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ON THE INTERNAL STRUCTURE OF CASE IN FINNO-UGRIC SMALL CLAUSES

1. INTRODUCTION

In this paper I argue that case-marking in Finno-Ugric non-verbal predication provides strong support for the mechanism of case assignment described in Matushansky 2008a, 2010, where case-marking on a given constituent directly reflects the featural complexity of the structure in which the constituent is contained.

1.1. Case as a feature bundle

Following Matushansky 2008a, 2010, I assume (see also Pesetsky and Torrego 2001, 2004, in print, Bailyn 2004, Pesetsky 2008) that there exist no case-features; rather, the features that a functional head assigns are merely the uninterpretable counterparts of its own interpretable features. Accepting the hypothesis that, e.g., accusative case is the spell-out of (the features of) the head known as the transitive *v*° (Chomsky 1995) or as voice° (Kratzer 1996), I extend this account to all instances of dependent, or uninterpretable, case.

My central assumption is that syntactic case on a given constituent need not be a single feature, but is rather a bundle of uninterpretable features (cf. Merchant 2006, Caha 2007 and Richards 2007 for similar proposals). The fact that more than one case feature can be present on a given constituent can be shown on the basis of the cross-linguistic availability of multiple case-marking, generally known as *Suffixaufnahme* (Plank 1995a), where an NP may surface with several case markers:

(1) ŋinqej-ərg-ine-t tumg-ət Chukchi, Plank 1995b
boy-PL-POSS-ABS.PL friend-ABS.PL
(the) friends of (the) boys

Crucial for Suffixaufnahme is the fact that each among such multiple case markers is assigned to a different constituent: the absolutive case in (1) is assigned to the entire DP, but surfaces on the inner DP (*boys*) alongside the possessive case as a result of the mechanism usually known as *concord*. That concord need not be NP-internal is shown by multiple case-marking in a number of Australian languages, including Kayardild (Evans 1995):

(2) Ngada mungurru, [maku-ntha yalawu-jarra-ntha yakuri-naa-ntha Kayardild
I know woman-C.OBL catch-PAST-C.OBL fish-M.ABL-C.OBL

thabuju-karra-nguni-naa-ntha mijil-nguni-naa-nth].
brother-GEN-INS-M.ABL-C.OBL net-INS-M.ABL-C.OBL
I know that the woman caught the fish with brother's net.

The spreading of the complementizing-oblique case (C.OBL)[1] over the entire embedded CP shows that case-assignment and concord (i.e., the percolation of the assigned features to

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terminals) can apply to constituents other than NPs. While in Kayardild the features assigned to, e.g., *brother* are spelled out separately, I hypothesize that it is also possible for features assigned to a particular constituent by several heads to be spelled out as a single portmanteau morpheme. In other words, the surface realization of a case feature bundle is determined by language-specific Vocabulary Insertion rules, which (as usual for Vocabulary Insertion rules) may be underspecified or affected by impoverishment (Bonet 1991, Halle 1997, Noyer 1997). Crucially, under the view adopted here case features on a given constituent accumulate rather than overwrite each other.

Assuming that case-features are uninterpretable counterparts of the features of a head, the question arises how they are assigned. Adopting the argumentation in Matushansky 2008a, 2010, I assume that a head assigns its interpretable features to its sister (rather than to an NP that it agrees with) and that the source of cross-linguistic variation in case-assignment properties is morphological (Vocabulary Insertion rules) rather than syntactic (the ability of a given head to assign case). In the context of this paper, this means that the difference in the case-marking on the predicate in the complement of an intensional verb between Hungarian (dative) and Estonian (translative) does not result from the different properties of intensional verbs in the two languages but rather from differing Vocabulary Insertion rules.

1.2. The environment of a nonverbal predicate

The approach sketched above suggests that case-marking on a given constituent should be a direct reflection of the structure that this constituent is contained in (modulo the existence of barriers to case assignment, such as the finite CP). I will show that the markedness of the case assigned to the non-verbal predicate of a small clause obeys this generalization in that a VP with a more complex internal structure or featural specification results in a correspondingly more marked case.

I take as a starting point the hypothesis (Stowell 1981, 1983, 1989, 1991) that examples below all involve a constituent consisting of a subject and a nonverbal predicate. Following general conventions, I adopt the name of "small clauses" for such minimal units of non-verbal predication and assume that they consist of a subject (type *e* or ⟨⟨e, t⟩, t⟩) and a predicate (type ⟨e, t⟩). In addition to small clauses in primary predication (3) and small-clause complements of raising verbs (4a, b), relevant for this paper will be small-clause complements of ECM verbs, including intensional (4c), causative (4d), denominative (4e) and naming verbs (4f), the resultative construction (4g), and subject and object depictives (4h, i):[2]

(3) Sam_i is [$_{SC}$ t_i *sad*]. primary predication

(4) a. Sam_i seems [$_{SC}$ t_i *mad*]. raising, stative
b. Sam_i became [$_{SC}$ t_i *mad*]. raising, dynamic
c. Sam considered [$_{SC}$ Lee *mad*]. ECM, stative
d. Sam made [$_{SC}$ Lee *mad*]. ECM, dynamic (causative)
e. The people elected [$_{SC}$ Sam (??*the) president*]. denominative
f. Carroll named [$_{SC}$ his heroine *Alice*]. naming
g. We painted [$_{SC}$ the room *green*]. resultative
h. Sam_i ate the $meat_k$ [$_{SC}$ PRO_k *raw*]. object depictive
i. Sam_i ate the meat [$_{SC}$ PRO_i *nude*]. subject depictive

[1] "Complementizing" cases are the uses of oblique and locative cases that mark clauses as embedded; the choice of a complementizing case depends on a number of factors (see Evans 1988, 1993, 1994, 1995).

[2] Not examined in this paper are absolute constructions (van Riemsdijk 1978:62-86, see also Chung and McCloskey 1987) and so-called "Mad Magazine" sentences (Akmajian 1984, see also Potts and Roeper 2006):

(i) a. [With John sick], we'll never get the job done on time. absolute construction
b. [Me mad]?! Ridiculous! "Mad Magazine" sentence

I will argue that such examples provide several testing grounds for the hypothesis that an increase in the complexity of an extended VP yields a more marked case on a predicate. In particular, I will compare primary predication (which involves a bare minimum of structure, excluding even a lexical root) to stative raising verbs (which add a lexical root), and both of these to dynamic raising verbs (which add the change-of-state component). Transitive verbs, which project more structure in order to introduce the external argument, will be shown to yield a further increase in the markedness of the predicate case.

I will further demonstrate that the correlation between the two factors is not perfect and may be obscured within a single language. While on the one hand, in the three Finno-Ugric languages discussed in this paper (Finnish, Hungarian and Estonian) nominative, essive and translative can be shown to share an environment (the copula *be* for nominative, depictive secondary predication for essive and the change-of-state component for translative), their distribution outside these environments will be argued to show that these convenient labels do not correspond to a particular feature or feature bundle, but rather spell out a subset of features assigned to an AP or NP predicate. By showing that case morphology does not accurately reflect the underlying featural specifications, Finno-Ugric languages will provide evidence for determining the role of the morphological component in surface case-marking.

2. FINNISH AND THE CHANGE-OF-STATE COMPONENT

As convincingly argued by Fong 2003, the distribution of the three predicate cases in Finnish is intimately connected to the presence of a change-of-state component. Whereas nominative can only be assigned in primary predication, the choice between the other two predicate cases is semantically determined: translative triggers a change-of-state presupposition and essive is used in its absence. In this section I will show that the entire pattern is fully compatible with the approach advocated here. The relative simplicity of Finnish predicate case-marking will allow us to easily demonstrate that nominative, the least marked case (or perhaps even the lack of case) appears in the least complex environment, while more complex environments result in a more marked case.[3]

2.1. Nominative

As exemplified below, in primary predication the AP or NP predicate is marked nominative:[4]

(5) a. Ystava-ni on pappi. Fromm and Sadeniemi 1956:115
friend-3SG.POSS-NOM be- PRES-3SG vicar-NOM
My friend is a vicar.

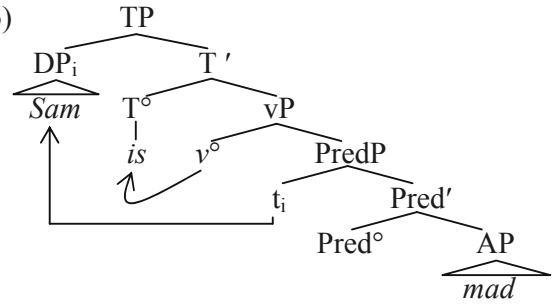
b. Tytto on pieni. Fromm and Sadeniemi 1956:116
girl-NOM be- PRES-3SG small-NOM-SG
The girl is small.

[3] The markedness of a particular case can be determined on the basis of its cross-linguistic frequency (for instance, dative is more common than translative, which is in turn more common than sublative), its position on the implicational hierarchy of cases (e.g., the presence of dative implies the presence of accusative, but not vice versa), the morpho-phonological complexity of exponents (in some languages, oblique case realization overtly contains the accusative case exponent), the direction of syncretism, the association with a particular θ-role (e.g., of movement onto a surface for sublative, as opposed to simple change of state for translative), etc. See Blake 1994, among others, for discussion.

[4] Several potential sources for nominative case on predicates have been identified. One possibility is that it corresponds to a lack of case-marking (cf. Andrews 1982). Another, that it results from direct agreement with the nominative subject (Matushansky 2000) or from T° entering into an agreement relation with both the subject and the predicate (Bailyn 2001, Chomsky 2001). The third option is that nominative is assigned by the copula *be* (Comrie 1997 also argues against analyzing nominative case on predicates in Finnish as a result of agreement). I will not attempt to decide between these alternatives here.

The structure in (6) reflects the standard assumption that the copula *be* is not a lexical verb but rather a functional morpheme. Following Bierwisch 1988, Kamp and Reyle 1993, Rothstein 1999, Maienborn 2003, 2005a, 2005b, among others, I assume that the semantic contribution of *be* is to introduce a neo-Davidsonian eventuality argument slot (thought to be lacking in APs and NPs) that enables a small clause to combine with temporal, aspectual, etc., functional categories. The overtness of *be* is determined by its need to function as morphological support for tense and agreement in T° to avoid a violation of the Stray Affix Filter (Lasnik 1995).[5] I also assume that small clauses are projections of the functional head Pred° (Bowers 1993), though nothing crucial depends on this assumption:

(6)



The hypothesis that T° assigns its features ([T] = [nominative]) to its vP sister correctly predicts that the predicate in (6) will bear a relatively unmarked case, since the features of T are predicted to be assigned in any finite clause. I will argue that dynamic raising verbs, like (4b), while projecting the same structure, also contain a lexical root and the [BECOME] feature on *v*. In the view sketched above, both should contribute to the feature bundle spelled out as case on the non-verbal predicate. This prediction is borne out.

2.2. Translative case and the role of change of state

As demonstrated by Stassen 2001 and Fong 2003, the distribution of Finnish translative case is semantically determined: in the resultative construction and with all change-of-state verbs only translative case is used:[6, 7]

(7) a. Vanhus tul-i sokea-ksi. Fromm and Sadeniemi 1956:143
old man-NOM go/become-PAST-3SG blind-TRS.SG
The old man went blind.

b. Isä on tullut vanha-ksi. Karlsson 1999:125
father-NOM be-PRES-3SG go/become-PPRT old-TRS.SG
Father has become old.

c. Me kutsu-mme William Gatesi-a Billi-ksi. naming verb
1PL-NOM call-1PL William Gates-PART Billy-TRS
We call William Gates Billy.

[5] A number of authors (Bailyn and Citko 1999, Pereltsvaig 2007, den Dikken 2006, among others) argue that the copula *be* is merely the morphological support for tense and agreement in T° (potentially, after Pred°-to-T° movement). From the syntactic point of view, adopting their analysis would not have affected the main point of the paper. I leave open the question of whether all languages use the same structure for primary predication.

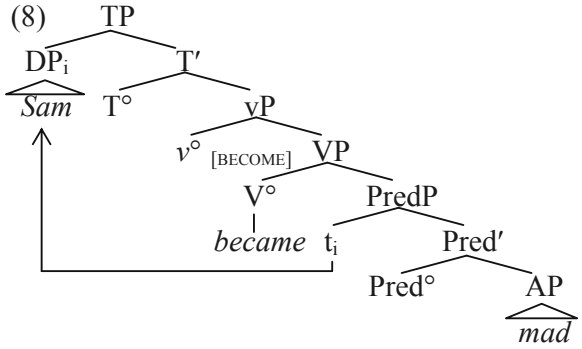
[6] Translative is also used with language names (e.g., *in English*), as well as with temporal expressions to express duration (e.g., *for two hours*) or to indicate the final point of the event (e.g., *until tomorrow*, *by 3 PM*) (Karlsson 1999). While the latter two uses can be unified with the change-of-state interpretation by noting that they all introduce boundary conditions, the former use seems to be idiosyncratic.

[7] Fong 2003 provides an illuminating discussion of the difference between the change-of-state verb *jäädä* 'to remain', taking translative, and the stative verb *pysyä* 'to stay', taking essive, clearly proving the point.

d. Me valits-i-mme Sue-n presidenti-ksi. denominative verb
1PL-NOM elect-PAST-1PL Sue-ACC president-TRS
We elected Sue president.

e. Me maalas-i-mme seinä-n keltaise-ksi. resultative construction
1PL-NOM paint-PAST-1PL wall-ACC yellow-TRS
We painted a/the wall yellow.

To formalize Fong's hypothesis that it is the change-of-state meaning that is responsible for translative case-marking, I suggest that translative case is the uninterpretable counterpart of the [BECOME] feature:

(8)


Whereas in (8) [BECOME] is located on *v* and assigned to its sister, placing [BECOME] on the lexical verb itself (as a syntactically active lexical-semantic feature) or projecting it as another head (see section 4.3 for a detailed discussion of the structure of resultatives) would make no difference for case-assignment: under the assumption that a head assigns its interpretable features to its sister the feature [BECOME] will end up on the predicate (*mad*) in (8) wherever in the extended VP it has started from.

2.3. Essive as the default predicate case

As mentioned above, in the three Finno-Ugric languages under discussion the case assigned to depictives is called essive, though, as will be shown below, the depictive construction in Finnish is only one of three environments where predicate essive is assigned. Case-marking is no different for object and subject depictives, be they APs or NPs:

(9) a. Alice palas-i kotikaupunki-in-sa presidentti-nä. depictive
Alice-NOM return-PAST-3SG hometown-ILL-3SG.POSS president-ESS
Alice returned to her hometown (as) president.

b. Hän kuol-i vanha-na. Fong 2003
3SG-NOM die-PAST-3SG old-ESS
S/he died old.

c. Elefantti sö-i maapähkinä-t suolattom-i-na. Fong 2003
elephant-NOM eat-PAST-3SG peanut-PL.ACC unsalted-PL-ESS
A/The elephant ate the peanuts unsalted.

Besides its use in depictives, essive appears with verbs that do not involve a change of state:

(10) a. Pysyykö ilma kirkkaa-na? Karlsson 1999
stay-PRES-3SG air-NOM clear-ESS
Will the air stay clear?

b. Me pidä-mme Sue-ta presidentti-nä.
1PL-NOM consider/hold-PRES-1PL Sue-PART president-ESS
We consider her president.

Finally, essive also appears with the copula *be*, yielding what I take to be two distinct interpretations and structures. The first one, restricted to NP predicates denoting professions or functions, is straightforwardly analyzed as depictive secondary predication on the main PP predicate (whose absence leads to ungrammaticality):

(11) Han oli siella opettaja-na. Lehtinen 1963:373
3SG-NOM be-PAST-3SG there teacher-ESS
S/he was a teacher there, s/he worked there as a teacher.

I surmise that this is precisely the same effect as the Russian instrumental of temporary function (Nichols 1981, Bailyn and Citko 1999, Geist 1999, among others), which is the only type of an instrumental predicate compatible with the null copula:

(12) a. Sergej *(u nas) načal'nikom. Geist 1999
Sergei-NOM at 1PL-GEN boss-INSTR
Sergei's the boss here (= at our institution).

b. Vera *(zdes') assistentom.
Vera-NOM here assistant-INSTR
Vera is here as an assistant.

The second, unrelated use of essive with the copula *be* is compatible with both AP and NP predicates. The predication is then interpreted as a temporary state or function (Karlsson 1999) or a "contingent" state of affairs (Stassen 2001, Fong 2003), as illustrated in (13). This type of essive can be compared to the regular appearance of the instrumental case in Russian primary predication, which also conveys the perception of transience (see Peškovskij 1956, Nichols 1981, Bailyn and Rubin 1991, Fowler 1997, Geist 1999, Matushansky 2000, among many others). [8]

(13) a. Toini oli sairaa-na (kolme viikko-a). Fong 2003
Toini-NOM be-PAST-3SG ill-ESS three week-PART
Toini was ill (for three weeks).

b. Han oli opettaja-na *(kolme viikko-a).
3SG-NOM be-PAST-3SG teacher-ESS three week-PART
S/he was a (substitute) teacher for three weeks.

Fong 2003 convincingly shows that translative case-marking is not itself interpretable but reflects the presence of a change-of-state component (see Fong 2003 for technicalities). The question arises how essive should be treated. It is tempting to suggest that the essive case is interpretable and indicates transience, but this proposal would not extend to examples like (10). Conversely, examples like (14), where essive and translative predicates appear with the same verb, strongly suggest that essive case on the depictive AP predicate is not assigned by the verb in the standard bi-unique relationship (such as Agree):

[8] Stassen 2001 claims that Votic permits the same two options in primary predication, but the examples provided do not make it possible to determine whether the locative or the essive is the primary predicate:

(i) Tama on hakka. Ariste 1968:31 via Stassen 2001
3SG-NOM is old woman-NOM
She is an old woman.

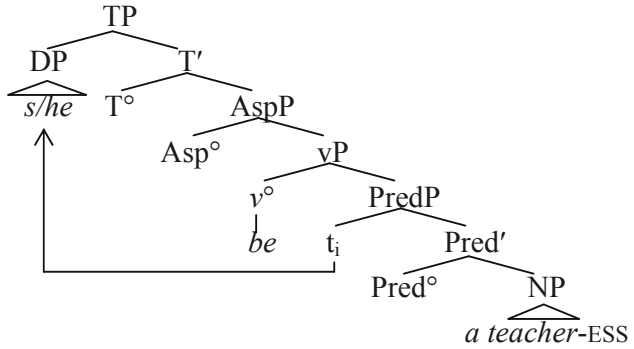
(ii) Elin sematehe-nna Tallina-za. Ariste 1968:32 via Stassen 2001
be-PAST-1SG soldier-ESS Tallinn-LOC
I was a soldier in Tallinn.

(14) a. Sointu paisto-i kala-n kuiva-ksi. Fong 2003
Sointu-NOM fry-PAST.3SG fish-ACC dry-TRS
Sointu fried a/the fish dry. [resultative]

b. Sointu paisto-i kala-n kuiva-na. Fong 2003
Sointu-NOM fry-PAST.3SG fish-ACC dry-ESS
Sointu fried a/the fish dry. [depictive]

To unify the three types of small clauses where the predicate surfaces in the essive case I propose that the head responsible for essive case assignment is the aspectual (perfective or imperfective) projection associated with any lexical verb (see Kiparsky 2001 for a discussion of the effect of aspect on Finnish direct object case-marking, which I take as independent motivation for projecting AspP in Finnish). I further hypothesize, following Matushansky's (2010) analysis of nominative vs. instrumental case in primary predication in Russian (see also Matushansky 2000, Richardson 2007 and Markman 2008), that Asp° can be added to the copula *be*, yielding the transient reading of the primary predication.[9] (The presence of AspP with lexical verbs, including *become*, is implied.)

(15)



Under the assumption that the presence of a dynamic *v* necessarily entails the presence of the aspectual head (since any lexical verb must be specified for aspect), the distribution of Finnish predicate cases requires that Vocabulary Insertion rules be ordered:

(16) a. translative: [v_{BECOME}]
b. essive: [Asp]
c. nominative: elsewhere

The Vocabulary Insertion rules in (16) are underspecified, since every rule spells out only a subset of the features assigned to non-verbal predicates in complex environments. As long as there is no one-to-one correspondence between surface cases and the environments that they are assigned in, underspecification is crucial. However, since non-verbal predicates embedded in change-of-state environments receive not only the feature corresponding to the [BECOME] component, but also the feature corresponding to Asp, the actual case surfacing in each environment depends upon the order in which the rules apply. The specific rule ordering in (16) is independently motivated by the Elsewhere Condition (Kiparsky 1973, Halle 1990), requiring more specific rules, such as (16a), where the presence of [BECOME] entails the presence of [Asp], to precede less specific rules, such as (16b), where no reverse entailment exists. As a result, the Finnish translative ends up as more marked than the Finnish essive, though no independent evidence is available for such a conclusion.

[9] The unavailability of predicate instrumental with the null copula in Russian is therefore attributed to the lexical requirement of Asp°, which needs to attach to an overt host.

2.4. Summary

An investigation into predicate case-marking in Finnish has shown it to be fully compatible with the proposal advanced above: while a nominative non-verbal predicate corresponds to the least complex environment possible, the more marked essive and translative cases appear in environments that are clearly more complex.

The fact that the same surface case may appear in a number of environments strongly suggests that a single case label may spell out different underlying featural specifications. In the next section we will see that Estonian imposes a different set of conditions on the use of nominative, essive and translative, showing that cross-linguistically, even in the case of clear cognates, each case exponent may correspond to different (potentially underspecified) feature combinations.

3. ESTONIAN

Estonian predicate case-marking uses the same cases as Finnish: nominative, translative and essive. The basic generalization governing the distribution of these cases is simple: depictive predicates bear essive, the complements of stative raising verbs are marked nominative and all other predicates are marked translative. I will argue that the correlation between the complexity of the embedding environment and the markedness of the case on the non-verbal predicate holds in Estonian as well: translative case appears with voice° and with a dynamic *v*°. Essive, being restricted to a single environment, will be shown to be the most marked case in Estonian.

3.1. Nominative case

An Estonian AP or NP predicate bears nominative case in primary predication (Lehiste 1969, 1972, Stassen 2001 and Erelt and Metslang 2003), but also, crucially, in the complement of a raising intensional verb:[10]

(17) a. NN on meie saadik London-is. Lehiste 1972:216
NN-NOM be-3SG-PRES our ambassador-NOM London-INESS
NN is our ambassador in London.

b. Ta oli noor. Stassen 2001
3SG -NOM was young-NOM
S/he was young.

[10] Õispuu 1999:112 states that the intensional verbs *tunduma* 'feel, seem' and *näima* 'seem' appear with essive predicates, while Matsumura 1996 lists without comment the same intensional verb *paistma* 'to appear' with an essive predicate (iii) and a nominative predicate (18a):

(i) Asi näi-s mulle imeliku-na. Õispuu 1999:112
affair-NOM seem-PAST-3SG me-ALL strange-ESS
The affair seemed strange to me.

(ii) Talle tundu-s palk liiga vaikse-na. Õispuu 1999:112
3SG-ALL feel-PAST-3SG salary-NOM too small-ESS
The salary seemed too small to him.

(iii) selle, mis meid ase-b halvema-na paist-a Matsumura 1996
DEM.GEN REL-NOM 1PL-PART let-PRES-3SG worse-ESS appear-INF
that which makes us look worse

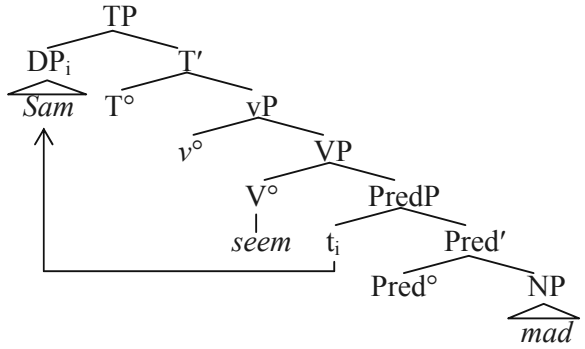
The conflicting descriptions can reflect different individual grammars or involve additional functional structure with essive, as opposed to nominative, predicates (potentially related to the presence of the experiencer argument). I leave this matter unresolved here.

(18) a. Nii paist-si-d silma-d palju suurema-d. Matsumura 1996
so appear-PAST-3PL eye-NOM-PL much bigger-NOM-PL
So the eyes appeared much bigger.

b. Raskus näib ületamatu. Lehiste 1969
difficulty-NOM seems insurmountable-NOM
The difficulty seems insurmountable.

Both environments can be characterized by a "deficient" *v*° (cf. Chomsky 2001), which means, in the system developed here, a stative *v* and no higher functional projections (with the possible exception of AspP, which doesn't affect Estonian case-marking). The predicate nominative in Estonian corresponds, therefore, to the minimal structures in (6) and (19):

(19)



The divergent behavior of nominative case in Estonian and Finnish is essential for our understanding of the nature of surface case: while in both languages nominative appears in the least marked environments, the threshold, so to say, of markedness is set differently, leading to a wider distribution of nominative in Estonian. As we will now show, the presence of the [BECOME] feature on *v* or the projection of voiceP results in translative case-marking, supporting the intuition that the more marked cases appear in more complex environments.

3.2. Translative case as the marked option

When the minimal structures of the verb *be* in (6) and the verb *seem* in (19) are augmented by the presence of additional features, nominative case-marking is replaced with translative. Thus the change-of-state verbs *saama* 'to get, become', *jääma* 'remain', *muutuma* 'to change into' and *minema* 'to go' all appear with translative-marked predicates (Matsumura 1996), as do denominative verbs and resultatives. Extending to Estonian the hypothesis proposed for Finnish, it is the feature [BECOME] on *v*° (cf. (8)) that is responsible for the more marked case:

(20) a. Peeter saab vana-ks. Stassen 2001
Peter-NOM becomes old-TRS
Peter is getting old.

b. NN määrati meie saadiku-ks London-is. Lehiste 1969
NN appoint-PASS our ambassador-TRS London-INESS
NN was appointed as our ambassador in London.

c. Ja ema ehmu-s vaikse-ks. Matsumura 1996
and mother-NOM be.frightened-PAST-3SG silent-TRS
And Mother got scared into silence.

While Finnish translative case-marking can only reflect the presence of a change-of-state component, in Estonian, translative predicates also appear in the context of ECM verbs, be they dynamic (change-of-state) or stative (intensional):

(21) a. See teg-i ema mureliku-ks. Matsumura 1996
DEM-NOM make-PAST-3SG mother-PART anxious-TRS
That made Mother anxious.

b. Tee-me ennast mustlas-te-ks. Matsumura 1996
make-1PL self-PART Gypsy-PL-TRS
Let's dress ourselves as Gypsies.

c. Ma õpin õpetaja-ks. Creissels 2008
1SG-NOM study-PRES-1SG teacher.TRS
I am studying to become a teacher.

(22) a. Mari pea-b Jaani hea-ks kumnevoistleja-ks/targa-ks.
Mary-NOM consider-PRES-3SG John-PART good-TRS decathlete-TRS/intelligent-TRS
Mary considers John a good decathlete/intelligent.

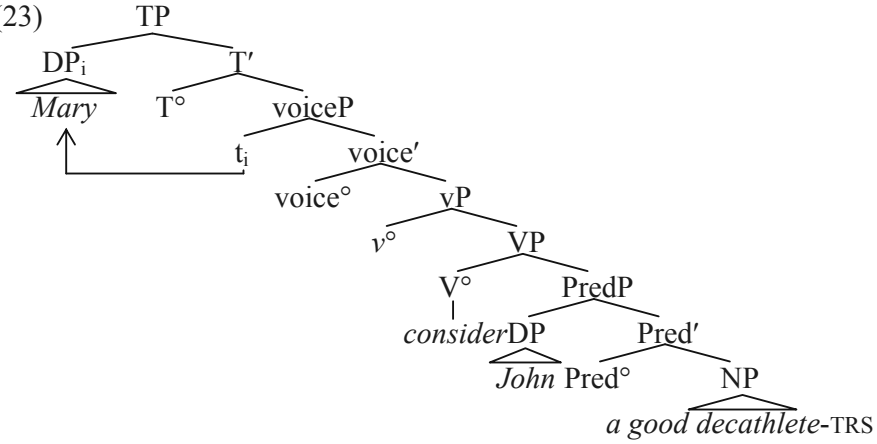
b. Kui Kiir se-da tarviliku-ks arva-b… Matsumura 1996
as Kiir-NOM DEM-PART necessary-TRS think-PRES-3SG
If Kiir considers it to be necessary...

c. Tagasihoidlikkus-t loe-takse ju vooruse-ks. Matsumura 1996
modesty-PART read-IMPERS-PRES EMPH virtue-TRS
Modesty is considered to be a virtue.

d. Ta kujutles end printsessina. Õispuu 1999:112
3SG-NOM imagine-PAST-3SG self princess-ESS
She imagined herself as a princess.

The structural difference between raising intensional verbs and their ECM counterparts is usually assumed to be a more complex (non-deficient) transitive *v*° (Chomsky 1995) or an additional functional head voice° (Kratzer 1996), which introduces the external argument (the subject) and enables accusative case assignment (cf. Burzio 1981):[11]

(23)



The fact that the tree in (23) correlates with translative case-marking on the predicate is also fully consistent with the hypothesis that a more complex environment (a transitive voice° as opposed to the deficient raising *v*) entails a more marked case on the predicate of the small clause. An increase in the complexity of the structure also characterizes the third environment

[11] The formalization of transitivity as a voice° as opposed to a feature on *v* throughout the discussion is chosen because it renders more transparent the increased complexity in the structure projected by transitive verbs. Like the formalization of the change-of-state component, this choice is no more than a technicality and does not affect the main argument.

where translative case is assigned: with the copula *olema* 'to be', forcing a transient (Lehiste 1969, 1972, Stassen 2001) or non-stable, random, or temporary (Erelt and Metslang 2003) interpretation, which is marked by essive in Finnish:[12]

(24) a. Ol-i-n oma õpetaja-le rohkem joobupoisi-lcs kui õpilase-ks. Matsumura 1996
be-PAST-1SG own teacher-ALL more errand-boy-TRS than pupil-TRS
For my teacher I was an errand-boy rather than a pupil.

b. NN on meie saadiku-ks London-is. Lehiste 1972:216
NN-NOM be-PRES-3SG our ambassador-TRS London-INESS
NN is our ambassador in London.

(25) Minu ülesandeks on lahendada see küsimus. Miljan 2008
1SG-GEN task-TRS be-PRES-3SG solve-INF this question-ACC
My task is to solve this question.

Unlike the Finnish copular essive, the Estonian copular translative case is restricted to NP predicates (cf. Matsumura 1996), and for animate NPs, to those that denote professions; other NPs are either ungrammatical or coerced into a role interpretation comparable to the interpretation of ACT-*be* predication (Partee 1977):

(26) a. ?NN on meie isa-ks.
NN-NOM be-PRES-3SG our father-TRS
NN plays the role of our father.

b. ?NN on hispaanlase-ks/ mulati-ks.
NN-NOM be-PRES-3SG Spaniard-TRS/ mulatto-TRS
NN plays the role of a Spaniard/mulatto.

Given that in Estonian, too, case markers surface not only on the head noun, but also on the modifying adjectives, the translative case suffix itself cannot be argued to provide the interpretation of transience. The fact that translative primary predicates are restricted to NPs suggests that the source of the translative case-marking on it is a preposition, as opposed to Asp° in Finnish. A similar effect is found in Scottish Gaelic (Adger and Ramchand 2003).

To summarize, the presence of voice°, the [BECOME] feature (for both ECM and raising *v*) or the transient interpretation of the primary predicate (for *be*) all entail translative case-marking. While the latter two cases exhibit a certain semantic affinity, their unification with the effect of voice° seems problematic, suggesting that the Estonian translative is the default predicative case in a complex environment.

3.3. Essive case-marking and the structure of depictives

Estonian depictive predicates, including comparative adjuncts, are marked with essive case:

(27) a. Poisi-na mängisin jalgpalli. Schultze-Berndt and Himmelmann 2004
boy-ESS play-PAST-1SG football-PART
As a boy I played soccer.

b. NN töötab meie saadiku-na London-is. Lehiste 1969
NN-NOM work-PRES-3SG our ambassador-ESS London-INESS
NN works as our ambassador in London.

[12] According to Erelt and Metslang 2003, of all Finno-Ugric languages only Estonian and Livonian allow translative case in primary predication, and then only with nominal predicates. Judging from the translation, the use of translative case in Livonian also entails transience:

(i) Sigadpaint vol, biskapo-ks.
swineherd-NOM was bishop-TRS
The swineherd acted as a bishop.

c. Ta läks koju rõõmsa-na. Schultze-Berndt and Himmelmann 2004
3SG -NOM go-PAST-3SG house-ILL happy-ESS
S/he went home happy.

The depictive use of the Estonian essive also extends to its appearance with the copula *be*. Although Stassen 2001 claims that the Estonian primary predication allows three cases on nominal predicates (nominative, translative and essive, as in (28)), and two cases (nominative and essive) on adjectival predicates (29), the use of essive with *be* is clearly not an instance of primary predication (cf. Erelt and Metslang 2003).

(28) a. NN on meie saadik London-is. Lehiste 1972:216
NN-NOM be-PRES-3SG our ambassador-NOM London-INESS
NN is our ambassador in London.

b. NN on meie saadiku-na London-is. Lehiste 1972:216
NN-NOM be-PRES-3SG our ambassador-ESS London-INESS
NN is our ambassador in London.

(29) a. Ta oli noor. Stassen 2001
3SG-NOM be-PAST-3SG young-NOM
S/he was young.

b. Ta oli seal noore-na. Stassen 2001
3SG-NOM be-PAST-3SG there young-ESS
S/he was there (when) young.

With the copula *be* essive is ungrammatical, unless a PP, another AP or another NP can function as the primary predicate:

(30) a. *NN on meie saadiku-na.
NN-NOM be-PRES-3SG our ambassador-ESS

b. *Ta oli noore-na.
3SG-NOM be-PAST-3SG young-ESS

Moreover, an essive depictive can appear with the nominative and translative primary predication, but not with another essive:

(31) a. NN oli meie saadiku-na päris hea tegija.
NN-NOM be-PAST-3SG our ambassador-ESS quite good-NOM activist-NOM
NN was quite active (while/as) our ambassador.

b. *NN oli ülõpilase-na iluduse-na.
NN-NOM be-PAST-3SG student-ESS beauty-ESS

c. NN oli ülõpilase-na kultuurisaadiku-ks.
NN-NOM be-PAST-3SG student-ESS cultural ambassador-TRS
NN was a cultural ambassador as a student.

The question arises what the source of the essive case is. To answer it I propose that a depictive small clause is introduced by a functional head F°. Independent motivation of this hypothesis comes from the interpretation of depictives. Rapoport 1993 argues that only stage-level adjectives function as depictives and therefore their interpretation must cross-reference the eventuality argument of the verb. McNally 1993 shows that individual-level adjectives and even NPs can also function as depictives if the main verb is a change-of-state verb, and provides a semantics for depictives that ensures the simultaneity of the two eventualities

involved. A similar conclusion is reached by Filip 2001, who treats the Russian instrumental case on depictives as the locus of the relevant semantics.[13]

On the lexical side, both in Hungarian (Rounds 2001:194-197) and in Finnish (Karlsson 1999:124) the case assigned to depictives is also used with temporal expressions to indicate a point in time (e.g., *at five o'clock*, *on Tuesday*). The hypothesis that a depictive introduces a time interval for the main event unifies the two environments and also provides an indication for the semantic role of F°.

3.4. Summary

While Finnish has been shown to treat essive as the default case, in Estonian it is assigned only to depictive predicates (but see fn. 10). Conversely, the translative case, which reflects the presence of a change-of-state component in Finnish, has a wider distribution in Estonian, where it co-occurs with voice°, a dynamic *v* or a null preposition. This pattern, summarized in Table 1, is clearly consistent with the hypothesis that the surface case-marking on the small-clause predicate reflects the complexity of its environment.

Table 1: Estonian predicate cases

environment	**c-commanding heads**	**predicate case**
be	*v*	nominative
intensional raising verbs	*v*, V	nominative
transient *be*	*v*, P	translative (NP professions)
intensional ECM verbs	*v*, voice°, V	translative
change-of-state	$v_{[\text{BECOME}]}$, V	translative
depictive	F°	essive

The corresponding Vocabulary Insertion rules can be stated as follows:

(32) a. essive: [F]
b. translative: *v*+ (i.e., *v* with additional features)
c. nominative: elsewhere

The hypothesis that the spell-out of an underlying morphosyntactic case reflects only a subset of the relevant underlying morphosyntactic features (due either to impoverishment or to underspecification) straightforwardly accounts for the partially overlapping distribution of the Finnish translative and the Estonian translative.

In the next section I will examine case-marking on non-verbal predicates in Hungarian, which involves a much larger number of cases. Hungarian will provide further evidence for underspecification by showing that [BECOME] and [Asp] are not the only features assigned to non-verbal predicates embedded in change-of-state environments, but will also serve to show how underlying feature specifications can be impoverished by a special morphological rule, as well as illustrate the difficulties associated with such an approach.

[13] The fact that the Russian instrumental, like the Estonian essive, appears not only on the head noun but also on modifying adjectives suggests that the case marker itself is not the source of the depictive "glue". For Russian this conclusion is supported by the fact that predicate instrumental is assigned in nearly all small-clause environments (see Matushansky 2008a, 2010).

4. HUNGARIAN

As can be seen from Table 2, which provides a partial summary of predicate case-marking in Hungarian, non-verbal predicates of small-clause complements of verbs that lack any lexical content surface in the nominative case. The appearance of a lexical root (for intensional verbs) leads to the more marked dative case,[14] which becomes translative with the addition of the [BECOME] component (in change-of-state lexical verbs) and the resultative construction leads to a further increase in markedness with the sublative case. Case-marking in depictives will be discussed in section 4.5.

Table 2: Hungarian predicate cases

environment	c-commanding heads	predicate case
van 'be'	*v*	nominative
marad 'remain' *lesz* 'become'	v_{BECOME}	nominative
intensional verbs	V (contentful verb), *v*	dative
tesz 'make' *válik* 'turn into'	V, v_{BECOME}, *voice*	translative
resultative	V, v_{BECOME}, v_{RES}, (*voice*)	sublative

In what follows I will provide a more detailed description of non-verbal predicate case-marking patterns in Hungarian.[15] I will demonstrate that the underspecification inherent in the Vocabulary Insertion rules in (16) and (32) allows us to explain not only language-internal patterns of predicate case-marking, but also to account for cross-linguistic variation. I will also discuss apparent counterexamples to the hypothesis that a more complex environment yields a more marked case and argue that they can be attributed to the obscuring influence of another morphological process, impoverishment (Bonet 1991, Halle 1997, Noyer 1997).

4.1. Nominative

Under the assumption that the copula *be* is a purely functional element and therefore results in a minimally complex environment for a small clause in Hungarian, just as it is in Finnish, it is unsurprising that in primary predication the predicate surfaces as nominative:[16]

(33) a. János orvos.
Janos-NOM doctor-NOM
John is a doctor.

[14] The full dative case pattern will be discussed in section 4.4.

[15] Trommer 2008 and Spencer 2009 argue that there are no morpho-phonological reasons to distinguish between cases and postpositions in Hungarian. Their conclusion, however, is less problematic for my analysis than it seems at first glance. Indeed, my primary assumption is that case morphology spells out uninterpretable counterparts of interpretable features located elsewhere, but absolutely not that such uninterpretable counterparts must be realized as morphological case. I take adpositions that are not interpretable themselves but reflect the presence of interpretable features elsewhere (which is the core of a case analysis of some instances of the French *de* or the English *of*) as the prepositional (non-affixal) counterparts of uninterpretable case. A proper discussion of interpretable vs. uninterpretable case and adpositions would take us too far afield here.

[16] It should also be noted that only nominative predicates agree with their subjects in number in standard Hungarian, though some speakers also accept agreement on dative predicates. Space restrictions do not permit me to discuss this phenomenon in detail.

b. Én tanár vagyok.
1SG -NOM teacher-NOM be.PRES.1SG.
I am a teacher.

(34) a. János orvos volt.
Janos-NOM doctor-NOM be.PAST.3SG
John was a doctor.

b. A fiú-k aranyos-ak voltak.
the boy-PL-NOM nice-PL-NOM be.PAST.3PL
The boys were nice.

We will now show that, although in Hungarian as well, nominative predicates appear in the least complex environment, this least marked environment is defined differently from both Finnish and Estonian. As the following examples show, the semi-lexical verbs *lesz* 'become' (but not the lexical verb *válik* 'become' to be discussed in section 4.3) and *marad* 'remain' also combine with a nominative predicate in Hungarian:

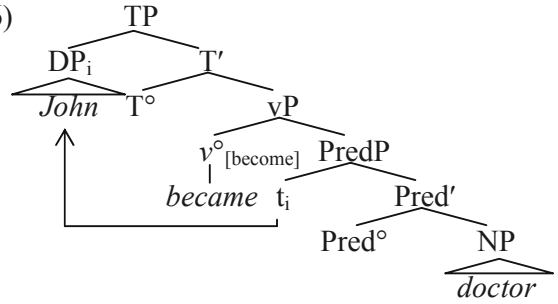
(35) a. A lány-ok nem voltak / maradtak sokáig boldog-ok.
the girl-PL-NOM not be.PAST.1PL / stay.PAST.3SG for.long happy-PL-NOM
The girls were not / did not remain happy for long.

b. János orvos lett.
Janos-NOM doctor-NOM be.PAST.3SG /become.PAST.3SG.
John was/became a doctor.

As discussed in section 2.2, change-of-state verbs in Finnish project the structure in (8), which is more complex than that for the copula *be* in (6). Is Hungarian different? And if it is, why does the verb *válik* 'become' assign translative?

To unify the semi-copular verbs *marad* 'remain' and *lesz* 'become' with the copula *be* but not with the verb *válik* 'become' or with the Finnish verb *tulla* 'become', I propose that the verbs *marad* 'remain' and *lesz* 'become' do not involve a lexical root, as shown in (36) (abstracting away from the linear order), but merely the functional *v* head, which, since the semi-copulas *become* and *remain* are dynamic, must be endowed with the [BECOME] feature:

(36)



From the semantic standpoint the unification of the two semi-copulas with the copula *be* is altogether natural, since the three verbs differ only in their presuppositions: all three assert that the state *p* (the denotation of PredP) obtains at the time *t*, but *become* presupposes that the state ¬*p* obtained before *t* (a change of state has occurred), while *remain* presupposes that the state *p* obtained before *t* as well (no change has occurred). From the syntactic point of view, likewise, the verbs *marad* 'remain' and *lesz* 'become' have both been argued to have an auxiliary use (cf. Kenesei 2001) and are therefore likely to be functional. (It should also be noted that the Finnish verb *tulla* 'become' and its Estonian counterpart *saama* 'to get, become' do not function as auxiliaries.)

Nonetheless, it is easy to see that assuming two different structures, with a lexical verb for Finnish and Estonian and without a lexical verb for Hungarian, is not enough to account for nominative case-marking with the verbs *marad* 'remain' and *lesz* 'become' unless some

assumptions are made regarding Vocabulary Insertion rules: for both Finnish and Estonian the presence of the [BECOME] feature is enough to trigger a translative case-marking. To work out the conditions on translative case-marking on Hungarian predicates, it is first necessary to study predicate case-marking with stative (intensional) and dynamic (change-of-state) verbs, which I will do in subsections 4.2 and 4.3, respectively.

4.2. Dative

The structure hypothesized for *seem* in (19) is fully compatible with the fact that the predicate of a small-clause complement of an intensional raising verb, such as *látszik* 'look, seem' and *tűnik* 'appear', bears dative, which is more marked than nominative and less marked than translative or sublative:

(37) a. Mari orvos-nak látszik.
Mary-NOM doctor-DAT seem- PRES.3SG
Mary seems a doctor.

b. A diák-ok elégedett-nek tűn-nek. Kenesei, Vágó and Fenyvesi 1998:202
the student-PL-NOM satisfied-DAT appear-PRES.3PL
The students appear satisfied.

Indeed, on the one hand, the structure in (19) contains a lexical verb (V), unlike the primary predication structure in (6) or the functional change-of-state structure in (36), which means that more features are assigned to the small clause predicate resulting in the dative case, which is clearly both semantically and morphologically more marked than nominative. On the other hand, the *v* head of *látszik* 'look, seem' and *tűnik* 'appear' is intransitive and stative, like *van* 'be', since they all are raising verbs with no external argument and no change of state is involved. I therefore hypothesize that the dative case on the predicate corresponds to the [V] feature.[17] Unlike in Estonian, in Hungarian intransitive and transitive verbs assign the same predicate case, irrespective of the presence of voice°: ECM intensional verbs, such as *(el)fogad* 'accept', *gondol* 'think', *(el)képzel* 'imagine', *tart* 'consider', *talál* 'find' and *hisz* 'believe', also appear with dative:

(38) a. Péter zseni-nak /okos-nak tart-ja Mari-t.
Peter-NOM genius-DAT/smart-DAT consider-PRES.3SG Mari-ACC
Peter considers Mary a genius/smart.

b. A katoná-t mindenki halott-nak hi-tt-e. Kenesei et al. 1998:203
the soldier-ACC everyone-NOM dead-DAT believe-PAST-3SG
Everyone believed the soldier to be dead.

The natural question arises here how the difference between Estonian and Hungarian is to be handled. One possible assumption is that voice° (while uniformly assigning accusative case to the direct object) fails to assign any features to the predicate in Hungarian, though not in Estonian. In other words, the difference between the two languages can be attributed to a lexical property of voice°. The price to pay for such an assumption is the renunciation of the mechanism of case-assignment advocated above: if a head assigns its features to its sister,[18] accusative case-marking signals that voice° has done so.

Conversely, it can also be suggested that case-assignment in both languages proceeds along the same lines, but Vocabulary Insertion rules differ: while in Estonian, there exists a Vocabulary Insertion rule that references [voice] for predicate case-marking (even if under

[17] In section 4.4 I. will discuss a number of other environments where dative case appears on predicates and which cannot be characterized by such a simple description.

[18] Note that the ability of voice° to differentially affect case-marking on the internal argument and on the nonverbal predicate cannot be explained in more standards approaches to case.

the guise of "additional features on *v*"), no such rule does so in Hungarian. I find the latter solution preferable, both on theoretical and empirical grounds: once again, had every feature assigned been referenced by Vocabulary Insertion rules, we would have expected no cross-linguistic differences with respect to case-marking and a one-to-one correspondence between various cases and the environments that they are assigned in.

Predicate case-marking with intensional verbs is therefore compatible with our theory and needs no special assumptions. In the next subsection I turn to environments that involve simultaneously a lexical verb and a change-of-state meaning. I will argue that the Hungarian translative reflects the presence of a lexical root and the [BECOME] feature at once, which correctly predicts that the distribution of translative case in Hungarian is more constrained than in Finnish or in Estonian. I will then suggest that resultatives involve another functional projection, which further increases the markedness of the assigned case, yielding sublative.

4.3. Change of state with lexical verbs

In addition to the semi-copular verb *lesz* 'become', which appears with nominative case on the predicate, there exist two verbs in Hungarian with the same or a very similar meaning that nonetheless appear with translative case. The fact that they are morphologically related to each other is probably irrelevant:

(39) a. A béka királyfi-vá vál-t. Kenesei et al. 1998:201
the frog-NOM prince-TRS turn.into.PAST.3SG
The frog turned into a prince.

b. A királyfi béká-vá változ-ott. Creissels 2008
the prince-NOM frog-TRS change.PAST.3SG
The prince changed into a frog.

c. A díszvacsorán 'sok vendég$_j$ vál-t [nevetséges-sé t$_j$]. Dalmi 2005:162
the banquet-SPR many guest-NOM become-PAST.3SG ridiculous-TRS
Many guests became ridiculous at the banquet.

Adopting the analysis proposed for the Finnish verb *tulla* 'become' in (8), I suggest that, unlike the purely functional verb *lesz* 'become', the two verbs above contain a lexical root in addition to the change-of-state [BECOME] feature on *v*°. The verbs *become* and *change/turn into* in Hungarian can thus be compared to the verbs *have* and *own* in English.[19]

As a result, we can now formalize the following Vocabulary Insertion rules, where the more complex syntactic structure results in a more complex feature bundle on the nonverbal predicate, which in turn yields a more marked predicate case:

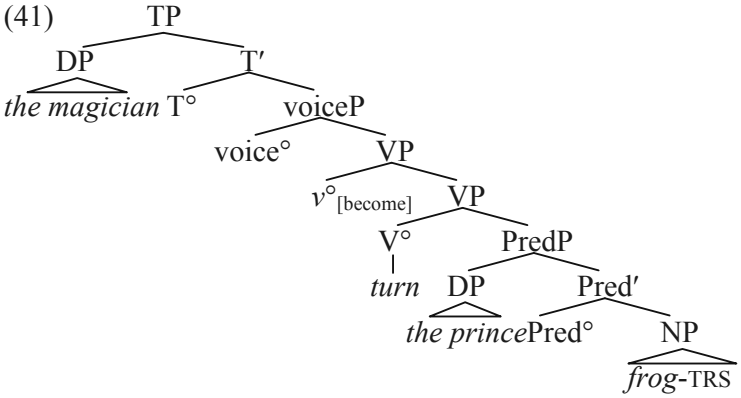
(40) translative: [V, v_{BECOME}]
dative: [V]
nominative: elsewhere

[19] Obviously, a number of alternative theories can be envisaged. The simplest is that the translative case is assigned by a preposition (as in the translations in (39a, b)), but the adjectival predicate in (39c) would then be a mystery, since prepositions do not usually take AP complements. Equally unclear would be the semantic contribution of the preposition in question, given that the change-of-state semantics is provided by the verb. The latter issue also arises with the hypothesis that the translative case itself is interpretable (see Piñón 2011 for a discussion of the issue). Finally, another option is that lexical change-of-state verbs c-select a Pred° with a different featural specification or with a more developed small-clause structure, containing higher projections above PredP. Once again a specification of the semantics of this additional structure is required, as well as an answer to the question why intensional verbs or (semi-) copulas cannot combine with such special small clauses. My conclusion, that the Hungarian translative case is assigned by the combination [BECOME][V], is supported by the fact that its only use in Hungarian is in change-of-state environments (Rounds 2001).

In other words, I suggest that translative case assignment with lexical change-of-state verbs results from the lexical verb and a change-of-state component simultaneously. While with intensional verbs the presence of the lexical verb yields dative case-marking (instead of the nominative appearing with the copula *be*) and, unlike in Estonian or Finnish, the presence of [BECOME] itself has no effect, the combination of the change-of-state component with a lexical root yields an outcome more complex than that of either of its component parts. Thus the translative case provides evidence for the cumulative nature of case in general.

The underspecified formulations above entail that the presence of voiceP in the ECM change-of-state structure (41), does not result in a more complex case-marking on the predicate, correctly predicting that the transitive verbs *változtat* 'change into' and *tesz* 'make' appear with the same translative case as their intransitive counterparts:

(41)



(42) a. Engem király-lyá/boldog-gá te-tt-ek. Kenesei et al. 1998:202
1 SG-ACC king-TRS/happy-TRS make-PAST-3PL
I was made king/happy.

b. János híres-sé te-tte Mari-t.
John-NOM famous-TRS make-PAST.3SG Mary-ACC
John made Mary famous.

c. Jézus bor-rá változ-tat-ta a viz-et. Creissels 2008
Jesus-NOM wine-TRS change-CAUS-PAST.3SG the water-ACC
Jesus changed the water into wine.

The hypothesis that translative case-marking on the small-clause predicate corresponds to the presence of [BECOME] and a lexical root finds support in the fact that denominative verbs also appear with translative on the small clause predicate (though see section 4.4):

(43) István-t tegnap pap-pá szentel-t-ék. Kenesei et al. 1998:202
Stephen-ACC yesterday priest-TRS ordain-PAST-3PL
Stephen was ordained priest yesterday.

Such verbs make it possible for us to shed some light on the syntactic structure where resultatives are projected. As the following examples show, resultative AP predicates appear in the sublative case, which, being more specific in its semantics (as a locative case), can be considered more marked than translative:[20]

[20] While resultatives are generally assumed not to allow NP predicates, the following example seems to provide a counterexample to this claim:

(i) Mari tíz szelet-re vágta a tortá-t. Bene 2009
Mary-NOM ten slice-SBL cut-PAST.3SG the cake-ACC
Mary cut the cake into ten pieces.

(44) a. János apró-ra vág-ta a gombá-t.
John-NOM small-SBL cut-PAST.3SG the mushroom-ACC
John cut the mushroom into small pieces.

b. János piros-ra fest-ett-e az ajtó-t.
János-NOM red-SBL paint-PAST.3SG the wall-ACC
John painted the wall red.

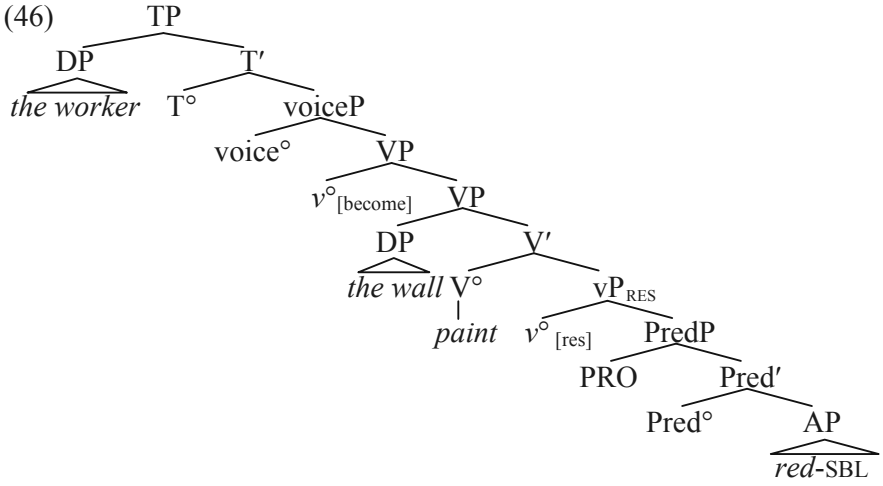
(45) a. János betegre tanulta magá-t. Kiss 2002:74
John-NOM sick-SBL learn-PAST.3SG himself-ACC
John learned himself sick.

b. A munkás lapos-ra kalapácsolta a féme-t. Snyder 2001
the worker-NOM flat-TRS hammer-PAST.3SG the metal-ACC
The worker hammered the metal flat.

Hoekstra 1988 argues that resultatives, both transitive and intransitive, are small-clause complements of a lexical verb. If this assumption is correct, resultative small clauses should appear in the structure (41), as do small-clause complements of change-of-state verbs. This, however, incorrectly predicts translative rather than sublative case-marking on the resultative AP predicate, since it seems unlikely that *paint* is somehow more complex than *ordain*.

An alternative is that resultative small clauses project in an additional VP shell (Larson 1988, Winkler 1997, Ramchand 2008), which yields the additional advantage of consistency with the standard assumptions about verb meanings, as in this structure it is *the wall* rather than a proposition that is being painted:

(46)



Three reasons allow us to maintain that the predicate here is actually a PP. First of all, from the semantic point of view the resultant state in (i) cannot be described as "the cake is ten pieces" but rather resembles so-called *pseudo-resultatives*, marked illative in Finnish (Levinson 2010): it is the result of the cutting rather than its affected theme that constitutes ten pieces. Secondly, the choice of the main verb and/or the noun affects case-marking, which is not the case for true resultatives:

(ii) János kemény tésztá-vá gyúr-ta az alkotóanyag-ok-at.
János-NOM stiff dough-TRS knead-PAST.3SG the ingredient.PL-ACC
János kneaded the ingredients into stiff dough.

As example (i) also shows that the NP in question need not be a semantic predicate, I conclude that the predicate in these examples is a PP, leaving open the question whether the sublative and translative affixes reflect the presence of a null preposition, or are themselves interpretable. Crucially, such examples also argue against the hypothesis that the sublative case-marking in true resultatives is interpretable, as the interpretational difference between PP sublatives and NP sublatives is clear.

Further evidence for the structure in (46) comes from the fact that it provides potential solutions for both the cross-linguistic variability in the availability of resultatives (which can now be attributed to the presence in the lexicon of the language of the additional v_{RES}) and for the merge site of subject-oriented resultatives built on transitive verbs (Rappaport Hovav and Levin 2001), which can be treated as control structures yet not confused with depictives. I conclude that we can reasonably complement the Vocabulary Insertion rules in (40) with the [V, v_{BECOME}, v_{RES}] specification for sublative, which, being the most specific lexical entry, takes precedence over the rules above by the Elsewhere Condition:

(47) sublative: [V, v_{BECOME}, v_{RES}]
translative: [V, v_{BECOME}]
dative: [V]
nominative: elsewhere

However, my description of nonverbal predicate case-marking in Hungarian would be incomplete without a full discussion of the wide range of environments where dative-marked predicates appear. In the next section I will first demonstrate that the predicate dative appears in a number of unrelated environments, rendering it the default predicative case in Hungarian, and then discuss how this pattern can be obtained.

4.4. Dative as the default predicative case

The various environments where small-clause predicates are marked with dative defy all attempts at full unification, though some partial similarities can be detected. While, with the exception of the intensional verbs discussed in subsection 4.2, all these environments invoke an actual or potential change-of-state, I hypothesize that it is the presence of additional components that, in a paradoxical way, yields a less marked case.

4.4.1. Denominative verbs

As discussed in section 4.3, lexical change-of-state verbs generally appear with translative:

(48) István-t tegnap pap-pá szentel-t-ék. Kenesei et al. 1998:202
Stephen-ACC yesterday priest-TRS ordain-PAST-3PL
Stephen was ordained priest yesterday.

However, though translative is the only option for an imperfective change-of-state verb, as noted by Kenesei et al. 1998:202, a perfective prefix, such as *ki*-, *meg*-, and *fel*-, enables dative case-marking on the predicate for a number of verbs,[21] including *(ki)kiált* 'proclaim', *(ki)nevez* 'appoint', *(fel)szentel* 'ordain', *(meg)koronáz* 'crown', *(meg)választ* 'elect', but also *(meg)tesz* 'make'. (The verb *(meg)szavaz* 'vote' seems to always require dative.)

(49) a. Csabá-t tegnap fel-szentel-t-ék pap-nak/pap-pá. Kenesei et al. 1998:202
Csaba-ACC yesterday PFX-ordain-PAST-3PL priest-DAT/-TRS
Csaba was ordained priest yesterday.

b. Anitá-t meg-választ-ott-ák elnök-nek /elnök-ké. Kenesei et al. 1998:202
Anita-ACC PFX-elect-PAST-3PL president-DAT/-TRS
Anita was elected president.

[21] For some speakers, the presence of a prefix makes translative marking impossible (Gabi Tóth, p.c.):

(i) Az emberek megválasztották %elnökké/✓elnöknek Pétert.
the people-NOM PFX-elect PAST.3SG president-TRS/-DAT Peter-ACC
The people elected Peter president.

The question therefore arises whether the optionality attested in the language description actually reflects the simultaneous presence of two grammars.

Given that the presence of the prefix clearly adds to the complexity of the small-clause environment, the question arises why the outcome is a less marked case. One possibility is that dative case-marking correlates with a different structure. While, on the one hand, such an analysis still requires an explanation for the availability of dative with a change-of-state component, on the other hand, it also fails to explain why a perfective prefix is required to enable dative case-marking (or render it obligatory; see footnote 21). I propose instead that the dative case-marking in such complex environments is the result of impoverishment, i.e., that it reflects a morphological process rather than a structural difference. To be more precise, I propose that the complex feature bundle corresponding to the presence of all the extended VP heads in (41) in conjunction with more lexical features (due to a prefix, a functional head or the lexical semantics of the verb, a point to be detailed below) can (and in some dialects, must) be impoverished to just [V], resulting in the surface dative case. I will now show how an appeal to impoverishment allows us to handle dative case-marking in a number of other environments.

4.4.2. Function change, purpose, naming

Though at first blush examples (50) should be classified as depictives (de Groot 2008), it is at least as likely that the dative NP is part of an argument small clause, and translative rather than essive case-marking in the corresponding example (21b) in Estonian confirms the latter intuition. In either structure, however, it is difficult to deny that a change-of-state component is present, which we expect to lead to translative case-marking in Hungarian as well:

(50) a. Az-t a pulóver-t párná-nak használtam. de Groot 2008
that-ACC the sweater-ACC pillow-DAT use-PAST.1SG
I used that sweater as a pillow.

b. Don Giovanni szolgá-nak álcázta magá-t.
Don Giovanni-NOM servant-DAT disguise-PAST.3SG himself-ACC
Don Giovanni disguised himself as a servant.

The dative of a changed function only allows NP predicates -- a restriction that it shares with the dative of purpose, marking NP predicates in a resultative-like construction that has no counterpart in English:

(51) a. Futballistá-nak neveli a gyerek-ek-et.
football player-SG-DAT train-PRES.3SG the child-PL-ACC
S/he trains the children to become football players.

b. Az any-ja tanár-nak tanít-at-ja Péter-t.
the mother-POSS.3SG-NOM teacher-DAT learn-CAUS-PRES.3SG Peter-ACC
His mother makes Peter learn to become a teacher.

c. Péter politikus-nak készül. Ürögdi 2006
Peter-NOM politician-DAT prepare-PRES.3SG
Peter is preparing (planning) to become a politician.

Here also, only NP predicates are allowed, and the change-of-state component leads us to expect translative (which is, in fact, assigned in this construction in Estonian, cf. (21c)). The third environment with the same properties is the complement of naming verbs, such as *hív* 'call', *(el)nevez* 'name' or *(meg)keresztel* 'baptize', which I argued in Matushansky 2008b to be ECM rather than ditransitive verbs. If this assumption is correct,[22] naming verbs should

[22] Wunderlich 2002 observes that the dative assigned to predicates, unlike the dative assigned to goals, is possible in nominalizations:

project in the structure in (41), which leads us to expect translative case-marking on the proper name rather than the attested dative:

(52) a. Mi-nek nevez-z-em a kutyá-m-at? Kenesei et al. 1998:203
what-DAT name-IMP-1SG the dog-POSS.1sg-ACC
What shall I name my dog?

b. A fi-unk-at Miklós-nak keresztel-jük. Kenesei et al. 1998:203
the son-POSS.1PL-ACC Nicholas-DAT baptize-PRES.1PL
We'll baptize our son Nicholas.

The fact that the verbs in question form a coherent lexical-semantic class allows us to attribute their uniform case-assigning behavior to the shared feature ([naming]).[23] Unifying this case with the three previous ones, I suggest that the same impoverishment process that applies in the complement of perfective denominative verbs (see section 4.4.1) can then strip the uninterpretable feature bundle on the predicate to [V], i.e., to the dative case.

4.4.3. Topic doubling

The question arises how the appeal to impoverishment in the previous two sections accounts for the intuition that dative is the default predicative case in Hungarian. Indeed, in addition to the environments discussed above, dative also surfaces in contrastive-topic doubling (Ürögdi 2006), which doesn't seem to straightforwardly share any meaning components with any of the dative environments discussed above:

(53) a. Büszké-nek büszke volt. Ürögdi 2006
proud-DAT proud-NOM be.PAST.3SG
As for being proud, s/he was.

b. Szigorú tanár-nak szigorú tanár volt. Ürögdi 2006
strict teacher-DAT strict teacher-NOM be.PAST.3SG
S/he was in fact a strict teacher.

As Ürögdi 2006 correctly points out, the simple assertion that dative is the default case in Hungarian does not explain how this state of affairs comes about. To handle the ubiquitous dative case-marking on predicates, Ürögdi 2006 proposes that it corresponds to a functional head F° not directly dominated by tense, i.e., that dative predicates have the distribution of an infinitive. In particular, in contrastive-topic doubling the fronting of the predicate takes it out of the domain of tense and so the higher copy is spelled out with dative.[24]

(i) Péter gazember-nek nevez-és-e. Wunderlich 2002
Peter bastard-DAT call-NMZN-3SG
calling Peter a bastard

(ii) * Anna-nak a könyv fel-olvas-ás-a
Anna-DAT the book PFX-read-NMZN-3SG

Not only do these data provide additional evidence for analyzing naming verbs as ECM (Matushansky 2008b), they also suggest that the dative assigned to predicates is featurally different from the dative assigned to arguments.

[23] A similar link between the lexical-semantic class of a verb and the case it assigns can be observed in Russian, where verbs of management (e.g., *komandovat'* 'command', *upravljat'* 'to manage', *pravit'* 'rule', etc.) assign instrumental to their object. The hypothesis that these verbs simply "assign" the relevant case is no more explanatory than the appeal to a lexical-semantic feature.

[24] Apparent support for this hypothesis comes from the fact that when the copula *be* is an infinitive, the predicate can be marked dative, rather than the expected nominative:

Two reasons induce me to reject Ürögdi's solution. On the one hand, the introduction of an otherwise unmotivated functional projection seems to me to be an unnecessary device in a system where the mere presence of a lexical verb can be held responsible for the existence of a predicative case. On the other hand, the emergence of translative and sublative cases still has to be explained, as does the interaction of translative and dative cases in the presence of a perfective prefix (section 4.4.1). Since Ürögdi 2006 provides some evidence that the fronted element may double an argument, as well as the primary predicate, I surmise that the dative case in contrastive-topic doubling is due to the familiar impoverishment mechanism, which is triggered by the additional contrastive-topic feature.

4.4.4. Summary

As this section shows, the least syntactically and morphologically marked case (nominative, in Hungarian) is not the same thing as the perceived default case, i.e., the case appearing in most environments (dative, in Hungarian). We accounted for this effect by assuming that the predicate dative spells out the feature [V] on the non-verbal predicate. With verbs of naming and perfective denominative verbs the underlying feature bundle that the surface dative case arguably corresponds to is no less complex than that spelled out as translative in other change-of-state environments, but it is impoverished by a lexical rule. While in contrastive-topic doubling and with purpose and function NPs the surface dative might conceivably have been analyzed as assigned by a separate head, an impoverishment approach is preferable since it allows us to account for the intuition that the dative is the default predicative case in Hungarian.

4.5. Depictives

The assumption that depictive small clauses are introduced by a functional head (section 3.3) leads us to expect the possibility of a special case-marking in this environment. Indeed, AP depictives in Hungarian appear in the superessive case:[25]

(54) a. János részeg-en vezet-te az autó-já-t.
János-NOM drunk-SPE drive-PAST.3SG the car-POSS.3SG-ACC
John drove his car drunk.

b. János hideg-en et-te a hús-t.
János-NOM cold-SPE eat-PAST.3SG the meat-ACC
John ate the meat cold.

(i) a. Engedtem János-t rámenősnek lenni. Kiss 2002:217
allow-PAST.1SG John-ACC pushy-DAT be-INF
I allowed John to be pushy.

b. Ő beteg akar lenni. Kiss 2002:72
3SG-NOM sick-NOM want-PRES.3SG be-INF
S/he wants to be sick.

To explain the contrast in (i), I suggest that the dative in (i-a) is assigned by the intensional verb *allow* (cf. section 4.2), whereas the nominative in (i-b) is not affected by *want* due to the presence of the additional CP layer in the control infinitive. Ürögdi's proposal seems to be unable to account for the contrast.

[25] The case glossed as superessive (SPE), following Rounds 2001, is also known as modal-essive (Kenesei et al. 1998), essive (Dalmi 2005) or adverbial (de Groot 2008). Following an attested cross-linguistic tendency (see van der Auwera and Malchukov 2005), Hungarian uses the same suffix *-n* to mark depictives and adverbs, though the adverbial suffix triggers a different type of vowel harmony (Rákosi 2006).

c. Tamás szép-en énekel. de Groot 2008
Tom-NOM beautiful-SPE sing-PRES.3SG
Tom sings beautifully.

Like essive in Finnish, superessive case is also used with time expressions to indicate a point in time, though in Hungarian it also has a straightforward locative meaning (= *on*). In an interesting twist, NP depictives are ungrammatical in the superessive, but must be introduced by a different functional morpheme:[26]

(55) a. Madonna férfi-ként jelent meg a színpadon. de Groot 2008
Madonna-NOM man-ESF appear-PAST.3SG PFX the stage.on
Madonna appeared on stage as a man [= in a male guise].

b. Tolvaj-ként hagyta el a börtönt.
thief-ESF leave-PAST.3SG PRV the prison-ACC
S/he left the prison a thief.

A differential treatment of NP and AP predicates is quite common cross-linguistically: both copular particles and verbal copulas are more likely to be required with the former than with the latter (Croft 1991, Stassen 1997, Pustet 2005). I will not attempt to analyze here the difference between AP and NP depictives beyond noting that the essive-formal marker *-ként* cannot be viewed as an allomorph of the superessive marker *-n*. On the one hand, besides non-verbal predication the two are used in different environments: the essive-formal marker *-ként* has a meaning approximating the English *as* ('in the function of'), while the superessive marker *-n* is locative. On the other hand, the essive-formal marker *-ként* and the superessive marker *-n* have been argued to have different morphosyntactic properties by de Groot 2008 and Thuilier 2011, who argue that the former but not the latter is a preposition (cf. fn. 15).

4.6. Summary

In this section I have argued that, once impoverishment is taken into account, case-marking on Hungarian non-verbal predicates correlates with the complexity of the environment. For small-clause predicates nominative case corresponds to the near-lack of structure: it appears on the predicate in the context of primary predication (where only a TP is projected) and with the semi-copular verbs *lesz* 'become' and *marad* 'remain' (which also involve the projection of a dynamic ([BECOME]) vP). The presence of a lexical verb results in a more marked case being assigned to the small clause predicate. Thus intensional verbs, like *látszik* 'look, seem' and *tűnik* 'appear', appear with dative predicates (corresponding in our approach to the [V] feature) and lexical change-of-state verbs, such as *válik* 'become' (which we have assumed to project a dynamic ([BECOME]) vP) appear with the even more marked translative predicates. Finally, resultatives, which we have argued to require an additional functional projection in the complement of V°, are marked with the sublative case, which we take to correspond to the simultaneous presence of [BECOME], [V] and [v_{RES}].

The existence of a correlation between the lexical-semantic and/or featural complexity of the environment of a small clause and the markedness of the case surfacing on the small-clause predicate further supports the hypothesis that the underlying case is not a single feature but a complex of features, each of them the uninterpretable counterpart of some interpretable feature in the embedding environment of the small clause (Matushansky 2008a, 2010). Under this view the presence of an additional functional head (e.g., voice° with transitive verbs), the presence of an additional feature (e.g., the [BECOME] feature on *v*) and the lexical-semantic class of the verb (formalized as a syntactically active lexical-semantic feature) all contribute to the underlying case-marking of the small-clause predicate. A more complex feature bundle surfaces as a more marked case. Finally, the default nature of dative on non-verbal predicates

[26] The case glossed as essive-formal (ESF), following Rounds 2001, is referred to as essive by Kiss 2002.

is derived by an appeal to impoverishment triggered by the excessive complexity of a feature bundle.

5. CONCLUSION

I have examined case-marking on non-verbal predicates in three Finno-Ugric languages that, despite their genetic connection, nevertheless diverge in ways providing us with interesting insights into the nature of case.

Thus, in the three languages nominative-marked predicates appear in the least complex environments, but Finnish, Estonian and Hungarian differ as to the environments perceived as least complex. While in Finnish only the copula *be* can appear with nominative predicates, in Estonian intransitive intensional verbs do so as well, and in Hungarian, nominative appears in the small-clause complements of the semi-copular verbs *marad* 'remain' and *lesz* 'become'. I argued above that this difference among the three languages is due to different Vocabulary Insertion specifications for the more marked cases rather than for nominative itself. Thus the distribution of the other two predicate cases common for the three languages, translative and essive, while demonstrating the existence of "core values" (change-of-state for translative and depictive for essive), nonetheless shows considerable dissimilarities. While essive is limited to depictives in Estonian, where it was originally borrowed from Finnish, and in Hungarian, in Finnish it appears in all stative environments. Conversely, translative requires the [BECOME] feature in Finnish and in Hungarian, but in Estonian it is the default predicate case appearing in any marked environment that is not depictive. Finally, the change-of-state "domain" of translative is further delimited in Hungarian by the existence of the sublative case, assigned in resultatives, and by dative.

To account for these facts I have argued that case-marking on AP and NP predicates in Finnish, Hungarian and Estonian reflects the complexity of their environments: assuming that a head assigns to its sister (the uninterpretable counterparts of) its interpretable features leads to an accumulation on each terminal node of the features of c-commanding heads. I suggest that it is these features that are spelled out as case; underspecification in Vocabulary Insertion rules entails that environments with the most syntactic complexity (i.e., with the largest number of features assigned) should result in the more marked cases (i.e., those that correspond to the presence of the less common heads). The opposite, however, need not be true: for instance, the highly marked essive case in Estonian and Hungarian corresponds not to a very complex environment, but simply to a less common one.

The distribution of the predicate dative in Hungarian does not seem to depend upon the presence of a certain feature (once more complex feature bundles involving that feature had been disposed of by more highly ranked Vocabulary Insertion rules). To account for this fact I appealed to the notion of impoverishment (Bonet 1991, Halle 1997, Noyer 1997), proposing that an accumulation of features beyond a certain level of complexity is drastically simplified.

I conclude that the hypothesized correlation between the case-marking on a constituent and the complexity of that constituent's environment is supported by Finno-Ugric predicate case-marking. If the underlying assumptions of the approach defended above are correct, surface case-marking can be used for determining the underlying structure responsible for it.

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