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Subject-verb agreement and covert raising to subject in Finnish^{*}

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This paper investigates the morphological realization of subjects' syntactic [case] features in Finnish and the way in which verbs' [phi] feature checking requirements affect this interpretation. I argue that during syntactic computation both morphologically nominative or quirky subjects check a single generalized [case] feature, not specified case features such as [nominative]. Moreover, I show that the [case] feature is checked covertly. This checking process presents a paradox with regard to morphological realization. The existence of a generalized syntactic [case] feature suggests that lexical insertion takes place post-syntactically (cf. Halle and Marantz 1993). Under this view of morphology, however, the checking of the [case] feature at Logical Form should not effect the morphological case form. I also discuss the connection between the checking status of finite predicates' [phi] features and the morphological interpretation of subject case. This interrelatedness between two autonomous features cannot be encoded in the feature checking model of Chomsky (1995).

This paper examines the relationship between the morphological realization of subject case and subject-verb agreement in Finnish, in particular problems that are brought up by a group of raising constructions. It focusses on the connection between the syntactic checking of a subject's [case] feature and the morphological interpretation of this case, as well as on how the [phi] feature checking requirements of verbs affect this morphological realization. I argue that all subjects, whether morphologically nominative or quirky, check only a single generalized [case] feature during syntactic computation, rather than checking some more specified feature such as [nominative], [genitive] or [ablative].¹ I also show that this [case] feature checking takes place covertly.

This case assignment process presents two theoretical problems. First, while the existence of a generalized [case] feature compels me to assume that lexical insertion takes place post-syntactically along the lines proposed in Halle and

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For the purposes of this paper, I ignore any questions about the morphological realization of case marking on direct objects and obliques in constructions such as the impersonal passive, imperatives and subject raising forms. This variation in the case marking of complements constitutes one of the most debated topic in the study of Finnish linguistics. Well-known discussions appear in Itkonen (1979), Timberlake (1975), Taraldsen (1986), Nikanne (1994), and Holmberg and Nikanne's (1993) volume. I acknowledge that the morphological case form of the subject directly affects the morphological case form of the object and other complements, but I leave the issue for future research.

Marantz (1993), the fact that the [case] feature moves at Logical Form (LF) poses a problem for this view of morphology. Presumably any structural changes that take place at LF should have no consequences for morpho-phonological realization.

A second problem concerning the morphological form of the subject DP's arises in negated matrix clauses and raising constructions. These sentence types show that the morphological interpretation of the checked [case] feature is determined by the checking status of the [phi] features of the finite clausal predicate and the logical subject. I show that in Finnish both main verbs in simplex sentences and raising verbs can be divided into two types: a first group that requires their [phi] features to be checked against those of the subject, in which case the subject's [case] feature comes out morphologically as nominative, and a second group whose [phi] features do not match those of the subject, and the subject appears in non-nominative (i.e. quirky) case. It is unclear how this interrelatedness between two seemingly autonomous features should be encoded within a syntactic feature checking system such as the one outlined in Chomsky (1995).

1. Subject case in simplex main clauses

The examples in (1) to (4) show that subject DP's in Finnish appear in nominative case only if the highest finite element agrees in person and number features with the subject. The samples from the present tense verb paradigm in (1) illustrate that the main verb's agreement marker matches the nominative subject's [phi] features.

- | | | | | | |
|----------------------------|-------------------|----------|------------------------------|-------------------|----------|
| 1. a. Minä | lue-n | kirja-a. | b. Sinä | lue-t | kirja-a. |
| I.NOM | read- 1.SG | book-PAR | you.NOM | read- 2.SG | book-PAR |
| 'I'm reading a book' | | | 'You(sg) are reading a book' | | |
| c. Hän | luke-e | kirja-a. | d. He | luke-vat | kirja-a. |
| 3.SG.NOM | read- 3.SG | book-PAR | 3.PL.NOM | read- 3.PL | book-PAR |
| 'She/he is reading a book' | | | 'They are reading a book' | | |

The agreeing finite element is not always the verb that theta marks the subject, but may also be a raising verb or the negator, as illustrated in (2). Negated clauses, such as (2c), are of particular interest, since here the negator bears the [phi] features that agree with the subject, whereas the theta-role assigning verb shows no agreement marking.

- | | | | |
|--|-------------------------|----------|-------------------|
| 2. a. Tyttö-t | hyppää-vät | naru-a | piha-lla. |
| girl-PL.NOM | jump- 3.PL | rope-PAR | yard-ADE |
| 'The girls are jumping rope in the yard' | | | |
| b. Tyttö-t | alko-i-vat | hypä-tä | naru-a piha-lla. |
| girl-PL.NOM | begin-PAST- 3.PL | jump-TA | rope-PAR yard-ADE |
| 'The girls began to jump rope in the yard' | | | |
| c. Tyttö-t | ei-vät | hyppää | naru-a piha-lla. |
| girl-PL.NOM | NEG- 3.PL | jump | rope-PAR yard-ADE |
| 'The girls are not jumping rope in the yard' | | | |

When there is no agreement between the subject and the highest finite element, the subject never bears nominative case. Conversely, when the subject bears lexical quirky case, the verb does not agree with the subject's [phi] features. (3) demonstrates several sentence patterns in which the subject bears some non-nominative case, such as adessive, ablative, elative, genitive, or partitive. When the subject is not nominative, the verb always bears default third person singular marking.

3. a. Minulla on uusi-a keltais-i-a narsisse-j-a.
I.ADE be.**3.SG** new-PAR yellow-PL-PAR daffodil-PL-PAR
 'I have new yellow daffodils'
- b. Minulta puuttu-u kynä.
I.ABL lack-**3.SG** pencil
 'I don't have a pencil'
- c. Minusta tule-e iso-na tutkimusmatkailija.
I.ELA come-**3.SG** big-ESS explorer.NOM
 'I'm going to become an explorer when I grow up'
- d. Minun on kylmä / nälkä / jano.
I.GEN be.**3.SG** cold / hunger.NOM / thirst.NOM
 'I'm cold / hungry / thirsty'
- e. Minua aivast-utta-a / pelo-tta-a / laula-tta-a.
I.PAR sneeze-CAUS-**3.SG** / fear-CAUS-**3.SG** / sing-CAUS-**3.SG**
 'I feel like sneezing / I'm frightened / I feel like singing'

Like with nominative subjects, it is always the highest finite element in the quirky subject constructions that bears the default [phi] features.

4. a. Minusta tule-e iso-na tutkimusmatkailija.
I.ELA come-**3.SG** big-ESS explorer.NOM
 'I will become an explorer when I grow up'
- b. Minusta voi tul-la iso-na tutkimusmatkailija.
I.ELA can-**3.SG** come-TA big-ESS explorer.NOM
 'I can / might become an explorer when I grow up'
- c. Minusta ei tule iso-na tutkimusmatkailija-a.
I.ELA NEG-**3.SG** come big-ESS explorer-PAR
 'I won't become an explorer when I grow up'

To establish how these two distinct subject-marking patterns, nominative and non-nominative, are determined, I first investigate whether Finnish clauses have one or more syntactic positions within which the subject's [case] feature must get checked. It is a logical possibility that there are two structural subject positions, one for nominative subjects and one for quirky ones. However, (5) shows that it is not necessary for the subject to move overtly out of its merged vP position to any higher functional specifier position for nominative case to be assigned and for agreement to take place. In (5b-d), the agreement-inducing subject *minä*, 'I', appears in its base-generated position in the specifier of vP, and the position to the left of the finite element, the Topic position, is filled with another DP (the object in (5b), and an oblique in (5c,d)). Regardless of the overt position of the logical subject, the

finite element agrees only with the [phi] features of the logical subject, not with those of the e non-subject DP in the Topic position.

5. a. **Minä** voi-n osta-a kuka-t Teija-lle tiistai-na.
I.NOM can-**1.SG** buy-TA flower-PL.ACC T-ALL Tuesday-ESS
 'I can buy the flowers for Teija on Tuesday'
- b. Kuka-t voi-n /*voi-vat Teija-lle osta-a minä tiistai-na.
 flower-PL.ACC can-**1.SG** / can-3.PL T-ALL buy-TA **I.NO** Tues.-ESS
 'I can buy the flowers for Teija on Tuesday'
- c. Tiistai-na voi-n /*voi osta-a kuka-t minä Teija-lle.
 Tuesday-ESS can-**1.SG** / can-3.SG buy-TA flower-PL.ACC **I.NOM** T-ALL
 'On Tuesday, I can buy the flowers for Teija (and you for Kaisa)'
- d. Teija-lle voi-n /*voi kuka-t osta-a minä tiistai-na.
 T-ALL can-**1.SG** / can-3.SG flower-PL.ACC buy-TA **I.NOM** Tues.-ESS
 'I can buy the flowers for Teija on Tuesday'

(6b-c) show analogous examples with a non-nominative subject remaining in [Spec, vP], and a non-subject DP as the Topic. Here also the finite agreement features are determined by the non-nominative subject rather than the topicalized non-subject DP.

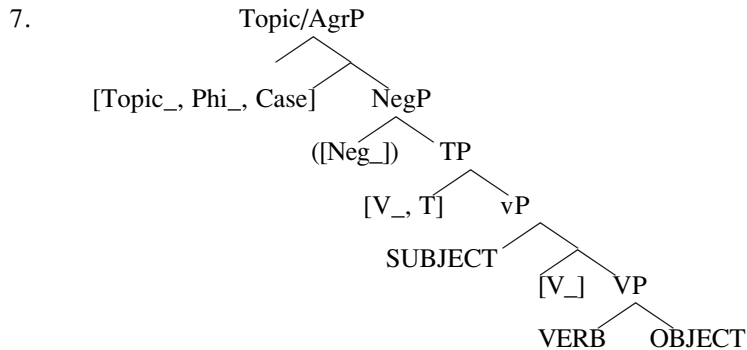
6. a. Minulla on maljako-ssa keltais-i-a narsisse-j-a.
I.ADE be-**3.SG** vase-INE yellow-PL-PAR daffodil-PL-PAR
 'I have yellow daffodils in a vase'
- b. Keltais-i-a narsisse-j-a on /*o-vat minulla maljako-ssa.
 yellow-PL-PAR daffodil-PL-PAR be-**3.SG** / be-**3PL** **I.ADE** vase-INE
 'I have yellow daffodils in a vase'
- c. Maljako-ssa on /*o-vat minulla keltais-i-a narsisse-j-a.
 vase-INE be-**3.SG** / be-**3PL** **I.ADE** yellow-PL-PAR daffodil-PL-PAR
 'I have yellow daffodils in a vase'

Based on this evidence I conclude that there is no syntactic subject position to which either type of subject moves overtly. There is no evidence of either nominative or quirky subjects moving overtly for case checking purposes. Moreover, the fact that the Specifier position to the left of the agreement-bearing finite element can be filled with a DP other than the subject shows that there is no privileged subject position above the [Spec, vP] in the language.

(7) shows the main clause structure identified for Finnish in Koskinen (1998). The Topic/Agr position is the highest position in the clause². The Topic/AgrP projection has a strong [Topic] feature that attracts one DP with an identical feature, not necessarily the subject. The Topic/Agr head also carries a strong [phi] feature that attracts the highest finite element in the clause. Since the assignment of case in Finnish is clearly tied to the checking of this [phi], and since there is no evidence for

² For the purposes of this paper, I leave out discussion of the CP and FocusP projections that dominate Topic/AgrP.

any other structural subject position, I assume that the [case] feature of the subject is also checked within this Topic/AgrP projection. This feature and its checking is the focus of this paper, and is discussed in more detail below, but for the time being it is worth noting that it is a weak feature that is checked covertly. Consequently, the Topic/AgrP position cannot be considered a structural subject position, despite the fact that it houses the [subject case] feature. The subject and the case checking head do not need to enter into a specifier-head relation within this projection.



Finnish subjects appear in many positions in sentences, since word order in Finnish is relatively free and constituents can move about a lot. (8) shows the various syntactic positions in which subject DP's occur. When the information contributed by the subject is new, it can remain within its merged [Spec, vP] position, as in (8a). All elements that remain within vP as new information bear special intonational prominence (as indicated by underlining). When the subject information is old, or presupposed, the subject must move out of vP. It may adjoin to vP (or some higher functional maximal projection, cf. Koskinen 1998), as *Tuija* has in (8b), or it may move to check the [Topic] feature of the extended Infl if it bears a [topic] feature, as in (8c).

8. a. Q: Kuka osta-a aina kukk-i-a?
 who.NOM buy-3SG always flower-PL-PAR
 'Who always buys flowers?'
 A: [_{TopicP} Kukk-i-a osta-a [_{vP} aina [_{vP} Tuija]] (ja ruoka-a Jussi).
 flower-PL-PAR buy-3SG always T.NOM and food-PAR J.NOM
 'It is Tuija who always buys flowers (and Jussi food)'
- b. Q: Koska Tuija osta-a kukk-i-a?
 when T.NOM buy-3SG flower-PL-PAR
 'When does Tuija buy flowers?'
 A: [_{TopicP} Kukk-i-a osta-a [_{vP} **Tuija** [_{vP} aina [_{vP} tiistai-na]]]].
 flower-PL-PAR buy-3SG T.NOM always Tuesday-ESS
 'It is Tuesday that Tuija always buys flowers'

- c. Q: Koska Tuija osta-a kukk-i-a?
 when T.NOM buy-3SG flower-PL-PAR
 'When does Tuija buy flowers?'
 A: [_{TopicP} **Tuija** osta-a [_{vp}kukk-i-a [_{vp}paina [_{vp}tiistai-na]]]].
 T.NOM buy-3SG flower-PL-PAR always Tuesday-ESS
 'Tuija always buys flowers on Tuesday'

Although there is no specific functional subject position, both nominative and quirky subjects are uniquely distinguished from other DP's in the clause. The evidence for this comes from binding of reflexives, elision and subject raising. (9) shows data from binding to illustrate that only the logical subject, here *Kati*, can bind the anaphor *itselleen*, 'for self', even when the subject occurs in the lowest position in the structure, to the right of the anaphor. Quirky subject constructions demonstrate identical patterning, as in (10).

9. a. Uude-n sohva-n_i ost-i itse-lle-en_{i/j} Kati_i (eikä Pirkko)
 new-ACC sofa-ACC buy-PST.3SG self-ALL-3POS K.NOM (not P.NOM)
 'It was Kati_i (not Pirkko) who bought herself_i a new sofa'
 b. Mari-lle_j kerto-o Epu-n_k ihaile-va-n häntä itse-ä-än_{i/j/*k}
 M-ALL tell-3SG E-GEN admire-VA-ACC 3SG.PAR self-PAR-3POS
Kati_i
 K.NOM
 'It is Kati_i who tells Mari that Eppu admires her(self)_i'
 10. Uude-ssa maljako-ssa-an_i on keltais-i-a narsisse-j-a Kati-lle_i
 new-INE vase-INE-3POS be.3SG yellow-PL-PAR daffodil-PL-PAR K.ADE
 'Kati_i has yellow daffodils in her_i new vase'

Elision and subject raising evidence similarly show that the grammar distinguishes all types of subject DP's from non-subjects. It is clear, then, that subjects must somehow be differentiated from other DP's in the clause.

I have now established that the morphological form of the [case] feature as nominative or otherwise is not determined structurally, since there is no dedicated subject position outside of [Spec, vP]. At the same time, the subject DP is distinguishable from other DP's in the clause, whether it emerges as nominative or not. Since the nominative and non-nominative subjects behave identically in terms of both distribution and all movement processes in the language, I conclude that within the computational system only a single generalized [subject case] feature is relevant for checking, rather than some more specified feature such as [nominative], [genitive] or [ablative]. The overt morphological form of the [case] feature as nominative or otherwise is not determined structurally. Moorcroft (1995) drew a similar conclusion based on Icelandic, another quirky subject language, and this view of Icelandic has since been adopted at least by Legate and Smallwood (1997).

This assumption about the form of the [subject case] feature has direct consequences for the view of morphology that I am obliged to adopt. A generalized [subject case] feature is not compatible with the model of full lexical insertion at the outset of derivation assumed in Chomsky (1995), but rather implies that lexical

insertion takes place post-syntactically, along the lines of Halle and Marantz (1993). Several other morphological phenomena in Finnish participial constructions support this view of morphological interpretation (cf. Koskinen 1998). Consequently, this approach seems to present the preferred hypothesis.

Let us now test out the possibility that subject [case] feature checking takes place overtly within the base-generated vP projection. This proposal is feasible since the morphological realization of the [subject case] feature is obviously linked to the specification of the [phi] features of the finite verbal element. Moreover, the subject and the verb appear in a specifier-head relation within vP prior to either of them moving into higher positions to check other features. Maybe the subject checks its [case] feature in vP, along with the checking of the [phi] features of the subject and the verb against each other. Negated sentence structures rule out this possibility, however. In (11) we see that when a non-subject moves to the Topic position (here the object *maljakkoa*, 'vase'), and the subject (*minä*, 'I'), stays in vP, the negator nevertheless agrees with the [phi] features of the logical subject, not the object, and the logical subject bears nominative case. Since the negator originates as the head of a NegP projection, the subject and the negator are never in a specifier-head relation within overt syntax.

11. [_{Topic/AgrP} *Maljakko-a* e-_n_{NEG} [_{NegP} *t*_{NEG} [_{TP} *rikko-nut* [_{vP} *minä*]]]], (vaan *hän*)!
 vase-PAR NEG-1SG break-NUT I.NOM but 3SG.NOM
 'I didn't break the vase, (she did)!'

This sentence type shows that, under standard assumptions about feature checking (Chomsky 1995), the [case] feature of the subject must be checked through covert feature movement, rather than through overt DP movement. The agreeing negator and the nominative subject never occur in a specifier-head relation in overt syntax, and a second, non-subject DP occupies the specifier position of the projection in which the negator checks its [phi] features. The negator does not agree with the [phi] features of this second DP. The only possible conclusion is that the subject's [case] feature, along with its [phi] features, moves to Topic/AgrP covertly at LF.

The conclusion that subject case checking in Finnish is covert is problematic for the view of morphology adopted above. If I continue to assume that lexical insertion takes place post-syntactically, it presumably does so without access to information from Logical Form. The fact that morphological realization of Finnish subject case seems to be based on covert LF feature checking is troublesome. Furthermore, we observe that LF movement of the subject's [case] feature seems to have no direct consequence for the semantic interpretation of the clause, or for LF, but rather, only for its morphological, or PF, interpretation. Note that any language with lexically-governed quirky case and VP-external subject agreement, such as, for example, Icelandic, will present significant technical problems for any theory that realizes morphological case at the end of the syntactic computation.³

³ Bejar and Massam (1998) examine "multiple case checking" constructions in a number of languages (Hungarian, Niuean, Norwegian, English and German). The authors identify the problem that such structures pose for early lexical insertion models, and provide support for late insertion. They also argue that covert case checking should not be possible on theoretical grounds, since PF and morphology should not have access to LF information. The Finnish data, however, very clearly manifest covert case checking, and present a challenge for Bejar and Massam's analysis.

2. Subject raising

The analysis of subject case marking in Finnish is further complicated by the existence of two groups of subject "raising" verbs whose subject case assignment properties differ from each other. I refer to these structures as subject "raising", although the embedded subject DP need not move overtly from its merged [Spec, vP] position to any higher "subject" position. Like in the main clauses that we have seen, the structures with raising verbs allow the matrix [Topic] feature to be checked by any DP in the sentence, not only by a subject. I demonstrate, however, that the thematic subject of the lower clause can be identified as the grammatical subject of the raising verb by means of the unique subject-verb agreement pattern that holds between the two elements. Consequently, I use the term "raising" in this case to apply to covert feature movement, rather than overt DP raising such as takes place in, for instance, English.

In the first type of raising construction, illustrated in (12), we see that the nominative DP (for example, *minä*, 'I', in (12a)) gets its theta-role from the infinitival verb, but raises to be the subject of the matrix verb. It is irrefutably identifiable as the matrix subject, since it bears nominative case and the raising verb agrees with it in person/number features. This group of raising verbs consists of *alkaa*, 'begin', *jaksaa*, 'have energy to', *osata*, 'be able to, can', *saada*, 'be permitted to', and *voida*, 'can, may'.

12. a. *Minä voi-n saa-da väitöskirja-ni heti valmii-ksi.*
I.NOM may-1SG get-TA dissertation-1SG.POS at.once ready-TRAN
 'I may finish my dissertation at once'
- b. *Sofia osa-a kroola-ta selä-llä-än 25 metr-i-ä.*
S.NOM can-3SG crawl-TA back-ABL-3POS 25 meter-PL-PAR
 'Sofia can do back crawl for 25 meters'
- c. *Sinä e-t jaks-a-nut-kaan juost-a mäke-ä ylös.*
you.NOM NEG-2SG have.energy.to-NUT-EMP run-TA hill-PAR up
 'You didn't have the energy to run up the hill, after all'

The word order variants in (13) demonstrate that this correlation between nominative case and agreement holds even when the agreeing subject is located in a position far below the matrix vP, and some other DP from the embedded clause moves to check the [Topic] feature in the Infl of the raising verb (for instance, the object *Illallista*, 'supper', in (13b), or the oblique *takapihalla*, 'in the back yard', in (13c)). Thus, once again we see that the [case]/[phi] feature checking between the subject and the finite element is covert.

13. a. *Me aloi-mme syö-dä illallis-ta takapiha-lla.*
we.NOM start-1PL eat-TA supper-PAR back.yard-ADE
 'We started to eat supper in the back yard'

- b. Illallis-ta aloi-mme syö-dä takapiha-lla me.
 supper-PAR start-1PL eat-TA back.yard-ADE **we**.NOM
 'We started to eat supper in the back yard'
- c. Takapiha-lla aloi-mme syö-dä illallis-ta me.
 back.yard-ADE start-1PL eat-TA supper-PAR **we**.NOM
 'We started to eat supper in the back yard'

The second group of raising verbs, such as *kannattaa*, 'be worthwhile', *kelvata*, 'be easy to', *onnistua*, 'succeed', *täytyä*, 'must', and *tarvita*, 'need to', do not exhibit this agreement pattern. The raised subject in these constructions bears genitive case, and the raising verb does not agree with the subject's [phi] features, but manifests the default third person singular agreement marking.

14. a. Sinun täyty-y osta-a uus-i-a astio-i-ta.
you.GEN must-3SG buy-TA new-PL-PAR dish-PL-PAR
 'You must buy new dishes'
- b. Meidän onnistu-i löytä-ä lopulta perille.
we.GEN succeed-PAST.3SG find-TA finally there
 'We finally succeeded in finding our destination'
- c. Sinun kannatta-isi hankki-a uus-i-a astio-i-ta.
you.GEN be.worthwhile-COND.3SG obtain-TA new-PL-PAR dish-PL-PAR
 'It would be worth your while to obtain new dishes'

Despite the lack of obvious subject-verb agreement, I consider these genitive-subject auxiliary verbs as raising verbs like the nominative-subject ones for two reasons. First, non-nominative, or quirky, raised subjects function exactly like the quirky subjects in (3-4). The default third person singular agreement morphology that these forms attest is the expected pattern for a verb with a non-nominative subject. Moreover, the [phi] features of the finite matrix element in these constructions do not agree with any other DP in the utterance: for instance, the plural embedded object DP *astioita*, 'dishes', in (14a,c), fails to trigger agreement.

Moreover, the genitive-subject raising verbs pattern identically to the nominative-subject raising verbs on a number of standard diagnostics for the raising status, namely the availability of impersonal complements, as well as inherently quirky and idiomatic subjects. The embedded verb in both constructions occurs in the infinitival *-ta* form. Because of the infinitival nature of this verb form, and presumably to a large part based on the parallel with the translations of these clauses to other languages (for example, English), these constructions have generally been treated as control structures by any linguist who has dealt with them (cf. e.g. Leino 1986, Setälä 1960, Toivonen 1995, Vainikka 1989). Nonetheless, there are three diagnostics that show very clearly that although a great number of the *-ta* structures in fact are control constructions, the ones that I have identified here are not.

First, as Laitinen and Vilkuna (1993) pointed out, the genitive-subject construction permits impersonal complement clauses like in (15a). This availability

supports a raising rather than a control structure. The same argument can be extended to the nominative-subject verbs, as shown in (15b).

15. a. Huomenna täyty-y sata-a / ol-la kaunis-ta.
tomorrow must-3SG rain-TA / be-TA beautiful-PAR
'It has to rain / be beautiful tomorrow'
(Laitinen and Vilkuna 1993:31, (5))
- b. Pian voi / alka-a / saa sata-a.
soon can.3SG / begin-3SG / may.3SG rain-TA
'It can / begins to / may rain soon'

(16) and (17) show that all the verbs under investigation here, both the nominative-subject verbs and the genitive-subject ones, allow the embedded subjects of complements that assign lexical quirky case to retain their idiosyncratic form, which implies that the quirky subjects must be raising from the embedded *-ta* clause. Thus in (17b), for example, the embedded verb *tulla*, 'become', assigns elative case to its subject, and this elative case appears even after the relevant features of the subject raise into the matrix clause. All the quirky subjects in (3) stay quirky when embedded under either of these two verb types.

16. a. Minulla pitä-ä ol-la uusi-a kirjo-j-a.
I.ADE must-3SG be-TA new-PAR book-PL-PAR
'I must have new books (necessity)'
- b. Sinusta sopi-i tul-la vaikka meribiologi.
you.ELA be.suitable-3SG become-TA ADV ocean.biologist
'You're suited for an ocean biologist, for example'
17. a. Minusta voi tul-la iso-na tutkimusmatkailija.
I.ELA can.3SG come-TA big-ESS explorer
'I can / might become an explorer when I grow up'
- b. Minun sitten osa-a ol-la kylmä / nälkä / jano.
I.GEN then can-3SG be-TA cold / hunger.NOM / thirst.NOM
'I sure am cold / hungry / thirsty'
- c. Minua alka-a aivast-utta-a / pelo-tta-a / laula-tta-a.
I.PAR begin-3SG sneeze-CAUS-TA / fear-CAUS-TA / sing-CAUS-TA
'I begin to feel like sneezing / frightened / like singing'

The third type of evidence that these are raising rather than control structures comes from the movement of idiom chunks. In (18) we see that both a genitive-subject verb like *täytyä*, 'must', and a nominative-subject verb like *voida*, 'can', or *alkaa*, 'begin', permit raising out of idiom chunks such as *Päreiden palaa*,⁴

⁴ Raised idiom chunk subjects, such as 'woodchips' in (18a), may, in addition to the expected genitive case form like *päre-ide-n*, occur as nominative, *päree-t*. I assume that this case variation is due to the fact that the morphological case marking of idiom chunks is, to a great degree, frozen.

‘Woodchips burn’ (with the idiomatic meaning of ‘losing one’s temper’), or *Jauhot menee suuhun*, ‘The flour goes in the mouth’ (whose idiomatic meaning is ‘to go speechless’).

18. a. Päre-ide-n täyty-y joskus pala-a sinu-lta-kin.
 wood.chip-PL-GEN must-3SG sometime burn-TA you-ABL-EMP
 ‘Even you must sometimes lose your temper’
 (lit. ‘The wood chips must burn sometime even from you’)
- b. Jauho-t voi-vat/ alka-vat men-nä suuhu-n sinu-lle-kin ...
 flour-PL.NOM can-3PL/ begin-3PL go-TA mouth-ILL you-ALL-EMP
 ‘You can/begin to go speechless (when...)’
 (lit. ‘The flour can/begins to go in your mouth...’)

Let us remember that although in all the examples in (18) the raised subject appears in the sentence-initial position, it does not need to move there overtly when another DP is the topic. This is illustrated in (19).

19. Suuhu-n voi-vat men-nä pian jauho-t sinu-lle-kin!
 mouth-ILL can-3PL go-TA soon flour-PL.NOM you-ALL-EMP
 ‘You could soon go speechless, too!’
 (lit. ‘The flour can soon go in your mouth’)

Hence, the raising under investigation is simply [ϕ i] and [case] feature raising, not DP movement. Since the relevant abstract functional features do not exist within the extended Infl of the *-ta* infinitive, the embedded subject cannot check its [case] feature below the matrix vP, but rather, the [case] and [ϕ i] features of the subject must raise out of the embedded structure into the matrix Infl, within whose Topic/AgrP the features can be checked. The crucial question is why the subject sometimes comes to bear nominative case, and sometimes genitive, although both structures are presumably identical. The structures in (20) to (23) further illustrate the complex nature of this morphological case realization.

(20a) presents an embedded participial structure. The embedded subject of the participial clause, *sinun*, ‘you’, bears genitive case. Koskinen (1998) analyzed the internal structure of Finnish embedded participle clauses, and argued that the genitive case of the embedded subject is structurally assigned. The subject checks its [case] feature against a null Determiner that heads the embedded participial DP complex. In (20b) we observe that when the participial clause is embedded under a raising verb such as *näyttää*, ‘seem’, the case-agreement relation that comes to exist between the raising verb and the raised subject overrides the morphologically genitive form of the subject, which now comes to bear nominative. This structure also provides further evidence for the proposal that in Finnish the subject’s case checking is for a generalized [case] feature rather than a specified feature such as [genitive], for (20a), or [nominative], for (20b).

20. a. Minä näe-n [_{DP} **sinun** pese-vä-n auto-a-si].
 I.NOM see-1SG 2SG.GEN wash-VA-ACC car-PAR-2SG.POS
 ‘I see you washing your car’

- b. Sinä_s näyttä-t $[_{DP} t_s$ pese-vä-n auto-a-si].
 you.NOM seem-2SG wash-VA-ACC car-PAR-2SG.POS
 'You seem to be washing your car'

(21) demonstrates that when a clause with a nominative-subject raising verb, such as *osata*, 'can', is embedded under *näyttää*, 'seem', its doubly raised subject also appears in nominative.

21. a. Sinä_s osaa-t $[_{TP} t_s$ pes-tä auto-a-si].
 you.NOM can-2SG wash-TA car-PAR-2SG.POS
 'You can wash the car'
- b. Sinä_s näyttä-t $[_{DP} t_s$ osaa-va-n $[_{TP} t_s$ pes-tä auto-a-si]].
 you.NOM seem-3SG can-VA-ACC wash-TA car-PAR-2SG.POS
 'You seem to be able to wash the car'

This case realization contrasts markedly with the pattern found with the genitive-subject raising verbs like *täytyä*, 'must'. (22a) shows that the raised subject of a 'must' type verb appears in genitive: the form is again *sinun*, 'you'. The changes in morphological case observed in (20) and (21) would seem to predict that this genitive morphology might change to nominative when embedded under *näyttää*, 'seem'. Yet (22b) demonstrates that this is not the case.

22. a. Sinun_s täyty-y $[_{TP} t_s$ pes-tä auto-a-si].
 you.GEN must-3SG wash-TA car-PAR-2SG.POS
 'You must wash your car'
- b. Sinun_s näyttä-ä $[_{DP} t_s$ täyty-vä-n $[_{TP} t_s$ pes-tä auto-a-si]].
 you.GEN seem-3SG must-VA-ACC wash-TA car-PAR-2SG.POS
 'You seem to have to wash your car'

Comparing the morphological effects of *näyttää*, 'seem', on the two subjects that originate in genitive case positions in (20a) and (22a), I conclude that whereas the genitive case of the subjects of embedded participials is structurally assigned, the genitive-subject raising verbs like *täytyä*, 'must', must be assigning quirky rather than structural genitive case to their subjects. (23) further confirms that lexically determined quirky case is resistant to changes effected by nominative-subject type raising.

23. Sinusta näyttä-ä $[_{DP} t_s$ täyty-vä-n $[_{TP} t_s$ tul-la iso-na tutkimusmatkailija]]
 you.ELA seem-3SG must-VA-ACC come-TA big-ESS explorer.NOM
 'You seem to have to become an explorer when you grow up.'

These two groups of "raising" verbs, then, exhibit patterns of case marking identical to the two observed in simplex matrix verbs. One group of verbs assigns lexical quirky case, in which case no [phi] feature checking takes place between the highest finite element and the subject, and the finite element comes to bear default agreement morphology. In the second group, the highest finite element obligatorily

checks its [phi] feature content against that of the logical subject, so that it carries appropriate agreement marking, and the subject occurs as nominative.

It is not evident how this dependence relation between the [case] and [phi] features is to be expressed within the feature checking model of Chomsky (1995). The subject's [case] feature checking within Topic/AgrP, and the checking of the [phi] features of the subject and the finite element against each other are, in principle, autonomous processes. The Finnish data dictate, however, that the [subject case] feature and the subject's [phi] features must be checked as a pair. It is also important to remember that it is the case-assigning verb, simplex or raising, rather than the finite element within Topic/AgrP, that determines the agreement pattern for each clause. The [subject case] feature in some way needs to pull the [phi] features of the subject along with it into Topic/AgrP, since the agreement checking takes place in that position. I leave open the question of representation of such a relationship within the Minimalist framework.

3. Conclusions

To conclude, I return to the problem of morphological access to LF information that seems necessitated by the Finnish data. At least two potential solutions present themselves, although neither is acceptable at this point. First, we might consider abandoning the distinction between overt syntax and LF as distinct levels of representation, as has been proposed in recent literature (cf. e.g., Richards 1997). The consequences of this proposal are, however, extremely far-reaching, and I choose not to adopt this most radical view as a first option.

A second alternative would be to abandon the assumption of late insertion of lexical items. If lexical items were inserted fully specified, for instance, with the subject bearing a [nominative] or [ablative] feature rather than a generic [case] feature, the LF-morphology conflict could be eliminated. There are two problems with adopting this approach. First, we would end up eliminating the generalization that the computational system treats all the differently case-marked subject DP's identically, while at the same time it separates them from other DP's in the sentence. In addition, more seriously, as already mentioned, case marking patterns found in various non-finite constructions in Finnish (cf. Koskinen 1998) demonstrate that a view of morphological derivation based on post-syntactic insertion of lexical items provides explanations for several previously unexplained phenomena, such as the case form of embedded participials, or the case marking of participials under quirky-case assigning raising verbs.

In this way, post-syntactic lexical insertion resolves several morphological puzzles while leaving unaccounted for the question of the realization of subject case. The morphological interpretation of subject case has, however, posed a problem for all analyses in any framework. The problem at hand is purely morphological, not syntactic. There is no obstacle for the checking of the relevant syntactic features of the subject: both the subject [case] feature checking and the checking of [phi] features between the subject and the finite element take place covertly. What is needed is a model of the morphological processes that interpret checked syntactic features in Finnish.

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