a nominative theme show no signs of having an agent argument in the syntax:[11]

(27) a. *Caakky sorujan ötüje-nen aldjat-ylyn-na.
cup intentionally hammer-INST break-PASS-PAST.3sS
'The cup was intentionally broken with a hammer.'

b. Caakky-ny sorujan ötüje-nen aldjat-ylyn-na.
cup-ACC intentionally hammer-INST break-PASS-PAST.3sS
'The cup was broken intentionally with a hammer.'

We thus posit representations like those in (28) for the corresponding sentences in (27); the rule in (4b) then applies as written to assign accusative case to 'cup' in (28b) but not in (28a).

(28) a. [$_{TP}$ [$_{vP}$ -- (*intentionally) [$_{VP}$ cup [$_{VP}$ t break]] PASS] past]
b. [$_{TP}$ [$_{vP}$ PRO (intentionally) [$_{VP}$ cup-ACC [$_{VP}$ t break]] PASS] past]

Notice that we assume crucially that the covert subject in (28b) can still count as a case competitor for the object, even though it is not realized at PF and (presumably) it

[11] As expected, anticausatives are like agentless passives in these respects: they also cannot occur with adverbs like 'intentionally' or instrumental NPs (*Caakky (*sorujan) (*ötüje-nen) aldjan-na* 'The cup (*intentionally) broke (*with a hammer)').

An interesting and somewhat unexpected detail concerning (27b) (noticed also by an anonymous reviewer) is that, when the implicit agent is syntactically represented, the thematic object apparently cannot remain inside VP, getting an indefinite interpretation and no case marking:

(i) *Sorujan sibekki ürge-nilin-ne.
intentionally flower pick-PASS-PAST.3sS
'Flowers/a flower was intentionally picked.'

Rather, it must shift out of VP and (therefore) be marked accusative. We tentatively suggest that this is because the passive Voice head itself has an EPP feature, which forces some NP from inside VP to merge with it. Support for this is that a bare theme argument is possible with an agentive passive if the verb is ditransitive; then the goal argument can move to VoiceP, satisfying the EPP feature of Voice, as in (ii).

(ii) Masha-qa sorujan sibekki ber-ilin-ne.
Masha-DAT intentionally flower give-PASS-PAST.3sS
'Masha was intentionally given a flower/flowers.'

There is thus no absolute incompatibility between a bare NP object and an agentive passive. Moreover, even (ii) becomes bad if the dative NP follows the adverb, as expected given this suggestion.

does not itself undergo case marking. Languages might well differ somewhat on this point, as to precisely which noncanonical NPs are and are not visible for the rules in (4). But in Sakha this sort of covert NP apparently is visible.[12]

This account can be compared to the standard Chomskyan view in which accusative case is assigned by v. Most of the same results follow, given the usual stipulation that only theta-role assigning v assigns accusative case (Burzio's Generalization). But the standard view must apply Burzio's Generalization in a very strong way. For these data, it is not enough that there be a general correlation between functional heads that can assign accusative case and functional heads that can license an agent argument. Rather, there has to be a very specific correlation, such that *what looks like the very same functional head* (the passive voice marker) assigns accusative case when it has an NP in its specifier and not when it does not. Within the Chomskyan approach, there is no obvious conceptual reason why these two logically distinct properties of v should be so closely linked in this way. The pattern makes more sense conceptually within a theory of dependent case like (4). The data suggest that it is not which functional heads are present that is most crucial, but whether a second noun phrase is present. The rule in (4b) expresses this more directly and reasonably.

Finally, consider the assignment of dative case in passive clauses in Sakha. Unlike accusative case, dative case is unaffected by passivization. When a triadic verb is passivized, the argument that would have been dative in the active sentence is also dative in the passive sentence, while the theme argument can either be accusative or nominative:

(29) Suruk/surug-u Masha-qa yyt-ylyn-na.
letter/letter-ACC Masha-DAT send-PASS-PAST.3sS
'The letter was sent to Masha.'

Alternative structures in which the goal argument is marked nominative in a passive are generally rejected (e.g. ?**Masha suruk yyt-ylyn-na* (Masha letter send-PASS-PAST.3sS) 'Masha was sent a letter').[13]

This pattern is explained by the rules in (4). Using a passive v rather than an active one can affect whether there is an agent argument in vP. However, it has no effect on the internal structure of VP. Since dative case is assigned to the higher argument on the VP phase, it is assigned in the same way regardless of whether an active or a passive v is merged later. It thus follows that the same argument gets dative in a passive sentence as in an active one. Whether the theme object is marked accusative or not depends on two factors—whether the object shifts out of VP, and whether there is a PRO in Spec of the passive voice phrase—exactly as in simple transitive structures with no third argument:

[12] In contrast, the theme argument of a passive verb cannot be marked accusative in Turkish (Kornfilt 2005; Cem Keskin personal communication). (Compare also notes 5 and 15.)

[13] We have observed some variability in this judgment. Some permissive speakers marginally accept some examples of this form, depending on which verb is used; other speakers consistently reject them. We assume that they are basically bad.

(30) [[$_{vP}$ (PRO) [$_{VP}$ letter (ACC) *phase 2* [$_{VP}$ Masha <letter> send] DAT *phase 1*] PASS] PAST]

There is thus no need to stipulate that passive morphology absorbs accusative case but not dative case in our theory, as there was in GB-era versions of Case theory. This asymmetry follows directly from the basic formulation of the two rules in (4)—particularly the fact that dative case assignment happens on the VP cycle, whereas accusative case assignment happens on the CP cycle.

3.4 Agentive nominalizations

Consider next case assignment in agentive nominalizations. Sakha has a productive morpheme *–AAccY* that is used to derive agentive nominals from verb roots. Although it is similar in many respects to the derivational morpheme *-er* in English, Vinokurova (2005: 123–124) notes one striking difference: unlike in English, the thematic object of an agentive nominalization can have accusative case, as shown in (31).

(31) a. Masha [ynaq-y kör-ööccü-nü] najmylas-ta.
Masha cow-ACC watch-AG.NOML-ACC hire-PAST.3sS
'Masha hired a herder for the cow.'

b. [Terilte-ni salaj-aaccy] kel-le.
company-ACC manage-AG.NOML come-PAST.3sS
'The manager of the company came.'

In English, it is commonly said that accusative case is not available for the object of the nominalized verb because the functional head v that assigns that case is absent in such structures; they contain nominal functional heads like number and determiner, but not verbal ones like v. Where then does the accusative case come from in Sakha?

One might try to work within the functional head theory of accusative case assignment by saying that the structure of agentive nominalizations in Sakha is different from that of similar nominalizations in English. Perhaps in Sakha the nominalizing morpheme selects not a bare VP, but rather some larger extended projection of the verb, which includes the assigner of structural case. In the domain of event-denoting nominalizations, this is a familiar possibility: many languages have both 'derived nominals' and 'gerunds', where the latter contain more verbal structure than the former (e.g. English *Rome's viciously destroying Carthage*, as contrasted with *Rome's vicious destruction of Carthage*). The problem is that there is apparently no similar variation in the domain of agent-denoting nominals: for example, English has *the vicious destroyer of Carthage* but no agentive nominalization with more verbal structure like **the viciously destroyer Carthage*. Sakha is essentially like English in this respect: other than accusative case assignment, there is no sign that agentive nominals contain any clausal structure more than a bare VP. For example, adverbs (32a, b), aspectual suffixes (33a), negation (33b), and passive morphology (33c) are all forbidden inside agentive nominalizations:

(32) a. (*Ücügejdik) terilte-ni (*ücügejdik) salaj-aaccy
(*well) company-ACC (*well) manage-AG.NOML
kel-le.
come-PAST.3sS
'The one who manages the company well came.'

b. djie-ni (*bütünnüü/*xat) kyraaskal-aaccy (no adverb)
house-ACC (*completely/*again) paint-AG.NOML
'the painter of the house (*completely)/(*again)'

(33) a. *Suruj-baxt(aa)-aaccy kel-le (no aspectual suffix)
write-ACCEL-AG.NOML come-PAST.3sS
'A quick writer came.'

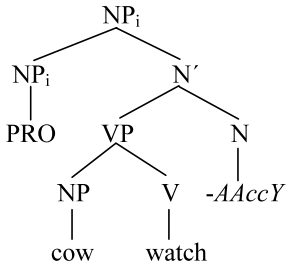
b. *Suruj-um-aaccy kel-le. (no negation)
write-NEG-AG.NOML come-PAST.3sS
'The one who doesn't write came; the non-writer came.'

c. *tal-yll-aaccy (no voice morphology)
choose-PASS-AG.NOML
'the one who is chosen'

So agentive nominals in Sakha do not show any signs of containing any extended verb phrase structure, in contrast to event-denoting nominals/gerunds in English and other languages (including Sakha).

Based on facts like these, Vinokurova (2005) and Baker and Vinokurova (2009) analyze *–AAccY* as a nominal head that selects a VP complement and no more. We may suppose that agentive nominalizations have the structure in (34).

(34)



Here the nominalizer *–AAccY* is conceived of as an intrinsically nominal counterpart to the verbal head v/Voice. Like v, it allows the agent of the verb 'watch' to be projected in its specifier, but unlike v that specifier must be a null category which is interpreted as a variable, making the constituent as a whole predicate-like rather than proposition-like. The open position is then bound by an iota-operator (or other D-like meaning), contributed either by a null D or by semantic default. The meaning of (34) is thus something like ιx Gen(e) [watch(e) & Theme (e, cow) & Agent(e, x)]—an ap-

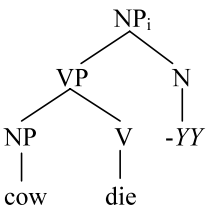
propriate meaning for an agentive nominalization.[14] We assume that there is no significant difference between agentive nominals in English and Sakha in these respects.

One consequence of the structure in (34) is that there is no v that can assign accusative case to the NP object within the Chomskyan case theory. For English, this is a good result; it can contribute to an explanation of why one says *an admirer of her*, not *an admirer her*. But accusative case is possible in this context in Sakha, and the difference can be explained if (4b) defines the way that accusative case is assigned in this language. This rule does not depend on particular functional heads being present. There is, however, another NP in the same local domain as the object—the null agent—and that triggers accusative case on the object, just as the null agent does in certain passive clauses.[15] The dependent case account thus extends to agentive nominalizations in Sakha with relative ease, whereas an account that holds that accusative case is assigned by a particular functional head does not.

The significance of there being a syntactic expression of the agent argument in an agentive nominalization is underscored by comparing agentive nominals with event-denoting nominals like the one in (35a), which has the partial structure in (35b).[16]

(35) a. Ynax-(*y) öl-üü-*(te) miigin sohup-pat
cow-ACC die-EV.NOML-(3sP) me.ACC surprise-NEG.AOR.3sS
'The death of the cow does not surprise me.'

b.



(34) and (35b) are similar in several respects: in both a nominalizing morpheme takes as its complement a VP constituent that contains the verb root and its theme argument.

[14]The form *–AAccY* is also used as a verbal participle with a habitual meaning in Sakha. See Baker and Vinokurova (2009) on the historical and synchronic relationship between these two affixes.

[15]Again, accusative case is not found in the Turkish equivalents of these nominals, suggesting that only lexical NPs (not certain PROs) count as case competitors in Turkish (compare note 12).

In Baker and Vinokurova (2009), we argue for a slightly different representation for agentive nominalizations, one in which there is no PRO in Spec, NP. This makes the semantics of the construction somewhat more straightforward, but complicates the Case theory slightly. If our position in that article is correct, then the Case-theoretic difference between the agent nominal in (34) and the event nominal in (35) can be recast by saying that *–AAccY* is a nominal that counts as the agent of the verb 'manage' in (34), whereas *–YY* bears no thematic relation to 'die' in (35). Given this, *–AAccY* is argumental and can itself counts as a case competitor, triggering accusative on 'cow', whereas *–YY* is not argumental and does not trigger accusative on 'cow'. See Baker and Vinokurova (2009) for further discussion, and some empirical evidence that favors the structure adopted there. The exact implementation is not crucial here.

[16](35b) is a simplification in that there is evidence that voice and aspect nodes can be present in an event nominalization in Sakha, unlike in an agentive nominalization. That only enhances the point at hand, however, because if anything these additional functional categories should make it more likely that the theme argument can be assigned accusative case given the Chomskyan view (whereas they are irrelevant in our view). We thank an anonymous reviewer for reminding us of the significance of this contrast.

However, accusative case can be assigned to the theme argument in (34) but not in (35b). The difference is that there is clearly an agent role present in the semantics of the agentive nominal but not in that of the eventive nominal. We thus assume that an expression of this agent role is also present in the syntax. The syntactic presence of an agent is the crucial factor for making accusative case assignment happen to the theme under our analysis based on (4b). (Since accusative case is not possible on 'cow' in (35), an agreement-bearing determiner must be generated above NP in (35) which agrees with and assigns genitive case to 'cow'. See (76) below and Baker and Vinokurova (2009) for some relevant examples and discussion.)

Note that (34) contains a VP node, which should count as a separate phase from the nominal as a whole. Technically, then, the object NP should only get accusative case if it shifts to the edge of this VP; if it does not, it should remain unmarked by (4b). We thus expect to observe essentially the same differential object marking in agentive nominalizations that we do in ordinary clauses in Sakha. This is correct: the theme NP can be accusative, as in (31), or it can be bare, as in (36), the difference having to do roughly with whether the herder is charged with taking care of a specific cow or not.

(36) Masha [ynax kör-ööccü-nü] najmylas-ta
Masha cow watch-AG.NOML-ACC hire-PAST.3sS
'Masha hired a cowherd.'

This shows that the accusative case found in nominals is not some kind of inherent accusative case, distinct from the structural case found in clauses. If it were, one would not expect to see the same specificity-sensitive case alternation in the two domains.

Finally, consider dative case assignment in agentive nominalizations. Given that they have a VP constituent (although no higher verbal structure), dative case assignment should be a possibility whenever there are two NPs in the VP. (37) shows that dative case is indeed possible on the goal argument when an agentive nominalization is formed from a ditransitive verb.

(37) Oqo-lor-go emp bier-eecci ol tur-ar.
child-PL-DAT medicine give-AG.NOML there stand-AOR.3sS
'A giver of medicine to children is over there.'

It is curious, though, that when we consider dyadic verbs with a dative internal argument like 'help' (see (20)), we observe a contrast that is not apparent in the clausal domain. For such verbs, including the dative argument in the nominalization is awkward at best:

(38) ??presidieŋ-ŋe kömölöh-ööccü
president-DAT help-AG.NOML
'the helper of the president'

We take the contrast between (37) and (38) to be support for our case assignment rule in (4a), which says that structural dative case is assigned to an NP only if that NP c-commands a distinct NP within the VP. That condition is satisfied in (37), but not

in (38); there is no other NP that 'president' c-commands to justify it having structural dative case. Verbs like 'help' do appear with dative complements in clauses, but we claimed that their internal arguments do not have structural dative case assigned by (4a), but rather lexical dative case assigned by a null P. Now many languages do not permit a PP to modify an NP, and Sakha is one of these (**ambaar-y tula kürüö* (barn-ACC around fence) 'the fence around the barn'). Having a benefactive PP in the nominal domain is presumably ruled out for the same reason. This restriction on PPs implies that the only kind of dative case that can appear inside a nominalization is structural dative case. Given this, the contrast between (37) and (38) supports the idea that structural dative case assignment depends on there being a case competitor inside VP—reconfirming what we observed in morphological causatives and in dative subject constructions.

3.5 Raising of subjects

We come now to perhaps the most spectacular evidence for the dependent case account of accusative in Sakha: the 'raising to object' construction described in some detail but not fully explained in Vinokurova (2005: Sect. 6.10). (See George and Kornfilt 1981; Moore 1998; Şener (2010) for similar—but not identical—constructions in Turkish.) Vinokurova shows that the subject of an embedded clause can be marked with accusative case. This case alternation is equally possible with both of Sakha's two major forms of sentential complementation: complete CPs headed by the complementizer *dien* 'that', which permit the full range of tenses found in matrix clauses (39a), and 'reduced' participial clauses, consisting of a full vP together with (at least) a participial head and quasi-nominal agreement with the subject (39b):[17]

(39) a. Min ehigi/ehigi-ni bügün kyaj-yax-xyt dien erem-mit-im.
I you/you-ACC today win-FUT-2pS that hope-PTPL-1sS
'I hoped that you would win today.'

b. Min ehigi/ehigi-ni bügün kyaj-byk-kyt-yn ihit-ti-im.
I you/you-ACC today win-PTPL-2pP-ACC heard-PAST-1sS
'I heard you won today.'

Accusative case marking on the embedded subject is only possible if the subject is at the left edge of the embedded clause. If it is nominative, it can follow adverbs associated with the lower clause (or even the object, if it is focused). But the embedded subject cannot be case-marked accusative when it is unambiguously internal to the embedded clause in this way. Hence (40) contrasts with (39a).

[17] Although their morphology is superficially nominal in that they show possessive agreement with their subject and bear case morphology (accusative in (39b)), these participial clauses are not fully nominalized in Sakha. For example, their subjects are in nominative case, not genitive, and they allow both subject control and extraction, unlike true nominalizations formed by *–YY* (see (35) and (76)). See Sect. 4.2 below and Baker (2009b) for further discussion.

Korean and Japanese are other reasonably well-studied languages that are known to allow the apparent subject of a finite CP complement to be marked accusative under some conditions. It would be worth comparing them to Sakha (and Turkish) in this regard in future work.

(40) Min [sarsyn ehigi-(*ni) kel-iex-xit dien] ihit-ti-m.
I(NOM) tomorrow you-(*ACC) come-FUT-2pS that hear-PAST-1sS
'I heard that tomorrow you will come.'

The way the embedded subject is case-marked also interacts with the possibility of it being bound by an antecedent in the matrix clause. If a pronominal subject is internal to the embedded clause and marked nominative, it can be coreferential with the subject of the matrix clause, whereas if a pronominal subject is at the edge of the embedded clause and marked accusative, it cannot be, as shown by (41).

(41) a. [Sarsyn min bar-a-byn dien] ihit-ti-m.
Tomorrow I(NOM) leave-AOR-1sS that hear-PAST-1sS
'I heard that I am leaving tomorrow.'

b. *[Miigin [sarsyn bar-a-byn dien]] ihit-ti-m.
I.ACC tomorrow leave-AOR-1sS that hear-PAST-1sS
'I heard (of me) that I am leaving tomorrow.'

This shows that the embedded subject has joined the matrix clause for purposes of Binding principle B as well as for purposes of case assignment in examples like (41b). Contrasts like these thus tell us that the case alternation in (39) is not just a matter of accusative case somehow reaching the embedded subject in its normal position, inside the embedded CP—a special kind of Exceptional Case Marking. Rather, the NP must move (at least) to the edge of the CP in order to receive this case, probably to a position adjoined to the embedded CP. And indeed this is just what one would expect on theoretical grounds, given Chomsky's PIC and the fact that the embedded clause is a fully tensed CP phase, at least in (39a), not a defective infinitive. (See also Şener 2010 for extensive discussion of similar data in Turkish.)

There is a second alternative to our subject raising analysis to consider; this is the possibility that the accusative-marked NP in (39a, b) is in the matrix clause from the beginning, as some kind of optional argument of the matrix verb 'hope' or 'hear'. This would be a so-called proleptic object analysis. On this alternative analysis, the most accurate gloss for (39b) would be 'I heard of you that you won today' with two separate pronouns 'you' (one *pro*-dropped). This would readily explain the word order and binding facts in (40) and (41). We believe that this 'proleptic object' analysis is indeed correct for some examples in Sakha—but not for all. Taken by itself, it does not account for the grammaticality of the examples in (42), for example.[18]

(42) a. Min kim-i daqany kyaj-ba-ta dien eren-e-bin.
I who-ACC PRT win-NEG-PAST.3sS that hope-AOR-1sS
'I hope that nobody won (the lottery).'

[18]Vinokurova (2005: 364) gives examples similar to (42a, b) as bad. She did not distinguish carefully between proleptic object constructions and raised subject constructions. When the accusative NP is unambiguously entirely in the matrix clause (e.g. when it is separated from the embedded clause by a main-clause adverb) then it is a proleptic object, and an NPI in this position indeed cannot be licensed by negation on the lower verb. But when the accusative NP is merged with CP, it can be both accusative and interpretable within the scope of lower negation.

b. Min kim-i daqany kyaj-bataq-yn ihit-ti-m
I who-ACC PRT win-NEG.PTPL-3sP.ACC hear-PAST-1sS
'I heard that nobody won (the lottery).'

'Who PRT' in Sakha is a kind of negative polarity item (NPI) which can only be interpreted in the scope of negation. Therefore, these examples must have a derivation in which the thematic subject of the embedded clause not only moves to adjoin to the embedded CP, to a high enough position to get accusative case in the matrix clause, but also reconstructs back to its original position so as to be interpreted under the scope of lower clause negation at LF. If there were no such derivation—if all the 'raised' accusative case marked NPs in question were really arguments of the matrix verb—then the examples in (42a) and (42b) should be ruled out on the same grounds as (43) is:

(43) *Min kim-ŋe daqany kel-bet dien et-ti-m
I who-DAT PRT come-NEG.AOR.3sS that tell-PAST-1sS
'I told no one to come.' (lit. 'I told anyone that he should not come.')

The matrix verb in (43) is 'tell', which uncontroversially has a nominal internal argument (the tellee) as well as a clausal argument. (43) is bad simply because this dative object of the matrix verb is not in the scope of the negation associated with the embedded verb at any point of the derivation (even though it binds a pronoun inside the embedded clause that is in the scope of negation). If there were no NP raising derivation for (42a) and (42a), they would be expected to have the same status, contrary to fact (cf. also the badness of **I heard of anyone that he did not win* in English).

Given this understanding of the constructions, it might seem at first that either the dependent Case theory or the functional head theory could explain the accusative case marking on the raised subject. Within the dependent Case theory, moving the subject to the edge of the embedded CP places it in the same phase as the subject of the matrix clause.[19] Rule (4b) then marks the lower subject as accusative. Within a functional head theory, one might suppose that accusative case is assigned by the v of the matrix clause; raising the subject takes it out of the lower CP phase and puts it close enough to v to be case marked by it. Both accounts are natural enough, and they attribute the effect to the PIC in similar ways.

What is striking, however, is that this sort of 'raising to object' can take place even when there is no functional head in the matrix clause that could be the source of accusative case. (44) shows raising into a matrix clause whose predicate is the intransitive member of a transitivity alternation (*xomoj* 'become sad' as opposed to *xomot* 'make sad'; *tönün* 'return' as opposed to *tönnör* 'make return').

(44) a. Keskil [Aisen-y [kel-bet dien]] xomoj-do.
Keskil Aisen-ACC come-NEG.AOR.3sS that become.sad-PAST.3sS
'Keskil became sad that Aisen is not coming.' (Vinokurova 2005: 366)

[19]To be precise, putting NP at the edge of CP makes it visible in the matrix VP phase, but not the matrix CP phase, where the matrix subject is. We assume, though, that complement CPs always shift out of the VP (cf. Stowell 1981). For participial clauses like (39b) and (42b), this is evident from the fact that they themselves must be marked for accusative case, showing that they have moved out of VP into the same domain as the subject.

b. Masha [Misha-ny [yaldj-ya dien]] tönün-ne
Masha Misha-ACC fall.sick-FUT.3sS that return-PAST.3sS
'Masha returned (for fear) that Misha would fall sick.'

These are clearly unaccusative verbs, and the v associated with them cannot assign accusative case on standard assumptions; it would be the very same v that cannot assign accusative case to the theme argument in sentences like (25b). Nevertheless, accusative case marking is possible in (44). Similarly, (45) shows that an NP can raise to the edge of the embedded clause and be marked with accusative case even when the matrix verb is a passive with no syntactically present agent argument.

(45) Sargy kim-i daqany tönn-üm-üö dien
Sargy who-ACC PRT return-NEG-FUT.3sS that
erenner-ilin-ne.
promise-PASS-PAST.3sS
'Sargy was promised that nobody would return.'

These data are unexpected on the view that accusative case is assigned by a particular functional head, such as active transitive v.

In contrast, the dependent case view easily accounts for (44) and (45). When the subject of the lower clause raises out of the embedded CP phase, it enters the same domain as the (derived) subject of the matrix clause. This NP is a case competitor for the raised subject, triggering accusative case on it. Particular functional heads do not come into the account; all that matters is that there is another noun phrase in the matrix clause.

It is also possible for an NP to get accusative case by moving to the edge of an adjunct clause, as shown in (46). This can happen even when the matrix clause is transitive. The result is two distinct accusative case marked noun phrases, something that is otherwise extremely limited in Sakha.

(46) a. Masha [Misha-ny [kel-ie dien]] djie-ni
Masha Misha-ACC come-FUT.3sS that house-ACC
xomuj-da.
tidy-PAST.3sS
'Masha tidied up the house (thinking) that Misha would come.'
(Vinokurova 2005: 368)

b. Masha Kesha-qa [Misha-ny [aaq-ya dien]] kinige-ni
Masha Kesha-DAT Misha-ACC read-FUT.3sS that book-ACC
bier-de.
give-PAST.3sS
'Masha gave Kesha the book so that Misha would read it.'

These examples are at least awkward for the view that case is assigned by functional heads, because there is only one transitive v that could be a source for accusative case in the matrix clauses in (46). Given that case assignment by a functional category is usually one-to-one, this v cannot assign case to both the object of the matrix verb and the raised subject of the embedded verb. (If one changed this assumption, then

it would be hard to explain why the two objects of triadic verbs like *give* and *send* cannot both be assigned accusative case in Sakha; see (3c) and (7c).) In contrast, the case assignment rule in (4b) does not create any expectation that accusative case assignment must be unique in a clause. It is perfectly imaginable that there would be two NPs that move into a single CP phase, neither of which c-commands the other, but both of which are c-commanded by a third NP (the subject) which is native to that higher domain. Then both moved NPs will be marked for accusative case. That is what we see in (46), where subject raising and object shift both feed accusative case assignment in the same clause.[20]

There is one very instructive situation in which a subject raised out of a complement clause cannot be marked as accusative. That is when the matrix clause is an impersonal predicate like 'become certain' or 'be necessary'. Moving the subject to the edge of the clausal argument of these predicates is possible, but the raised NP in these circumstances must be unmarked for case, not accusative:

(47) a. Bügün munnjax-xa [Masha-(*ny) [ehiil Moskva-qa
today meeting-DAT Masha-(*ACC) [next.year Moscow-DAT
bar-ya dien]] cuolkajdan-na.
go-FUT.3sS that] become.certain-PAST.3sS
'It became clear today at the meeting that Masha will go to Moscow next year.'

b. [Aisen-(*y) [massyyna atyylah-ar-a]] naada buol-la.
Aisen-(*ACC) car buy-AOR-3sS need become-PAST.3sS
'It became necessary for Aisen to buy a car.'

It is not clear (to us) whether there is an expletive subject in the matrix clauses of examples like (47) or not; if so, it is *pro*-dropped, as expected in a language with rich subject agreement like Sakha. But regardless of this issue, (4b) does not assign accusative to the moved embedded subject, because an NP needs to be an argument

[20] In light of the examples in (44–46), an anonymous reviewer raises the possibility that accusative case is assigned by the complementizer *dien* in Sakha, and not in the matrix clause at all. This is plausible inasmuch as *dien* is historically the converb form of the verb 'say'. Given this historical source, it could still have some verbal characteristics, including potentially the ability to assign accusative case.

We have three reasons to reject this alternative. First, accusative case on the subject is impossible when the clause is the complement of an impersonal predicate, as shown in (47a), even though *dien* is present. Second, accusative case on the subject is impossible when a *dien* clause functions as the complement of a noun, as in (i).

(i) taŋara-(*ny) baar dien surax (cf. Vinokurova 2005: 365)
god-ACC exist that rumor
'the rumor that God exists'

Third, accusative case is also possible when an NP is raised out of a participial clause, as in (42b), even though this sort of clause does not have the complementizer *dien*. Overall, then, accusative case marking on the subject is sometimes possible without *dien*, and is sometimes impossible with *dien*. We conclude that *dien* is not the assigner of accusative case. (We assume that there is only a single complementizer-like particle *dien* in Sakha. The anonymous reviewer points out that it is possible that the *dien* associated with adjunct clauses is an accusative case assigner, even though the one associated with complement clauses is not. We know of nothing that gives independent motivation for this hypothesis, however.)

of some predicate in order to count as a case competitor in Sakha (see the discussion of (9) above). Thus while the transitivity of the matrix verb is not crucial to the licensing of an accusative case subject, it is crucial that there be another argumental NP in the matrix clause. This is important evidence in favor of the dependent case account based on (4).

Finally, consider the implications of subject raising for dative case assignment. Vinokurova (2005: 367) observes that when the subject of the complement clause of the verb 'promise' raises to get accusative case, the other internal argument of 'promise' cannot be marked accusative, but must be marked dative:

(48) Sargy Keskil-i [kim daqany kel-im-ie dien] erenner-de.
Sargy Keskil-ACC who PRT come-NEG-FUT that promise-PAST.3sS
'Sargy promised Keskil that nobody will come.'

(49) Sargy Keskil-ge/*i [kim-i daqany [kel-im-ie dien]]
Sargy Keskil-DAT/*ACC who-ACC PRT come-NEG-FUT that
erenner-de.
promise-PAST
'Sargy promised Keskil that nobody will come.'

Our case assignment rules allow us to understand why this is. The clausal complement of 'promise' is its innermost argument; it is generated inside the matrix VP. When an NP raises to the edge of this CP, it becomes visible in the matrix VP phase. The matrix verb 'promise' also selects for an NP argument inside the VP, a goal-like argument that expresses the one who receives the promise. This goal argument c-commands the clausal argument, so it also c-commands the subject NP that has raised to the edge of that argument. The conditions specified by (4a) thus apply, and dative case is assigned to the NP argument of 'promise'. The same NP raising that can trigger accusative case marking on the embedded subject thus creates the environment for dative marking on the other internal argument of 'promise'. In contrast, the adjunct clauses in (46) are generated outside the matrix VP, and are not c-commanded by the internal argument of the matrix verb. When NP raises to the edge of the adjunct clause, it does not enter the matrix VP phase, but only the matrix CP phase. Raising from an adjunct clause thus does not feed dative case assignment, whereas raising from a complement clause can.

We take this to be good evidence that the various details of our proposal fit together in the appropriate way. We think it would be very difficult for a theory in which dative case and accusative case are assigned by designated functional heads to capture this range of facts.

3.6 Raising of possessors

Sakha also has a possessor raising construction, which is similar in some respects to the subject raising construction, but which also has some important differences. Vinokurova (2005: 146–151) discusses this construction only for the existential predicate *baar*, but it is possible with a wide selection of unaccusative verbs. It provides some further support for our dative case assignment rule in (4a).

In most instances, a possessor forms a constituent with the possessed NP in Sakha. When this happens, the possessor is contiguous with the possessed NP, and the possessor is in genitive case (unmarked and homophonous with the nominative, except when the possessor itself is possessed; see Sect. 2). A simple base-line example of this is (50).

(50) Beqehee [Misha at-a] öl-lö.
yesterday Misha(GEN) horse-3sP die-PAST.3sS
'Misha's horse died yesterday.'

But under certain conditions, it is possible for the possessor to raise out of the possessed NP, so that it is separated from the possessed noun by (for example) an adverb. In particular, this can happen when the possessed NP is the sole argument of an unaccusative verb. The raised possessor can be morphologically unmarked, or it can have dative case:

(51) a. [Misha-(qa)] beqehee [at-a] öl-lö.
Misha-(DAT) yesterday horse-3sP die-PAST.3sS
'Misha's horse died (on him) yesterday.'

b. [Masha-(qa)] emiske [massyyna-ta] aldjan-na
Masha-(DAT) suddenly car-3sP break-PAST.3sS
'Masha's car suddenly broke down.'

Prima facie evidence that these are raising constructions comes from the fact that they are ungrammatical if there is no possessive agreement on the head noun of the theme argument, or if the head noun agrees with something other than the raised NP:

(52) a. *Masha-(qa) beqehee massyyna-m aldjan-na
Masha-(DAT) yesterday car-1sP break-PAST.3sS
'My car broke down on Masha yesterday.'

b. *Misha-(qa) beqehee at öl-lö.
Misha-(DAT) yesterday horse die-PAST.3sS
'The/a horse died on Misha yesterday.'

Hence, there must at a minimum be some kind of binding/chain formation relationship between the 'raised' NP and the possessor of the theme for the construction to be interpretable. We tentatively assume that it is a full-fledged movement relationship.

Why does the raised possessor get dative case in some sentences and not in others? Pursuing the idea that this is an instance of structural case assignment, it must be that the structures are somewhat different. Given our rule of dative case assignment in (4a), it is clear what the difference must be. Structural dative case is assigned to an NP only if that NP is inside VP, and there is another NP inside VP that it c-commands. We thus hypothesize that the landing sites for the two types of possessor raising are slightly different. In one type, the possessor raises to a position that is high in VP but still fully contained in VP, such as SpecVP (53b). In the other type, the possessor raises higher, to the edge of VP or out of the VP phase all together (53a).

(53) a. [$_{TP\ldots}$ Misha$_i$ Adverb1 *Phase 2* [$_{VP}$ Adverb2 [$_{DP}$ t$_i$ [$_{NP}$ horse] D+AGR] die] *Phase 1* PAST]

b. [$_{TP}$ … Adverb1 *Phase 2* [$_{VP}$ Misha$_i$ Adverb2 [$_{DP}$ t$_i$ [$_{NP}$ horse] D+AGR] die] DAT *Phase 1* PAST]

In (53b), *Misha* receives dative case in the VP phase, by (4a). In contrast, there is only one NP in the VP phase in the (53a) structure, so dative case assignment does not apply. Moreover, the theme argument remains in VP in this construction (it appears after manner adverbs), where it gets nominative case from T under agreement (see Sect. 4.2). As a result, there is only one NP in the CP phase as well (the raised possessor), so accusative case is not assigned either; the raised NP simply retains the case (genitive) that it was assigned to it in DP before movement. These two structures give us the two case patterns that we observe in (51), using our independently motivated rules of case assignment.

If this is correct, we might be able to confirm that there is a structural difference between the two kinds of possessor raising with careful use of adverbs. Both sorts of possessor raising can cross over adverbs properly contained in VP; this is important for showing that the possessor has raised out of DP in the first place. But there might be another class of adverbs—adverbs generated in TP or some other constituent larger than VP—which reveal a difference. The prediction would be that the unmarked type of possessor raising should cross these adverbs more easily than the dative type of possessor raising, because the unmarked type targets a higher position. The data confirm this. Both types of possessor raising can cross manner adverbs like ‘suddenly’, but bare possessor raising is more comfortable than dative possessor raising when crossing a time adverb like ‘yesterday’ or a modal adverb like ‘probably’:

(54) a. Beqehee Masha-(qa) emiske massyyna-ta aldjan-na
yesterday Masha-(DAT) suddenly car-3sP break-PAST.3sS
‘Yesterday Masha’s car suddenly broke.’

b. Masha-(??qa) beqehee/baqar massyyna-ta aldjan-na
Masha-(??DAT) yesterday/probably car-3sP break-PAST.3sS
‘Yesterday/probably Masha’s car broke.’

Examples with dative possessors in front of high adverbs are not entirely out, nor should we expect them to be; there is always the possibility of additional scrambling that would move the dative NP from its case position in (53b). But abstracting away from this, the difference between unmarked possessor raising and dative-marked possessor raising seems clear, and goes in the predicted direction. Thus dative case in these examples is attributable to (4a).

3.7 Case assignment in PPs

Finally, we consider a case alternation that is found in certain PPs. The class of postpositions is a rather heterogeneous one in Sakha. Many relations that are expressed

by PPs in other languages are expressed either by oblique cases or by 'auxiliary' (i.e. relational) nouns in Sakha. Moreover, some of the Ps that do exist are derived historically from locative nouns or participial verbs. Given this, it is not surprising that the case assigning properties of Ps are also rather heterogeneous. We assume that most are simply specified as assigning a lexically governed case, whether genitive (*kurduk* 'like', *tuxary* 'during', *nöŋüö* 'through'), dative (*dieri* 'until', *dyly* 'like'), ablative (*taxsa* 'over, beyond', *syltaan*, 'because of'), or accusative (*byha* 'during', *kytta* 'with', *nöŋüö* 'over'). This is of no particular interest for our investigation into structural case assignment.

There are, however, three postpositions whose objects undergo a case alternation. The objects of these Ps can be marked with accusative case, or they can be unmarked:

(55) a. Tya-(ny) kurdat djie köst-ör.
forest-(ACC) through house appear-AOR.3sS
'A house appears through the forest.'

b. Ynax-tar ambaar-(y) tula meccij-di-ler.
cow-PL barn-(ACC) around graze-PAST-3pS
'The cows grazed around the barn.'

c. Masha tünnük-(ü) utary olor-do.
Masha window-(ACC) opposite sit-PAST.3sS
'Masha sat/was sitting opposite the window.'

We claim that when these PP objects bear accusative case, this is the result of structural accusative case being assigned in accordance with rule (4b). The crucial evidence for this is that when PPs headed by these Ps modify impersonal verbs that have no thematic subject (but at most a null expletive), their complement cannot have accusative case:

(56) a. Ambaar-(*y) tula itii.
barn-(ACC) around hot
'It is hot around the barn.'

b. Tünnük-(*ü) utary tymnyy.
window-(ACC) opposite cold
'It is cold opposite the window.'

This somewhat peculiar fact follows given that accusative is a dependent case. In (55) there is another argumental NP which can function as the case competitor for the object of P licensing accusative case, namely the subject, whereas in (56) there is not. The contrast between (55) and (56) is strongly reminiscent of the contrast between raising a subject into a matrix clause that has its own subject (44) as compared to raising a subject into a matrix clause with an impersonal predicate (47). Like those sentences, the contrast between (55) and (56) gives strong support for the dependent Case theory.

To flesh out the account, we should say something about the fact that accusative marking is optional in the examples in (55). The factors that govern this optional-

ity are not the same as those that determine whether the direct object of a verb is accusative or not. The definiteness of the object does not matter here: even in a sentence like 'Misha sat opposite Masha', accusative can be omitted on the proper name 'Masha'. Nor is the variation in case related to the position of the PP with respect to adverbs: accusative case marking on the object is optional both when the PP comes before an adverb ('I house-(ACC) around quickly ran') and when it comes after the adverb ('I quickly house-(ACC) around ran'). We tentatively assume that this sort of PP is always generated outside the VP phase. We suggest, then, that the optionality hinges on the exact position of the object within the PP itself. We suppose that PPs are phases in Sakha (cf. Baker 2008), but that these three Ps optionally cause their objects to move (string-vacuously) to the left edge of the PP.[21] When the PP object does not move to the edge of PP, it is in a different phase from the subject of the clause, so the accusative case marking rule does not apply. When the object of P does move to the edge of the PP, it does become visible on the matrix CP phase. If the matrix CP contains another NP, as in (55), then accusative case is assigned to the object of P by (4b). If the matrix CP does not contain another argumental NP, as in (56), accusative case marking does not take place. This accounts for the observed range of facts. Once again the number of NPs in the clause proves to be crucial, whereas exactly which functional heads are present is not crucial.

4 The assignment of nominative and genitive case

So far we have argued in detail that accusative case and dative case are dependent cases in the sense of Marantz (1991): they are assigned to an NP if and only if there is another NP, not itself marked for case, in the same local domain (phase). Now we turn to nominative and genitive case in Sakha, to see how they fit into the picture. Nominative in particular is clearly not a dependent case, because it can appear on the only NP in a sentence, as in a simple matrix clause with a purely intransitive verb (3a). Putting aside the category of lexical/inherent case, one is left with two likely possibilities. One is that nominative case is assigned to a given NP under agreement, as in (5), based on Chomsky (2000, 2001). The other is that nominative case is simply an instance of default or unmarked case, perhaps understood along the lines of (1c) or (1d) within the hierarchy of case types envisioned in Marantz (1991). At first glance, the default case view may seem simpler and more elegant. Nevertheless, we argue in this section that it is inadequate for Sakha, and that the case-assignment-by-agreement view expressed in (5) is superior for this language.

4.1 Nominative is not default or unmarked case

We begin by presenting a negative case against the nominative-as-default view. This view, according to which nominative case is simply assigned to any NP that is not case-marked by some more specific rule, has strong initial plausibility in Sakha. First,

[21] An alternative would be to say that PPs headed by one of these three Ps only *optionally* count as phases in Sakha. This alternative might be theoretically more problematic, but it would capture the same facts.

nominative case is unmarked in the morphological sense that there is no suffix that signals explicitly that an NP has nominative case. Second, and more importantly, bare/nominative NPs seem to occur in a rather disparate set of environments. For example, the subjects of clauses of all sorts seem to have bare-nominative forms—even reduced participial clauses used as relative clauses in Sakha, which do not have a Tense node (57a). Objects that have not moved out of VP also seem to be bare-nominative, as in (57b), and so apparently are the objects of Ps that do not govern a lexical case when the object does not move to the edge of the PP phase, as in (57c).

(57) a. [$_{\text{PtplP}}$ Masha atyylas-pyt] at-a
Masha buy-PTPL horse-3sP
'the horse Masha bought' (more literally: 'the horse Masha having-bought')

b. Masha [$_{\text{VP}}$ türgennik salamaat sie-te].
Masha quickly porridge eat-PAST.3sS
'Masha ate porridge quickly.'

c. Masha [$_{\text{PP}}$ djie tula] türgennik süür-de.
Misha house around quickly run-PAST.3sS
'Misha ran quickly around the house.'

If nominative is a default case in Sakha, we might expect to find nominative NPs inside phases of all kinds—clauses, VPs, and PPs—whenever there is only one NP in that phase. And that is exactly what we seem to see in (57). These data could even invite the somewhat more radical view that what is traditionally called nominative is actually the total absence of case in Sakha, and there is no Case filter that insists that NPs must be assigned case in order to be licensed syntactically (cf. Marantz 1991).

This simple and natural-sounding view unravels upon a closer look, however. Consider first the apparent instances of nominative NPs inside PPs in Sakha. In Sect. 3.7, we argued that when the complement of these Ps is accusative, it is an instance of dependent case, assigned by (4b). Suppose then that the structure is varied slightly, so that (4b) does not apply—either because there is no thematic subject distinct from the object of the PP, or because the object of P does not move to the edge of the PP phase. Then, following the logic of disjunctive rule application (cf. Marantz's (1)), one would expect the case of the object of P to default to nominative, if that were possible. But it turns out that such NPs actually bear *genitive* case, not nominative case. In most situations, the two case forms look identical, but they are distinct when the NP is possessed (see Sect. 2). When a possessed NP is used as the object of a postposition, the exponent *–n* must appear on it, showing it to be genitive, as in (58).

(58) a. Masha djie-t-in tula itii. (*djie-te)
Masha house-3sP-GEN around hot house-3sP.NOM
'It is hot around Masha's house.'

b. Masha oloppoh-un utary tymnyy. (*oloppoh-o)
Masha chair-3sP.GEN opposite cold chair-3sP.NOM
'It is cold opposite Masha's chair.'

Indeed, all apparently unmarked NPs in PP turn out to have genitive case rather than nominative case by this test. Why should this be? The fact that nominative case is not available inside PP—even for Ps like *tula* and *utary* that are known not to require a particular lexical case—suggests both that NPs do need to be assigned some kind of case and that nominative case is not so freely available after all. We conclude, then, that these Ps *optionally* assign genitive as a lexical case. This option becomes de facto obligatory when dependent case marking is not available, by the Case filter and the lack of default nominative case.

Next, consider the case on the subject of a reduced (Tense-less) clause in Sakha, like the relative clause in (57a). Relative clauses in Sakha cannot have a true tense head, such as past tense *–dI*, but must have a participial verb form of some kind (Krause 2001; Kornfilt 2005; Vinokurova 2005). Nevertheless, the relative clause can have a bare overt subject. This looks like possible evidence that nominative case is freely available as a default case, not tied to agreement with a specific functional head such as T. But the default case view neglects two important details of the structure in (57a). The first is that agreement with the subject *is* present in this structure, but it shows up as possessive agreement on the head noun, not as subject agreement on the verb. The second is that the subject in these relative clauses has genitive case, rather than nominative case. As in PPs, this becomes visible when the subject is a possessed NP:[22]

(59) Masha aqa-ty-*n* atyylas-pyt at-*a*
Masha father-3sP-*GEN* buy-PTPL horse-*3sP*
'the horse that Masha's father bought'

These two facts turn the tables on the nominative-as-default hypothesis. If agreement on the head noun is omitted and the subject is unambiguously nominative, then the relative clause is in fact ruled out:[23]

(60) *Masha aqa-ta atyylas-pyt at
Masha father-3sP(NOM) buy-PTPL horse
'the horse that Masha's father bought'

So nominative case is not freely available in reduced, Tenseless clauses in Sakha after all. Rather the subjects of such clauses must get some particular case, and must get it by way of agreement with a particular functional head. More specifically, it seems that the D node dominating the NP as a whole must agree with the subject of the relative clause and assign it genitive case in this construction. We return to this point in a fuller empirical context in the next section, as part of articulating our positive account of case assignment via agreement with functional heads.

[22] On this point, we must disagree with Kornfilt (2005: 531), who says that the subject of the relative clause in Sakha must be in nominative case. It is true that the genitive suffix *–n* is not obligatory in (59), but it is possible. Genitive *-n* is in general only fully obligatory when the possessed noun immediately precedes the noun that bears the agreeing D-head that assigns genitive case. We take this to be a superficial morphological fact, related to the near total loss of genitive case inflection in Sakha.

[23] Kornfilt (2005) reports that examples like (60) were possible in Old Turkish, and exist in some modern Turkic languages (Uzbek, Uigur, Azeri). This might imply that nominative case could/can be assigned as a freely available default case in these languages.

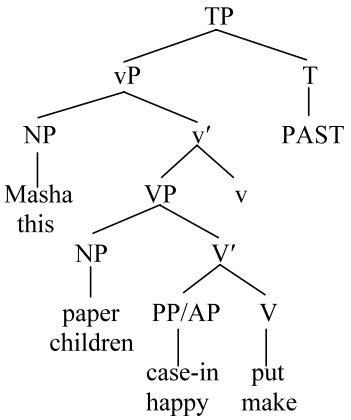
Finally, consider the bare/nominative NP inside VP in examples like (57b). Such NPs are truly unmarked for case, never showing an exponent of genitive. But there are nevertheless some restrictions on them that suggest that default nominative is not available in this environment either. To see this, consider the possibility of a construction in which the theme argument is not the lowest element inside the VP. In binary branching accounts descended from Larson (1988), it is common to assume that resultative phrases of various kinds are generated as the complement of V, whereas the theme argument is generated as the specifier of V, where it asymmetrically c-commands the resultative phrase. Structures of this sort exist in Sakha, where the resultative phrase can be an AP or a goal-denoting PP (with null P, assigning lexical dative case; see the discussion of (20) above):

(61) a. Misha kumaaqy-ny xoruopka-qa uk-ta.
Misha paper-ACC case-DAT put-PAST.3sS
'Misha put the paper in the case.'

b. Bu oqo-lor-u djolloox oŋor-but-a.
this child-PL-ACC happy make-PTPL-3sS
'This made (the) children happy.'

These are expected to have approximately the structure in (62).

(62)



Empirical evidence that the AP rather than the NP is the complement of V in (61b) is the fact that the AP must be left-adjacent to the verb. For PPs, the evidence is more subtle, because PPs can move around somewhat; as a result, PP-NP-V order is also possible in (61a), given an appropriate topic-focus structure. Nevertheless, detailed studies of languages like German (McFadden 2004) and Czech (Dvorak 2009 manuscript) have shown that the inanimate dative argument of verbs like 'put' is generated lower than the theme argument, whereas the animate dative argument of verbs like 'send' or 'give' is generated higher than the theme—a contrast that is probably universally grounded in Theta theory (cf. the UTAH of Baker 1988). And indeed there are observable differences between 'low' dative arguments and 'high' dative arguments in Sakha as well. For example, if a verb like 'send' is passivized, and

the dative argument is extracted by relative-clause formation, the resulting structure is rather bad (63b). In contrast, if a verb like 'put' is passivized and its dative argument is extracted, the result is perfect (63a).

(63) a. Suruk ostuol-ga uur-ulun-na. → suruk uur-ullu-but ostuol-a
letter table-DAT put-PASS-PAST letter put-PASS-PTPL table-3sP
'The letter was put on the table.' 'the table that the letter was put on'

b. Misha-qa suruk yyt-ylyn-na → ?*suruk yyt-ylly-byt
Misha-DAT letter send-PASS-PAST letter send-PASS-PTPL
kihi-te
person-3sP
'The letter was sent to Misha.' 'the person that the letter was sent to'

As we just saw in (59) and (60), when something other than the subject is extracted out of a relative clause in Sakha, a D that selects the modified NP must agree with the 'subject' of the relative clause, so as to assign it case in the absence of a T within the relative clause. (63a) fits this general pattern seamlessly, but (63b) does not; indeed, this particular structure is more or less ineffable in Sakha.[24] We suggest that this is because the base position of the dative NP in (63b) is higher than that of the theme; hence the trace of this NP comes between the theme argument 'letter' and the agreeing head D, creating a kind of intervention effect that blocks agreement and case assignment (cf. Chomsky 2000). In contrast, the base position of the dative NP in (63a) is lower than that of the theme, given the structure in (62). Hence, there is no intervener to block agreement between D and 'letter' in (63a), and the example is grammatical.[25] We thus have a reason to believe that the theme argument is not always the lowest selected phrase inside VP.

The crucial question for us, then, is what happens when the theme argument in sentences like those in (61) is a nonspecific indefinite, the kind of NP that is interpreted inside the VP in Diesing's (1992) theory. Given the default case hypothesis, it should be perfectly possible for the NP to stay inside VP (perhaps following an adverb); accusative case assignment does not happen because the subject and the object are never in the same phase, but the theme NP gets default nominative case (or even no case at all). But in fact, examples like the following are ungrammatical:

[24]The best version is to mark 'letter' with accusative case, and omit any agreement on the head noun 'person'. But even this is awkward, with judgments ranging from ? to ∗.

[25]The question now arises as to why there is not a similar contrast in the simple passive clauses in (63), with the dative argument blocking agreement between finite T and the theme argument in (63b) but not (63a). In fact, a weak intervention effect can be found here, noticeable when the theme argument is first or second person (see Baker 2009a). Perhaps it is weaker because the dative argument raises to Spec, TP in the simple clause, so only the tail of the chain comes between the agreeing head T and the theme argument. In contrast, in relative clauses the whole chain, both head and tail, intervenes between the agreeing head D and the theme argument. (Similar issues arise in Germanic languages, where there is a complex literature on when dative NPs do and do not block T from agreeing with a nominative NP. See for example Bobaljik (2008 and references cited there) for some discussion.)

(64) a. *Misha (serenen) kumaaqy xoruopka-qa uk-ta.
Misha (carefully) paper case-DAT put-PAST.3sS
'Misha put a paper/papers in the case (carefully).'

b. *Bu oqo djolloox ongor-or
this child happy make-AOR.3sS
'This makes a child/children happy.'

The badness of these examples points again to the twin conclusions that NPs need to be assigned case and that nominative case cannot be assigned freely. In particular it cannot be assigned inside VP.

Of course we now need another account of the acceptability of examples like (57b) and others discussed in Sect. 3.1. A salient difference between the good examples and the bad ones is that the bare theme NP is linearly adjacent to the verb in (57b), but not in (64). Confirmation that this is an important factor comes from the fact that (64a) becomes grammatical when the PP moves leftward, so that the object is left-adjacent to the verb:[26]

(65) Misha serenen xoruopka-qa kumaaqy uk-ta.
Misha carefully case-DAT paper put-PAST.3sS
'Misha carefully put a paper/papers in the case.'

We believe that this shows that indefinite objects in Sakha satisfy or avoid the Case filter by entering into a (pseudo)-incorporation relationship with the verb. Incorporation relationships of this kind satisfy the Case filter in many other languages (Baker 1988: 106–124). The clearest surface manifestation of the incorporation is this fact that the indefinite object must be strictly adjacent to the verb, as shown also back in (12) and (13). Probable additional evidence for this is that caseless objects seem to form a single intonational contour with the verb, much as Mohanan (1995: 95) describes for Hindi. We cannot investigate the syntax of pseudo-incorporation further here.[27] We can, however, see that there is evidence in this domain that the Case filter applies in a nontrivial way in Sakha, even though pseudo-incorporation is a way of satisfying it.

Our case against the nominative-as-default view can be summarized as follows. The best positive support for this view would be finding that bare/nominative NPs can appear in a variety of syntactic contexts—including ones where there is no Tense-like node nearby, which is the source of nominative case in standard Chomskyan theories. At first glance, this seemed to be true: bare/nominative NPs also seem to appear inside certain PPs, inside participle phrases, and inside VPs. But a closer look shows that this is an illusion: the relevant NPs inside PPs and relative clauses actually have

[26]Recall that resultative APs cannot move leftward in this way. Hence, the only way to express the meaning intended in (64b) is by having accusative case on the object, even when it is interpreted as indefinite. Apparently the object must shift out of VP to get accusative case, but can reconstruct back into VP for purposes of interpretation at LF when no simpler derivation is available.

[27]Note that these incorporated nominals are still active for purposes of Case theory, inasmuch as the pseudo-incorporated object triggers dative case marking on the goal NP in (13a), just as the unincorporated one in (13b) does. See also the causative in (23b).

genitive case, whereas bare NPs inside VPs need to incorporate into the verb so as to avoid Case theory altogether. It turns out, then, that there is no good evidence for the nominative-as-default view after all.

4.2 Case assignment to overt subjects by way of agreement

Of course, we cannot truly establish (5) as the way of assigning nominative and genitive case in Sakha simply by discrediting an obvious rival. One has to show also that (5)—repeated here as (66)—really works, and that its details are empirically well-motivated.

(66) If a functional head F ∈ {T, D} has unvalued phi-features and an NP X has an unvalued case feature [and certain locality conditions hold], then agreement happens between F and X, resulting in the phi-features of X being assigned to F and the case associated with F (NOM or GEN) being assigned to X.

We propose to do this in this subsection and the next, beginning with a closer look at how subjects of various kinds are licensed in Sakha. In particular, we wish to show that the reason an agreeing head is needed in examples like (59) is precisely so as to case-mark the subject by way of agreement, in accordance with (66); its presence cannot be explained away by independent considerations of phrase structure.

It is true, of course, that fully finite clauses (e.g. those with past tense *–dI*) can always have an overt nominative subject in Sakha, as expected on all accounts. And it so happens that Sakha does not have a true infinitival verb form that is exactly comparable to English's *to*-infinitive.[28] The most interesting constructions, then, from the perspective of Case theory, are those with one of Sakha's many participial verb forms.

Participial verbs are used in a variety of environments in Sakha. First, they can be used in matrix clauses. In this environment, a nominative subject is possible, and the verb has agreement attached to it:

(67) En aaq-a-qyn. (Vinokurova 2005: 220)
You read-AOR-2sS
'You read.'

Second, they can be used in embedded clauses in argument positions, as seen already in (39b). In this context too a nominative subject is possible, and the verb has (a different sort of) agreement attached to it:

(68) En aaq-ar-yŋ bil-l-er. (Vinokurova 2005: 222)
You read-AOR-2sS know-PASS-AOR.3sS
'It is known that you read.'

Third, and most interestingly, we have already seen that clauses with a participial verb can be adjoined to a noun as a relative clause; see Kornfilt (2005, 2010) for

[28] Perhaps the closest equivalent in Sakha to an infinitive is an event nominalization formed by suffixing *–YY*, but these are more like gerundive NPs formed by *–ing* in English. Phrases headed by verb+*YY* can be the complement of a possessive D, which assigns the subject genitive case (see (76) below).

discussion of this construction in a comparative Turkic context. In this environment, the participial verb cannot bear agreement of any sort:

(69) a. cej ih-er-(*e) caakky
tea drink-AOR-(3sP) cup
'a cup that one/*he drinks tea from'

b. aaq-ar kinige, *aaq-a-qyn kinige
read-AOR book read-AOR-2sS book
'a book for reading', not 'a book that you read'

Although it is not crucial here, we take these facts to show that the participle head itself never undergoes agreement in Sakha. Agreement is realized morphologically on a participle only if the participle phrase is the complement of some other null head that bears agreement—present tense T in (67), or (something like) D in (68).[29]

What is crucial for our Case-theoretic interests is the prospects for having a subject in relative clauses like (69). The particular examples in (69) have no overt subject, but rather some kind of null generic NP, probably PRO. One can also construct examples with overt subjects under narrow conditions: the subject must be bare, indefinite and adjacent to the verb, and the verb itself must be an unaccusative.

(70) a. sibekki tyll-ar kem
flower bloom-AOR time
'a time when flowers bloom'

b. oton buh-ar sir
berry ripen-AOR place
'a place where berries ripen'

If any of these three conditions does not hold, an overt subject is not possible:

(71) a. *Masha cej ih-er caakky
Masha tea drink-AOR cup
'a cup that Masha drinks tea from'

b. *djaxtar oŋor-but caakky
woman make-PTPL cup
'a cup made by a woman'

c. *taba meccij-er sir; *kihi tabaxtyy-r sir
reindeer graze-AOR place; person smoke-AOR place
'a place where reindeer graze' 'a place where people smoke'

[29] See Baker (2009b) for some evidence that the abstract agreement-bearing head that dominates the participle phrase in (68) is neither T nor D, but a third sort of functional head, which we dub H. We omit these details here.

d. *sibekki-ler (emiske) tyll-ar kem
flower-PL suddenly bloom-AOR time
'a time when (the) flowers (suddenly) bloom'

To make the relative clauses in (71) grammatical, there must be a 'possessive' suffix on the head noun that agrees with the overt subject of the relative clause, just as we saw in (59) versus (60) above.

(72) a. Masha cej ih-er caakky-ta
Masha tea drink-AOR cup-3sP
'a cup that Masha drinks tea from'

b. djaxtar oŋor-but caakky-ta
woman make-PTPL cup-3sP
'a cup made by a woman'

c. taba meccij-er sir-e; kihi tabaxtyy-r sir-e
reindeer graze-AOR place-3sP; person smoke-AOR place-3sP
'a place where (the) reindeer graze' 'a place where people smoke'

d. sibekki-ler (emiske) tyll-ar kem-nere
flower-PL suddenly bloom-AOR time-3pP
'a time when the flowers (suddenly) bloom'

Moreover, the subjects in examples like (72) actually have genitive case, as shown by (59).

What can we make of this pattern from the point of view of Case theory? In particular, why are the examples in (71) ruled out? Note that it cannot be a direct requirement of phrase structure that there be an agreement-bearing D° above the NP as a whole, because no such D° is seen in the examples in (69) and (70). Rather, we suggest that the paradigm is best understood by saying that there is a Case filter in Sakha, and that nominative case cannot be assigned to the subject in this particular environment, because there is no finite T present. If the subject is PRO, a null category that does not need to be assigned case, the structure is possible (69). If the subject is an indefinite internal argument of the verb and linearly adjacent to that verb, then it can enter into a (pseudo)-incorporation relation with the verb, thereby avoiding the Case filter (70). If there is a source of case for the subject that is external to the relative clause, in the form of a genitive-assigning D°, then the structure is possible (72). This D° reaches downward into the relative clause adjoined to its NP complement, and finds the highest NP in that clause to agree with, assigning it genitive case, in a manner that is reminiscent of how v assigns accusative case to the subject of an infinitive in Chomsky's (2000, 2001) analysis of Exceptional Case Marking constructions in English (see also Kornfilt (2010) for a similar analysis). But if none of these circumstances hold, then the subject does not get case, and the Case filter is violated. This explains the ungrammaticality of the examples in (71). One does not cover the nuances of this data if one simply says that nominative is freely available as a default case, even if one limits this to clause-like constituents. One does, however, explain the patterns nicely if one says that overt, unincorporated subjects in Sakha are possi-

ble if and only if they get case by agreeing with a functional head—either T as in (67) or D as in (72) (or H, as in (68); see note 29). This generalization covers the full range of data.

The rule in (5)/(66) does more than imply that an agreement-bearing functional head must be present in the relevant phase in order for nominative or genitive case to be assigned; in addition, the agreement-bearing functional head must actually agree with the NP that gets the relevant case. Although familiar and expected, this does not go without saying. There are situations in Sakha in which a functional head such as T needs to be present and has the power to agree, but there is nothing for it to agree with. In such situations, the head can show up with default third person singular features, as in many other languages. This happens, for example, in an (impersonal) passive where the agent argument is semantically present but covert and all other arguments are marked with a dependent case, as in (73).[30]

(73) Oqo-lor-go at-tar-y ber-ilin-ne.
child-PL-DAT horse-PL-ACC give-PASS-PAST.3sS
(*ber-ilin-ni-ler)
give-PASS-PAST-3pS
'The children were given horses.'

So it does not necessarily follow from the fact that there is an agreement-bearing functional head in a certain domain that that head actually agrees with an NP inside the domain. But matters are different when the theme NP in a structure like (73) is nominative. Then default agreement on T is impossible; T must agree with the nominative NP, as in (74).

(74) Masha-qa at-tar ber-ilin-ni-ler. (*ber-ilin-ne)
Masha-DAT horse-PL give-PASS-PAST-3pS give-PASS-PAST.3sS
'The horses were given to Masha.'

It is a bit awkward to say that agreement in (74) is required by some inherent property of T, given the grammaticality of (73). Rather, it seems that T must agree with the unmarked NP for the NP's sake, so that the NP will be licensed by Case theory.[31] And this is of course exactly what one would expect if the Case filter holds in Sakha, and nominative case is assigned under agreement with a suitable functional head, as in Chomsky (2000, 2001).

This reasoning extends easily to instances of D assigning genitive under agreement inside DPs. Given that there is a Case filter, possessors and subjects of derived nominalizations need to get case too. We can observe that in fact they have geni-

[30] An anonymous reviewer asks if the 3sS agreement morphology on the verb in (73) could be agreement with the PRO subject that we posited for this sort of passive in (28b). Theory internal considerations bid us say no: subject agreement goes hand in hand with nominative case assignment in Sakha, and PRO seems not to get nominative case in this language (see (69) and (78a)). Also, (73) might be uttered in a context where the speaker knows that in fact more than one person was involved in giving the horses to the children. In this case, the PRO might be plural, but still the passive verb form must be singular.

[31] Other configurations like (74) are the dative subject construction in (19) and the possessor raising construction in (51). In all three structures, T must agree with an NP generated inside VP, past a dative NP, in order to assign that NP nominative case.

tive case, distinguishable from nominative case when the head of the possessor itself bears a possessive suffix. Can this genitive case be assigned inside any NP, like an unmarked case in the sense of (1c)? Data like the following show that the answer is no; genitive case is assigned only in an NP that has an agreeing D, realized at PF as possessive agreement on the head noun:

(75) a. aqa ‘father’
b. *Aisen aqa (Aisen father) ‘Aisen’s father’
c. Aisen aqa-ta (Aisen father-3sP) ‘Aisen’s father’

(76) a. terilte-ni salaj-yy
company-ACC manage-EV.NOML
‘the management of the company’

b. *Masha terilte-ni salaj-yy
Masha company-ACC manage-EV.NOML
‘Masha’s managing the company’

c. Masha terilte-ni salaj-yy-ta
Masha company-ACC manage-EV.NOML-3sP
‘Masha’s managing the company’

Nouns, whether simple or derived, do not in themselves need to have a possessive suffix attached to them in Sakha. In particular, there is no such suffix on a simple noun if there is no possessor (75a), or on a derived nominal if the subject argument is nonovert (76a). (Note that, on our theory, there must be a PRO subject in (76a) in order to trigger dependent accusative case on the object ‘company’.) If, however, there is a possessor or an overt subject inside the DP, then an agreement-bearing head is required on the noun—and it is required to actually agree with the possessor/subject. By parity of reasoning with what we have said about participial clauses, it is natural to say that an agreeing D is needed to assign genitive case to the NP it agrees with in (75c) and (76c).

Summarizing this section so far, we see that clausal subjects can be overt and unincorporated if and only if there is a functional head nearby (T, D, or H) that agrees with them. Moreover, when the subject is a possessed nominal, it becomes clear that its form depends on exactly what functional head it is agreeing with: genitive if the head is D (59) and nominative if it is T (67) (or H). All this is captured nicely by the case assignment rule in (66). We are led, then, to a hybrid theory of case assignment, using Marantz-inspired dependent case rules for accusative and dative case, and Chomsky-inspired agreement-based case rules for nominative and genitive case.

Additional support for this cluster of ideas comes from considering clauses that appear in construction with nouns like *surax* ‘rumor’ and *sonun* ‘news’ in Sakha. These nouns can combine with a finite CP headed by *dien* (77a) or with a participial clause that bears possessive-like agreement (77b). They can thus take the same range of clausal complements as verbs can (compare (39)). Alternatively, they can combine with a non-agreeing participle phrase (77c); such structures are similar to the relative clause structure in (57a) and (72), but with no (obvious) gap inside the participial clause.

(77) a. Misha kel-ieq-e dien surax
Misha come-FUT-3sS that rumor
'a rumor that Misha will come'

b. en kel-bit-iŋ suraq-a
you come-PTPL-2sP rumor-3sP
'a rumor that you came'

c. en kel-bit suraq-yŋ
you come-PTPL rumor-2sP
'a rumor that you came'

Taken together, these examples show that there is no absolute requirement that the predicate of the clause bear agreement (it does not in (77c)), nor that the head noun bear agreement (it does not in (77a)). Indeed, there are examples in which agreement does not show up in either location. This happens when the subject of the clause is PRO_{arb}, or when it enters into a (pseudo-)incorporation relation with the verb of the clause:

(78) a. djie urusxall(aa)-yyr surax
house destroy-AOR rumor
'a rumor that they (unspecified) will destroy the house'

b. (?)sibekki tyll-ar surax
flower bloom-AOR rumor
'a rumor that flowers are blooming'

But it is not possible to leave out both agreeing heads when the subject of the clause is an overt argument that cannot incorporate into the verb:

(79) *en kel-bit surax
you come-PTPL rumor
'a rumor that you came'

It is hard to say that (79) is bad because an obligatory part of the clausal structure or the nominal structure has been omitted. Rather, it is ungrammatical because the overt unincorporable subject needs case. Neither (4a) nor (4b) applies to it. Therefore it must be assigned nominative case by a T-like head that agrees with it, as in (77a, b), or genitive case by a D-like head that agrees with it, as in (77c).

4.3 Further support for the agreement-based theory of nominative and genitive case

There is another explanatory benefit that results from saying that nominative case is assigned by the Chomskyan rule in (5)/(66) in Sakha. So far we have seen that this explains where overt unincorporated NPs can and cannot appear in Sakha. But it can also explain something significant about agreement: the fact that two distinct functional heads never agree with the same NP in Sakha.

First, let us show that there is something to be explained in this regard. In our discussion of constructions involving a noun like 'rumor', we saw that there can

be agreement with the subject on either the participle or on the head noun 'rumor' itself (77b, c). Each agreement is optional in its own right, but if both are missing, then the embedded subject violates the Case filter. Now if both agreements are optional, we might imagine that there could be a structure in which both agreements are present simultaneously. But this is ruled out:

(80) *en djoro kiehe-qe kel-er-iŋ suraq-yŋ
you party- DAT come-AOR-2sP rumor-2sP
'the rumor that you are coming to the party'

Something similar can be seen by considering raising constructions of the sort discussed in Sect. 3.5. There we showed that the subject of a finite complement clause can adjoin to CP, becoming visible for dependent case assignment within the matrix CP phase. The T of the embedded clause necessarily agrees with this DP, by the EPP and related concepts. The matrix clause must also have a T, and this T also has agreement features. Real agreement, when possible, seems to take precedence over default agreement. Since the DP can move to a position where it is visible on the matrix CP phase (and since downward agreement is possible, as shown by dative subject constructions), all things being equal we might expect the matrix T to agree with the raised subject as well. But this is impossible; rather the matrix T must bear the default agreement of last resort:

(81) Bügün [oqo-lor [beqehee kyaj-byt-tara dien]] cuolkaj buolla-(*lar).
today child-PL yesterday win-PAST-3pS that clear become-3pS
'Today it became clear that the children won yesterday.'

So something must be said about why double agreement is impossible in (80) and (81).

Chomsky's notion of the relationship between case and agreement provides the missing piece. It is built into his principles that a functional head cannot agree with an NP if that NP has already been assigned case.[32] Thus, Chomsky (2001: 6) writes, "Once the case value is determined, N no longer enters into agreement relations. . .." Some straightforward empirical motivation for this in Sakha is that T clearly cannot agree with an NP that has already been assigned accusative or dative case by (4). For example, T cannot agree with the dative subject of a predicate like 'need', nor can it agree with an accusative theme argument in a passive sentence (see also (73)):

[32] Baker (2008: Chap. 5) argues that this condition on agreement is not universal, but rather parameterized; it holds in one broad class of languages (including most Indo-European languages) but not in another (e.g. Bantu languages). Thus, in some languages, it is possible for a finite verb to show 'subject' agreement with an obliquely case-marked NP, in contrast to the Sakha data in (82). Interestingly, some of those languages also allow more than one functional head to agree with a given nominal in raising and auxiliary constructions, so that the equivalent of (83d) is also grammatical. This provides a degree of crosslinguistic support for the idea that the data in (80–83) are interrelated, all ultimately depending on whether agreement is tied to case assignment in a given language or not. See Baker (2008: Chap. 5) for examples and extensive discussion.

(82) a. Oqo-lor-go üüt naada-(*lar)
child-PL-DAT milk need-(*3pS)
'The children need milk.'

b. Oloppos-tor-u aldjat-ylyn-na. (*aldjat-ylyn-ny-lar)
chair-PL-ACC break-PASS-PAST.3sS break-PASS-PAST-3pS
'Chairs were broken.' (Plural verb is OK—and required—if theme is nominative)

So we need independently to say that agreement fails if an NP already has case. Why then does agreement fail in (80) and (81)? Because, given Chomsky's (5) and (66), it is a necessary side effect of agreement happening in the lower clause that the lower T assigns nominative case to the NP it agrees with. Once that NP has been assigned case, no other head can agree with it, according to (66). Hence, (80) and (81) are ruled out by the same principle as (82)—but only on the assumption that the assignment of the nondependent cases is closely related to agreeing with a functional head.

In contrast, suppose for the sake of argument that NPs did not need to be case marked in the syntax, and that agreement was independent of case marking. Then we cannot infer from the presence of agreement in the lower domain that the NP is already case marked. There is then no already motivated feature of the NP to mark it as ineligible for agreement in the larger domain. Perhaps a diacritic feature could be invented to do this, but it would be ad hoc, whereas this interaction follows from independently motivated assumptions within the case-assignment by functional heads approach.

Here is one additional case in point, to show that these considerations are general. We have seen that Sakha has two kinds of Infl-like heads, true Tense and Participle. Tense is an inherently agreeing head, but Participle is not; it combines with some other, abstract agreement bearing head (T, D, H) in some constructions but not others. Now consider complex tenses consisting of a main verb and an auxiliary verb in Sakha. The main verb is always a participle of some kind. The auxiliary verb, however, is unrestricted; it can bear a true Tense, or it can also be a participle. The interesting fact is that when both verbs are participles, either one can agree with the subject, one of them must, but both of them cannot:

(83) a. En süüj-büt e-bik-kin
you win-PTPL AUX-PTPL-2sS

b. En süüj-bük-kün e-bit
you win-PTPL-2sS AUX-PTPL

c. *En süüj-büt e-bit
you win-PTPL AUX-PTPL

d. *En süüj-bük-kün e-bik-kin
you win-PTPL-2sS AUX-PTPL-2sS
All: 'The result is that you won.'

There is the possibility of an extra head (a null T?) just above the lower participle, and the possibility of one above the higher participle. Both are optional from the point of view of clause structure. If both are omitted, the subject fails to get case.

But if both are included, the sentence fails as well. The lower head agrees with the subject, assigning it nominative, but then the higher head cannot agree with it because it is already case marked. This is entirely parallel to constructions with nouns like 'rumor', discussed above.

These arguments also apply to the relationship between a genitive case noun and a D head. D cannot agree with an NP marked dative or accusative; for example, if the clauses in (82) are nominalized by *–YY*, there cannot be possessive inflection on the derived nominal agreeing with the dative subject or the accusative theme. Double agreement is also ruled out in DPs; for example, if the sentence in (81) is nominalized, a D realized on the nominalization cannot agree with the raised subject of the embedded verb:

(84) beqehee [oqo-lor [- - kyaj-yax-tara dien]] cuolkajdan-yy-ta
yesterday child-PL win-FUT-3pS that become.clear-NOM-3sP
(*-lara)
(*-3pP)
'its becoming certain yesterday that the children will win'

There is thus much reason to treat the relationship between a genitive case NP and the agreeing D in the same way as the relationship between a nominative case NP and the agreeing T, as expressed in (5)/(66).

5 The big picture and concluding remarks

We have shown that there are two kinds of structural case in Sakha, each with its own distinctive behavior. Nominative and genitive are assigned by functional heads (T and D) that enter into agreement with the NP being case-marked. In contrast, accusative and dative are not assigned by functional heads; rather they are dependent cases in the sense of Marantz (1991), receiving case when there is another NP in the same local domain. As a consequence, NPs with these cases are not generally agreed with in Sakha. The result is a hybrid theory, like Chomsky's for two of the structural cases, but like Marantz's for the other two. Languages seem to be consistent as to whether functional heads need to case mark NPs in order to agree with them or not (Baker 2008); for example, both T and D have this property in Sakha. But languages need not be consistent in how the various NPs of the language are assigned case.

It is fair to ask whether this combination of principles is a coherent one or not. We submit that it is. A big picture of how Case theory works in Sakha can be constructed out these pieces as follows. First, all overt NPs associated with an argument thematic role enter the derivation with an unvalued case feature, as in Chomsky (2001).[33] The case feature of an NP can then be valued in any of three ways: (i) it can get a lexically specified case from the lexical head that selects it (not discussed in detail here);

[33] In contrast, nonargumental NPs are probably generated without a case feature. This includes NPs that are interpreted predicatively—predicate nominals, NPs that undergo pseudo-incorporation—nominal adverbs, and NPs isolated from clause structure, such as vocative NPs. (Sakha seems not to have hanging topic/dislocation constructions with a caseless topic NP, the way some languages do.) PRO also seems not to have a case feature in Sakha, given the data in Sect. 4.2.

(ii) it can get dependent case in Marantz's sense, by one of the rules in (4) (repeated as (85)), if it is in the right configuration; (iii) it can get nominative or genitive case from a nearby functional head via a Chomsky-style agreement relationship ((5), repeated again as (86)).

(85) a. If there are two distinct argumental NPs in the same VP-phase such that NP1 c-commands NP2, then value the case feature of NP1 as dative unless NP2 has already been marked for case.

b. If there are two distinct argumental NPs in the same phase such that NP1 c-commands NP2, then value the case feature of NP2 as accusative unless NP1 has already been marked for case.

(86) If a functional head F ∈ {T, D} has unvalued phi-features and an NP X has an unvalued case feature [and certain locality conditions hold], then agreement happens between F and X, resulting in the phi-features of X being assigned to F and the case associated with F (nominative or genitive) being assigned to X.

(85) and (86) are not two independent systems of case assignment; rather, they constitute a single system in that they are both ways of valuing the same case feature. Both apply in the narrow syntax, inasmuch as both can happen prior to movement and movement can feed the application of both types of case assignment. Also, case assignment of both types bleeds subsequent agreement with that noun phrase, and along with it the assignment of nominative or genitive case to an NP that is already case marked. In contrast, (85) can apply to add a new case feature to an NP that already has case; this happens in subject raising and possessor raising constructions in Sakha (Sects. 3.5 and 3.6). Syntactic derivations proceed cyclically, from bottom up, in the usual way. One consequence of this is that accusative case applies to the object before the object gets a chance to move higher than the subject or close enough to T to get nominative case, and similarly for dative NPs. There is no unrestricted default case in Sakha, and if a phase of the derivation undergoes spell-out when it contains an NP whose case feature has not been valued, the structure is ruled out (the Case filter). Finally, morphemes are inserted at PF to realize the case features in the usual way outlined by Distributed Morphology, which we have only touched on in passing. Only at this level does the fact that nominative has no morphological exponent and genitive has one only in a limited morphological environment come into play. We have also assumed that if two case features are assigned to an NP in the syntax, only the innermost one that has a morphological exponent is spelled out at this level. As a result, a representation like [[N-DAT]-ACC] is spelled out simply as NP-DAT, but a representation like [[N-NOM]-ACC] is spelled out as NP-ACC, because NOM has no morphological realization at PF. Hence, raising a goal NP out of VP into the CP phase does not change its visible case marking, but moving a nominative NP out of an embedded CP into the matrix CP phase does. This outline of Case theory is built out of familiar elements, and it can handle the rather intricate facts about case assignment in Sakha that we are aware of.

Is this a disciplined and coherent view of Case theory? We believe the answer is yes. Indeed, it is essentially Chomsky's conception of Case theory, with the one addi-

tion of Marantz's notion of dependent case assignment. On all other points—whether there is a Case filter, whether case assignment happens in syntax, the nature of nominative and genitive case assignment—we have found reason to adopt Chomsky's general views. The overall picture thus has essentially the same conceptual coherence that the current Chomskyan picture has.

At the same time, we find it attractive that the theory we have presented is somewhat less abstract than standard views. It is somewhat closer to the observable facts of Sakha in one notable respect: there is very little abstract agreement in our analysis. When case is assigned by agreement with a nearby functional category in Sakha, agreement is manifest on that functional category at PF. The NPs that do not agree overtly with any functional head—accusative NPs and dative NPs—have case that is not assigned by agreement at all, but by the rules of dependent case marking. We find this a promising result.

This reduction in abstractness might provide an answer to questions about learnability that our analysis raises (and that were posed to us by an anonymous reviewer). Given that two kinds of case assignment happen in Sakha, we must ultimately figure out how Sakha children detect this, given only relatively simple and accessible data. A possible answer is that they conclude this from the obvious fact that direct and indirect objects have robust morphological case markers but there is no hint of agreement with them, whereas there is surface agreement with subjects and possessors (although morphological case marking on them is weak or absent). It is thus obvious that Sakha is neither a pure dependent marking language nor a pure head-marking language in the sense of Nichols (1986), but rather a mixed system. Perhaps children infer from this that its actual case assignment rules are mixed too. In this connection, we observe that Sakha is by no means unique in its superficial properties. On the contrary, according to *The World Atlas of Language Structures*, (Comrie 2005; Siewierska 2005) at least 18 languages from 18 different genii and 10 families are like Sakha in having marked accusative case and agreement with the subject, but no agreement with the object (Armenian, Barasano, Brahui, Evenki, Finnish, Fur, German, Hebrew, Iraqw, Kannada, Khasi, Latvian, Nenets, Nubian, Russian, Turkish, Urubú-Kaapor, and Kolyma Yukaghir). Indeed, this is the third most common combination of case marking and agreement in the *Atlas*, significantly trailing only the pure head-marking languages. The grammatical system we have attributed to Sakha is thus potentially fairly common. Research into some of these other 18 languages would be a logical next step to see if issues about the learnability of Case theory and how its parameters are set can be handled this easily or not.[34]

This brings us to concede that it is a limitation of this paper as well as a virtue that it has studied case along one dimension only. We have taken a relatively comprehensive look at how structural case works in a single language, but have undertaken little explicit comparison with other languages. Will the attractive convergence of surface morphological patterning and the actual modalities of case assignment hold up for other languages as well? We hope that future research by ourselves and others will

[34] See Lavine and Franks (2008) for an analysis of accusative case marking in Russian that is in fact similar to ours in treating it as a kind of dependent case.

answer this. However it turns out, one clear consequence of this study is that a full-fledged typology of case marking systems figures to be more complex than is usually thought. There are simply more factors to keep track of, given that both configurational case marking and agreement-driven case marking exist in the world at large, and both can operate even within the same language.

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