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Predication: A Case Study*

1. Introduction

In this paper I examine the predictions that the current Case Theory (Chomsky 2000 and later work) makes for cross-linguistic patterns of predicate case (to be discussed below) and demonstrate that, even adjusted, it cannot deal with the full range of facts. I propose a new Case Theory, based on the hypothesis that Case is assigned by a head to its complement (cf. Stowell 1981), with the ensuing consequence that a particular Case can be assigned to more than one terminal and more than one Case can be assigned to a particular terminal, and couple it with standard Distributed Morphology assumptions about featural decomposition of morphological case. I will argue that not only does this new Case Theory allow us to account for predicate case assignment but also that it opens a new venue of research into multiple case assignment elsewhere.

The current Case Theory consists of two parts: Case Filter, which is the condition determining what must be assigned Case, and conditions on Case assignment, which describes under what circumstances case is assigned. Both have changed during the development of the P&P framework, but for reasons of space I will only address here the most recent formulation, where the need to be Case-marked is a property of xNPs¹ and Case-marking obtains in tandem with agreement (i.e., in the course of φ -feature valuation). Left outside the scope of this Case Theory are such issues as Case assignment by heads outside the verbal and phrasal domain, inherent and lexical Case, and Case assignment to xNPs other than arguments – in particular to predicates.

An independent question is that of what Case is. Pesetsky and Torrego 2001, 2004, in print propose that Case is the uninterpretable counterpart of the interpretable tense features on xNPs. Unfortunately, as a result tense becomes a somewhat abstract notion – a problem that is partially remedied by the view advanced by Bailyn 2004, where Cases spell out uninterpretable functional category features (T is spelled out as Nom, Asp as accusative, Q as genitive, etc.) My proposal falls in with these reductionist views, but takes an even less constrained position: for me Case is the expression of the featural makeup of a head (lexical or functional) on (some terms of) its complement. A Case feature is thus always uninterpretable and more than one Case feature can be assigned to a given term. The surface case marking on a term reflects this combination of Case features.

The paper is structured as follows: I will first present the broad crosslinguistic picture of the various patterns of predicate case assignment and how it is treated in the current Case theory. For each pattern I will demonstrate that the treatment is inadequate and show how my alternative theory accounts for them. For reasons of space, I will only briefly touch upon the issues of barriers to Case-assignment and the parameterization of Case assignment, but I will provide some independent motivation for my view of Case by showing how it easily explains multiple case assignment in Russian cardinal-containing xNPs.

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List of abbreviations: ACC accusative, CIT citation, DAT dative, ESS essive, FUT future, INSTR instrumental, NOM nominative, PART partitive, PL plural, TRS translative

¹ I use the terms xAP (extended AP) and xNP (extended NP) to indicate that it is irrelevant which functional layers are projected.

2. The big picture

At least the following patterns of Case-marking on xNP and xAP predicates are observed:²

- Lack of case, expressed as default, nominative or zero case, as in (1), from Harar Oromo (Owens 1985 via Comrie 1997)³
- Case-agreement (the predicate is marked with the same case as the subject), as in (2)
- Dedicated predicative case(s), as in (3) and (4)
- A combination of the above
- (1) hommish-níi barána gáarii. Harar Oromo: lack of case harvest _{NOM} this.year good _{CIT} The harvest is good this year.
- (2) a. Ciceronem clarum habent. Latin: Case-agreement Cicero $_{ACC}$ famous $_{ACC}$ consider/hold "They consider Cicero famous."

Russian: predicative case

- b. Cicero clarus habetur. Cicero NOM famous NOM consider/hold PASS "Cicero is considered famous."
- (3) a. Ja sčitaju ee lingvistkoj. I consider her $_{ACC}$ linguist $_{INSTR}$ "I consider her a linguist."
 - b. *Ona vernulas' krasavicej.* she came back beauty_{INSTR} "She came back a beauty."
- (4) a. *Toini on sairaa-na*. Finnish: multiple predicative cases Toini_{.NOM} be_{.3SG} ill_{.ESS} "Toini is ill."
 - b. *Toini* tul-i sairaa-ksi. Toini_{.NOM} become_{PAST.3SG} ill _{TRS} "Toini became ill."

As the standard Case Theory is mostly concerned with argument xNPs, it has little to say about Case on predicates. The original formulation of the Case Filter (Chomsky 1981, Vergnaud 1982) rules out xNPs that are overt and have no Case, and therefore does not account for case-marked xAP predicates unless they are explicitly added to the Case Filter. Once the Case Filter was restated as a Visibility Condition (Chomsky 1986, 1993, Chomsky and Lasnik 1993) on arguments (Case is required to render an xNP visible for theta-role assignment), case-marked xAP predicates become much more difficult to deal with because they are not theta-marked (but see Tremblay 1997). Finally, in Chomsky's most recent framework (Chomsky 2000 and later work): Case is an unvalued and uninterpretable Case feature, which is valued in the course of φ -feature valuation of a higher head (the probe). Importantly, agreement and Case become tightly linked in this approach because unvalued Case features is what makes an xNP visible for agreement. As a result, xAP predicates become

² PP predicates are not marked for case; xNP and xAP predicates may be marked differently, as is the case in Hungarian (see below) and Serbo-Croatian (see Bailyn 2001).

³ The citation case (bare form) in Harar Oromo is also used for direct objects; nominative case is morphologically marked.

even more of a problem: they do not trigger agreement on their own (in fact, the opposite). While this issue can be fixed by somewhat extending the notion of agreement (Chomsky 2001), new problems with locality and φ -features (see below) make this framework the least able to deal with predicate case (unless predicate case is assumed to be non-structural and can be left out of discussion altogether).

I believe that the main problem lies in the link established between Case and agreement. In what follows, I will detail the problems with predicate case in the probe-goal framework and explain how they can be resolved if Case is treated as a relation between a head and its complement.

3. Predicate case assignment

Languages with a dedicated predicate case are probably the easiest to treat in the standard Case Theory, since they fit rather neatly into the usual picture of a head assigning Case to a target. It is even possible to treat such predicate Case as an inherent one, assigned with the PREDICATE theta-role (Tremblay 1997).

I have so far been unable to find an "ideal" predicate case language (i.e., a language where a certain case marks predicates in any position). Russian is a compromise: Russian xNP predicates are marked with the instrumental case, except with the present tense *be*, where they must be nominative.⁴ The same pattern obtains in Arabic (Maling and Sprouse 1995, fn.4): the predicate case is accusative, but with the present tense *be* nominative becomes obligatory. In this section I will discuss the general situation and then consider how to derive the exception to it.

The empirical generalization governing Russian predicate case is that predicates are case-marked in the presence of an overt verb and receive the default case otherwise. To implement this theoretically, I propose that a small clause need not contain an event argument to be semantically complete. Such an argument is nonetheless necessary for combining a small clause with an overt verb. Instrumental case is assigned to the predicate by a functional head related to this event argument as detailed below.

3.1. The head of the small clause

With an overt *be*, the post-copular xNP can be marked with either nominative or instrumental, as shown in (5).⁵ However, only instrumental corresponds to the predication relation (Rothstein 1986, Bailyn and Rubin 1991, Bailyn and Citko 1999, Pereltsvaig 2001a, among others). How does the predicate receive case?

(5)	a.	<i>Puškin</i> Pushkin	<i>byl</i> was	<i>velikij</i> great	<i>poèt</i> . poet _{NOM}
	b.	<i>Puškin</i> Pushkin "Pushkin	<i>byl</i> was was a	<i>velikim</i> great great poo	<i>poètom.</i> poet _{INSTR} et."

The standard view, advocated by Bailyn and Rubin 1991, Bailyn and Citko 1999, Pereltsvaig 2001a, and Bailyn 2001, 2002 and based on Bowers 1993 is the a small clause is headed by a functional head Pred⁰, which is the

⁴ I leave aside the question of whether Russian long-form adjectives in the predicate position are xAPs or xNPs (see Babby 1973, 1975, Bailyn 1994, Siegel 1976, Pereltsvaig 2001a, 2001b, among others) as irrelevant here, and will discuss xNP predicates only.

⁵ It must be noted that for xNP predicates instrumental is preferred in most configurations (see Wierzbicka 1980, Geist 1998, 1999, Matushansky 2000, Madariaga in progress, among others), but nominative is generally grammatical even though pragmatically restricted. For primary xAP predicates nominative seems the preferred option (Madariaga in progress).

source of the instrumental case (6). Since $Pred^0$ is the head that converts its complement into a predicate, its presence in a small clause is obligatory.



I agree with the hypothesis that a small clause has a functional head, but I disagree with equating this head with predicate formation, since predication is possible without instrumental case-marking. NB: Note the necessity of Case-assignment to the sister!

3.2. Predication without instrumental

In the present tense in Russian the copula is null and post-copular xNPs cannot be marked instrumental.⁶ Why is (7a) possible and why is (7b) disallowed?

- (7) a. *Vera assistent*. Vera assistant_{NOM} "Vera is an assistant."
 - b. * *Vera assistentom*. Vera assistant _{INSTR}

No theory asserting that the head creating a predicate out of an xNP is the source of instrumental marking on it accounts for its dependence on tense or on the overtness of the copula (with the latter itself probably dependent on the former), unless it postulates two semantically identical Pred heads with different syntax.

It could be proposed that for some reason the predication copula is not available in the present tense, and what we see in (7a) is the other Russian copula (tentatively, the *sortal* copula), the one co-occurring with nominative:

(8) *Iisus byl syn božij.* Jesus was son_{NOM} God_{ADJ-NOM} "Jesus was God's son."

This theory is implausible: why should predication be excluded in the present tense? It is also factually incorrect, since the present tense copula can be demonstrated to have a predicative reading if the non-predicative reading is excluded pragmatically:

(9) a. Context: And how did they earn their living?

Iisus byl plotnik(om), a Magomet byl *kupec/vkupcom.* Jesus was carpenter NOM/INSTR and Mohammed was merchant NOM/INSTR "Jesus was a carpenter and Mohammed was a merchant."

b. Context: And how do they earn their living?

⁶ Instrumental is marginally possible without an overt verb if the xNP predicate is interpreted as a temporary capacity and a locative is present, as well as on the few NP predicates with the meaning of 'cause, reason' and in a particular tautological construction (Nichols 1981, Bailyn and Rubin 1991). These are probably irrelevant.

Magdalina prostitutka, a Iisus plotnik. Magdalen prostitute and Jesus carpenter "Magdalen is a prostitute and Jesus is a carpenter."

Since a predicative reading is available in (9a), PredP must be present even in absence of an overt copula, where instrumental may not be assigned.

The picture becomes clearer with the consideration of other languages: in Hungarian, primary predicates (with be) must be marked nominative (rather than the predicative dative, see below) in all tenses, as in (10).⁷

Hungarian primary predication

- (10) a. János orvos. Janos _{NOM} doctor _{NOM} "John is a doctor."
 - b. Janos orvos volt.Janos NOM doctor NOM was "John was a doctor."

What is special about *be* that it permits (or even requires) nominative? And what is the role of tense?

3.3. The smallest small clause

I propose that cross-linguistically, the copula *be* is ambiguous between a real verb (Russian) and a dummy inserted to bear tense morphology (Hungarian). While verbs require that the small clause they combine with have an event argument, the tense dummy imposes no such restriction (see for instance Nordlinger and Sadler 2000, 2004 on tense inside NPs). Suppose that in order for the event argument to be projected, a special functional head i^0 is required, and that it is this head that assigns Case to the small clause predicate.⁸ As a result, the small clause has one functional head less in primary predication – in all tenses in Hungarian and in present tense only in Russian.

A confirmation for this hypothesis comes from Hungarian, where the complement of *be* is the only environment where an xAP predicate agrees with the subject (Gabriella Tóth, p.c.):

(11) A fiúk aranyosak voltak. the boy $_{PL}$ nice $_{PL}$ were "The boys were nice."

If the extra functional head blocks agreement and *be* is the only verb that takes a "bare" small clause, this fact is explained.

Where in the structure does i^0 appear? The simplest possibility is that i^0 is the head of the small clause and thus is merged between the subject and the predicate of the small clause. Case is then assigned by i^0 to its complement, as was proposed for Pred⁰ (see also Bailyn 2002):



⁷ In Finnish, where the main predicate case is essive, nominative also becomes available with be. However, this nominative/essive split seems to be parallel to the nominative/instrumental split in Russian, with nominative marking the sortal copula.

⁸ Due to space restrictions, I leave aside here the question of what exactly this head does and why the event argument is required in the presence of a verb.

This is genuinely the simplest option. It does not exclude the presence of one or more other functional heads in the small clause as long as the subject is merged in [Spec, iP].

What if the subject is merged lower than i^0 , as in (13)?



If i^0 assigns Case by φ -valuation, then the DP subject is closer than the xNP predicate and should have been assigned instrumental. It is possible to solve this problem if i⁰ assigns instrumental to sP. But then how can the small clause subject receive its case (i.e., why is sP not an intervener for structural Case assignment to the small clause subject)?^{9, 10} Finally, if i⁰ is an xVP head, the same intervention problems arise as in

(13), but this hypothesis can be ruled out on empirical grounds as well:

(14)	Liza	vernulas '	krasavicej.		
	Liza	returned	beauty INSTR		
	"Liza returned a beauty."				

For semantic reasons, the subject-oriented depictive in (14) has to merge higher than v^0 . If iP is lower than v^0 , then how does receive instrumental case? If iP is higher than v^0 , then why doesn't [Spec, vP] (a target closer to i^0 in this structure) get instrumental? To avoid these issues, the (instrumental-assigning) iP must be internal to the small clause whose predicate receives instrumental.

4. **Case agreement**

In a number of languages, the predicate shows the same case as the subject (Latin, Icelandic, Modern Greek, Albanian, Serbo-Croatian...):

- (15)Húner kennari/*kennara. a. Maling and Sprouse 1995 : Icelandic he is teacher NOM/ACC "He is a teacher."
 - Ég taldi hana/*hun vera kennara/*kennari. b. I believed her $_{ACC/NOM}$ to-be teacher $_{ACC/NOM}$ "I believe her to be a teacher."

The standard view on Case-argument is that the subject and the predicate enter an agreement relation resulting in agreement in surface case, among other features. This view is recaptured by the novel proposal by Frampton and Gutmann 2000, where agreement is treated as "feature coalescence": features that have agreed, whether valued or not, become the same entity. The reason behind this framework is to avoid several problems

⁹ The structure in (13) is compatible with the hypothesis in (21) where Case is assigned to the complement without ϕ -valuation. However, then we need to ensure that instrumental doesn't percolate down to the small clause subject. This can be done (see section 5.2), but I think that the structure in (12) is much simpler and there is no straightforward reason to choose (13). ¹⁰ Obviously, no intervention of out f with the structure in (12) is much simpler and there is no straightforward reason to choose (13).

Obviously, no intervention effects arise if predicate Case is an inherent Case assigned with the predicate theta-role. However, then the question arises as to whether theta-roles can and/or must be assigned to xAPs.

that arise in the minimalist theory for two recent approaches to Caseagreement (Bailyn 2001, Chomsky 2001) that we will discuss next. The common feature of the two proposals is that no agreement is implied in Case agreement and the two targets get Case separately as a result of φ -valuation.

Chomsky 2001 proposes that Case-agreement results from sequential multiple feature-checking. For the structure in (16), which schematizes Case-agreement with the participle in the Icelandic expletive construction, crucial are the relative positions of the subject and the predicate: when the matrix v^0 (or T^0) is merged, it first probes Prt^0 (which has by then agreed with the object DP and thus has φ -features) and values its Case. Then, since Prt^0 is not φ -complete (containing no person features), v^0 probes again and values the case of the object DP.



Such sequential feature-checking cannot work for small clauses, because the subject is higher than the predicate and being φ -complete, would not allow further φ -valuation. If Case is assumed to be assigned to PredP, the problem is reversed as the predicate becomes higher than the subject and Case assignment to the latter is blocked.

Restating Bailyn and Citko 1999 in the feature-checking framework, Bailyn 2001 proposes that Case-agreement results from simultaneous multiple feature-checking, so the question of the relative hierarchy of the subject and the predicate does not arise.



However, for this proposal to work it is necessary to assume that crosslinguistically multiple (rather than single) feature checking is the default. As noted by Pereltsvaig 2001a, this does not explain why such multiple feature checking is possible for the verb is *be*, but not for any other verb.

(18) * Ivan poceloval student. Ivan_{NO;} kissed student_{NO;} intended: 'Ivan kissed a/the student.'

A major problem with both proposals is that the predicate may have φ -features of its own (with an xNP predicate) and the φ -features of the subject and the predicate do not have to be the same:

(19) a. *Samoj populjarnoj gruppoj okazalis' Bitly*. most_{INSTR} popular_{INSTR} group_{INSTR} turn.out_{PAST-PL} Beatles "The Beatles turned out to be the most popular group."

b. Ja budu učitel'nicej. I be _{FUT 1SG} teacher _{INSTR} "I will be a teacher."

Finally, neither Chomsky's nor Bailyn's story works for Caseagreement in control infinitives (Baltin 1995, Cecchetto and Oniga 2004). As examples (20) show, the depictive predicate inside a control infinitive is marked with the same case as the controller. Since Latin is a Case-agreement language (section 3), this suggests that PRO receives the same Case as its controller rather than no case at all (Chomsky 1981, Bouchard 1984) or the hypothetical Null Case (Chomsky and Lasnik 1993, Chomsky 1995).

- (20) a. Ego iubeo te esse bonum. Cecchetto and Oniga 2004: Latin I order you $_{ACC}$ be $_{INF}$ good $_{ACC}$ "I order you to be good."
 - b. Quieto tibi licet esse. quiet $_{DAT}$ you $_{DAT}$ licit-is be $_{INF}$ "You are allowed to stay quiet."

To resolve these problems, I would like to propose that Caseagreement is just like concord in that it results from Case assignment to the constituent that contains both "agreeing" items (cf. Stowell 1981). My proposal thus also fits in with the trend of excluding syntactic agreement from Case agreement:¹¹

(21) Case Theory, Mark II

Case features are assigned by a head to its complement

As a result, nominative is assigned by T^0 to its sister (vP, AspP, ModP...) and accusative is assigned by v^0 to VP. Any terminal (that can bear morphological case) is Case-marked by each Case-assigning head that c-commands it unless Case percolation is blocked (section 4.2). This straightforwardly accounts for Case-agreement: since it is the entire small clause that receives Case from the relevant c-commanding head (accusative if v^0 can assign it, nominative if v^0 is defective), the subject and the predicate are marked with the same case – on the assumption that in languages with Case-agreement the head of the small clause i⁰ does not assign Case.

The proposal in (21) offers a principled view of Case as a redundancyincreasing method of marking the derivational history of a tree on its leaves (if Case features are the uninterpretable counterparts of the features composing a given functional head – a theory I cannot discuss in depth here due to the lack of space; see Bailyn 2004 for a similar proposal albeit couched in the terms of the standard Case Theory). The major consequence of this theory is that a single terminal may receive more than one Case-feature, which leads to the necessity to (a) ensure the locality of Case-assignment (i.e., some notion of a Case-barrier becomes imperative), and (b) provide a bundle of Case-features with a straightforward surface representation (i.e., the vocabulary insertion rules that determine the choice of a surface case marker must be able to deal with more than one case-feature in the underlying morphosyntactic representation). After comparing the theory in (21) to the standard Case

¹¹ The theory is presented here in a nutshell, and does not touch upon such important issues as inherent Case (but see Koopman 2006, Svenonius to appear for arguments that Icelandic "inherent" Case is actually structural (i.e., reflects a dependency on a functional projection in the extended verbal phrase), or default Case assignment (as in the Oromo Harar example (1)).

Theory, I will address the first question in section 4.2 and the second question in section 5.2.

4.1. Comparison with the standard Case Theory

I will now show that because of the relative positions of T^0 and v^0 , the predictions of the new Case Theory with respect to structural Case assignment are nearly the same as those of the standard Case Theory:



If a Case-assigning v^0 is present, nominative cannot be assigned below it. Or rather, while it may be assigned, the resulting bundle of Case-features will always be more complex than just nominative. As a result, we correctly predict that accusative Case is featurally more complex than nominative. On the other hand, if v^0 does not assign Case (as happens with passives or raising verbs), the object receives nominative.

Case Filter remains a stipulation: on the assumption that every xNP (and maybe xAPs in some languages) bear unvalued Case features, xNPs must be assigned some case. On the other hand, I straightforwardly reject the null or no case approach to PRO; instead, I suggest that control infinitives are merged in the same case domain as their controllers and therefore receive the same Case (for alternative theories of PRO-licensing see Sigurðsson 1991, Landau 2003, Boeckx and Hornstein 2006, among others).

Finally, on the issue of expletive choice (which in the standard Case Theory is derived from the hypothesis that *there* requires an NP associate because it is not Case-marked, while *it* is only compatible with CP associates not because it is), I have little to say. On the assumption that T^0 must value its φ -features and that both the expletive and the associate trigger agreement, *it* cannot combine with an xNP (φ -feature conflict). It could be hypothesized that the combination of *there* with a CP associate would not provide T^0 with a full set of φ -features, as long as we assume (following Koster 1978) that a CP by itself cannot be a subject. I believe that a deeper study of the issue is required.

Further advantages are attached to viewing Case as being assigned to a complement:

- No functional heads are needed to account for Case-assignment by non-verbal lexical heads or by prepositions
 - The puzzle of Case-assignment to the subject of *for*-infinitives (see Hazout 2004) and of absolute *with*-constructions is also resolved
- Straightforward treatment of multiple assignment of the same case (e.g., in Korean or Japanese, see also Maling 1989)

I therefore contend that the new Case Theory accounts for the same facts as the old one in addition to being able to deal with predicate Case.

4.2. Case-barriers

Again, reasons of space prevent me from more than doing from than listing the empirical constraints on case percolation (see Matushansky in progress). For my purposes here it is enough to assume that all non-verbal heads block Case percolation to their complements.

> the sister of P^0 is not transparent to external Case-assignment if P^0 itself assigns Case

- the sister of C^0 is not transparent to external Case-assignment. \geq [Spec, CP] may be assigned Case from outside in some
- constructions; may not be assigned Case in others the sister of A^0 is not transparent to external Case-assignment, but the sister of A^0 is either a PP or receives Case from (within the \triangleright extended projection of) A⁶
- the sister of N^0 is not transparent to external Case-assignment, but the sister of N^0 is either a PP or receives Case from (within the extended projection of) N^0 the sister of v^0 is not transparent to external Case-assignment, unless v^0 is a weak phase (this is how we get Case agreement in small alayses; such vB is normaphile to nominative) \geq
- small clauses; such vP is permeable to nominative)
- the sister of D^0 is transparent to external Case-assignment. \geq [Spec, DP] may or may not be accessible

The (internal domain of a) phase seems like exactly the notion we need, but I will leave the issue aside here because it does not affect caseassignment to predicates.

4.3. Summary

I proposed a new Case Theory based on the assumption that Case features are assigned by a head to its complement. A natural extension of this hypothesis is that Case features are just the uninterpretable counterparts of the interpretable features composing a given head. As a result, not only can predicate Case be easily dealt with, but several other issues receive an immediate explanation.

It could have been argued that predicate Case agreement and predicate Case assignment can be handled by the standard Case Theory as long as Caseassignment to a complement (i.e., feature-checking at MERGE) is permitted. Nonetheless, even with this assumption there is a heavy price to pay:

- Checking of two bundles of uninterpretable features against each other should be allowed (to account for Case agreement with AP predicates)
- Relativized Minimality should be revised to block intervention from the small clause subject (if Case is assigned directly to the small clause predicate) or from the small clause itself (if it receives Case)

But as I will demonstrate now, even then the standard Case Theory is unable to deal with languages where more than one Case can be assigned to a small clause predicate.

5. **Finnish and Hungarian**

As discussed by Fong 2003 and Tóth 2006, Finnish and Hungarian possess semantically determined predicate Case-marking: in resultative small clauses and in small-clause complements of change-of-state verbs (become, remain, and naming verbs) the default predicate Case (essive in Finnish and dative in Hungarian) is replaced by translative case:

(23)Toini sairaa-na. a. on Toini_{.NOM} be_{.3SG} ill_{ESS} "Toini is ill."

Finnish

b. Me maalas-i-mme seinä-n keltaise-ksi. we paint PAST-1PL wall ACC yellow TRS "We painted a/the wall yellow."

¹² In Hungarian xNP predicates are not subject to this alternation; see below.

(24)	a.	János	boldognak	tart-ott-am	Marit.
		János _{NOM}	happy _{DAT}	hold PAST-3SG	Mary _{ACC}
		"John considered Mary happy."			

b. János hiressé tette Marit. John _{NOM} famous _{TRS} made Mary _{ACC} "John made Mary famous."

I will now demonstrate that the new Case Theory in (21) provides for a natural account of translative case assignment.

Hungarian

5.1. The structural locus of change of state

As argued by Fong 2003, translative case on predicates is not a semantic case, but is dependent on the change-of-state semantics in the embedding VP. This can be implemented by the hypothesis that translative case is assigned by an aspectual head (BECOME). Two possible locations for the BECOME head can be hypothesized: (1) BECOME could be the head of a change-of-state small clause, as in (25a), or (2) BECOME could be a v^0 head that takes a regular small clause as its complement, as in (25b).



If (25a) is adopted, no problems for Case Theory arise: as there are two different small clause heads, in some languages (e.g., Finnish and Hungarian) each of them assigns a different case to a predicate. My reason for rejecting (25a) comes from verbs of naming, as in (26), where the verbal root must be projected below BECOME for semantic reasons.

(26) *Me kutsu-mme William Gatesi-a Billi-ksi.* we call _{1PL} William Gates _{PART} Bill _{TRS} "We call William Gates Billy."

In Matushansky 2005 I argue on the basis of cross-linguistic evidence that in many languages (including Finnish) verbs of naming take small clause complements. To obtain the correct semantics for a given verb of naming V_{call} , it become necessary to assume the following vP structure, which is identical to (25b) in everything except the identity of the lexical verb:

(27) [CAUSE [BECOME [$_{VP} V_{call} [_{SC} \dots]]]]$

If the head of the small clause is the same in regular and change-ofstate small clause, the predicate must be assigned the same predicative case (essive, in Finnish). Why is it marked translative then?¹³

¹³ A possible "solution" would be to assume the existence of two different small clause heads with the same semantics but different case assignment properties, and to rely on selection to correlate case-assignment with the presence of the BECOME head. Obviously, this "solution" is completely stipulative.

5.2. The syntax/morphology interface in Case assignment

As discussed above, the assumption that Case is assigned to the complement of a head necessarily entails that more than one Case feature can be assigned to a particular terminal. The question arises how a bundle of Case features on a given terminal is treated in morphology. To answer it I turn to the following combination of assumptions:

- (28) The Morphology of Case
 - a. The underlying morphological case is a combination of (privative) features rather than a single feature.
 - b. The final realization of a given bundle of case features (the surface case) is resolved by language-specific vocabulary insertion rules, whose key properties are impoverishment and underspecification.

(28a) has been independently motivated by Jakobson 1936/1971, Neidle 1982, Halle 1994 and Halle and Vaux 1997, among others, and is considerably more compatible with the new Case Theory in (21) than with the standard version.¹⁴ The use of impoverishment and underspecification in (28b), on the other hand, is specific to Distributed Morphology (Halle and Marantz 1993, 1994) and permits us to account for the fact that not all features assigned to a given terminal affect its surface morphological representation.

Under the assumption that i⁰ assigns the Case feature [predicative] and BECOME assigns [affected], the relevant fragment of vocabulary insertion rules for Finnish could look as follows:

(29) Vocabulary insertion rules (a fragment): [predicative, affected] \rightarrow TRS [predicative] \rightarrow ESS [accusative] \rightarrow ACC

While impoverishment is not relevant here, it is underspecification that is responsible for the fact that the presence of the [affected] Case feature on the small clause subject does not affect the realization of its case (accusative or nominative);¹⁵ conversely, the choice of the predicative case is not affected by the assignment of [nominative] or [accusative]. Another immediate result is that translative is more marked than essive for the same reason that accusative is more marked than nominative: the feature matrix that surfaces as translative always contains the Case feature that surfaces as essive.

Underspecification also permits for an alternative treatment of languages with case agreement if it is the [predicative] case feature that is not mentioned in vocabulary insertion rules (i.e., the rules are underspecified for it).

5.3. Hungarian

The situation in Hungarian is complicated by the fact that change-of-state xNP predicates do not take translative but remain dative:

¹⁴ Maling and Sprouse 1995 also suggest that (28a) applies in syntax, but the details are completely different. The hypothesis that Case is a spellout of an uninterpretable functional category feature is also found in Pesetsky and Torrego 2001, 2004, in print and Bailyn 2004.

¹⁵ With this kind of story it becomes possible to say that even the smallest small clause in Russian (section 3.3) has a functional projection other than iP intervening between the subject and the predicate of the small clause, as in (13), as long as the head of this projection (s^0) also assigns Case. The same treatment can be accorded to essive as well, if necessary.

- (30) a. János pirosra festette az ajtót. János red $_{TRS}$ painted the wall $_{ACC}$ "John painted the wall red."
 - b. Az anyja tanárnak tanítatja Pétert. the mother-his teacher $_{DAT}$ learn-make Peter $_{ACC}$ "His mother made Peter to learn to become a teacher."
- (31) *a la'ny- om-at Mari-nak nevezt-em el* the daughter 1SG _{ACC} Mary _{DAT} named _{1SG} _{PREVERB} "I named my daughter Mary."

That xNPs can be marked resultatives (i.e., that this is not a paradigm gap) is shown by the fact that when the resultative xNP predicate describes the result as a goal rather than as a state (note the preposition *to* in the translation), translative is allowed:

(32) János halálra verte Pétert. János death _{TRS} beat _{PST-3SG} Péter _{ACC} "János beat Péter to death."

Several ways of handling this problem can be envisaged. The major one is correlated with the fact, observed by Adger and Ramchand 2003, that xNP predicates appear to require an additional projection (presumably, a PP) that xAP predicates do not. The presence of an additional null preposition in xNP predicates makes two alternatives available, and it is not clear which one is preferable:

- (i) The null preposition assigns (a case-feature [X] that results in the surface) dative. As mentioned above, a case-assigning preposition is a barrier to external case-assignment
- (ii) The null preposition assigns a case-feature [X] that in combination with the [predicative] feature assigned by i⁰ results in the surface dative due to underspecification, as in (33).
- (33) Vocabulary insertion rules (a fragment) for (ii):
 - a. [predicative, X] \rightarrow DAT
 - b. [predicative, affected] \rightarrow TRS
 - c. [predicative] \rightarrow DAT
 - d. [accusative] \rightarrow ACC

Another possibility is that the surface translative case corresponds to two different underlying feature bundles. If so, the rule (33b) could be constrained to apply to xAPs only, with another rule added to account for the translative of goal in (32).

6. Independent motivation: Russian cardinals

Cross-linguistically, there exists a plethora of environments where more than one Case can be shown, both on syntactic and on morphological grounds, to be assigned to a particular terminal. One such instance is Genitive of Negation in Slavic (Babby 1980, Pesetsky 1982); another is the partitive/accusative alternation (Kiparsky 2001) in Finnish. The most straightforward of them is case-marking with Russian (and Finnish) cardinals.

As is well-known (see Mel'čuk 1985, Babby 1987, Franks 1994, among others), Case marking in a Russian xNP containing a cardinal depends on the case assigned to that xNP. If the xNP is assigned a direct case (nominative or accusative), the lexical noun (and its modifiers) are case-

marked genitive;¹⁶ if the xNP is assigned an oblique case (dative, genitive, locative or instrumental), the lexical noun is marked with that case. The cardinal itself is marked with the case assigned to the entire xNP.¹⁷ The pattern is obviously different for a partitive or possessive genitive, which persists no matter what case is assigned to the entire xNP:

- (34) a. *tridcat' šagov* thirty_{NOM/ACC} steps_{GEN}
 - b. *tridcat'ju šagami* thirty_{INSTR} steps_{INSTR}
 - c. v tridcati šagax in thirty LOC steps LOC
- (35) a. bol'šinstvo šagov majority _{NOM/ACC} šteps _{GEN}
 - b. bol'šinstvom šagov majority INSTR steps GEN

Whatever the internal structure of a cardinal-containing xNP (see Franks 1994, Ionin and Matushansky 2006, among others), it does not affect the main point: whatever head it is that assigns genitive, why does it fail to do so when the entire xNP is assigned an oblique case – and if it doesn't, how is multiple case assignment resolved?

In the system I proposed the answer is straightforward: case is assigned to the totality of the xNP, and oblique cases, being more marked, are ordered before the direct cases in vocabulary insertion rules, and thus override them. What must be explained is the difference between the genitive assigned with a cardinal and the genitive assigned with a regular noun, and this explanation is required in any Case Theory.

I can imagine two ways of explaining this difference. One relies on the unexplored topic of what constitutes a barrier to Case assignment: it could be that a cardinal, being more functional than a lexical noun, does not introduce such a barrier. An alternative proposal would be to assume that the genitive assigned by a cardinal corresponds to a different underlying feature bundle than other xNP-internal genitives, and is therefore not treated the same by the vocabulary insertion rules for oblique cases (similarly to what I propose above for Hungarian translative).

7. Conclusion

The standard Case Theory is extremely restricted in its scope and has nothing to say about the vast majority of Case phenomena. The new Case Theory that I proposed here can account not only for the standard facts but also for predicate case-marking:

- Case-agreement results from Case-assignment by v⁰ or T⁰ to its complement
- Predicative Case is assigned by an event-related head of the small clause
- Change-of-state case is a combination of predicative case and the case assigned by the BECOME v⁰

¹⁶ Not all cardinals behave the same. The adjectival lower cardinals $(2, 3, 4, \frac{1}{2} \text{ and } \frac{1}{2})$ assign the so-called paucal case rather than genitive, 1 is purely adjectival and agrees with the xNP in all cases, and the cardinals over 1000 (*thousand, million*...) assign genitive in all cases.

⁷ I set aside here case-marking with(in) complex cardinals (see Ionin and Matushansky 2006).

The surface case is determined by language-specific vocabulary insertion rules and may not reflect all the case-features assigned to the term (syncretism)

The proposal that syntactic Case can be decomposed permits to reconnect the syntactic Case Theory to morphological case feature systems (see Blake 1994, section 2.3 for an overview). Combined with standard DM assumptions about vocabulary insertion, it yields a morphosyntactic account of how multiple case assignment is resolved and where (part of) cross-linguistic variation in Case assignment to predicates resides: (a) the ability of a given head to assign Case, and (b) language-specific vocabulary insertion rules. As a result, we can deal with multiple Case assignment in environments other than predicate case, and we also obtain a principled view of Case-marking as a redundancy-increasing method of marking the derivational history of a tree on its leaves, which makes it clearer why Case-marking may be absent or underspecified.

Among the many topics that are not covered or inadequately covered in this article are inherent case, the choice of expletives, PRO licensing, and Case barriers. Default case, exemplified in (1), and ergative/absolutive and mixed case systems have also been left aside, as has been the variation between Case agreement and predicate Case assignment determined by the argument/adjunct distinction (as in Serbo-Croatian; see Bailyn 2001) or the nature of the main verb (as in Georgian). These omissions notwithstanding, I believe that the proposed treatment of Case is an improvement on the standard Case Theory, because it also permits us to reassess such issues as EPP and the interaction of overt Case with movement.

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