Acknowledgements

Federico Damonte

Organizing a conference is lots of work, disappointments and fun. But while work is an inherent property of the task, disappointments and fun depend on more external circumstances, disappointments being usually provided by the inevitable financial and bureaucratic problems, fun by the people you work with. Organizing the eleventh ConSOLE meeting in Padua in 2002 provided ample evidence in support of both these empirical generalizations: financial and bureaucratic problems came aplenty, more so than I could have ever foreseen. Thanks mainly to the current government, which slashed the budget for scientific research of more than 40 %, we lost the support of what would have been our "natural" sponsors, and we found ourselves competing for financing from private sponsors with literally hundreds of other projects trying to survive. Long-term projects were given precedence over congresses and workshops, of course, and we soon discovered that the University of Padua had established the same rule. The result was that the eleventh ConSOLE meeting was the first international conference organized by our department that did not get any external financial assistance of any kind. I really have to thank the director of our department, Prof. Alberto Mioni, and our administrative secretary. Dott. Rosa Maria Campagna, for going into every single voice of our budget and see whether something could be spared for us. They went out of their way to help us out, and they literally made the conference possible.

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(something last seen in the troubled 70's) - in the process locking up a group of linguists who did not have clue of what was going on. He provided the measure of sheer mess no student conference can do without.

On quirky subjects and the person restriction in Icelandic and Italian

Roberta D'Alessandro

In this paper, I show that Italian impersonal *si* constructions with verb-object agreement and Icelandic quirky dative constructions have much in common: of them the verb agrees with a Nominative object and they both exhibit a person restriction on the object, which can only be 3rd person. I present evidence that Italian impersonal *si* constructions are actually quirky dative constructions and that the person restriction on the object is caused by the presence of the reflexive impersonal *si* in Italian and by the reflexive suffix *–st* in Icelandic.

1. Introduction

In Nominative-Accusative languages, Nominative case is usually associated with the highest θ-role (Agent or Experiencer), while Accusative case is associated with a lower θ-role, such as Patient or Theme.

An exception to this are the so-called quirky dative (or quirky subject) constructions. In these constructions, the Patient or the Theme gets Nominative case, while the Agent or the Experiencer surfaces as *quirky* dative. This dative is called *quirky* because datives are usually associated with Benefactives or Goals but not with Agents or Experiencers. (1) is an example of a quirky subject construction in Icelandic:

(1) Henni leiddust strákarnir
her-DAT bored-3RD PL the boys-PL NOM
'She found the boys boring' [Sigurðsson (1996:1)]

In (1), the Theme *strákarnir* is Nominative and agrees with the verb, and the Experiencer *henni* is marked with dative.

In the next section I introduce Italian impersonal *si* constructions and show that they pattern with quirky dative constructions. I then present the problem of the person restriction on the object. In section 3, after a short summary of other accounts, I propose an alternative analysis for Italian, which also sheds some light on the Icelandic data.

2. The quirky status of impersonal si

Impersonal *si* constructions in Italian present two different agreement patterns, exemplified in (2) and (3). In (2), the verb agrees with the Nominative object (see D'Alessandro 2001, 2002), while in (3) there is no verb-object agreement and the object is Accusative. The verb in (3) shows the default 3rd person ending.

(2) In Italia si mangiano gli spaghetti
in Italy si eat-3RD PL the spaghetti-MASC PL NOM
'In Italy one eats spaghetti'

(3) In Italia si mangia (gli) spaghetti[1]
in Italy si eats-3RD SG (the) spaghetti-MASC PL ACC
'In Italy one eats spaghetti'

Observe that in both (3) and (4) *spaghetti* is a Theme. In this paper, I am only concerned with constructions of the type exemplified in (2), that is with the verb-object agreeing constructions.

A thorough investigation of the examples (2) and (3) can help us to detect the feature composition of impersonal *si*.

2.1. The feature composition of impersonal si

Impersonal *si* doesn't bear inflectional morphology, and therefore one can determine the existence of its features only observing the agreement facts related to *si*.

It is usually assumed that the number feature of *si* is specified for plural, as the following examples show:

(4) Non si è mai contenti
not si is never happy-MASC PL
'One is never happy'

(5) Al giorno d'oggi si è sempre belle
at-the day of-today si is always beautiful-FEM PL
'One (a woman) is always beautiful today'

In (4) and (5) the presence of *si* determines a plural agreement ending on the adjective, independently of the gender specification chosen.

There is, however, another piece of data which seems to contradict the statement that *si* is plural. It is well known that the agreement patterns of *si*

[1] Some Italian speakers do not accept the definite article in sentences with no verb-object agreement. For further discussion on this point, see D'Alessandro (to appear *a*).

constructions with unergative verbs differ from those with unaccusative verbs, as shown in (6) and (7):

(6) Si è telefonato
si is called-MASC SG
'People have called'

(7) Si è arrivati
si is arrived-MASC PL
'People have arrived'

(6) and (7) seem to show that number on *si* is not defined in a unique way. It might be that the plural agreement in (4) and (5) is a kind of semantic agreement, provided by the fact that *si*, without further specification, identifies a *group* of people, and never one single person (Chierchia 1995). Semantic plurality, however, doesn't entail the presence of a plural syntactic feature (contra Sauerland 2003). For this reason, I assume that *si* is not specified for number (cf. Manzini 1986).

(4) and (5) also show that *si* does not have gender specification.

Another relevant feature on *si* is *animacy*. As Chierchia (1995) points out, *si* identifies a group of human beings performing the action expressed by the verb. Although the fact that *si* semantically identifies a group of people doesn't entail that *si* has a syntactic feature for person, I take this to be the case, following Boeckx (1998), Ormazabal & Romero (2001), and Anagnostopoulou (2002).

The nature of such a person feature is not clear, and the variation in the inclusiveness/genericity of the interpretation suggests that the person feature on *si* is made up of sub features which get specified in different ways (see D'Alessandro & Alexiadou 2003). Leaving these matters aside, we can simply assume that *si* has a person feature, and that this feature is not 3rd person. Building on Benveniste's (1966) intuitions, we can assume that *si* patterns together with 1st and 2nd person because of its reflexive morphology. 3rd person pronouns, according to Benveniste, are 'no-person' pronouns. In current terms, we can say that they lack a person feature. This is not the case for *si*, which has a person feature whose effects are visible in the person restriction of the object, as we will see in section 2.4.

Observe that impersonal *si* and reflexive *si* differ with respect to their person feature. They are both morphologically reflexive, and therefore they both hold a person feature. The person feature on impersonal *si* is however referential, because it identifies a group of people performing the action expressed by the verb. The person feature on reflexive *si* is instead not referential, and this *si* needs an antecedent in order to get its reference (see Manzini 1986). We can consider the person feature on reflexive *si* as a kind of 'defective' feature, which cannot value the person feature on the verb because it needs to be valued itself. More on this difference will be presented in section 3.4.1.

The position of impersonal *si* in the clause is also a matter of debate. I will present a short introduction to this problem in the next section.

2.2. The position of impersonal si

A never-ending debate has been carried on in the last years regarding the position of *si* in the clause. If the landing site of *si* is quite evident, the merging site of *si* isn't as clear.

The standard assumption is that *si* is an external argument (Burzio 1986, Manzini 1986), at least in *si* constructions with verb-object agreement (Cinque 1988, Dobrovie-Sorin 1998, 1999). With transitive verbs, it is merged in the position where external arguments are usually merged, namely Spec, IP or Spec, VP or Spec, *v*P, depending on the framework which is adopted. A different view is adopted in Manzini-Savoia (2000), who consider *si* as an object clitic, which is directly merged in a functional position above the TP, named OriginP.

In this paper, I don't consider in details the merging site of *si*. I follow the standard assumption which sees *si* as an external argument with verbs which do have an external argument, and as an internal argument otherwise.

The Case that *si* receives is also a matter of debate. According to Cinque 1988, (argumental) *si* is Nominative. According to Dobrovie-Sorin 1998, 1999, it bears Accusative.

In the following section, I show that *si* doesn't seem to beat Nominative nor Accusative case, but dative.

The landing site of *si* is less discussed, as it evidently cliticizes on the verb and needs to end up in a position which is 'around' T. There is no agreement on the exact landing site of *si*, but it is clear is that impersonal *si* is closer to the verb than any other clitic, as shown in (8):

(8) Ce lo si è detto
us-DAT it-MASC SG ACC si is said
'One has said it to another/we have said it to each other'

It is not possible to change the order of clitics in (9), as shown in (9):

(9) a. *Si ce lo è detto
si us-DAT it-MASC SG ACC is said
b. *Ci se lo è detto[2]
us-DAT si it-MASC SG ACC is said

[2] For some Italian speakers (9b) is acceptable, while (9a) is ungrammatical for all speakers.

Impersonal *si* is thus the closest to the T head. There are several possible positions in which it can land: *si* can land on the specifier of a dedicated projection, or on the specifier of the TP or on the T head.

If we assume, with Chomsky (1995), that clitics are in fact both maximal projections and heads, then *si* will end up on the T head. Otherwise, we will need to assume that *si* is an XP.

I do not discuss the position of *si* in this paper (for further discussion on this point, see D'Alessandro 2002, to appear *a, b*). For my purposes, it is enough to observe that *si* is closest to T than any other clitic, i.e. that no other clitic intervenes between *si* and the T head. I will therefore adopt the model according to which *si* is both a head and an XP, and incorporates on the T head.

So far, we have been concerned with *si* itself and with its relations with other elements in the structure. In the next section, I compare impersonal *si* to Icelandic quirky datives, and show that we are actually dealing with the same construction.

2.3. Impersonal si and Icelandic quirky dative constructions

So far, we have seen that Icelandic quirky dative constructions of the type illustrated in (1) have the following characteristics:

- A Nominative Theme which agrees with the verb
- A dative subject

One remark on the terminology: it has been shown by Zaenen, Maling & Thrainsson (1985) that the dative DP in Icelandic is a subject, and therefore I adopt this term here to define the dative DP.
For the Nominative object Sigurðsson (1996) has proposed the term *sobject*, because Nominative is usually the case of the subject, but in Icelandic quirky dative constructions it is associated with an object position. I do not adopt the term *sobject* here, but I simply refer to such a DP as to a Nominative object.

Strikingly similarities hold between Icelandic quirky datives and Italian impersonal *si* constructions. Also impersonal *si* constructions with verb-object agreement of the type exemplified in (2), for instance, exhibit a Nominative Theme which agrees with the verb.

The distribution of impersonal *si* and impersonal datives shows that impersonal *si* constructions also have a dative subject. Supportive evidence for this claim is presented in the next section.

Another important similarity between *si* constructions and quirky datives in Icelandic is that their Nominative objects are both affected by a person restriction: they cannot be other than 3rd person. This phenomenon will be discussed and analyzed in section 3. Both the fact that *si* is a dative and the common phenomenon of the person restriction on the object lead to the certain

conclusion that we are dealing with the same kind of construction in two different languages.

2.4. 'Ci si'

The hypothesis outlined in the previous section is that impersonal *si* constructions in Italian are quirky dative constructions. In this section, I show that *si* is the dative element in Italian *si* constructions with verb-object agreement.

If this is the case, the constructions in with dative *si* shouldn't allow for other datives. Moreover, the impersonal constructions which do not have a dative *si*, namely the constructions with no verb-object agreement, should allow the presence of a dative in the sentence. In other words: if *si* is dative in verb-object agreeing constructions, no other impersonal dative should be present. It should be possible to find another dative only in those sentences which do not have a dative *si*, i.e. in sentences with no verb-object agreement. In such sentences in fact the object is marked with Accusative and the subject is Nominative (cf. D'Alessandro 2002, to appear *a*, *b*).

This prediction is in fact borne out: impersonal *si* constructions with verb-object agreement do not allow for an impersonal dative.

It is a well-known fact about Italian that two *si*'s cannot coexist in one sentence: the way one expresses the impersonal dative is by means of *ci*, which is the dative of the 1st person plural *noi* ('we'). This is known as the *ci-si* phenomenon, and is illustrated in (10):

(10) *Si si è scambiati gli auguri
si-DAT si is exchanged-MASC PL the greetings
'People/we greeted each other'[3]

The reason for this disambiguation has been investigated by several people in different ways (Burzio 1986 and Cinque 1995 among others). According to Burzio (1996), the *ci si* disambiguation is due to phonological reasons. The two *si*'s cannot be adjacent, and when this happens a phonological rule applies which changes one *si* into a *ci*. The *ci si* disambiguation, however, takes place also when the two *si*'s are not adjacent, as shown in (11):

(11) Ce li si è scambiati
si-DAT them-MASC 3RD PL ACC si is exhanged-MASC PL
'People have exchanged then (one another)'

[3] In some contexts, *si* can have an inclusive reading, that is it can be used with a 1st person plural meaning. I leave the discussion on this issue aside. For further discussion on this point, refer to D'Alessandro & Alexiadou (2003).

Cinque (1995) has a 'morphological' analysis for the *ci si* disambiguation. According to him, a morphological constraint is active when a clitic bundle is present in a sentence. This constraint states that only one occurrence of a clitic can be present in a clitic 'template'. If an occurrence of *si* is already present, there cannot be another one in the same template. This in turn entails that *ci* is not the dative form of impersonal *si* but a locative. In Italian, in fact, *ci* is also a locative particle.

The meaning of *ci* in *ci si* constructions is, however, that of a dative. There is no locative meaning whatsoever in the sentence, and therefore this analysis appears defective in some respects.

Ci has a dative meaning, and realizes a Benefactive θ-role. There is no reason for not considering it as a dative. *Ci*, as outlined above, is the dative form of the 1st person plural pronoun *noi*. It is no surprise that the non-inflecting *si* realizes its dative form with a suppletive form which is the 1st plural pronoun. There is in fact a strict correlation between impersonal pronouns and 1st person plural pronouns (cf. Cinque 1988, D'Alessandro & Alexiadou 2003).

Assuming then that *ci* is an impersonal dative, we would expect that its presence is blocked in those contexts where an impersonal dative is already present, i.e. in impersonal *si* constructions with verb-object agreement. This is indeed the case. Compare (12) and (13):

(12) A Natale ci si scambia gli auguri
at Christmas si-DAT si exchanges-3RD SG the greetings
'At Christmas people exchange greetings (with each other)'

(13) ??? A Natale ci si scambiano gli auguri
at Christmas si-DAT si exchange the greetings
'At Christmas people exchange greetings (with each other)'

The sentence in (12) is very odd, unacceptable for most speakers. This is exactly what we would expect if *si* is dative in verb-object agreement constructions.

Another piece of evidence that *si* constructions with verb-object agreement are indeed quirky subject constructions comes from a very puzzling phenomenon: the person restriction on the object. Both Icelandic quirky datives and Italian impersonal *si* constructions undergo a selectional restriction of the object, which can only be 3rd person. This parallel behaviour corroborates the hypothesis that we are dealing with the same kind of construction.

2.5. Crosslinguistic evidence: the person constraint

It is a well known fact that Icelandic quirky dative constructions do not admit every DP in object position. The Nominative DPs need to be 3rd person, or the sentence is ungrammatical. This characteristic of Icelandic quirky datives has

been pointed out in several studies, such as Sigurðsson (1996) and Hrafnbjargarson (2001, 2002). The following examples show how the person restriction on the object operates in Icelandic:

(14) Henni leiddust stràkarnir / þeir
her-DAT bored-3RD PL the-boys-PL NOM they-3RD PL NOM
'She found the boys boring' [Sigurðsson (1996:1)]
(15) *Henni leiddust þið/ leiddumst við
her-DAT bored-2ND PL you-2ND PL NOM bored-1ST PL we-1ST PL NOM
'She found you/us boring' [Sigurðsson (1996:28)]

(14) shows that the Nominative object cannot be 1st or 2nd person in Icelandic. Interestingly, Italian impersonal *si* constructions undergo the same constraint: their Nominative object cannot be other than 3rd person, as shown in examples (16)- (18):

(16) In televisione si vede Maria /lui
in television si sees-3RD SG Maria/ he-3RD SG NOM
'One sees Maria/ him on TV'
(17) In televisione si vedono Maria e Gianni/ loro
in television si see-3RD PL Maria and Gianni they-3RD PL NOM
'One sees Maria and Gianni/ them on TV'
(18) *In televisione si vedo io / vedi tu /
in television si see-1ST SG I-1ST SG NOM see-2ND SG you-2ND SG

vediamo noi/ vedete voi
see-1ST PL we-1ST PL NOM see-2ND PL you-2ND PL NOM
'One sees me/ you/ us/ you on TV'

Boeckx (1998) and Anagnostopoulou (2001, 2002) both propose to analyze the person restriction on the object as an instance of the Person-Case constraint, which was first observed in Bonet (1994). Such constraint applies only to weak elements and is roughly stated as follows:

(19) **Person-Case Constraint:** if DAT then ACC 3rd [Bonet (1994:36)]

This constraint can be expanded to include Nominative objects in the case of Icelandic, where these Nominative DPs are not weak elements (Boeckx 1998 and Anagnostopoulou 2001, 2002). Interestingly, the only other case in which this constraint is active with full DPs are Italian impersonal *si* constructions. This suggests once more that there is much in common between the two structures.

Sigurðsson (1996), Boeckx (1998), Anagnostopoulou (2001, 2002) attribute a special prominence to the role that dative plays in the agreement patterns. I will give a short overview of the main ideas on the person restriction in the next section. Subsequently, I provide a different explanation for the facts observed

in this section, based on the role that reflexive morphology plays in determining the person restriction.

3. The person restriction on the object

In section 2.5. I have shown that a restriction holds on the person of Nominative objects in quirky subjects constructions. Such constraint doesn't allow a 1st or 2nd person in object position. Before summarizing in short the major proposals which have been put forward in order to account for such constraint, we should draw our attention to another quirky dative construction, which is very similar to Icelandic quirky dative and Italian *si*: the psych verb construction.

3.1. Psych verbs

It is well known that some Italian psych verbs require a dative subject. In (20) we have an example of a psych verb of this kind:

(20) Gli piacciono le auto
him-DAT likes-3RD SG the cars-FEM PL
'He likes cars'

In (20), just like in the Icelandic constructions we have considered so far, the verb agrees with a Nominative object, and the subject is dative.

Belletti & Rizzi (1988) and Cardinaletti (2003) show how the dative DP ends up in subject position (Spec, AgrSP). We are thus dealing with another quirky dative construction, which is exactly parallel to the ones we have considered so far.

Interestingly, these psych verb constructions do not undergo the person restriction on the object, as shown in (21):

(21) Gli piaccio io / piaci tu
him-DAT like-1ST SG I-1ST SG NOM like-2ND SG you-2ND SG
'He likes me/you'

In (21), the verb agrees with a Nominative object which is 1st or 2nd person. No restriction on the object person holds.

Any theory which aims to account for the person restriction on the object in Icelandic and in Italian *si* would also need to justify the lack of person restriction with Italian psych verbs.

In what follows, I give a short overview of the main proposals that have been made in order to account for the person restriction on the object in Icelandic.

3.2. Structural constraints

Several analyses have been put forward in order to account for the person restriction on the object in Icelandic quirky subject constructions. In this section, I shortly summarize the most relevant proposals (Sigurðsson 1996, Boeckx 1998, Anagnostopoulou 2001, 2002).

Sigurðsson (1996) accounts for the facts which relying on a structural constraint. He starts from the assumption that a head and its specifier cannot be both specified, i.e. that there can be either agreement features on the head or Case features on the specifier of a projection. Sigurðsson shows that the quirky dative in Icelandic moves to the specifier of the AgrSP projection, that is it moves to the position where the subject usually lands. The specifier of the AgrS projection is thus occupied by a DP which is specified for case. This means that the AgrS node cannot be specified for agreement, because there is already a specification on its specifier. The AgrS which assigns Nominative needs to be underspecified for agreement. Underspecification for agreement means lack of the person feature in particular, and therefore agreement with a DP which has no person or is marked with 3rd person. 3rd person is in fact considered, since Benveniste (1966), as no person (see Roberts 2002 for 3rd person marking in English as marker for lack of person).

Sigurðsson's analysis is technically very appealing, but fails to account for the cause of the person constraint, which needs to be sought elsewhere. Moreover, in Sigurðsson's model there is nothing which can explain the lack of person restriction on the object in Italian psych verb constructions.

Boeckx (1998) and Anagnostopoulou (2001, 2002) both propose, in different terms, that the dative DP has a central role in causing the person restriction on the object. According to this line of reasoning, the dative agrees with the verb, which in turn agrees with the DP object to which it assigns Nominative case. The dative has a person feature which checks the person feature on T, because datives are 'intrinsically animate' (cf. Anagnostopoulou 2001, 2002). According to Anagnostopoulou, the dative DP lacks number, and hence it cannot check the number feature on T. Thus, T results in having a person specification after agreement with the dative. The number specification will be received via agreement with the DP object. Since both the DP object and the dative DP agree with T, the object needs to be 3rd person in order to avoid feature mismatch on T.

The idea of the double agreement of the verb both with the dative and with the DP accounts for the person restriction phenomenon, but leaves a question open as to why the dative should agree with the verb in T. Also, it is not completely clear that dative doesn't have a number feature. This assumption would mean that a pronoun has different φ-features depending on its Case-case. In addition to this, if the dative DP was the cause of the person restriction on the object, this constraint should automatically hold for Italian psych verbs of the kind exemplified in (20). As shown in (21), this is not the case.

These considerations force us to direct our attention towards something else as responsible for the person restriction on the object. The origin of the person constraint, I believe, resides in the reflexive pronoun which happens to be used as an impersonal. Impersonal *si* has reflexive morphology. Since Beneveniste (1966) it is a common assumption that reflexive pronouns pattern together with 1st and 2nd person pronouns. In other words, reflexive pronouns do have the person feature that other 3rd person pronouns lack (see also Kayne 2000).

In the next section, after a short introduction of the theoretical background which I assume, I will show that the reflexive pronoun is responsible for the person restriction on the DP object.

3.3. Some theoretical assumptions

My analysis is based on the following assumptions, which are in conformity with Chomsky (1999):

- Unvalued (uninterpretable) features on lexical items need to be valued (and eliminated) in the syntax during the derivation, before the interface level with other systems is reached.
- The valuation of unvalued features takes place via Match of φ-features + Agree.
- The Agree relation doesn't necessarily take place in a Specifier-Head configuration, but it can act long-distance, subject to locality conditions.

Some other assumptions concern the nature of *si* and the feature distribution on functional heads. As I have shown in section 2.1., impersonal *si* is not specified for number.

By observing the agreement facts of *si* impersonal constructions, and especially the fact that the verb always shows 3rd person inflection, one might be tempted to conclude that *si* is 3rd person. According to Benveniste (1966), 3rd person is lack of person, and therefore *si* should lack a person feature. As we have observed before, however, the intrinsic animacy of *si* and the fact that *si* has reflexive morphology both indicate that *si* actually has a person feature. This view is assumed, among others, by Bonet (1991, 1995), Taraldsen (1995), Kayne (1998) and Anagnostopoulou (2001, 2002).

The person feature on *si* is not specified. It is worth observing, though, that the interpretation of impersonal *si* constructions varies between an inclusive reading ('we' reading) and an exclusive one. Several factors seem to be responsible for such variation, aspect being one of the main causes of change in interpretation. The inclusive/generic alternation hints at a more complex composition of the person feature, which might be made up of subfeatures. I will not go into the details of the composition of the person feature of *si* in this paper. For the present purposes, it is enough to say that *si* has a person feature.

It is commonly assumed that there must be uniformity of features on a head. In particular, if a clitic incorporates on a head, its φ-features cannot be different from those on the head. This requirement has a fundamental importance for the determination of the person restriction on the object.

3.4. A derivational analysis of the person restriction

Let us reconsider example (2), here repeated as (22):

(22) In Italia si mangiano gli spaghetti
in Italy si eat-3RD PL the spaghetti-MASC PL NOM
'In Italy one eats spaghetti'

The derivation of (22) runs as follows (cfr. D'Alessandro 2002 a, b):

- The DP *gli spaghetti* is merged with the verb and gets the internal θ-role. Such DP needs to have its Case feature valued.
- A defective *v* is merged with the VP. Such *v* doesn't assign Accusative case.
- The DP object remains without Case, because *v* cannot value its Case features.
- *Si* is merged in the specifier of *v* (see Manzini 1986, Harley 1998, Embick 2000, Cuervo 2002), and there it gets quirky dative.
- The T head is merged. The verb moves to T.
- Right after the merging of T, an Agree relation in established between T and the DP object, which gets Nominative case.
- *Si* cliticizes on T, incorporating on the T head (Chomsky 1995).

At this point, on the T head there are virtually two person features: the one which is introduced by *si* and the one which is provided by the DP. There seems to be a conflict on the T head. The sentence in (22) is however grammatical and the derivation doesn't crash. Hence, we need to conclude that one of the two person features is actually not there. By taking a closer look at the DP object in (22), we can easily conclude that this is indeed the case: the object DP lacks a person feature. According to Beneveniste (1966) and Kayne (2000), only 1st and 2nd person pronouns and reflexives have a syntactic person feature. The other pronouns, namely the 3rd person pronouns, lack a person feature. This line of reasoning can of course be extended to all lexical items. The DP object in (22) is 3rd person, and thus has no person feature. Thus, there is only one person feature, namely *si*'s, on the T head. The feature mismatch is avoided, and the derivation is grammatical.

If the object had a person feature, there would be a feature mismatch on the T head and the derivation would crash.

Observe that if impersonal *si* has a person feature, this in turn entails that the verb can never show 1st or 2nd person agreement when *si* is present. This is indeed the case, as I show in the next section.

3.4.1. Si never triggers plural agreement

One important consequence of the fact that *si* has a person feature is that no verb can show 1st or 2nd person inflection when impersonal *si* is present. The person of *si* values the person feature of the verb, thus preventing its valuation in any other way. In other words, even if there are other elements in the clause which could trigger 1st or 2nd inflection on the verb, they have no chance of triggering person agreement on the verb because of the presence of *si*.

The following data from Italian show that this is exactly what happens:

(23) Ti vedi sempre in tv!
you-2ND SG ACC see-2ND SG always in tv
'One always sees you on tv'

(24) Ti si vede sempre in tv!
you-2ND SG ACC si sees-3RD SG always in tv
'One always sees you on tv'

In (23) the reflexive form *vedersi* is used. This reflexive *si* doesn't trigger any restriction, as anticipated in 2.1. This is due to its non-referentiality, and thus to the different nature of its person feature.

Whenever impersonal *si* is present, no matter which verb class we consider, the person feature on the verb will not be 1st or 2nd, as the next example shows:

(25) Si telefona/ *o/ *i/ *iamo
si calls-3RD SG / call-1ST SG/ call-2ND SG call-1ST PL
'One calls'

Si is thus responsible for the person restriction on the object and for the inflection on the verb in impersonal *si* constructions.

In section 2.3. I showed that *si* impersonals and Icelandic quirky subjects undergo the same person constraint. I also showed that in Italian *si* constructions *si* is responsible for the person restriction on the object. The question now is whether there is something in Icelandic which has the same role as *si* for the person restriction. The answer is yes: such element is the *–st* ending of Icelandic verbs that allow for a dative subject. I show the details of this proposal in the next section.

3.5. Icelandic –st verbs

Not all verbs allow for a quirky dative in Icelandic. According to Anderson (1990) and Taraldsen (1994), the verbs which allow for dative subjects all share a common feature: the *-st* ending. This is a feature which belongs to 99% of the Icelandic verbs which allow a quirky dative subject (Jonsson 2002).

Very interestingly, *-st* is etymologically a reflexive pronoun. The form *–st* has derived from the Old Icelandic reflexive pronoun *sik*. This means that the ending *–st* has a person specification. That is, *-st* shares the same properties as impersonal *–si* in Italian. We can conclude that Icelandic *–st* has functioned as Italian *si* in quirky constructions, restricting the person feature on the Nominative object. In particular, *-st* is the person specification on Icelandic verbs. If the verb in T already has a person specification, it can only agree with no person DPs, i.e. with a 3rd person object. The person restriction on the object of Icelandic quirky subject constructions is thus also due to a reflexive element which provides the verb with a person feature.

3.6. Psych verbs

In section 3.1. I claim that a model which provides an explanation for the person restriction on the object needs to provide one also for the lack of such restriction in Italian psych verbs.

Those Italian psych verbs which allow a dative subject and have a Nominative object which agrees with the verb do not undergo the person restriction on the object. This fact would sound mysterious if we attributed the cause of the person restriction to the presence of the dative subject. The facts appear less mysterious if we attribute the cause of the person restriction to another element, which is present in *si* constructions and in Icelandic quirky datives but is absent in psych verbs. There is no element in psych verbs constructions which can perform the role that *si* and *–st* perform. Therefore, there is nothing in such constructions which can cause the person restriction.

4. Conclusions

In this paper, I have shown that Italian impersonal *si* constructions with verb-object agreement and Icelandic quirky dative constructions are indeed the same construction, and that the common phenomena that they present, such as a Nominative object which agrees with the verb and the restriction on the person of this object, are to be traced back to the same underlying structure. In particular, a crucial role for the person restriction on the object is played by the morphologically reflexive pronouns (*si* for Italian, *-st* for Icelandic, which is derived from a reflexive pronoun). The absence of such pronouns explains the lack of person restriction in other quirky constructions, such as Italian psych verb ones.

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English VP-preposing and relative scope

Laura Dorfman, Thomas Leu, Erez Levon

VP-preposed sentences in English are, contrary to earlier claims in the literature, found to be scopally ambiguous between a subject wide-scope and an object wide-scope reading. A syntactic and semantic analysis is proposed in which the subject wide-scope reading results from preposing the VP containing the object in one chunk. The object wide-scope reading, on the other hand, results from object preposing prior to preposing of the remnant VP. Additional support for this analysis comes from analogous sentences in Swiss German where the resulting surface strings are distinct for the two structures.

1. Introduction

This paper explores the relative scope capabilities of English VP-preposed sentences. Consider the sentence in (1) and its preposed counterpart in (2).

(1) Every girl is fond of some boy.
(2) Fond of some boy every girl is.

Since Reinhart (1978), these sentences have been analyzed as unambiguous with respect to scope. We claim, contra Reinhart (1978), that the preposed sentence in (2) has exactly the same relative scope capabilities as its non-preposed counterpart in (1). We will propose derivations to account for each interpretation of (2) and show that these derivations are supported by evidence from Swiss German VP-preposing. We will also show that a semantic analysis of each interpretation in terms of Combinatory Categorial Grammar is consistent with the proposed syntactic derivations.

2. Scope capabilities

2.1. Scope capabilities of non-preposed sentences

It has been widely observed that sentences like (1) have two readings, given in (3), where (3a) is the direct,or subject wide-scope, reading and (3b) is the inverse, or object wide-scope, reading.

(3) a. For every girl, it is the case that she is fond of some possibly different boy.
∀x[girl'(x) ? ∃y[boy'(y) & fond-of'(y)(x)]]
b. For some particular boy, it is the case that every girl is fond of that boy.
∃y[boy'(y) & ∀x[girl'(x) ? fond-of'(y)(x)]]

For Reinhart (1978), relative scope is determined by c-command, a framework that we retain. Under the Reinhart (1978) view that scope relations are evaluated at surface structure, only reading (3a) falls out of the syntax, since *every girl* c-commands *some boy*. For Reinhart (1978), inverse readings such as (3b) arise when they happen to entail the direct reading: in this case, every girl just happens to be fond of the same boy. In other words, (3b) is a special case of (3a).

However, we can see immediately that by slightly judicious selection of quantifiers, we obtain inverse scope readings in English that are not such special cases. Consider (4).

(4) Some girl is fond of every boy.

Sentence (4) has two readings, given in (5), where (5a) is the direct, or subject wide-scope, reading and (5b) is the inverse, or object wide-scope reading.

(5) a. For some particular girl, it is the case that she is fond of every boy.
b. For every boy, there is some possibly different girl that is fond of him.

Here, (5b) does not entail (5a), and yet the inverse reading is available. This shows that normal, non-preposed sentences do have legitimate inverse readings.

We assume that the quantified DPs in (1) and (4) move to scope positions (Beghelli & Stowell 1997, Szabolcsi 1997, Kayne 1998), and that relative scope is assessed from these positions. Scopal ambiguity results from the option for certain quantifiers to move to different scopal positions. This explains why there are legitimate object wide-scope readings that are not a matter of accidental entailment: both (1) and (4) have the same configurational options for the quantified DPs at the point where scope relations are read from the syntax.

2.2. Scope capabilities of VP-preposed sentences

We now turn to sentences like (6), in which the VP is preposed to clause-initial position.

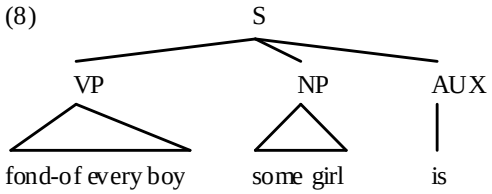
(6) Fond of every boy some girl is.

We claim that (6) has exactly the same relative scope capabilities as its non-preposed counterpart (4), namely the two possible readings given in (7a) and (7b), where (7a) is the subject wide-scope reading and (7b) is the object wide-scope reading.

(7) a. For some particular girl, it is the case that she is fond of every boy.
∃x[girl'(x) & ∀y[boy'(y) ? fond-of'(y)(x)]]
b. For every boy, there is some possibly different girl that is fond of him.
∀y[boy'(y) ? ∃x[girl'(x) & fond-of'(y)(x)]]

The classical analysis of VP-preposed sentences is Reinhart (1978), in which (6) is unambiguously interpreted as (7a), the subject wide-scope reading. Reinhart (1978) argues that this view falls out of the syntax when the preposed VP is sister-adjoined to S, as in (8).

(8)



In (8), the NP *some girl* asymmetrically c-commands the object *every boy*. Because the object is embedded within the VP, it cannot scope over the subject.

In Reinhart's (1978) view, sentences like (6) are not ambiguous. Under this view, any apparent ambiguity would have to be attributable to the object wide-scope reading entailing the subject wide-scope reading, as it would for non-preposed sentences. However, as can be seen in sentences like (4) and (6), not all object wide-scope readings entail the corresponding subject wide-scope reading. Therefore, the object wide-scope readings in preposed sentences must be accounted for independently of the subject wide-scope readings.

The availability of object wide-scope readings in VP-preposed sentences is particularly obvious when considering sentences in which the subject wide-scope scope reading is pragmatically dispreferred, as in (9).

(9) Stationed in front of each tent a soldier is.
   a. % There is some soldier such that he is stationed in front of each tent.
   b. For each tent, some possibly different soldier is stationed in front of it.

In (9), it seems pragmatically unlikely that the sentence describes a situation in which there is a single soldier who is stationed in front of every tent. Rather, the object wide-scope reading, whereby tents and soldiers co-vary, is preferred. We argue that the ambiguity of the word order in (2) and (6) is the result of two distinct syntactic derivations, which we explicitly formulate below.

To assess the scopal capabilities of various quantifiers in English VP-preposed sentences, we relied upon the native speaker judgments of two of the authors of this paper, as well as the judgments of thirty-five native speaker undergraduate students at New York University. Though there did exist a great deal of variation amongst these thirty-seven native speakers, the grammaticality judgments reported here correlate with the significant majority of the speakers. It is important to note that these sentences are uncommon in colloquial American English, and when used, elevate speech to a formal and somewhat stilted register.

The generalization is strongly borne out that the scope capabilities of a non-preposed sentence are maintained in the preposed counterpart. Of the 287 sentence pairs given to native speakers, 216, or 75%, of them were judged to preserve the relative scope capabilities of the non-preposed sentence in the preposed counterpart.[1]

The syntax of scope in English VP-preposing will be returned to below. The crucial generalization we maintain is that VP-preposing does not affect the scopal capabilities of a sentence in English.

3. English VP-preposing: The facts

English allows for a wide array of VP-preposed sentences, though they are neither colloquial nor common. The most straightforward preposed construction is the fronting of a predicate adjective, as in (10).

[1] Though it goes beyond the scope of this paper to discuss the non-uniform behavior of various quantifiers with respect to scopal capabilities, the observation that quantifiers can be roughly divided into two groups, those that readily take inverse scope, such as *two men* and *every man*, and those that do not, such as *no men* and *fewer than two men* (Liu 1990, Beghelli & Stowell 1997, Szabolcsi 1997), was also borne out in our sample. For the most part, non-increasing quantifiers, i.e., downward-entailing and non-monotonic quantifiers, do not readily take wide scope from object position in either non-preposed or preposed sentences in English, while increasing quantifiers, i.e., upward entailing quantifiers, do. This observation can be correlated with a theory of the syntax of scope as described in Beghelli & Stowell (1997), where certain quantifiers move to dedicated positions from which they can take scope.

(10) a. John is fond of Mary.
b. Fond of Mary John is.[2]
c. *Is fond of Mary John.

Similarly, it is possible to prepose a participle, leaving the auxiliary verb behind, as in (11).

(11) a. Katherine has seen six films this year.
b. Seen six films this year Katherine has.
c. *Has seen six films this year Katherine.

Modal constructions may also been fronted, where again the VP preposes, leaving the modal behind.

(12) a. Timothy should buy all of the books.
b. Buy all of the books Timothy should.
c. *Should buy all of the books Timothy.

Finally, simple perfect forms of verbs can also be preposed. This preposing requires the intervention of do-support, as in (13).

(13) a. Susan called her mother twice.
b. Called her mother twice Susan did.[3]

Adverbs can also interact with English VP-preposing, in a not altogether straightforward fashion. Consider the paradigm in (14-16).

(14) a. Critically examined every folio a scholar has.
b. Examined every folio a scholar (*critically) has (*critically).
(15) a. Willingly examined every folio a scholar has.
b. Examined every folio a scholar willingly has.
(16) a. *Usually examined every folio a scholar has.
b. Examined every folio a scholar usually has.[4]

---

[2] Note that for what we are calling VP-preposed sentences, the subject must precede material in the IP-layer. The sentence *Fond of Mary is John*, though similar, is a distinct construction, which we will not consider here.

[3] Notice in (13) that both the preposed verb *called* and the epenthetic *did* carry past-tense morphology. English VP-preposed sentences manifest a tense-doubling effect, whereby both the auxiliary and the lexical verb are able to carry past tense morphology in the preposed order. This is not the case when the sentence is not preposed, as shown by the ungrammaticality of (i):

(i) *Susan did called her mother twice.

Though VP-preposed sentences are able to manifest this tense-doubling effect, it is not mandatory, and the sentence in (ii) is as good as the sentence in (i), if somewhat more stylistic:

(ii) Call her mother twice Susan did.

[4] It is our judgment that (16a) is ungrammatical for all readings of the sentence, i.e., whether *usually* scopes above both QP's, between the two, or below them.

In (14), we show that certain adverbs must be preposed with the VP, whereas in (16), we show that certain adverbs may never be preposed. The example in (15) indicates that certain types of adverbs can optionally be preposed along with the VP, or remain below. Interestingly, for those adverbs that can optionally surface in either initial position or following the subject, e.g., *willingly*, they must appear before an auxiliary in the IP layer, while in the non-inverted counterpart, they must follow it.

(17) a. Every scholar (*willingly) has (willingly) examined the portfolio.
b. Examined the portfolio every scholar (willingly) has (*willingly).

Though we offer no analysis of the role played by adverbs in English VP-preposing, it is interesting to mention that the opposing behaviors of certain types of adverbs with respect to their ability to prepose is amenable to the traditional analysis of S-adverbs and VP-adverbs. VP-adverbs, such as *critically*, must be preposed along with the VP, which intuitively makes sense given the analysis of VP-adverbs as being contained within the outer projection of the VP, while S-adverbs, like *willingly*, can be adjoined either above the left-periphery (as in 15a), or below (as in 15b).[5, 6]

4. Syntactic analysis

We have shown that, contra the classical analysis of VP-preposing, both subject wide-scope and object wide-scope readings are available in VP-preposed sentences. We now turn to the syntactic derivations of the two readings.

4.1. Subject wide-scope reading in VP-preposed sentences

Consider the preposed sentence (6), repeated below. We are concerned first of all with the subject wide-scope reading.

(6) Fond of every boy some girl is.

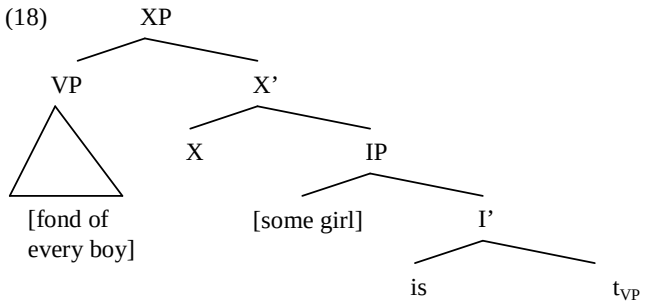
We may analyze (6) by assuming that the VP *fond of every boy* has moved, as one chunk, as shown in (18) below, to a position in the left periphery, presumably a TOPIC position.

[5] Thanks to A. Szabolcsi for pointing this out to us.

[6] An analysis could be constructed that employs more updated theories of adverbs, e.g., Cinque (1999), whereby adverbs reside in a fixed hierarchy in the functional layer. It seems plausible to assume that work of this sort would illuminate descriptive facts regarding exactly how much of the lexical/functional layer is involved in what we call VP-preposing. For our present purpose, however, we remain uncommitted to the exact identity of the preposed chunk, and call it simply VP, understanding that this is an over-simplification.

Following movement of the VP, the object DP *every boy* is unable to extract from its embedded position within the moved VP. This prohibition may be assumed to fall under some form of the *Left Branch Condition*. Therefore, the object cannot c-command the subject *some girl*, i.e. it is scopally trapped in the preposed VP. Thus this derivation generates the subject wide-scope reading but not the object wide-scope reading. [7]

(18)



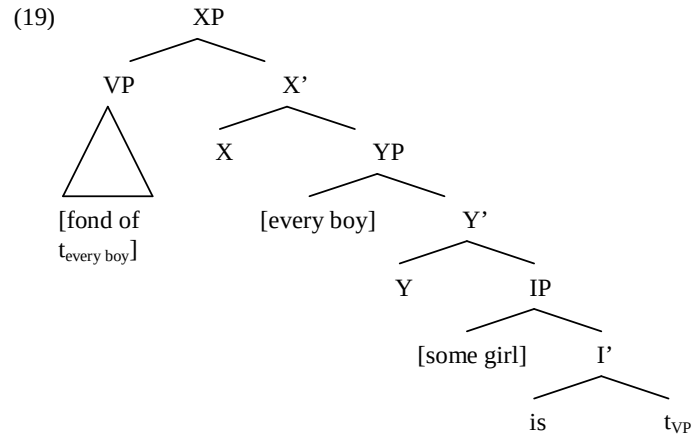
Note that this analysis is in essence similar to the classical analysis of the subject wide-scope reading: the claim is that the object DP is trapped within the fronted VP and is unable to c-command the subject.

4.2. Object wide-scope reading in VP-preposed sentences

In order to derive the object wide-scope reading, the quantified object *every boy* must have a landing site outside the VP, so that it can c-command the subject. We therefore propose that the object first extracts on its own to a left-peripheral position. Here the object scopes over the subject. The movement of the object is followed by the preposing of the remnant VP *fond-of*, generating the surface word order in (6), which is identical to the surface word order for subject wide-scope. The structure is shown in (19).

[7] There is no mechanism that allows the object DP to scope over the subject without extracting from the VP. Although May (1985) proposed a process of quantifier adjunction, whereby a quantified DP could adjoin to its maximal projection and extend its scope over the containing clause without violating the prohibition on extraction from a specifier, there is no independent motivation for such a movement.

(19)



In this derivation, the object *every boy* scopes over the subject *some girl*. Note that this scope-relation still holds even if we assume the VP to reconstruct.

The structures proposed in (18) and (19) are overtly distinguished in other Germanic languages as discussed in the next section drawing on Swiss-German.

4.3. Scope and constituent order in Swiss German

Evidence for distinct structures corresponding to the distinct interpretations of VP-preposed sentences can be gleaned from analogous constructions in Swiss German, where the active V2-constraint straightforwardly indicates the constituent status of the string preceding the V2 auxiliary.

Swiss German allows a multitude of surface orders with transitive verbs, some of which are ambiguous with respect to the scopal interaction of the two arguments. In the terms adopted here, differences in interpretation are the expression of different positions the scope bearing elements are in. Consider for instance example (20a), in which the object, but no verbal element, is preposed, and whose surface structure is ambiguous. With a flat intonation the O>S reading is preferred. Stressing the quantificational determiner in the preposed object however inhibits such a construal and the only surviving reading is S>O, as illustrated in (20b).[8]

[8] In (20b) the intonation falls drastically on the head nominal *Tubä*, indicating a break between the determiner and the nominal. A pronunciation in which on the other hand there is an intonational peak on the first syllable of the head nominal is indicative of a different structure and maps onto an O>S reading.

(20) a. [Uf jedi Tubä] het mindeschtens äi Soldat gschossä. O>S, (S>O)
At every dove has at leas one soldier shot
b. [Uf JEDI Tubä] het mindeschtens äi Soldat gschossä. S>O
At EVERY dove has at least one soldier shot

Both these readings are also available in non-preposed structures, similarly exhibiting preferences in either direction depending on intonation.

Now consider examples (21) which parallel the English VP-preposed structures discussed above. Swiss German, being a robust V2 language in main clauses gives us a tool to identify constituency of a fronted element. The string preceding the auxiliary is one constituent.

In (21a) the VP containing the lexical verb and the object is fronted.[9] The result unambiguously maps onto an S>O reading, witnessing that the object is scopally trapped in the fronted VP.

(21) a.? [Uf jedi Tubä gschossä] het mindeschtens äi Soldat. S>O
At every dove shot has at least one soldier
b. [Gschossä] het uf jedi Tubä mindeschtens äi Soldat. O>S
Shot has at every dove at least one soldier

In (21b) on the other hand, the fronted VP only contains the verb. The object precedes the subject in the mittelfeld. We conclude that the object must have moved out of the VP prior to VP-fronting. This movement of the object to a position preceding the subject is scope-sensitive, leading to an O>S reading.

The two structures in (21) correspond to the structures of the (ambiguous) English surface string in (6), overtly distinguishing them.

The facts are paralleled with adjectival predicates as illustrated in (22).

(22) a. [Schtolts uf jedä Buäb] isch sicher irgend es Mäitli. S>O
Proud of every boy is surely some girl
b. [Schtolts] isch sicher uf jedä Buäb irgend es Mäitli. O>S
Proud is surely of every boy some girl

In (22a) the predicate containing the object is fronted and the object is scopally trapped, hence cannot scope over the subject. In (22b) on the other hand the object has moved out of the predicate to a scope-bearing position c-commanding the subject. Subsequently the AP containing only the adjective is fronted.

4.4. VP-Preposing and Gapping[10]

[9] Whether the fronted constituent is VP or some bigger XP is orthogonal to the discussion. What is important is that the fronted constituent properly includes the object but not the subject.

[10] We are grateful to Mark Baltin for pointing out to us the relevance of gapping for our proposal.

Additional support for the analysis of the object wide-scope reading as object extraction followed by VP remnant movement is obtained from the interaction of VP-preposing and gapping in English.

In order to predict the availability of object wide-scope, we have proposed a syntactic derivation in which the quantified object extracts to a position where it can scope over the subject. The remnant VP then extracts to the left of the object. At the end of this derivation, the remnant VP and the quantified object are not one constituent, but are only linearly adjacent.

This constituency allows gapping of the VP without affecting the object as in example (23). In (23), the object wide-scope reading is available, and gapping is acceptable.

(23) Thoroughly examine every country in Europe some CIA agent did, and <*thoroughly examine*> every state in the US some FBI agent did.

The object wide-scope reading is given in (24).

(24) For every country in Europe, some possibly different CIA agent thoroughly examined it,
and for every state in the US, some possibly different FBI agent examined it.

∀y[country-in-Europe'(y) ? ∃x[CIA-agent'(x) & thoroughly-examined'(y)(x)]]
& ∀y[state-in-the-US'(y) ? ∃x[FBI-agent'(x) & thoroughly-examined'(y)(x)]]

We note that while the object wide-scope reading is strongly available, the subject wide-scope reading is also available, a fact for which we do not have an explanation.[11]

In (23), only the adverb+verb constituent *thoroughly examine* is gapped, indicating that the quantified object is a distinct constituent, and not a sub-constituent. This supports our proposal for a structure in which the (preposed) quantified object forms a separate constituent from the rest of the VP.

5. Semantics of English VP-preposing

[11] We note that evaluating the scopal possibilities in examples like (23) is extremely difficult. We therefore do not consider our inability to account for the possible availability of the subject wide-scope reading as a major problem, since this reading may be accounted for by some unrelated factor. The presence of the object wide-scope reading, however, which we use as evidence for constituency, is very clear, in the judgment of the two native speaker authors as well as two additional informants."

In this section we provide a step-by-step compositional interpretation of the final stages of our two derivations using the machinery of Combinatory Categorial Grammar (CCG; Ades & Steedman 1982, Steedman 1987, Szabolcsi 1987a,b). In CCG, 'elements [of language] like verbs are associated with a syntactic category that identifies them as FUNCTIONS and specifies the type and directionality of their argument(s) and the type of their result' (Steedman 1991). The derivation of sentences proceeds, therefore, as processes of functional application, where a verb is associated with its arguments to create a sentence. The grammar also allows for the combination of elements that do not form constituents in the traditional sense, although coordination facts as well as the kind of data this paper is concerned with indicate that they are in fact constituents. These analyses are facilitated by the use of functional operations, such as type lifting and functional composition. In CCG, movement is not assumed, and the semantics of a sentence is derived from its surface structure. However, Jacobson (1990) has argued that traces can be represented as identity functions. We will follow Jacobson in this, in order to provide analyses that are closer to the structures argued for in preceding sections.[12]

Let us begin by deriving the subject wide-scope reading for sentence (6), repeated here.

(6) Fond of every boy some girl is.

In this derivation, the category of each lexical element appears directly below the word, and its semantic interpretation appears below the lexical category.

(25)

Fond-of	every boy	some girl (is)[13]	ec
((t\e)/e)	(t\e)\((t\e)/e)	t\(t\e)	
(t\e)\(t\e)			
λyλw[f-of'(y)(w)]	λRλz∀x[boy'(x) → R(x)(z)]	λP∃y[girl'(y) & P(y)]	λP[P]
	B		
(t\e)		t\(t\e)	
λz∀x[boy'(x) → [fond-of'(x)(z)]]		λP∃y[girl'(y) & P(y)]	
t			
∃y[girl'(y) & ∀x[boy'(x) → fond-of (x)(y)]]			

In (25), *some girl* is analyzed as a generalized quantifier, and *every boy* has a type that is derived from that of a generalized quantifier. *Every boy* is

[12] Jacobson assumes that the categories of traces are non-directional, while we assign categories whose directionality does not change the category of what they combine with. This difference is of no concern here.

[13] We assume the auxiliary is semantically vacuous, or an identity function, and ignore it.

an object quantifier, insofar as it seeks a two-place predicate to its left and returns a verb phrase. *Some girl* is a subject quantifier insofar as it seeks a verb phrase and returns a sentence, i.e., a truth-value. Note that it seeks a verb phrase to its left. In this way it corresponds to the surface structure of the sentence by expecting a left-extracted VP. The element *ec* is a phonetically empty element corresponding to the trace of the extracted VP. It is interpreted as an identity function from VPs to VPs; it combines with the subject by functional composition (notated as B).

In the last line of this derivation, the subject combines with the VP by functional application. Because *some girl* is the major functor and *fond of every boy* the minor functor, the subject takes wide scope.

Let us now derive the object wide-scope reading of the sentence in (6).

(26)

step 1:

every boy	some girl	(is)	ec2
t/(t/e)	(t/e)\((t\e)/e)		
((t\e)/e)\((t\e)/e)			
λP∀x[boy'(x) → P(x)]	λRλz∃y[girl'(y) & R(z)(y)]		λR[R]

B

(t/e)\((t\e)/e)
λRλz∃y[girl'(y) & R(z)(y)]

B

t\((t\e)/e)
λf∀x[boy'(x) → ∃y[girl'(y) & f(x)(y)]]

step 2:

Fond-of	ec1	every boy some girl (is) ec2
(t\e)/e	e/e	t\((t\e)/e)
λwλz[fond-of'(w)(z)]	λx[x]	λf∀x[boy'(x) → ∃y[girl'(y) & f(x)(y)]]

(t\e)/e
λwλz[fond-of'(w)(z)]

t
∀x[boy'(x) → ∃y[girl'(y) & fond-of'(x)(y)]]

In (26), *every boy* is analyzed as a generalized quantifier, and *some girl* has a type that is derived from that of a generalized quantifier. *Every boy* is

an object quantifier insofar as it seeks a sentence missing an object. Note that it seeks this sentence to its right, making it a left-extracting object quantifier. This corresponds precisely to our analysis of object wide-scope VP-preposed sentences. *Some girl* is a subject quantifier insofar as it seeks a transitive verb (two-place predicate) and an object to return a sentence. It seeks the verb and the object to its left, corresponding to the surface structure of the sentence after extraction of the object and remnant movement of the VP. The elements *ec1* and *ec2* are phonetically empty elements corresponding to the trace of the extracted object and the remnant-moved VP, respectively. *E*c1 is interpreted as an identity function from individuals to individuals and combines with the VP by functional composition. *Ec2* is interpreted as an identity function over two-place predicates. This corresponds to the analysis in which it is the trace of the remnant VP, which contains only the verb.

In (26), *some girl* first combines with *ec2*. Following this, the left-extracting object *every boy* and the subject *some girl* are concatenated via functional composition, where the directionality is disharmonic. The range of the minor functor matches the domain of the major functor, resulting in a category whose domain is that of the minor functor and whose range is that of the major functor. The directionality of the composed category is inherited from the directionality of the minor functor. The object *every boy* takes wide scope, as seen in the interpretation of (26), due to the fact that it is the major functor in the composition.

After *fond of* combines with *ec1*, the string *every boy some girl is ec2* combines with the string *fond of ec1* by functional application. At this point in the derivation the scope relations have already been determined.

(25) and (26) present semantic derivations for the two possible interpretations of English VP-preposed sentences. In (25), the subject combines with the VP by functional application, where the subject is the major functor and the object is the minor functor, so the subject takes wide scope. In (26), the object and the subject combine by functional composition, where the object is the major functor and the subject is the minor functor, so the object takes wide scope. The ability of the object category to combine directly with a category derived from the subject, prior to combining with the remnant VP, results from the use of categories that correspond to the proposed surface structure of the object wide-scope sentence. Note also that the two categories assigned to the subject *some girl* in the subject wide-scope interpretation (25) and the object wide-scope interpretation (26) differ only in that the subject in (25) seeks a VP, while the subject in (26) seeks an object and a transitive verb. In this way, the derivation given in (25) is strictly a VP-preposing structure, where the subject seeks to its left a full VP. In (26), the structure requires that the object first extract alone to the left-periphery, where it composes with the subject. The composed subject/object then composes with the fronted remnant to create a preposed sentence. These semantic derivations, therefore, show that a compositional semantics for the two interpretations can be derived from the syntactic analyses we propose.

6. Conclusion

We have shown that the attested ambiguity of VP-preposed sentences in English can be accounted for by two separate syntactic derivations. In the derivation of the subject wide-scope reading, the VP preposes in one chunk, following which the object is trapped within the preposed VP, incapable of scoping over the subject at any point in the derivation. In the derivation of the object wide-scope reading, the object first extracts to a scopal position in the left periphery, after which the VP remnant moves to its left. Evidence for this proposal is provided by Swiss German, where the V2 constraint makes constituent structure apparent. When the VP extracts as a single constituent, only the subject wide-scope reading is available. When the object can be shown to have extracted first, only the object wide-scope reading is available. Further evidence for this constituency is provided by gapping in English, where we have seen that the verbal part of the VP may be elided without affecting the object, indicating that they form separate constituents. Finally, we have shown that a semantic analysis of VP-preposed sentences in terms of Combinatory Categorial Grammar can derive both scope interpretations, and that the assignment of types within the semantic derivations requires the syntactic categories that we propose.

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On subject-verb inversion in Russian

Anna Erechko

In this paper I examine some word order alternations in Russian and compare them to their Romance (mainly Italian) counterparts. I argue that in a language like Russian, which, as I demonstrate, does not have verb movement, SVO - OVS alternation can be derived in several steps, via movement of the subject out of its thematic position followed by remnant VP preposing.

1.Introduction

The basic word order in Russian is SVO. This means that SVO sentences are unmarked and they do not require any special context. This order usually occurs in presentational sentences, for example, the sentence in (1) can be uttered as an answer to the question 'What happened?'.

(1) Oleg razbil okno
Oleg-NOM broke window-ACC
'Oleg broke a/the window'

Russian also allows for the subject of both transitive and intransitive (unaccusative and unergative) verbs to appear postverbally, yielding OVS or VS sentences respectively.[1]

[1] Although both VSO and VOS orders are also possible in Russian, they usually involve contrastive verb topicalization.

(i) Otpravil Oleg pis'mo
sent Oleg-NOM letter-ACC
'What Oleg sent was the letter' (…but he forgot to send the parcel)

(ii) Otpravil pis'mo Oleg
sent letter-ACC Oleg-NOM
'The one who sent the letter was Oleg' (…but he didn't write it)

In this paper, I will not consider such cases, restricting my attention to the sentences with no contrastive material.

(2)a. Priexal Oleg
arrived Oleg-NOM
'Oleg arrived'
b. Pozvonil Oleg
called Oleg-NOM
'Oleg called'
c. Okno razbil Oleg
window-ACC broke Oleg-NOM
'Oleg broke the window'

However, transitive and intransitive sentences differ from the point of view of their information structure and discourse functions: while (2a) and (2b) can still be used in an 'out of the blue' context, (2c) cannot. As the question-answer pairs in (3) show, the OVS sentence requires its subject to be the only new information, and the rest of the sentence is already 'given'.

(3)a. *Who broke the window?*
Okno razbil Oleg
window-ACC broke Oleg-NOM
'Oleg broke the window'
b. *What happened?*
#Okno razbil Oleg
window-ACC broke Oleg-NOM

In this paper I will mainly concentrate on transitive sentences and argue that in these cases the OVS order is derived via movement of the subject to the specifier position of a clause-internal focus projection, which is followed by remnant VP movement.

The paper is organized as follows. In section 2 I present the analyses of subject inversion that have been proposed for Romance languages and introduce the problems that arise when these analyses are applied to the Russian data. I discuss these problems in the two subsequent sections: section 3 contains some arguments against VP-internal analysis that come from the interpretation of subjects in the postverbal position, and section 4 deals with the absence of verb movement in Russian. In section 5 I outline the analysis of inversion involving VP movement rather than verb movement. In section 6 I discuss the focus interpretation of postverbal subjects in some more detail and show that there is no evidence for contrastive interpretation of the subject in OVS sentences. Section 7 provides a conclusion.

2. The analyses of subject inversion in Romance

SV - VS alternations also exist in some Romance languages, and this

phenomenon has been extensively discussed in the literature.[2] In these languages postverbal subjects have been analysed either as being right-adjoined to VP (for example, by Rizzi 1982) or occupying the right specifier of VP (Bonet 1990). However, Ordóñez (1998) argues for the antisymmetric approach to this phenomenon and suggests an alternative analysis of VSO and VOS alternations in Spanish. Following Koopman&Sportiche (1991), Ordóñez assumes the VP-internal subject hypothesis, and argues that in VSO sentences the subject is either inside the VP or in a specifier position of another projection, NeutP (which, according to Ordóñez, is only available in Spanish, but not in Italian or Catalan, and where the subject can remain prosodically neutral). The VOS order is derived via scrambling of the object across the position of the subject, since in VOS sentences the object c-commands the subject. In both cases, the verb moves to a position above the subject by head-movement.

A similar analysis has been proposed for Italian by Cardinaletti (2002) who argues that Italian postverbal subjects remain in their thematic position, i.e. the specifier of VP. The linearly postverbal position of the subject is due to verb movement in both intransitive (4a) and transitive (4b) sentences; in addition, movement of the object across the subject is also assumed in the latter example (Cardinaletti 2002:4).

(4)a. (Mi) ha chiamato un uomo
me has called a man
*'There called (me) a man'

b. Ha comprato il giornale Gianni
has bought the newspaper Gianni
*'There bought the newspaper John'

However, if one tries to apply this analysis to the Russian data, two problems immediately arise. First of all, postverbal subjects in OVS sentences do not receive what can be described as a VP-internal interpretation. The second problem is the absence of any evidence for verb movement in Russian, at least in declarative sentences. In the following two sections I will consider these problems in more detail.

3. The interpretation of postverbal subjects

3.1. VP-external properties

The aim of this section is to show that the interpretation of postverbal subjects in subject-verb inversion contexts in Russian is different from the one of genuine VP-internal subjects of other languages. The subjects in OVS contexts

[2] See, among others, Rizzi (1982), Belletti (1999, 2001, 2002), Cardinaletti (2002) for Italian, Ordóñez (1998) for Spanish and Catalan. For the discussion of French and Italian data see Belletti (2002).

do not display the main properties that VP-internal subjects are predicted to have by Diesing's Mapping Hypothesis.

(5) *Mapping Hypothesis* (Diesing 1992:10):
Material from VP is mapped into the nuclear scope.
Material from IP is mapped into a restrictive clause.

The Mapping Hypothesis predicts that presuppositional subjects (e.g. definite/specific and quantified DPs) do not stay inside the VP. As Diesing herself shows, this prediction is born out in languages like English and German. The contexts where the so-called 'definiteness effect' shows up can be exemplified by English *there*-sentences: it is a well-know fact that definite and strongly quantified DPs are not acceptable in such sentences.

(6)a. There arrived a student
b. *There arrived the student/every student/many of the students

In Russian, however, postverbal DPs in OVS sentences are not subject to the definiteness restriction. The examples below show that quantified DPs like *každyj student* 'every student' or *mnogie studenty* 'many of the students' are allowed to surface in this position.[3]

(7) étu zadaču rešil každyj student
this-ACC problem-ACC solved every-NOM student-NOM
'Every student solved this problem'

(8) étu zadaču rešili mnogie studenty
this-ACC problem-ACC solved many-NOM students-NOM
'Many students solved this problem'

The presuppositional nature of Russian postverbal subjects can be easily seen in negative sentences, where the subject can have a wide scope interpretation.

(9) étu zadaču ne rešili dva studenta
this-ACC problem-ACC neg solved two-NOM student-GEN

[3] In Russian different morphological forms of the weak quantifier 'many' can be used to distinguish the two readings: the non-agreeing form *mnogo* (which behaves like a numeral with respect to case assignment) corresponds to the existential/cardinal reading and the form that shows adjectival agreement *mnogie* corresponds to the partitive reading.

(i) v parke bylo mnogo detej /*mnogie deti
in park was many children-GEN many-NOM children-NOM
'There were many children in the park'

(ii) mnogie deti /*mnogo detej byli v parke
many children-GEN many-NOM children-NOM were in park
'Many children were in the park'

a. ‘Two students didn’t solve this problem’
b. *’It is not the case that two students solved this problem’

The sentence in (9) has an interpretation where the subject is outside the scope of sentential negation, meaning that there were two of the whole group of students who didn’t solve the problem. Crucially, it does not have the meaning indicated in (b), which would correspond to the narrow scope reading of the subject (in such a case the sentence would have been true if, for instance, only one of ten students in the group solved the problem, but nine didn’t).

Another context where postverbal subjects differ from genuine VP-internal ones is provided by sentences with individual-level predicates. According to Diesing, subjects of individual-level predicates are base-generated in the higher subject position (i.e. the specifier if IP) directly, so these predicates do not permit the option of having a VP-internal subject. The following examples from Greek support this claim: in Greek VSO order, where the subject has been argued to occur inside the VP (by Alexiadou 1999), is only possible with stage-level predicates, but not with individual-level ones.

(10) ehtise i Maria to spiti
built the-Mary-NOM the-house-ACC
‘Mary built the house’

(11)a. *kseri i Meropi Ispanika
knows the-Meropi-NOM Spanish
b. I Meropi kseri Ispanika
the-Meropi-NOM knows Spanish
‘Meropi knows Spanish’

However, subjects of individual-level predicates are not excluded from inversion contexts in Russian. Generic interpretation is also available for bare plural subjects in that position, so the sentence in (12) can have a meaning in which children in general are those who like ice-cream.

(12) moroženoe ljubjat deti
ice-cream-ACC like children-NOM
‘Children like ice-cream’

To sum up, all the facts discussed in this section point in one direction, namely that in Russian postverbal subjects in OVS sentences do not have a proper VP-internal interpretation, therefore it does not seem plausible to analyse them as occupying their thematic position inside the VP.

3.2. Focalization

Subjects of OVS sentences obviously differ from preverbal subjects in their

discourse properties. As I mentioned already, an OVS sentence like the one in (3), repeated here as (13), is only felicitous as an answer to the question *Who broke the window?* but not to the question *What happened?*

(13)a. *Who broke the window?*
okno razbil Oleg
window-ACC broke Oleg-NOM
'Oleg broke the window'
b. *What happened?*
#okno razbil Oleg
window-ACC broke Oleg-NOM

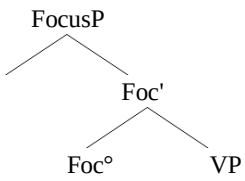
From this example it is clear that the OVS order is only appropriate in contexts where the subject can receive narrow focus interpretation.

Similar facts have been observed for Italian, where subjects of both VSO and VOS sentences are always interpreted as a part of new information. As far as VOS sentences are concerned, Belletti (2001, 2002) notes that to the extent that they are acceptable, the only interpretation that they allow is with the narrow focus on the subject. She uses the same question-answer test to show that the VO part of the sentence must be 'given', i.e. it is necessarily interpreted as a topic.

(14)a. Chi ha capito il problema?
who has understood the problem
b. Ha capito il problema Gianni
hasunderstood the problem Gianni

Belletti (1999, 2001, 2002) proposes an analysis that accounts both for the VP-external properties and for the narrow focus interpretation of inverted subjects. Under this analysis sentences with subject-verb inversion are taken to be instances of clause internal focalization. Belletti assumes that Focus is a syntactic feature heading a functional projection in the clause structure and creating a regular checking configuration. A clause internal Focus projection is located above VP, in the low IP area.

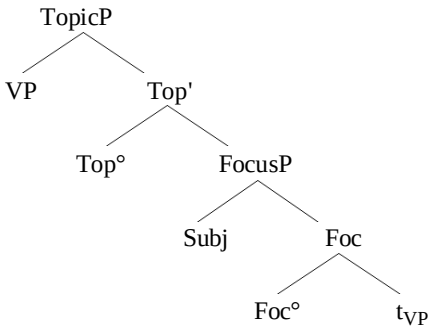
(15)



According to Belletti, in VS sentences the subject does not remain in its thematic position within the VP, but moves to the specifier of FocusP, and the verb moves across it. The derivation of VOS sentences differs only in that in the latter case the movement of the subject is followed by 'remnant

topicalization' of the VP containing the trace of the subject to a clause internal Topic projection, also located in the low IP area.

(16)



Similar account for VOS sentences is proposed in Ordóñez (1998), first for Italian and Catalan, and then also for Spanish. Under Ordóñez' analysis subjects in VOS structures move to an external focus projection above IP. Scrambling of the object follows, and then the whole IP moves even higher (probably to some position in the CP area).

It should be noted, however, that the focus projection in the left periphery of the clause is usually associated with contrastive interpretation (see, for example, Rizzi 1997). But, as many researchers point out, postverbal subjects in Romance are not necessarily contrastive. I will come back to this issue in section 6, and argue that in Russian as well postverbal subjects are not contrastive, but rather new information foci.

4. Absence of verb movement

Given that Russian postverbal subjects have the same interpretation as their Italian counterparts, it seems promising to apply Belletti's analysis to Russian data. However, it cannot be done straightforwardly since this analysis crucially involves verb movement across the position of the subject, and in this section I will argue that in Russian verb movement is not generally available.

4.1. The position of adverbs and floating quantifiers

Since Pollock (1989) the well-known tests for verb movement have been the position of the verb relative to the negative markers, adverbs and floating quantifiers. In Russian sentential negation is realized as a pro-clitic which cliticizes to the finite verb and therefore obligatorily precedes it in all contexts including inversion.

(17) ‘Prestuplenie i nakazanie’ ne pročitali dva čeloveka
crime and punishment neg read two people
‘Two people didn’t read ‘Crime and Punishment’

However, this fact alone cannot be taken as evidence against verb movement, since in some contexts the verb and the negative particle can move together, e.g. under contrastive topicalization, which is shown in (18).

(18) Ne pročitali étu knigu tol’ko Tanja i Andrej
neg read this book only Tanja and Andrej
‘Only Tanja and Andrej didn’t read this book’

Adverbs, on the other hand, provide more reliable information about the position of the verb. As the examples below show, adverbs in Russian never interfere between a lexical verb and its complements. Even aspectual adverbs, like *vdrebezgi* ‘to smithereens’, which presumably occupies the same position as *completely*, or the adverb *xorošo* ‘well’ (one of the lowest ones in Cinque’s adverbs hierarchy), precede the verb.[4]

(19)a. Oleg vdrebezgi razbil čašku
Oleg-NOM to smithereens broke cup-ACC
‘Oleg broke the cup to smithereens’
b. *Oleg razbil vdrebezgi čašku
Oleg-NOM broke to smithereens cup-ACC

(20)a. Lena xorošo govorit po-francuzski
Lena-NOM well speaks French
‘Lena speaks French well’
b. *Lena govorit xorošo po-francuzski
Lena-NOM speaks well French

There is no reason to suggest that the position of the verb is higher in sentences with inversion, since in these cases adverbs still precede the verb. Crucially, they do not intervene between the verb and the subject, as the following examples clearly show.

(21)a. čašku vdrebezgi razbil Oleg
cup-ACC to smithereens broke Oleg-NOM
‘Oleg broke the cup to smithereens’
b. *čašku razbil vdrebezgi Oleg
cup-ACC broke to smithereens Oleg-NOM

[4] The grammaticality judgements given below are valid for the cases when the sentences are pronounced with neutral, non-interrupted intonation and contain no contrastive focalization.

(22)a. po-francuzski xorošo govorit Lena
French well speaks Lena-NOM
'Lena speaks French well'
b. *po-francuzski govorit xorošo Lena
French speaks well Lena-NOM

The position of floating quantifiers when they occur to the right of the verb can also indicate that verb movement has taken place across the position of the subject. And again, floating quantifiers never follow the lexical verb in Russian.

(23) mal'čiki (vse) pročitali (*vse) étu knigu
boys-NOM (all) read (*all) this-ACC book-ACC
'The boys all read this book'

This suggests that lexical verbs in this language either do not move at all or move very locally (presumably to the v head).[5]

4.2. The position of subjects with respect to other complements

Another important fact to notice is that in sentences with inversion the subject of the sentence must be final. Apart from narrative inversion and contrastive verb topicalization contexts, Russian, unlike Italian or Spanish, does not allow either VSO or XVSO orders, though XVOS order is possible.[6]

(24)a. mne podaril étu knigu moj sosed
me-DAT gave this-ACC book-ACC my-NOM neighbour-NOM
'My neighbour gave me this book'
b. *mne podaril moj sosed étu knigu
me-DAT gave my-NOM neighbour-NOM this-ACC book-ACC

The examples in (25) show that any other complements of the verb, be it direct, indirect or prepositional object, must precede the inverted subject.

(25)a. *posle obeda vstretil Oleg direktora
after dinner met Oleg-NOM director-ACC
b. *posle obeda pozvonil Oleg direktoru
after dinner called Oleg-NOM director-DAT

[5] Apart from the considerations of uniformity of the derivation, there is no evidence either for or against V-to-v movement.

[6] As far as contrastive verb topicalization and narrative inversion are concerned, I would assume that in these constructions VSO order is derived from SVO via verb movement to the left peripheral Topic projection in the former case and to Force° (with an empty operator in the specifier of ForceP) in the latter case.

c. *posle obeda pogovoril Oleg s direktorom
after dinner talked Oleg-NOM with director-INSTR

It should be noted that VSO is the order that one can expect to be available in a language with verb movement and the subject in its thematic position. It is attested in Spanish as well as in other languages with verb movement outside Romance. Greek, for example, allows VSO in presentational contexts (the following examples are from Alexiadou 1999).

(26)a. ehtise i Maria to spiti
built the-Mary-NOM the-house-ACC
'Mary built the house'
b. kerdhise i Maria ton aghona
won the-Mary-NOM the-race-ACC
'Mary won the race'

In Russian, however, the subject, when postverbal, always appears in sentence final position. This fact, together with the position of adverbs and floating quantifiers discussed in the previous section, provides strong evidence against a verb-movement analysis of inversion in this language.

5. The Analysis

Since, as we have seen in the previous section, verb movement in Russian is not available, I am going to suggest that in this language inversion is uniformly derived via verb projection movement. Following Belletti (1999, 2001, 2002), I propose that, assuming the starting configuration in (27), the derivation of OVS sentences proceeds as follows.

(27) [$_{vP}$ Oleg razbil okno]
Oleg-NOM broke window-ACC

(i) the subject moves to the specifier of the clause internal Focus projection above vP.

(28)→ [$_{FocP}$ Oleg$_i$ Foc$^{\circ}$ [$_{vP}$ t$_i$ razbil okno]]

(ii) the remnant vP moves across the subject (presumably to one of the topical positions in the IP field that host 'old information' topics).

(29)→ [$_{TopP}$ [$_{vP}$ t$_i$ razbil okno] Top$^{\circ}$ [$_{FocP}$ Oleg$_i$ Foc$^{\circ}$ t$_{vP}$]]]

At this point one would get the exact counterpart of Italian VOS sentences, but in Russian the derivation proceeds one step further: (iii) some element (e.g. the object) moves to the specifier of RefP to fill the position of the subject of

predication.[7]

(30)→ [$_{RefP}$ okno$_k$ … [$_{TopP}$ [$_{vP}$ t$_i$ razbil t$_k$] Top° [$_{FocP}$ Oleg$_i$ Foc° t$_{vP}$]]]

Generalizing this analysis to all inversion contexts, one should keep in mind that in Russian VS sentences are systematically ambiguous between presentational reading and the reading with the narrow focus on the subject. In the former case such sentences constitute thetic expressions where RefP is not projected at all (as it is argued by Kiss 1996). In the latter case, I assume that they have the same derivation as OVS, with the subject moving to the focus projection and the specifier position of RefP being filled by the empty locative argument Ø$_{LOC}$ (cf. Pinto 1997).[8]

6. Identificational or information focus?

In this section I would like to consider the focus interpretation of postverbal subjects in OVS sentences in some more detail and try to identify the type of focus that is associated with this position in Russian.

Belletti (2002) assumes that in Italian the clause internal focus projection, unlike the left peripheral one, is not associated with any special contrastive interpretation, and the postverbal subject that appears in its specifier is merely new information subject. This assumption, however, contradicts the claim made in Kiss (1998) that only identificational focus occupies the specifier of a special functional projection, while information focus is VP-internal and involves no syntactic reordering.

According to Kiss, 'identificational focus represents a subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold; it is identified as the exhaustive subset of this set for which the predicate actually holds'. This kind of focus can be exemplified by English cleft constructions or by the elements that occupy the preverbal focus position in Hungarian.

On the other hand, information focus is merely 'a part of the sentence that conveys new, nonpresupposed information marked by one or more pitch accents' (Kiss 1998:245-246). Thus, information focus is present in every sentence, but not every sentence necessarily contains an identificational focus.

Identificational focus differs from information one in a number of respects, one of them being the availability of exhaustive interpretation. Russian postverbal subjects lack this interpretation, since they do not pass either of the

[7] A.Belletti (p.c.) suggested to me that the necessity of this additional step in Russian could be attributed to the unavailability of referential *pro* in this language, while *pro* could be assumed to occupy the specifier of RefP in Italian. I would rather leave the question of the reason for the movement to the specifier of RefP open here, since this issue requires special investigation.

[8] Another alternative would be to suggest, in line with Raposo&Uriagereka 1995, that the remnant VP itself can function as the subject of predication.

tests for exhaustivity given in Kiss (1998).[9]

(31)a. étu zadaču rešili Dima i Oleg
this-ACC problem-ACC solved Dima-NOM and Oleg-NOM
'Dima and Oleg solved this problem'
=> b. étu zadaču rešil Dima
this-ACC problem-ACC solved Dima-NOM
'Dima solved this problem'

(32) A.: Étu zadaču rešil Dima
this-ACC problem-ACC solved Dima-NOM
'Dima solved this problem'
B.: %Net, Oleg eë tože rešil
no Oleg-NOM it-ACC too solved
'No, Oleg solved it, too'

There are also no distributional restrictions with regard to universal quantifiers or *even*- phrases which identificational foci in other languages show.

(33)a. étu zadaču rešil každyj
this-ACC problem-ACC solved everyone-NOM
'Everyone solved this problem'
cf. *It was everyone who solved this problem
b. étu zadaču rešil daže Dima
this-ACC problem-ACC solved even Dima-NOM
'Even Dima solved this problem'
cf. *It was even John who solved this problem

On the other hand, postverbal subjects exhibit some properties of identificational focus as well. One, for instance, is being unable to project their focus to the rest of the sentence; another one is the ungrammaticality of a

[9] Kiss (1998) uses two tests. The first test, proposed by Szabolsci, consists of two sentences: the first sentence contains two coordinate DPs in focus, and in the second sentence one of these DPs is dropped. The focus is exhaustive if the second sentence does not belong to the logical consequences of the first one.
(i)a. It was **a hat and a coat** that Mary picked for herself.
≠> b. It was **a coat** that Mary picked for herself.
(ii)a. Mary picked A HAT AND A COAT for herself
=> b. Mary picked A HAT for herself.
The second test used by Kiss involves the following dialog, describing a situation when Mary did pick a hat for herself, therefore the negation can only be interpreted as the negation of exhaustivity.
(iii) A: It was **a hat** that Mary picked for herself.
B: No, she picked a coat, too.
(iv) A: Mary picked A HAT for herself.
B: %No, she picked a coat, too.
These tests show that exhaustive interpretation is available for focused constituents in English cleft constructions, but not for postverbal information focus.

subconstituent in this position.

(34) *étu zadaču mal'čik rešil umnyj
this-ACC problem-ACC boy-NOM solved clever-NOM
'The boy who solved the problem was clever'

Yet both these properties could follow if we assume that in Russian, like in Italian, focus interpretation always arises as the result of movement to the specifier position of some special projection. The absence of exhaustive interpretation can be explained if the features [+exhaustive]/[+contrastive] are only associated with the left peripheral focus projection, but not with the clause internal one.

7. Conclusion

In this paper I argued that the derivation of OVS sentences in Russian consists of three steps: (i) movement of the subject to the specifier position of the focus projection located in the IP area, (ii) subsequent movement of the remnant vP across the position of the subject, and (iii) filling the position of the subject of predication. I also discussed the interpretation of postverbal subjects in this language and showed that movement of the subject to the clause internal focus projection is associated with information rather than identificational focus, despite the fact that it involves syntactic reordering.

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Word Formation: Syntax or Morphology?

Alexandra Galani

The purpose of this paper is to investigate the internal constituent structure of the verbal forms in Modern Greek. The evidence presented shows that word formation is a complex process involving the obligatory interaction of syntactic as well as morphological structural levels, contra Rivero (1990) and Joseph and Smirniotopoulos (1993). It is argued that both syntax and morphology set constraints that must be satisfied in order for the derived forms to be grammatical.

1. Introduction

In this paper, I discuss the internal constituent structure of the verbal forms in Modern Greek (MG). In line with the data presented in (1-4),[1] it is shown that what follows the root is a morphological unit representing not only aspect and voice but also tense as well as agreement features. The constituents of this morphological cluster cannot be distinguished any further (Galani to appear a).

(1) `e - graf - sa
AUG[2] - root.write - PER.A.PST.1SG
'I wrote.'

(2) gr`af - tika
write - PER.NA.PST.1SG
'I was written.'

(3) graf – [(`O)tan]
write – [(TV)IMP.NA.PST.3SG]
'He/she/it was being written.'

[1] In this paper I will be using the following abbreviations: IMP(erfective), PERF(ective), A(ctive), NA(Non-Active), PST(Past), NPST(Non-Past), SG(Singular), PL(Plural), AUG(ment), INFL(ection), T(heme)V(owel), M(odern)G(reek).

[2] The insertion of the augment is not discussed in this paper. Refer to section 2 for a brief sketch.

(4) kal – [(‘U)tan]
call – [(TV)IMP.NA.PST.3SG]
‘He/she/it was being called.’

Moreover, and following the traditional treatment of theme vowels (TV) (Lieber 1982), I expect TVs (*-o-* in (3) and *-u-* in (4)) to appear next to a root to form a stem (*grafo-, kalu-*) to which the inflectional suffixes (*-tan*) are further added (*grafo-tan, kalu-tan*). TVs are traditionally seen as markers of the conjugational classes to which verbs belong. Crucial for this approach is the claim that TVs are empty morphemes (Spencer 1991)[3] which necessarily means that they do not represent any semantic features. Nonetheless, this claim is not compatible with part of the data; bearing in mind that in (3-4) the TVs consist part of the inflectional suffixes, they cannot be considered as empty morphemes, since they are inflected for semantic features. Additionally, as (5) below shows their morphological spell-out may be subject to agreement.

(5) a. gr`af - [(o)me]
write - [(TV)IMP.NA.NPST.1SG]
‘I am being written.’
b. gr`af - [(e)se]
write - [(TV)IMP.NA.NPST.2SG]
‘You are being written.’

There are two main points of inquiry dealt with in this paper. The first concerns the features represented in TVs. More specifically, it is the structural level at which TVs are inserted that is of interest. The second point relates to the kind of mechanism used to match the verbs belonging to different conjugational classes ((3) versus (4)) with the “correct” set of inflectional suffixes: for example, the root *graf-* (write) will be only matched with *–otan* but not **-utan*. The discussion of these points will also shed light on the question of what kind of process Word Formation (WF) is. There are two dominating approaches regarding WF in the literature: a syntactic treatment (Baker 1985, Pollock 1989) versus a morphological treatment (Lapointe 1980, Di Scuillo and Williams 1987).

If I take WF as a purely syntactic process (Rivero 1990 on MG), I cannot explain the allomorphy (a morphological issue[4]) of the TVs (5) in syntactic terms. In addition, I cannot retain what I called the “correct” matching between the roots and the inflectional suffixes ((3) – (4)). Also, the traditional treatment of TVs (TVs as part of the stem) cannot be assumed within a framework that takes the head of VP to be occupied by the root of the verb. Finally, further problems are created if I assume the Split-INFL hypothesis, as in Rivero

[3] Spencer (1991) further suggests that TVs are independent morphemes and consequently should not be treated as part of the stem.

[4] Allomorphy has been also seen as a phonological issue in the literature (Schane 1973, Hooper 1976 among others).

(1990), who proposes that V, Aspect, Voice, Tense and Agreement all head their own maximal projections in the syntactic representation.[5] This would imply a direct matching between the semantic features and their morphological realisations contrary to what has been previously suggested.

Now, if I assume that WF is a morphological process, there do not seem to be any restrictions constraining the insertion of TVs in the roots. However, if I am correct about the semantic features represented in the TVs, this approach violates what can be seen as the standard treatment of stems. Stems are not inflected for semantic features (Spencer 1991). On the other hand, the allomorphy of TVs is required to be interpreted as the result of the application of a series of readjustment rules, as has been previously attempted in the literature (Aronoff 1976, Joseph and Smirniotopoulos 1993 on MG).

However, in section 3 of this paper, I outline a complex model that exhibits the obligatory interaction of syntax and morphology based on the principles of Distributed Morphology (Halle and Marantz 1993). This model enables me to provide an economical and unified account of the realisation of aspect, voice, tense and agreement in MG. Crucial for this model is the treatment of TVs I assume. The rest of this paper is organised as follows. I first introduce the main principles of the framework I adopt in section 2 and I then move on to the proposals I make for MG in section 3. Finally, the application of the model is illustrated in section 4. In the final section, I conclude.

2. An outline of the framework

Distributed Morphology (DM) is a post-syntactic framework proposed by Halle and Marantz (1993). At the syntactic level, the terminal nodes are seen as complexes of syntactic and semantic features called morphemes. These morphemes lack any phonological specification. Once the syntactic operations are applied (e.g. head-movement), the structure enters into the morphological level. Morphological processes (e.g. fusion) may further modify the structure before Vocabulary Insertion (VI) applies. Fusion is the operation by which two terminal nodes are fused into a single node under the condition that only one vocabulary item that matches all the morphosyntactic features of the fused node can be inserted in the fused node. In the account I propose, the vocabulary item competing for insertion in the fused terminal node should match all the features of this node, contrary to Halle and Marantz (1993:116) who suggest that the vocabulary item inserted in the fused node 'must have a subset of the morphosyntactic features of the fused node, including the features from both input terminal nodes.' The view I take on the subject matter further contradicts Massuet (1999) who claims that the features of the vocabulary item should match all or subset of the features of the fused node. Finally, VI supplies the terminal nodes with phonological features and it is subject to the Subset

[5] See Galani (to appear a) for discussion on the problems Rivero's (1990) account creates for the direct matching between the inflectional suffixes and the syntactic positions they occupy.

Principle (Halle 1997); the most highly specified item for the features of the given terminal node wins the competition among the vocabulary items.

One point should be made clear: although I only discuss the syntax-morphology interface in this paper, I generally propose that WF can be only seen as a complete process once all the syntactic, morphological as well as phonological processes are complete. The necessity of the obligatory application of the phonological processes in WF can be seen in the analysis of the augment in MG. The augment is a morpheme inserted in some verbal forms in the past tenses, when the stress moves to the antepenultimate and the number of the syllables is not adequate to occupy the stress at that position. The augment is consequently a phonologically specified morpheme, the insertion of which cannot be explained in syntactic or morphological terms. Unless it is inserted in those specific forms, WF results at ungrammaticality. This extension on DM's approach to WF is discussed in Galani (to appear b) in detail.

3. An alternative account

In this section, I present my arguments for the complex system of WF I propose. This system requires the obligatory interaction of the syntax and the morphology. Such an analysis contradicts Joseph and Smirniotopoulos (1993) who propose that stems are inflected for aspect and WF is a purely morphological process. It also deviates from Rivero (1990) who claims a direct matching between the pieces of inflection and the syntactic positions they occupy assuming a purely syntactic approach to WF. In section 3.1, I first discuss the status of roots and inflectional suffixes in MG proposing that Rivero's direct matching is not a valid argument. On the other hand, I argue that verbal forms in MG consist of roots and inflectional suffixes. I draw attention to the syntactic operations and constraints that need to be satisfied in order for the derived forms to be grammatical. In section 3.2, I move onto the analysis of the TVs. TVs inflect for aspect but they are treated as part of the morphological cluster representing aspect, voice, agreement and tense. The discussion around TVs answers questions on the morphological restrictions that need to be satisfied in the morphological component.

3.1. Roots and Inflectional Suffixes in Modern Greek

I assume that the MG verbal morphology, in particular, is morpheme-based contrary to Joseph and Smirniotopoulos (1993) who claim that it is stem-based following Anderson (1992). The distinction of three different stems in their account is by no means theoretically and/or empirically motivated and it does not follow a regular, specific and coherent pattern which allows predictions to be made. Consider the following examples:

(6) Stem 1: Imperfective forms
a. gr`af - o
write.IMP - NPST.1SG
'I am writing.'
b. gr`af - [(o)me]
write.IMP - [(TV)NA.PST.1SG]
'I am being written.'

(7) Stem 2: Perfective forms
a. (`e) - grafs - a
AUG - write.PERF - PST.1SG
'I wrote.'

(8) Stem 3: Perfective, Non-active forms
a. gr`aftik – a
write.PERF.NA.PST - PST.1SG
'I was written.'
b. (tha) graft - `o[6]
(future particle) write.PERF.NA.NPST - NPST.1SG
'I will be written.'

It seems that what distinguishes each stem can be either the morphemes representing aspect (6-7) or those representing aspect as well as voice (8); *-s-* (7a) is added to stem 1 (6) for the imperfective versus the perfective distinction. On the other hand in (8a) the morpheme inserted in the root, is not only associated with aspect but also voice features. Consequently, the distinction of stems might be based on aspect or it might be based on aspect and voice.

Similarly, if I associate the different stems with the realisation of aspect, it seems unreasonable to distinguish a third stem based on the realisation not only of aspect but also of voice features, as in (8). This is also associated with the way voice is represented in stems 1 and 2. The question which needs to be addressed here relates to the theoretical reasons that force me to suggest that only in stem 3 is voice represented in the stem, whereas it is in the inflectional suffixes in the other two cases.

In addition the treatment of stems provided here is incompatible with the 'traditional' treatment of stems, as was previously suggested. Stems are formed on the basis of meaningless morphemes attaching to a root. However, the insertion of the morphemes representing aspect and/or voice features violates the status of stems.

Moreover, I am now faced with another issue: what example (8) shows is that the morphological spell-out of stem 3 is further subject to the features of tense. When stem 3 is used in conjunction with the [+past] features, it is spelled-out as *-tik-* (8a), whereas when the [-past] features are represented, it is

[6] The verbal form in this example cannot appear as an independent word. It always appears with the future (*tha graft`o*) or subjunctive particles (*na graft`o*).

then spelled-out as *–t-* (8b). So, the attempt to associate some of the features with concrete morphological pieces in combination with the diversity of the morphological spell-out of these features and their interdependence makes this theory weak.

Consequently if the spell-out of the morphemes representing aspect and voice is subject to the features of tense in addition to the fact that this treatment of stems is not theoretically motivated, I could suggest that what follows the root is a morphological unit representing aspect, voice, agreement and tense. So, the inflectional suffixes are the part of the verbal form which changes throughout the verb paradigm. An important aspect of the account I propose, is the non-existence of stems. I provide further evidence for this position in what follows.

The position I take on the constituents of the verbal forms (roots and inflectional suffixes[7]) is further motivated by claims made on the grammatical category V. I assume with Marantz (1997) that the syntactic category V is a morphological category created by the syntax. I consequently provide support for the post-syntactic nature of WF and I propose that roots become verbalised only when they are matched to the inflectional suffixes once the syntactic operations are applied. Let me bring further evidence for the existence of roots and not stems from V-V compounds in MG. Two verbal forms may combine to form a compound in MG. Inflection, though, can be only seen in the second part of the compound. So, operations leading to compounding first apply and the compound form, then, is inflected for the semantic features.

(9) a. `anaf - sa + `esvi - sa =
turn on - PER.A.PST.1SG + turn off.PER.A.PST.1SG =
anav`osvisa
turn on + off. PER.A.PST.1SG
'I turned on and off.'

b. `anafs- a + `esvis - a =
turn on.PER. - A.PST.1SG + turn off..PER - A.PST.1SG =
*anafs`osvisa

Assuming that it is the roots and not the stems that incorporate into compounding, I am in position to derive a grammatical form in V-V compounds, as shown in (9a). On the contrary if I assume that it is the stems which are incorporated, ungrammaticality results (9b). This clearly shows that roots are incorporated in compounding which are further matched to the inflectional suffixes. (For the syntactic constraints on V-V compounding and the order of the derivational and inflectional processes see Galani 2002a).

Moreover at the syntactic level, V, Aspect, Voice, Agreement and Tense head their own maximal projections prior to the application of any syntactic operations. According to Bobaljik and Thrainsson (1998), if a language allows

[7] For the purposes of this paper there is no need to make reference to prefixes, such as the augment or prepositions incorporated into compounds.

two functional projections for agreement and tense, then the language allows two subject positions, the verb moves out of the VP and crossing left-periphery adverbs and the language might exhibit 'a systematic attachment of morphemes to the verb's root (Pintzuk, Tsoulas and Warner 2000:3). This, in addition to the fact that agreement and tense exhibit cumulative exponence, enables us to assume that the functional projections AgrP and TP are merged in the syntactic component. Head-movement, then, obligatorily applies (see figure 1). Unless merger and head-movement apply, the derived forms will be ungrammatical. As soon as the syntactic operations are completed, the structure moves on to the morphological component.

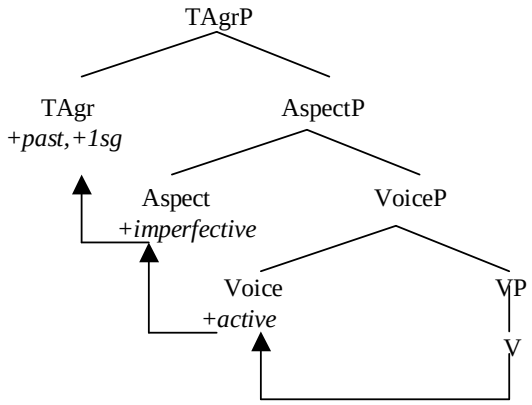
Moreover, the importance of the syntactic operations and any violations of the constraints in WF (contra the morphological approaches to WF in the literature) is more obvious in compounding. As Rivero (1992) suggests only manner adverbs (*sig`a* 'slowly' (10a)) and not aspectual (*ak`omi* 'yet' (10b)) or temporal adverbs can be incorporated in A-V compounding in MG. On the other hand, in N-V compounds the internal structure of the compound is visible in the syntax; the object of the verb (*harti`a* 'cards' (11a)) may also serve as the first part of the compound (*hartop`ezun* 'cards-were playing' (11b)) (Galani 2002a).

(10) a. sig`a + vr`azo = sigovr`azo
slowly + boil = boil slowly

b. ak`omi + vr`azo = *akomivr`azo
yet + boil = *

(11) a. ta pedi`a p`ezun harti`a
the children play.IMP.A.NPST.3PL cards
b. ta pedi`a hartop`ezun
the children cards-were playing

Fig. 1



Nevertheless, before I discuss the morphological operations and VI, let me first tackle the question of matching the correct roots to the appropriate suffixes based on the information I draw from TVs.

3.2. Theme Vowels in Modern Greek

Initially I take TVs to be the markers of the conjugational classes. TVs provide not only the roots but also the inflectional suffixes the information about the conjugations. What is important here is the lexical features TVs represent. I assume that TVs carry features which associate them with the roots and consequently they further associate the roots with the inflectional suffixes, TVs are part of. So, TVs of verbs belonging to different conjugational classes will be specified for distinct lexical features. Consider examples (3-4), repeated here as (12-13) respectively.

(12) graf – [(`O)tan]
write – [(TV)IMP.NA.PST.3SG]
'He/she/it was being written.'

(13) kal – [('U)tan]
call – [(TV)IMP.NA.PST.3SG]
'He/she/it was being called.'

The TVs of these two verbs differ (*-o-* in (12) versus *–u-* in (13)). Let me assume that for (12) the TV is marked with the feature [-α], whereas the one for (13) [+γ]. Based on my assumptions, the roots (*graf-*, *kal-*) as well as the inflectional suffixes (*-ome*, *-ume*) will be also marked with the features [-α] and [+γ] respectively. Consequently when VI applies, the competition of the vocabulary items for insertion in the specified nodes is won by the most highly specified item, the specification of which does not only match the semantic but also the lexical specifications. If these requirements are not satisfied, ungrammaticality results.

This can be briefly illustrated in the following way. Let us assume that I want to form the imperfective, non-active, non-past, first singular of the verb *gr`afo* (write). (14) shows the vocabulary items representing the features imperfective, non-active, non-past, first singular and the lexical specification and the information on the roots stored in the lexicon.

(14) a. /ome/ ←→ [-α] IMP.NA.NPST.1SG
/iome/ ←→ [-β] IMP.NA.NPST.1SG
/ume/ ←→ [+γ] IMP.NA.NPST.1SG
/tikame/ ←→ [-α] IMP.NA.PST.1PL
b. /graf/ ←→ [-α] √
/kal/ ←→ [+γ] √

For a root marked with the feature [-α], only the vocabulary item marked with the same feature ([-α]) and representing the imperfective, non-active, non-past and first person singular wins the competition for insertion in the appropriate terminal node resulting at *grafome* (I am written). Any other combinations are ungrammatical: **grafiome, *grafume, *graftika.* They are ungrammatical for different reasons. The first two forms are ill-formed because the features of the root do not match the lexical specification of the inflectional suffix, whereas, in the last case, the features of the inflectional suffix do not match the semantic features of the terminal node the item was competing for. The last form (*graftika*) would have been grammatical if the features of the item matched the features of the node.

Moreover, I notice that TVs are treated as part of the inflectional clusters (-*otan).* In line with the data TVs behave in a very similar way to the morphological units representing aspect and voice. If I compare the forms in (15-17), TVs are inserted in the non-active forms (for (17b) see the discussion that follows). As was also previously mentioned, they are subject to the features of agreement, as in (15b versus 15c).

(15) a. gr`af – o
write - IMP.A.NPST.1SG
'I am writing.'

b. gr`af – [(O)me]
write - [(TV)IMP.NA.NPST.1SG]
'I am being written.'
c. gr`af - [(e)se]
write - [(TV)IMP.NA.NPST.1SG]
'You are being written.'

(16) a. `e - graf - a
AUG - write - IMP.A.PST.1SG
'I was writing.'
b. graf - [(`O)mun]
write - [(TV)IMP.NA.PST.1SG]
'I was being written.'

(17) a. `e - graf – sa
AUG - write - PERF.A.PST.1SG
'I wrote.'
b. gr`af - tika
write - PERF.NA.PST.1SG
'I was written.'

At first it seems that TVs represent aspect and voice and depend upon tense and agreement. Thus, I extend the role of TVs; they are not only markers

of the conjugations classes—as it was traditionally thought—but they are also inflected for semantic features.[8]

Let us now consider verbs like *pl`eno* (wash) in order to determine the exact features which are represented in TVs. The irregularity and the importance of such verbs lie in the way they are formed in the perfective, past tenses.

(18) a. pl - `eno
wash - IMP.A.NPST.1SG
'I am washing.'
b. `e - pl - ina
AUG - wash - PER.A.PST.1SG
'I washed.'
c. pl - `ithika
wash - PER.NA.PST.1SG
'I was washed.'

The root of the verbal form remains the same throughout the verb paradigm contrary to the part of the form which is altered throughout and is treated as the inflectional suffix. If I now compare (18a-b), I notice that the difference between them lies on the vowel change (*-e- (pl`eno* 'I am washing' (18a)) versus *-i- (`eplina* 'I washed' (18b)) respectively*)*. If I compare (18b-c), it is further noticed that the vowel (*-i-)* appearing in the perfective, active, past form (18b) is also present in the non-active (*pl`ithika* 'I was washed' (18c)). Following Philippaki-Warburton (1973) I assume that in (18c) the perfective aspect is represented in the vowel (*-i-*), whereas the non-active voice in the unit *-ithik-*.

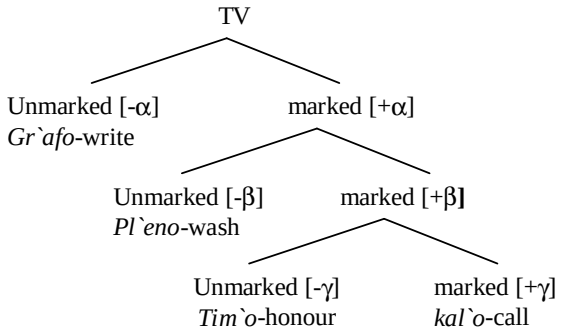
However, the traditional treatment of these verbs in the literature does not assume that the root of the verb is *pl-*. Following Joseph and Smirniotopoulos (1993), they suggest that the stem of this verb is *plen-* which then changes into *plin-* and *plithik-*. Leaving the treatment aside, what is shown in (18) is that this verb behaves in a different way morphologically from *gr`afo* 'write' regardless of the fact that they share the same inflectional suffixes (past and agreement, at least, (15a) (18a)). Consequently, and following my claims, verbs such as *pl`eno* 'wash' should belong to a different conjugational class. This should be based on the choice of the TVs which should represent the features of aspect and/or voice. Following the position that TVs appear in the non-active forms, I conclude that TVs represent the features of aspect in line with (18c). The advantage of my account can be also seen in the predictions made. Comparing the way TVs are realised in (17c) versus (18c), I claim that these forms belong to different conjugational classes based on the information I draw from TVs. Thus, I am in position to predict that in *gr`afo*-type 'write' verbs, the

[8] Massuet (1999) discusses TVs in Catalan. Nevertheless, she does not assign any semantic features to them but she only treats them as realisations on every functional head F. See Galani (2002b) for discussion.

TVs are overtly realised in the cases where the imperfective (non-active) features are represented, unlike *pl`eno*-type verbs 'wash'. In the latter cases, TVs are spelled-out in a different way in the imperfect versus the perfective forms. Nevertheless, I do not suggest that TVs are treated as separate entries in the lexicon. Within the general account, I propose that TVs are part of the morphological cluster representing aspect, voice, agreement and tense.

Going back to the lexical features TVs bear, I assume that the MG verbal system is organised in terms of markedness based on the degree of markedness of the TVs, following similar proposals made in Massuet (1999). The degree of markedness derives from the degree of frequency and regularity verbal forms exhibit in MG. According to the findings of Holton, Mackridge and Philippaki-Warburton (1997) on the regularity pattern of verbs, *gr`afo*-like 'write' verbs are more regular than *tim`o*-like 'honour' verbs which are also more regular than *kal`o*-like 'call' forms. As I also suggested above, we distinguish verbs, such as *pl`eno* 'wash' from *gr`afo*. The number of such verbs (*pl`eno*-type), though, is not significant (7 verbs).[9] Simultaneously, Koutsoudas (1964) notes that *gr`afo*-like 'write' verbs are greater in number than *tim`o* 'honour' which are also more than *kal`o* 'call'. The more embedded the form is, the more marked it is. This means that the more marked a form is, the most irregular pattern of formation it follows. So, verbs are organised in line with the markedness hierarchy presented in figure 2. This hierarchy has positive consequences on the organisation of the vocabulary items which compete for insertion in the terminal nodes. They are specified for the features TVs bear ([-γ], [+γ]), so when VI occurs, the search mechanism will only look for the items bearing the appropriate specification (For a complete discussion on the way items are stored in the lexicon and the significance of this hierarchy for the lexicon's organisation, see Galani (2003b)).

Fig. 2.

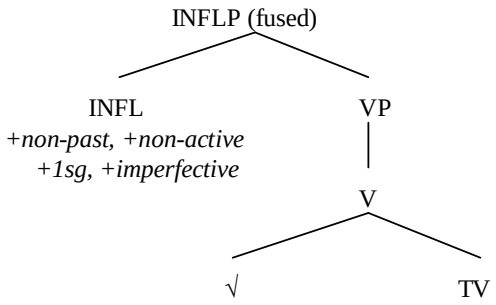


Nevertheless, I still need to explain how TV are inserted in the structure and how they associate roots and inflectional suffixes. Once the syntactic

[9] Due to space limitations and the purposes of this paper, *pl`eno*-like verbs and the problems their analysis present in the previous works in the literature (and especially in Joseph and Smirniotopoulos 1993) are not discussed in this paper. See Galani (2003a) for details.

operations are complete, the structure enters the morphological component. As I previously suggested, aspect and voice are represented in a single morpheme (17a) due to cumulative exponence. Following this, I assume that AspectP and VoiceP are fused into AspVoiceP at the morphological component. Moreover, I also argued that the way aspect and voice are morphologically spelled-out is also conditioned by the features of tense ([+past] (8a-b)). Due to this I assume that the fused node AspVoiceP is further fused with TAgrP into INFL. Furthermore, I follow similar claims made in Massuet (1999) and I treat TV as the realisations of a morphological well-formedness requirement (Noyer 1997) on the lexical head V (figure 3).[10] This will not affect the status of roots, as roots become verbalised in the syntax. In the environments where TVs are overtly realised, impoverishment and context-sensitive rules delete the TV from the vocabulary item inflected for the semantic features and insert it at the TV position.

Fig. 3



Finally once all the morphological operations have been completed and the requirements satisfied, the output of morphology serves as the input of phonology. As I previously mentioned, this discussion is omitted here (see Galani to appear b).

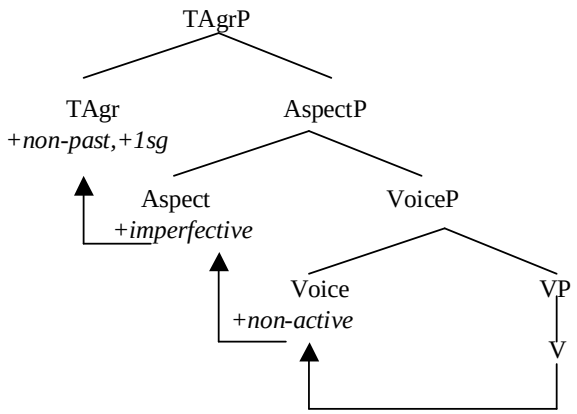
4. The application of the model

In this section I apply the model I explored in the previous section to the non-active, imperfective, non-past form *gr`afome* (write).

At the syntactic level, head-movement applies, once TP and AgrP are fused (figure 4). The terminal nodes represent the features: [+imperfective], [+non-active], [+non-past], [+1sg]. The output of the syntactic component serves as the input of the morphological level.

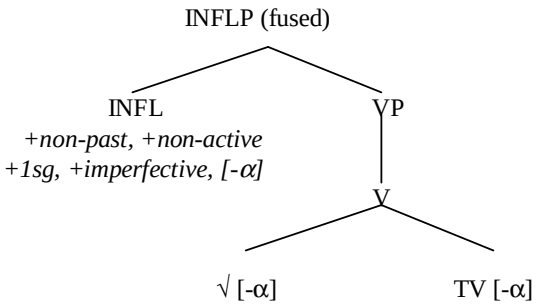
[10] We deviate, though, from Massuet (1999) who suggests that TV are the realisations on every functional head, as we previously mentioned (footnote 8).

Fig. 4



The first morphological operation to take place is the fusion of AspP and VoiceP based on the impossibility to represent these features in independent morphemes (AspVoiceP). The dependence and the morphological spell-out of aspect and voice upon tense and agreement features leads to the fusion of the already fused nodes AspVoiceP and TAgrP (INFLP). Once these operations are complete the morphological well-formedness requirement needs to be satisfied (figure 5). The root of the verb is specified for [-α] features which suggests that this form exhibits the less irregular pattern of formation.

Fig. 5



The completion of these operations signals the start of the VI competition. From the available vocabulary items in the lexicon ((14) repeated here as (19)),[11] the one marked for the features [-α, +imperfective, +non-active, +non-past, +1sg], wins the competition for insertion in the fused node INFLP (*ome).*

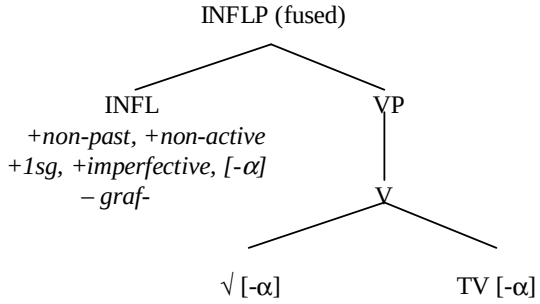
(19) a. /ome/ ←→ [-α] IMP.NAC.NPST.1SG
/iome/ ←→ [-β]IMP.NAC.NPST.1SG
/ume/ ←→ [+γ] IMP.NAC.NPST.1SG
/tikame/ ←→ [-α] IMP.NA.PST.1PL

[11] This is not an exhaustive list of the vocabulary items in the lexicon.

/graf/ ←→ [-α] √
/kal/ ←→ [+γ] √

An impoverishment rule deletes the TV from the vocabulary item which won the competition, and a context sensitive one inserts it under TV (figure 6).

Fig. 6



The TV position may remain empty in other cases but this position will be marked with the relative feature. At the final stage of the complex process of WF, the morphological structure enters PF, where stress assignment first applies and it is then checked to see whether further phonological steps are necessary.

5. Conclusion

The internal constituent structure of the verbal forms in MG has been discussed in this paper. I claimed that TV are inflected for aspect but they are treated as part of the morphological cluster inflected for aspect, voice, agreement and tense. I associated them not only with the traditional claim in the literature –as markers of the conjugational class in which verbs belong- but also as morphemes bearing lexical features necessary for the mapping of roots to the inflectional suffixes. I further suggested that they are inserted at the morphological component as the realisation of a well-formedness requirement on the lexical head V. Finally I assumed that any violations in the syntax or morphology lead to ungrammaticality. Consequently I claimed that WF can only be seen as a complete process once all syntactic, morphological as well as phonological processes are applied, contrary to the purely syntactic and morphological treatments in the literature.

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Out-of-control is non-bundling Voice

Patrycja Jabłońska

This paper is concerned with the so-called 'out-of-control' morphology (henceforth, OOC), which is attested in Salish languages (cf. Davis and Demirdache (2000)) and also in Tagalog and Malagasy (cf. Travis (2000a)). I argue that similar OOC effects can be found in Polish and that most of the properties of OOC can be accounted for under the causative analysis. Thus, building on the work by Pylkkänen (2002), I argue that OOC morphology is the realization of CauseP without an external argument (Causer). The paper also examines selectional properties of Cause^0, the conclusion being that Cause attaches after the category-defining head, but before a phase boundary. I also establish that Polish has a high Applicative head in its inventory of functional heads and that this head is employed in one species of OOC, namely the inversion construction.

1. Lillooet Salish

The initial observation is that of Davis and Demirdache (2000) concerning the so-called OOC discontinuous morpheme *ka ... a*. This affix supresses the control of the agent over the predicate denoted by the verb yielding two different readings: (i) when applied to sentences describing atelic (unbounded) events it yields ability reading (x is able to cause y to become V-ed); (ii) when applied to sentences describing telic (bounded) events it yields accidental/spontaneous reading.

(1) a. sek-cal
hit-ACT
'to hit (people/things) with a stick or a whip'

b. **ka**- sek- cal-**a**
OOC- hit- ACT- OOC
'to be able to hit (people/things) with a stick or a whip'

(2) a. sek- s
hit- CAU
'to hit with a stick or a whip'
b. **ka**- sek- s-**a**
OOC- hit- CAU- OOC
'to accidentally hit with a stick or a whip'[1],[2]

If the Causer is not an agent, but some event, OOC morphology is illicit.

(3) (*ka-) sek'w -s -as (*-a) [ti nk'wan'usten-a] [ti
OOC broken -CAU -ERG -OOC DET window DET
qvl-alh-tmicw-a
bad-CON-land-DET
*'The storm accidentally broke the window.'

Intuitively speaking, (3) is expected since events cannot have any control to begin with, so it is not immediately obvious what the function of OOC would be in (3). Yet, this intuitive explanation becomes somewhat empty in view of the fact that OOC *is* possible with unaccusative verbs yielding spontaneous/accidental/all-of-a-sudden reading, as illustrated in (4).

(4) ka- t'al -a
OOC- stop -OOC
'to stop suddenly'

What is unexpected is that the same morphological operation which suppresses agent control with verbs that have an external argument can freely apply to unaccusatives which are standardly taken not to imply any control of the agent in the first place. Davis and Demirdache (2000) take this to be an indication that unaccusatives, although morphologically underived, have a causative lexical semantic representation. I would like to take the above data as evidence that the projection introducing the external argument and introducing the CAUSE relation should be split, as in Pylkkänen (2002). Such a hypothesis opens the possibility of analysing OOC morphology as the realization of the Cause head introducing an (unspecified) causing event.

2. Polish

2.1. U-prefixation

Consider the following unprefixed-prefixed pairs in Polish.

[1] ACT stands for ACTIVE - a morpheme which derives unergatives from unaccusative roots. CAU stands for CAUSE - one of the two morphemes deriving causatives: DIRECTIVE implies full control whereas CAUSE is neutral w.r.t. the control of the agent.

[2] All the examples in this section come from Davis and Demirdache (2000).

(5) a. *nieść* 'carry' *u-nieść* 'be able to carry' (but also 'start to lift, affect only a part of object')
b. *stać* 'stand' *u-stać* 'be able to stand'
c. *ciągnąć* 'drag' *u-ciągnąć* 'be able to drag'
d. *trzymać* 'hold' *u-trzymać* 'be able to hold'
e. *dźwignąć* 'lift' *u-dźwignąć* 'be able to lift'
f. *leżeć* 'lie' *u-leżeć* 'be able to lie'

(6) a. *paść* 'fall' *u-paść* 'fall accidentally'
b. *puścić* 'drop' *u-puścić* 'drop accidentally'

The verbs in (5) get an ability reading when prefixed by *u-*.[3] On the other hand, the bounded verbs in (6) receive an involuntary/accidental reading when *u-* is attached.

Extending the analogy to the Salish data, it is noteworthy to pinpoint that *u-* can attach to unaccusative verbs (*upaść*).

Another observation that will become important as I proceed with the analysis is the incompatibility of *u-* with the so-called 'bodily emission' predicates, as illustrated in (7).

(7) *u-pachnieć 'u-smell', *u-śmierdzieć 'u-stink', *u-świecić się 'u-glitter'

2.1.1. Aspectual properties of u-prefixation

Since Slavic prefixes are notorious for their polysemous nature, let me first restrict the scope of my interest. *u-* can have a purely aspectual, completive function (e.g.*u-szyć* 'finish sewing', *u-piec* 'finish baking'), can be a lexical prefix meaning 'affect only a part of X' (e.g. *u-łamać* 'u-break'), can form denominal and deadjectival verbs (e.g.*u-czul-ić* (u-sensitive-inf, 'make sensitive'), *u-osabiać* (u-person-inf, personify)). Finally, it can attach to a small group of unergative verbs (e.g. *u-pić* (u-drink, 'make x drunk'), *u-śpić* (u-sleep, 'make x sleep'), *u-palić* (u-smoke, 'get x stoned'), *u-jeżdżać* (u-ride, 'make (horse) ridable')) and it is optional with certain roots (e.g. *(u)-kucnąć* ((u)-crouch)).

Out of the functions mentioned above, the last two will become important. The remaining functions do not lie in the scope of my interest.

Closer investigation into the role of the prefix in (5) and (6) would require making certain assumptions about Slavic aspect. The two theories of Slavic aspect that have currency can essentially be summarized as follows.

- Semantically, Slavic verbal prefixes are quantizing modifiers. They express functions that map homogeneous predicates onto quantized predicates. (Filip (to appear: 9))

[3] Note that all of the verbs in (5) are unbounded with the exception of *dźwignąć* 'lift'. Yet, *dźwignąć* might be different in that it has a semelfactive suffix *-n*

- (A)telicity and (im)perfectivity are two different levels of aspectual information. The Russian perfective/imperfective opposition belongs to the level of the outer aspect, whereas the telicity distinction belongs to the level of inner/predicational aspect. (Borik (2002: 3))

The first approach has been tacitly assumed by many researchers (cf. e.g. Krifka (1992)). If we accept this approach, which basically equates the Slavic perfective-imperfective opposition with (a)telicity, it is unclear what the role of the prefix in (5) and (6) is. Both unprefixed and prefixed versions of (5) seem to be homogeneous predicates.[4] [5] Conversely, the predicates in (6) seem to be quantized to begin with since both 'fall' and its causative counterpart 'drop' are quantized and the change the prefix induces is only the 'accidental/inadvert' interpretation. So the role of the prefix remains problematic for this approach in both (5) and (6).

It is also not the case that the prefix in (5) or (6) causes any obvious change in the valency of the predicate and the mystery remains.

Now, what does the second approach have to say about those cases? Undoubtedly, Slavic perfective verbs exhibit a number of properties irrespective of whether they are homogeneous or quantized. These properties include lack of present tense interpretation, incompatibility with future auxiliary, incompatibility with phase verbs, etc. (cf. Borik (2002)). Let me now use one of those tests (i.e. impossibility to occur as a complement of a phase verb, which holds true of perfective verbs) as an indication of the (im)perfectivity of the verbs in question. (8) shows the results of the test for (6).

(8) a. Piotr zaczął *paść/*puścić filiżankę
Peter began fall_{inf}/drop_{inf} cup

b. Piotr zaczął *u-paść/*u-puścić filiżankę
Peter started u-fall_{inf}/*u-drop_{inf} cup

c. Piotr zaczął (u)-padać/(u)-puszczać filiżankę
Peter started u-$\text{fall}_{inf-imp}$/u-$\text{drop}_{inf-imp}$ cup

(8) shows that neither the unprefixed nor the prefixed version is able to occur as a complement of the phase verb. The only grammatical option in this context is the true imperfective alternant *padać*. There can be only one conclusion: both versions are perfective and the role of *u-* cannot be aspectual.

Things are different with 'ability' predicates in (5).

(9) a. Piotr zaczął trzymać/nieść te pudła.
Peter began hold_{inf}/carry_{inf} those boxes.

b. Piotr zaczął *u-trzymać/*u-nieść te pudła.
Peter began u-hold_{inf}/u-carry_{inf} those boxes

[4] Again, to the exception of *dźwignąć*.

[5] I prefer to talk about homogeneity/quantization, as opposed to (a)telicity, for simplicity reasons since the difference between telic and quantized predicates is immaterial for my purposes.

c. Piotr zaczął u-trzym-yw-ać/u-nosić te pudła.
Peter began u-hold-imp-inf/u-carry-imp-inf those boxes

Prima facie the 'ability' examples seem to be explained by the outer aspect approach á la Borik. The contribution of the prefix is to change the outer aspect properties of the predicate.

Summing up, the first theory of aspect does not explain the role of the prefix *u-*, whereas the second one accounts only for half of the cases, i.e. the ability predicates. This can be made sense of if we adopt Travis's (Travis (2002)) account of aspectual information being contributed at three different levels: XP level (where X = A or P), AspP level and V_{cause}P level. The prefixes merged at the highest level (i.e. VP) will have scope over the entire event and that's why they will be able to select an arbitrary point (in addition to beginning point and natural endpoint). If *po-* yields itself to being analysed as merged under causative V (cf. Kozlowska-Mcgregor (2002)), and if we see that *u-* in (5) bears certain similarities to *po-* (e.g. availability of durative adverbials and homogeneous interpretation), then *u-* is the most natural candidate for the prefix located in the causative head.

Furthermore, note that if the prefix is the realization of the causative light verb, then the two different interpretations (i.e. accidental and ability reading) follow from the functor properties of the causative head. That is to say the accidental reading corresponds to the factitive causative head, whereas the ability reading corresponds to the permissive one.

2.2. Inversion construction

Polish has a construction which Ackerman (1995) calls *the inversion construction* following the terminology of Relational Grammar. This construction has several characteristics, as noted in Dziwirek (1994).

(i) the verb occurs in the 3rd neuter form (which I assume is the nonagreeing default form);

(ii) a reflexive marker *się* is present;

(iii) the nominal is in Dative and is construed as not responsible for initiating the action;

(iv) a (manner) adverbial is present.

I take the minimal agentivity of the Dative nominal to be the starting point for associating this construction with some nonovert OOC morphology of the Salish type. Property (i) is simply a result of lack of Nominative DP. In what follows I won't have anything insightful to say about the presence of the adverbial.[6] Consider (10), where (10a,c) are neutral sentences and (10bd) exemplify inversion.

[6]One solution might be to say that the adverbial is there to check the EPP feature. Yet, it is not clear why in the inversion construction Polish should require an adverbial, where in other cases the

(10) a. Marek czytał książkę.
Marek$_{NOM}$ read$_{imperf}$ book
'Marek was reading a book.'
b. Markowi dobrze czytało się książkę.
Marek$_{DAT}$ well read$_{3rd-neut}$ się book
'It was nice for Marek to read the book.'
c. Źle wczoraj spałam.
badly yesterday slept$_{1st-sg-fem}$
'I slept badly yesterday'
d. Źle mi się wczoraj spało.
badly me$_{DAT}$ się yesterday slept$_{3rd-sg-neut}$
'I slept badly/ couldn't sleep yesterday'

Note the gloss in (10d): the examples have a suspiciously modal character. Namely, they are interpreted as involving some unspecified event which causes (i.e. enables or disenables) some other event (in this case activity of reading or sleeping). In other words, the reading is circumstance-oriented.

Both Dziwirek (1994) andAckerman (1995) assume that the inversion construction is quite productive, it can apply to both transitive and intransitive verbs. Contra Dziwirek (1994) (her examples (17-18)), however, I do not think the construction is possible with perfective verbs. This is shown in (11).

(11) a. *Markowi prze-czytało się tę książkę dobrze.
Marek$_{DAT}$ prze-read$_{perf}$ się this book easily
b. *Wy-spało mi się wczoraj dobrze.
wy-sleep$_{perf}$ me$_{DAT}$ się yesterday well

Crucially also this construction is incompatible with nonagentive 'bodily emission predicates', as shown in (12).

(12) a. *Pachniało mu się ładnie.
smelled$_{3rd-neut}$ him$_{DAT}$ się nice
b. *Śmierdziało mu się potwornie.
Stunk$_{3rd-neut}$ him$_{DAT}$ się awfully

The ungrammaticality of the examples in (12) is quite surprising since they are unprefixed. However, it becomes less surprising if we treat it as another species of OOC morphology. If, again intuitively speaking, OOC suppresses the control of the agent over the denotation of the predicate, and since there is no volitional agent to begin with, this agent cannot be suppressed. I will motivate a less intuitive account of this ungrammaticality in section 6.

EPP feature can be satisfied by means of nonovert *pro*. Note also that the adverbials in the ability inversion construction are of the 'middle' type. Investigating the connection between middles and inversion construction would require a separate paper.

Furthermore, note that there is a similar construction, where by 'similar' I mean displaying all the syntactic characteristics enumerated before, which however has the reverse restrictions - it can only apply to quantized predicates, as below.

(13) a. Tak mi się jakoś po-wiedziało.
thus me$_{DAT}$ się somehow said$_{3rd-neut}$
'I said (x) accidentally'/'I happened to say (x)'
b. Tak mi się jakoś *(prze)-czytało.
thus me$_{DAT}$ się somehow prze-read$_{3rd-neut-perf}$
'I read (x) accidentally'/'I happened to read (x)'
c. Tak mi się jakoś s-plunęło.
thus me$_{DAT}$ się somehow s-spat$_{3rd-neut-perf}$
'I spat accidentally'/ 'I happened to spit'

The productivity of this construction is not total and at present I don't understand all the restrictions. One of them is the preference for object deletion, which is surprising since it is standardly assumed in the Slavic literature that perfective verbs (except for those prefixed by *po-*) do not allow object drop. [7]

This property becomes less mysterious when juxtaposed with the fact that Polish doesn't allow l-syntactic causativization of transitive verbs, as shown in (14).

(14) *Janek u-pił Marka piwo.
Janek u-drank Marek$_{ACC}$ beer$_{ACC}$
intended meaning:'Janek made Marek drink beer.'

This is probably due to insufficient Case licensing resources, as l-causativization is possible in case the embedded verb takes an inherent quirky argument, as in (15).

(15) Janek uczy Marka matematyki.
Janek teaches Marek$_{ACC}$ maths$_{GEN}$
'Janek teaches Marek maths.'

On the other hand, resorting to Case licensing is dubious in view of the fact that OOC in spite of being causative in nature doesn't introduce a new argument

[7] Interestingly, Russian only has inversion construction with intransitive verbs. This necessarily means that accidental inversion construction is excluded since object drop is disallowed. I hypothesize that the valency of the embedded predicate must matter since it doesn't do to simply assume that Russian lacks the factitive causative head. This is because there is quite a productive desiderative Dative construction in Russian, of the kind in (i), which might also involve the factitive Cause without the Voice (cf.Pylkkänen (2002) on Finnish desiderative morphology).

(i) Mne ne citajetsja (*etoj knigi).
me$_{DAT}$ neg read$_{3rd-neut-refl}$ this$_{ACC}$ book$_{ACC}$
'I don't feel like reading.'

in need of Case licensing. That's why *u-* can attach to a transitive verb *puścić* 'drop'. The only way to make sense of those intricate details, as far as I can see, is to say that *się* in the inversion construction is different from *u*-prefixation in that the former, but not the latter, requires Case.[8]

There are two further analogies with the Salish data in section 1 and *u*-prefixation in section 2.1. Firstly, unaccusative verbs are possible in accidental inversion construction.

(16) a. Umarłc jej się.
died$_{3rd-neut}$ her$_{DAT}$ się
'She happened to die.'
b. Zachorowało jej się.
fell-sick$_{3rd-neut}$ her$_{DAT}$ się
She happened to fall sick[9]

Secondly, similarly to *u*--prefixed verbs, inversion construction is impossible with nonagentive 'bodily emission predicates', as shown in (17).

(17) a. *Pachniałc mu się ładnie.
smelled$_{3rd-neut}$ him$_{DAT}$ się nice
intended meaning:'He was able/happened to smell nice.'
b. *Śmierdziało mu się potwornie.
stunk$_{3rd-neut}$ him$_{DAT}$ się awfully
intended meaning:'He was able/happened to stink awfully.'

To sum up the results of the two sections, I think there is enough reason to attempt a unified analysis of the Salish OOC morphology, Polish *u*-prefixed verbs, and Polish inversion construction. In the next section I will review the conceptual considerations that lead to a split in the light verb area á la Pylkkänen (2002).

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[8]This makes Polish *się* differ from Icelandic *-st*. In Polish it is impossible to have both Acc and Nom cooccurs with *się*.

(i) Hann otta-st mann-inn.
he$_{NOM}$ fear-st man$_{ACC}$-def$_{ACC}$
'He fears the man.'

Julien (2002b)

(ii) a On boi się myszy/*myszę
he$_{NOM}$ się mouse$_{GEN}$/*mouse$_{ACC}$
'He is afraid of the mouse.'
b. *Ludzie czyta się książki.
people$_{NOM}$ read się books$_{ACC}$
intended meaning: 'Books are read by people.'

[9]For diagnostics of unaccusativity see Schoorlemmer (to appear).

3. Getting the light verb split

For the past ten years or so there have been a lot of tinkering around the light verb area (Kratzer's Voice, Chomsky's v, Larson's, Hale&Keyser's and Travis's upper VP shell or V1). One of the directions leading to a more-and-more fine-grained VP structure postulates that CAUSE should not be treated as a primitive. The first (to my knowledge) attempt to do this on the level of semantic primitives was proposed in Moreno (1993) in a typological study of the verb *make*, where he argues that CAUSE should be made up of the following semantic primitives:

(18) a. optional component: purpose
b. obligatory components
(i) transition
(ii) force

Thus, the language that splits the two components is Thai. The causative verb *tham* in (19) involves only the obligatory component, whereas the causative verb *hây* involves purpose/volitionality in addition to force and transition. Crucially, the two verbs can cooccur and the result is neutral w.r.t. the presence of purpose.

(19) Saakhaa tham krácók tææk
Saka cause mirror break
'Saka broke the mirror inadvertly.'

(20) Saakhaa hây dék wi■.
Saka have child run
'Saka had the child run.'

(21) Saakhaa tham hây kâw?ii lóm.
'Saka cause so that chair fall.'

For ease of reference, let us label the two causatives Cause_{DIR} (Directive Cause) and Cause_{ACC} (Accidental Cause). Contra Slabakova (1997), I take the existence of OOC (which makes reference to volitionality of the causee) to mean that Polish (and Slavic in general) does display the two types of transitivizers, though they may be nonovert. Suppose then, that we have the following three cases:

(i) animate subjects: only Cause_{DIR} involved - interpretation necessarily volitional;

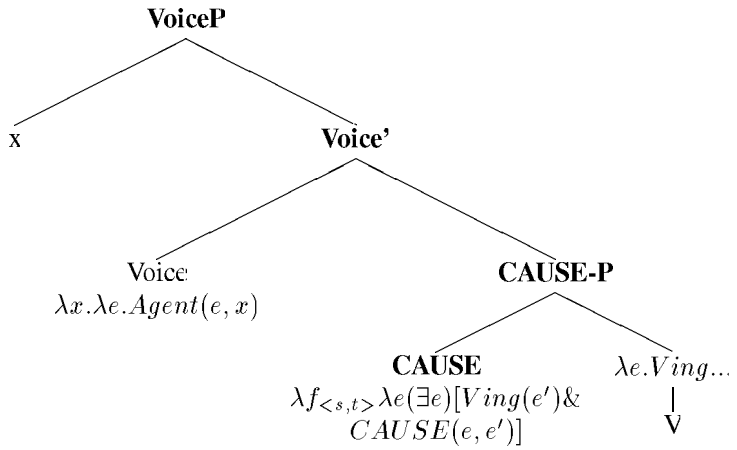
(ii) animate subjects: $[_{Cause_{ACC}P}\ [_{Cause_{DIR}P}]]$ - interpretation ambiguous between volitional and inadvert

(iii) inanimate subjects: only Cause_{ACC} involved - interpretation nonvolitional.

Pylkkänen (2002) translates this split into syntactic terms. Thus e.g. the existence of causative unaccusatives is a direct consequence of separating the two

functions that has up to now been ascribed to the causative light verb, namely introducing the causing event and introducing the external argument. On Pylkkänen's story those two functions are split among two projections.

(22)



Since the two projections are separate entities, it is possible to have predicates which are caused, but do not have an external argument (since they lack VoiceP). The split opens the possibility of having three types of structures.

(i) both VoiceP (introducing the truly external argument) and CauseP are projected - this would be the case of regular causative verbs;

(ii) only CauseP (introducing the causing event) is projected - e.g. causative unaccusatives, arguably u-prefixed verbs and inversion constructions.

(iii) only VoiceP is projected - I assume that this is the case of so-called 'bodily emission predicates' like *glow, smell, spew*. This is the only monoeventive structure, where the argument in [Spec,VoiceP] relates to the event by virtue of its Θ-role.

Hence, certain languages can choose to have the two separate projections (what I refer to as non-bundling Voice/Cause). Since I assume that OOC is exactly made possible due to the non-bundling character of the two projections, that means that Polish must be such a language. The two projection hypothesis is confirmed by the fact that the causative morpheme is retained in the passive, as noted by Julien (2002a) for North Sámi. The same is true of Polish.

(23) a. u-jeżdżać, u-pić, u-śpić
u-ride, u-drink, u-sleep
make gallop, make drunk, make sleep

b. Dziecko zostało **u**-śpione.
child became u-sleep$_{prt-neut}$
'The child was put to sleep.'

Under any theory where VoiceP is responsible for introducing both the external argument and the causative morphology, one would expect neither to occur in case the VoiceP is changed to Voice$_{PASS}$P.

4. The size of the complement of Cause

Apart from the parametrization option that a language can choose between having Cause and Voice bundled in one morpheme (as in English) or keeping the two separate, Pylkkänen also presents the typology of Cause heads based on the size of the complement the head selects. Thus we have a root-selecting, verb-selecting and phase-selecting Cause.[10]

Pylkkänen presents the following diagnostics for establishing the selectional properties of Cause:

(i) VP-modification of the caused event should be impossible with root-selecting Cause, possible with verb-selecting one (except for agent-oriented adverbs) and completely free with phase-selecting one.

(ii) high applicative morphology between root and Cause should be impossible in the case of root- and verb-selection, and possible only with phase-selecting Cause.

(iii) Verbalizing morphology between the root and Cause should be excluded with root-selecting, required with verb- and phase-selecting Cause.

Applying the first two diagnostics, however, presents certain problems. Firstly, an adverbial ambiguities test seems to testify in favour of verb-selection. I.e. agent-oriented adverbs cannot modify a caused event, as shown in (24). Other adverbs, however, do produce scope ambiguity (25).

(24) Marek u-śpił dziecko chętnie.
Marek u-sleep child willingly
'Marek willingly made the child sleep' (not true if Marek isn't willing)

(25) Marek ujeżdżał konia szybko.
Marek u-rode horse quickly

(26) a. 'Marek was doing sth and as a result the horse would quickly become ridable.'
b. 'Marek was making the horse ride quickly'[11]

[10] Terminology due to McGinnis (to appear), who argues that High Applicative head marks the phase boundary. Thus, a phase is marked either by VoiceP or by ApplHP.

Yet, as noted in Julien (2002a), this test crucially hinges on the operative notion of an adverb as attaching to VP. The reasoning becomes somewhat vacuous if one conceives of adverbials as located in the functional domain of the clause, as in Cinque (1999).

The problem with the second test, namely the intervening effect of applicative morphology, which is supposed to distinguish between verb-selecting and phase-selecting Cause, is of a different nature. Polish does have a high applicative head (see section 5 below), but the morphology is nonovert. Therefore, it is difficult to distinguish between the two structures.

(27) a. $[_{\text{Cause}_{OOC}\text{P}}$ u- $[_{\text{ApplP}}$ ø$]]$
b. $[_{\text{ApplP}}$ ø$[\text{Cause}_{OOC}\text{P}]]$

The only empirical evidence that seems relatively indisputable is the evidence against root-selection. It is instructive to look at the alternation: *paść* 'fall' vs. *puścić* 'drop'. I assume that the latter is a causativized version of the former. This already seems to point in the direction of verb-selection: since there must be a causativizer/transitivizer involved and since *u-* can attach outside it, this means *u-* attaches to a root that has already been verbalized.

The question that arises is the following: how come the causative verb (*pu-ść-i-ć* 'root-inf-V-inf' contain an infinitival ending of its non-causative variant? The answer to this question becomes obvious if we follow Travis (2000b) in assuming that the locus of infinitival morphology is Event P, which also separates l-syntax from s-syntax. Under those assumptions the structure of *u-pu-ść-ić* would be as in (28).

(28) $[_{\text{Event}_2\text{P}}$ -ić $[_{\text{Cause}_{OOC}}$ u- $[_{\text{Event}_1\text{P}}$ -ść $[_{\text{Cause}_{DIR}\text{P}}$ (u-?) $[_{\text{VP}}$ Theme $\sqrt{}$pa $]]]]]$[12] [13]

The most problematic point concerning the structure in (28) is the place of merger of the causee argument. If the Cause_{OOC} (which is an s-syntax causative since it attaches outside Event_1P) is verb-selecting, then there is no way to merge VoiceP below it since it automatically defines the phase boundary.

One might suggest that the causee is not a real Agent in those structures, but rather it is introduced by some mysterious projection xP. This is, in fact, what Pylkkänen does for the Japanese high applicative construction illustrated in (29).

[11] I am not able to account for the lack of modification of the causing event reading, which holds true not only of *u*-prefixation, but also inversion construction. Yet, the same facts obtain in Bemba which has an overt causative morphology (cf. Pylkkänen (2002))

[12] I remain agnostic w.r.t. the syntax - morphology interface. There are numerous ways to do it. See Julien (2002b) for a possible solution.

[13] The reason I fill the head of Cause_{DIR} with *u-* in brackets is that causativizing this root produces vowel alternation from *pa-* to *pu-*. Considering the fact that the phonology of Polish prohibits hiatus, it is plausible, that the sequence gets simplified from *pau-* to *pu-*

(29) Taroo-ga Hanako-ni *(wazato) waraw-are-ta.
Taroo-NOM Hanako-DAT on-purpose laugh-PASS-PAST
'Taroo was adversely affected by Hanako's laughing on purpose.'

The incompatibility of the Dative argument with an agent-oriented adverb is taken by Pylkkänen to mean that the Dative is not a 'real' Agent in (29). Note, however, that, to the extent that any root can be embedded under an adversity passive construction, this would amount to saying that any root has two distinct ways of introducing an external argument: by means of VoiceP and xP. This is a conceptually suspicious move.

That is why, faced with the lack of evidence for distinguishing between verb- and phase-selection and conceptual complications involved in deciding in favour of verb-selection, I will assume in what follows that Cause_{OOC} in Polish can embed an external argument. In the next section I will show that Polish makes use of the high Applicative head, and that this head is employed in the inversion construction.

5. *Polish Applicative*

It is tempting to think about the Dative arguments in the inversion construction as being introduced by the high Applicative head. Yet, in order to pursue this line of reasoning, I have to show that Polish has such a head.

Pylkkänen introduced two types of Applicatives: a low one and a high one. The low one attaches below the verb stem and relates an applied argument to a direct object, i.e. relates the Recipient or the Source to the individual that is the internal argument of the verb. The high Applicative head relates an applied argument to the event and attaches above the verb stem.

(30) a. High Applicative (e.g. Chaga) 'He eats food for his wife.'
b. [$_{\text{VoiceP}}$ He [$_{\text{ApplHP}}$ wife [$_{\text{VP}}$ eat food]]]

(31) a. Low Applicative (e.g. English) 'I baked him a cake'
b. [$_{\text{VoiceP}}$ I [$_{\text{VP}}$ bake [$_{\text{ApplLP}}$ him [$_{\text{ApplL'}}$ cake]]]]

There are two major diagnostics for distinguishing between high and low applicatives. Firstly, since low applicatives relate to the internal object, they are excluded with unergative verbs. Secondly, since low applicatives imply transfer either from or into the possession of the applied argument, they are semantically incompatible with stative verbs like 'hold'. Now, it seems that Polish zero applicative is possible in both of the cases.

(32) a. Dzieci mi tu biegają.
Children me$_{DAT}$ here run
'The children are running to my detriment'

b. Siedzę pod drzewem, a ptaki mi śpiewają.
sit$_{1st-sg}$ under tree and birds me$_{DAT}$ sing
'I sit under the tree and the birds are singing for me'

(33) a. Potrzymaj mi młotek!
hold me$_{DAT}$ hammer
'Hold the hammer for me!'

b. Nie stój mi nad głową.
neg stand me$_{DAT}$ over head
'Don't stand over my head to my detriment!'

Now, that we established that high Applicative is present in the inventory of Polish heads and it seems to assign a Dative case to the argument it introduces, we can hypothesize the following structure for the inversion construction.[14]

(34) [$_{\text{ApplHP}}$ DP$_{DAT}$ [$_{\text{Cause}_{DIR}}$ [$_{\text{VP}}$ ...]]]

Yet, if (34) is the right structure, the following questions arise: (i) what happens to the Agent of the verb; (ii) how come the DP$_{DAT}$ is interpreted as the Agent of the verb. Since those are not trivial questions, and furthermore, since there is a Dative argument even in the Japanese example (29) in spite of the fact that the high Applicative head is already filled by another argument, I will assume instead that Cause$_{DIR}$ is different from the other transitivizer (i.e. Cause$_{ACC}$) in that it introduces an (always animate) argument.

Having said this, let me proceed with the exemplary derivations and the problems involved.

6. *Derivations*

Let us start with the simplest case, namely causativized unaccusatives in *u*-prefixation. The derivation looks as in (35).

(35) [$_{\text{Cause}_{OOC}\text{P}}$ [$_{\text{Cause}_{OOC}}$ u- [$_{\text{vP}}$ Theme [$_{\text{v}}$ v $\sqrt{PP}$]]]]

It is necessary to explain why the root in (35) can be a PP. This analysis essentially follows Julien (2002a) and is inspired by Kayne's (Kayne (1993)) analysis of HAVE as abstract P incorporation.[15] Thus, Julien (ib.) claims that roots can belong to different semantic classes and display differences that are less fine-grained than categorial ones, yet correspond to the categories. Thus, I assume that there is an abstract P generated on the root. This P incorporates into Cause$_{OOC}$ and is subsequently spellt out as *u*-. The Theme argument gets its Case valued as NOM

[14] In (34) I abstract away from the locus of the reflexive morphology. I will come back to this point in section 6.

[15] Note that Russian, which expresses Possession by means of BE + PP employs the preposition *u* in this case.

by T in the usual fashion.

Causativization of a transitive verb (e.g. *upuścić* 'u-drop')) is a bit more complicated.[16]

(36) [Cause_{OOC}P [Cause_{OOC}' u- [EventP [Event' -ść [Cause_{DIR} DP_{Agent} [Cause_{DIR}' u? [$_{vP}$ [$_{v'}$ v $\sqrt{PP}$]]]]]]]

The important point about (36) is that I assume that the most prominent thematically argument is assigned inherent Dative case (cf. the Japanese example (29)) Yet, the abstract P incorporation withholds the Dative assignment, which necessarily results in the DP in [Spec,Cause_{DIR}P] having its Case valued as NOM by T.

Note that in the case of any transitive verb, the causee could not possibly be inanimate since the transitivizer Cause_{ACC} does not introduce an argument. Hence there would be no way to introduce an inanimate causee. Yet, there is nothing in my system (contrary to the intuitive appeal to control suppresion) that would prohibit inanimate arguments of unaccusatives from occurring in OOC. This prediction is born out for both Polish and Salish.

(37) a. **Ka**-k'wélh**a** ta tiha.
'The tea spilled.'
b. Książka **u**-padła.
'The book fell.'

Let us now see how the inversion construction is derived. The first question is: where is the reflexive marker generated? Since there is some independent evidence in favour of its argument status, e.g. possibility of occurring as a subject of ECM constructions, long distance binding, etc.[17], I will assume that *się* is generated in [Spec,Cause_{OOC}P]. Thus, the derivation of inversion construction is represented in (38).

(38) [ApplHP DP_{DAT} [Cause_{OOC}P się [Cause_{DIR}P ~~DP_{DAT}~~ [vP DP_{Theme} [v' v $\sqrt{PP}$]]]]

Now, *się* blocks abstract P incorporation.[18] *Się* also interacts with Case assignment (cf. section 2.2), which leaves the causee with the last resort option of being assigned inherent Dative case. Later on the causee moves to [Spec, ApplHP] and that is how it gets interpreted as both: the Benefactive and the Agent of the embedded predicate. The reason I think that high Applicative head is involved is that it is impossible to further applicativize the inversion construction (cf. (39a)), even though this is not due to a general ban on two Datives in the clause (cf. (39b)).

[16] Note that in (i) I employ only Cause_{DIR}, but as far as I can see, nothing prohibits merging also Cause_{ACC} on top of Cause_{DIR}

[17] See also Julien (2002b) for the arguments concerning Scandinavian *-s(t)* passive.

[18] This is possibly for Doubly Filled Complementizer Filter effects. Cf. Travis (2000a).

(39) a. *Dobrze mi się Markowi spalc wczoraj.
well me$_{DAT}$ się Marek$_{DAT}$ sleep$_{3rd-neut}$ yesterday
intended meaning: 'Marek was able to sleep well to my content yesterday.'
or 'I was able to sleep well to Marek's content yesterday.'
b. Dobrze mi się dawałc Markowi prezenty.
well me$_{DAT}$ się give$_{3rd-neut}$ Marek$_{DAT}$ presents
'It was nice for me to give Mark presents.'

Finally, the system outlined so far also accounts for the impossibility to embed emission predicates under OOC. This is because the structure of emission predicates is as below.

(40) [$_{\text{VoiceP}}$ DP [$_{\text{vP}}$ ...]]

In (40) there is simply no place to merge Cause$_{OOC}$. Merging it below Voice would result in the DP being interpreted as a Theme of the unspecified Causing event - an undesirable effect. On the other hand, we have never seen Cause$_{OOC}$ attaching outside Voice P. At this point it is crucial, I think, to make a more fine-grained selectional distinction. Polish OOC *can* embed an Agent in [Spec,Cause$_{DIR}$], but this projection does not define a phase. Voice, on the other hand, does define a phase and is impossible embedded under OOC in Polish.

Note that the inversion construction is impossible with emission predicates either, since they don't have a causative head in their structure, so there would be no way to introduce the DP.[19]

7. *Conclusion*

In this paper I pursued a decompositional analysis of OOC morphology in terms of syntactic causative head that doesn't introduce the Causer. The analysis seems to account for the properties of OOC that would otherwise remain unexplained: (i) compatibility with unaccusative verbs; (ii) incompatibility with emission predicates; (iii) animacy restrictions. I also argued for the syntactic relevance of the notion of 'volitionality' encoded in the two different types of transitivizers.

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[19] Note that ApplHP does not introduce the Dative argument. At least not in the inversion construction.

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Deficient heads and (non-)licensing

Makoto Kadowaki

This paper investigates constructions in Japanese that lack matrix verb and tense, particularly focusing on a type of quotative construction. It is observed that verbless quotative constructions have three unique properties (i.e. no verb, no case and no flexible word order). A unified analysis is given to explain these three properties: verbless quotative constructions involve a functional head that is inert for feature-driven operations. The reason for missing verbs is also investigated. It is argued that there is a deletion operation that elides the features irrelevant at LF (i.e. [uninterpretable] features and phonological features).

1. Introduction: Quotative Constructions in Japanese

The purpose of this paper is twofold: first, I argue that there are syntactically inert functional categories that are solely justified by output conditions; second, I argue for a type of deletion operation that elides the features irrelevant at LF (i.e. [uninterpretable] features and phonological features). I discuss constructions in Japanese that lack matrix verb and tense, particularly focusing on a type of quotative construction.

In Japanese, sentences with direct speech have the form shown in (1), in which the direct speech complements are positioned either medially, initially or finally.[1]

(1) a. Sensei-ga "watasi-o mina-sai" -to itta.
teacher-NOM I-ACC look.at-IMP -COMP said
'The teacher said, "look at me."'

[1] In Japanese, both direct and indirect complement clauses occur with complementizers. One diagnostic to distinguish them is the use of first/second person pronouns: first/second person pronouns in direct speech complements refer to the matrix subject. In (1), *watasi* 'I' in the complement clause refers to *sensei* 'teacher'. This indicates the complement clauses in (1) are direct speech.

b. “Watasi-o mina-sai” -to sensei -ga itta.
I-ACC look.at-IMP -COMP teacher-NOM said
c. Sensei-ga itta. “watasi-o mina-sai”.
teacher-NOM said. I-ACC look.at-IMP

Intriguingly, in quotative constructions in Japanese, the occurrence of a matrix verb is optional. In the following sentence in (2), for example, the verb is missing, and the sentence consists only of the quote and the subject. I will call the sentences like (2) Quote-Subject Construction (hereafter QSC).[2]

(2) “Watasi-o mina-sai” -to sensei.
I-ACC look.at-IMP -COMP teacher
‘“Look at me,” the teacher (said).’

Besides the missing verb, the sentence (2) has some intriguing properties peculiar to this type of constructions. First, the word order is strictly fixed, with the only permitted order being "Quote-Subject," in contrast to the normal SOV order in this language. In this construction nominative subjects must be in the sentence-final position. The sentence with "Subject-Quote" order would be ungrammatical, as shown in the following.

(3) *Sensei “watasi-o mina-sai” -to.
teacher I-ACC look.at-IMP -COMP
‘“Look at me,” the teacher (said).’

Second, the sentence (2) is unique in that the nominative Case marker on the subject must be absent: the sentence would be ungrammatical if a nominative Case marker is morphologically visible, as in (4).[3]

(4) *“Watasi-o mina-sai” -to sensei-ga.
I-ACC look.at-IMP -COMP teacher -NOM
‘“Look at me,” the teacher (said).’

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[2] The sentences of the type shown in (2) are mostly used in the (informal) written language, and rarely used in the spoken language. In particular, they are frequently found in newspaper articles.

[3] This absence of a nominative Case marker is different from the one caused by Case marker drop, because without a sentence-final particle, the Case marker drop applies only to accusative objects (Fukuda 1993). In addition, the absence of nominative Case marker is obligatory in (2), while Case marker drop is an optional phenomenon.

QSC is also different from “postposing” constructions, where Case marker is optionally absent.

(i) Ato iti-nen-de teinen-nandesu, koochoo-sensei(-wa).
after one year-with retirement-COP principal-teacher-TOP
‘The principal will be retired a year later.’

Furthermore, QSC is different from (i) in its register: (2) is used in the written language, while (i) is frequently used in the spoken language, but rarely used in the written language.

In this paper I discuss the questions concerning the unique properties of QSCs shown above, addressing the following questions: (i) why is the word order fixed? (why is the subject sentence-final?); (ii) why does the subject have no Case marker?; and (iii) why is the verb missing? I argue for a unified account of these seemingly unrelated phenomena by proposing that a sentence lacking an overt Tense morphology has a deficient Tense, in the sense that it lacks [uninterpretable] syntactic features such as the [EPP] feature, the [Case] feature, and the feature that triggers V-to-T raising. I also argue that this lack of V-to-T raising requires the features of the verb to be elided for convergence.

The organization of this paper is as follows. In section 2, I observe that the subject in QSC occurs in sentence-final position and bears no morphological case, and argue that these properties are accounted for by the deficiency of T^0. I then discuss the reason why the verb is missing. I argue that the deficient T^0 does not have the feature to trigger V-to-T, hence the features of the verb are required to be elided for convergence. Section 3 concerns the status of deletion operation, and section 4 discusses why a syntactically inert functional projection needs to be projected in syntax. Section 5 is a conclusion.

2. The deficiency of T^0

In this section, I show that the unusual properties of QSCs observed in section 1 are accounted for in terms of a deficient Tense (i.e. T^0), in the sense that T^0 lacks any [uninterpretable] syntactic features. This proposal has three subparts in it: (i) T^0 does not have an EPP feature; (ii) T^0 does not have Case/ø-features; and (iii) T^0 does not have a feature that triggers V-to-T. If these subparts are all correct, then the following predictions should be observed: (i) The subject is in-situ, because T^0 cannot attract it to [Spec, TP]; (ii) The nominative Case (or agreement properties) cannot be licensed, since T^0 does not have Case/ø-features; and (iii) there is no V-to-T raising. In what follows, I show that these predictions are borne out.

2.1. The subject position

In normal (in)transitive sentences in Japanese, the verb always occurs in sentence-final position, and the subject never appears in that position. In QSCs, however, the subject always appears in sentence-final position. The following examples show that manner adverbs can intervene between the quotes and the subjects, as in (5a), and that they can precede the quotes and the subjects, as in (5b). Other examples are ungrammatical. This ungrammaticality in (5c-f) is due to the positions of the subject: these ungrammatical sentences have the subjects in non-sentence-final positions.

(5) a. "Koko-kara deteike!,"-to oogoe-de sono otoko. (**Q-ADV-SUBJ**)
Get-out-of-here -COMP loudly the man
'"Get out of here!", the man (said) loudly.'
b. Oogoe-de "koko-kara deteike!,"-to sono otoko. (**ADV-Q-SUBJ**)
loudly Get-out-of-here -COMP the man
c.*"Koko-kara deteike!,"-to sono otoko oogoe-de. (***Q-SUBJ-ADV**)
Get-out-of-here -COMP the man loudly
d. *Oogoe-de sono otoko "Koko-kara deteike!,"-to. (***ADV-SUBJ-Q**)
loudly the man Get-out-of-here -COMP
e. *Sono otoko "Koko-kara deteike!,"-to oogoe-de. (***SUBJ-Q-ADV**)
the man Get-out-of-here -COMP loudly
f. *Sono otoko oogoe-de "Koko-kara deteike!,"-to. (***SUB-ADV-Q**)
the man loudly Get-out-of-here -COMP

Other adjuncts, such as depictive phrases and temporal adverbs, also precede (but do not follow) the subject, as shown in (6-7).

(6) a. (Hadaka-de) "Ore-wa yoote-nai,"-to (hadaka-de) John (*hadaka-de).
naked I-TOP drunk-NEG -COMP naked John naked
"I'm not drunk," John said naked.'
b. (*Hadaka-de) John (*hadaka-de) "Ore-wa yoote-nai,"-to (*hadaka-de).
naked John naked I-TOP drunk-NEG -COMP naked
(7) a. (Kinoo) "syukudai-wa yaru-na"-to (kinoo) sensei (*kinoo)
yesterday homework-TOP do-NEG -COMP yesterday teacher yesterday
'"Don't do the homework," the teacher (said) yesterday.'
b. (*Kinoo) sensei (*kinoo) "syukudai-wa yaruna" -to (*kinoo).
yesterday teacher yesterday homework-TOP do-NEG -COMP yesterday

These examples above all indicate that the subject must occur in sentence-final position. Where, then, is the subject position in QSCs? If the position of the subject is [Spec, TP], then the fact that the subject must be in sentence-final position would be mysterious. I argue instead that the subject stays in its base-position. There are two pieces of evidence for this argument.

The first evidence comes from the relative position of the subject to manner adverbs. If we assume, following Miyagawa (1997) and Takahashi (2000), that manner adverbs mark the left edge of VP, and if head-final languages do not have right adjunction (Fukui 1993), then the subject must be inside the VP; otherwise, the fact that the manner adverb precedes the subject in (5a) cannot be explained. One might argue that manner adverbs do not mark the left edge of the VP in Japanese. For the present purposes, however, suffice it to say that manner adverbs occur within the VP. The examples in (5a), then, show that the subject is hierarchically lower than the adverb. This indicates that the subject has to stay in a VP-internal position.

The second evidence is related to the relative position of the subject to depictive phrases. Koizumi (1994) argues that subject-oriented depictive phrases, such as *hadaka-de* 'naked' occur either in I'- or VP-adjoined position.

(8) a. John-ga [$_{VP}$ **hadaka-de** katuo-o tabeta].
John-NOM naked bonito-ACC ate
'John ate bonito naked.'
b. John-ga [$_{I'}$ **hadaka-de** [$_{VP}$ katuo-o tabeta]].
John-NOM naked bonito-ACC ate

If we assume this, then the fact that depictive phrase precedes the subject in (9) indicates that the subject does not undergo movement to [Spec, TP], which suggests that it stay inside the VP.

(9) a. "Ore-wa yoote-nai,"-to [$_{VP}$ hadaka-de John].
I-TOP drunk-NEG -COMP naked John
"I'm not drunk," John said naked.'
b. "Ore-wa yoote-nai,"-to [$_{I'}$ hadaka-de [$_{VP}$ John]].
I-TOP drunk-NEG -COMP naked John

Thus, the subject stays in-situ in VP (at least in overt syntax). This fact can be explained if we assume that T^0 lacks an [EPP] feature. The question, then, is: does this indicate that the subject is licensed covertly by T^0 or licensed by means of Agree, or that it is not licensed by T^0 at all? In the next section, I will argue that T^0 does not license the subject at all.

2.2. Case

Let us next discuss the caseless property of the subject in QSCs. As shown in section 1, one of the unique properties of QSCs is that the subject must not have a morphological case marker.

(10) "Watasi-o mina-sai" -to sensei (-*ga). (=(4))
I-ACC look.at-IMP -COMP teacher(-*NOM)
'"Look at me," the teacher (said).'

Why is the subject with a nominative case marker unable to occur in QSCs? This problem is accounted for if we follow a standard assumption that the realization of a morphological case is contingent on the licensing of a structural Case (Chomsky 1981, Rouveret and Vergnaud 1980). The crucial point here is that a morphological case occurs on a NP only if the NP is structurally Case-checked. Then, it follows that the absence of the morphological case marker is the result of the inability of structural Case checking.

One might argue that the subject undergoes structural Case licensing, but the morphological case marker is absent. This approach is reminiscent of the

analysis of Case marker drop in Saito (1985), who argues that Case marker drop is possible if the noun phrase has its Case licensed. The absence of a nominative case marker in QSCs, however, is different from the one caused by Case marker drop. There are two reasons: first, the absence of the case marker in (10) is obligatory, while Case marker drop is optional; second, the caseless noun phrase in (10) is the subject, while it is only objects that can have a Case marker drop. In fact, based on the observation that subjects cannot have Case marker drop, Saito (1985) argues that subjects are not structurally licensed. These reasons lead us to think that this approach is untenable. The same problem would arise if we assume that Case/ø-features could be licensed covertly or by means of Agree: under such an idea, we predict that the morphological case can be absent, but it does not explain the obligatory absence of the morphological case.

In contrast, if we assume that the structural Case on the subject is not licensed by T^0 in QSCs, then the obligatory absence of the morphological case is straightforwardly accounted for. Furthermore, this analysis is consistent with the observation in the previous section that the subject in QSC stays in the base-position: since T^0 does not have [uninterpretable] features, it does not have an [EPP] feature to attract a NP to [Spec, TP], or it does not check Case/ø-features of the NP.[4] Thus, the deficiency of T^0 simultaneously explains why the subject is in-situ and is not Case-licensed.

Now a question arises. Given that the Case filter, or its descendant, is still part of the grammar, then every noun phrase must have a Case (that must be properly checked). How, then, is the Case of the subject checked in QSCs? That is, if there is no head (i.e. T^0) to license a nominative Case in QSCs, then how is the Case of the subject licensed? There are two other possibilities to consider: the subject could have an inherent Case or a default case. An inherent Case is less plausible, because in general, inherent Case is marked by the presence of a morphological case. The remaining possibility is that the subject has a default case. In fact, evidence suggests this possibility.

Schütze (1997, 2001) investigates the distribution of default case in several languages. He shows that nominals have default case in environments where they are not in case-assigned positions.[5] The following environments, for example, are considered as default case ones.

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[4] Miyagawa (2000) argues for morphological case feature checking as being separated from structural Case checking. He proposes that morphological case is realized on a NP if the morphological case feature of the NP is checked at T. The current analysis is fully compatible with his argument. The deficiency of Tense indicates that the Tense does not have a morphological case feature, as well as other features. With the absence of a morphological case feature checking, the case marker on the subject never appears.

[5] Other types of default case environments in English are Tenseless environments, such as Mad Magazine sentences, small clauses, gerunds and gapping (Schütze 1997, 2001). These environments are, however, irrelevant to the current discussion, because the corresponding examples in Japanese are all tensed, so that presumably the subjects can be structurally licensed.

(11)a. Who did it?---**Me**/*I. (Bare NP reply to question)
b. It was **us**/*we / **me**/*I / **her**/*she. (Predicate nominal)

These are the environments where NPs are not in Case positions. These accusative pronouns are considered as the realization of default case. The corresponding environments to (11) in Japanese are also default case environments as well. Let us first consider bare NP replies to questions in Japanese. Suppose that someone utters a question like the following.

(12) A: Dare-ga iki-tai -no?
who-NOM go -want-Q
'Who wants to go?'

For this question, short- and long-form answering patterns are both possible.

(13) B_1: Boku(*-ga).
I (*-NOM)
'me.'
B_2: Boku-ga iki-tai -desu.
I-NOM go-want-COP
'I want to go.'

The point is that in the short-form pattern (i.e. ($13B_1$)), the answer form must take a bare form, without a case marker. This suggests that a zero case is a default case in Japanese. If this is correct, it is reasonable to assume that the subject in QSC, which has no visible morphological case marker, would involve a default case.

Other piece of evidence comes from predicate nominals.[6]

(14) a. hannin-wa kare -da.
criminal-TOP 3rd.pro -COP
'The criminal is him.'
b. *hannin-wa kare -ga -da.
criminal-TOP 3rd.pro -NOM-COP
(lit.)'The criminal is he.'

As shown by the contrast between (14a-b), predicate nominals cannot bear a morphological case. This also constitutes an argument for zero case as default.[7]

To sum up the discussion, I have argued that Tense in QSCs lacks an [EPP] feature and Case/ø-features. This analysis explains why the subject position is always sentence-final, and why the case marker on the subject is invisible.

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[6] Pronouns in Japanese, such as *kare*, are in and of itself case-neutral: grammatical function is not specified unless a morphological case is attached.

[7] When a noun phrase is not in a case-assigned position, the noun phrases usually get different case marker than nominative and accusative, such as a topic marker *-wa* or an intensifier *-mo*.

2.3. Missing Verb

In this section, I discuss the question of why there is no morphologically visible verb in QSCs, and argue that the verb undergoes deletion for convergence.

Before proceeding, some clarification is necessary about the status of the missing verbal elements in QSCs. The question is: what exactly is missing in QSCs, only the verb, or the whole VP? If the missing element is the whole VP, then the prediction would be that all VP-internal elements should be invisible as well. This prediction is, however, not borne out. As shown in the previous section, manner adverbs can occur in QSCs. If the missing element is the whole VP, then the prediction would be that all VP-internal elements should be invisible as well. This prediction is, however, not borne out.

(15) "Koko-kara deteike!,"-to oogoe-de sono otoko.
Get-out-of-here -COMP loudly the man
"Get out of here!", the man (said) loudly.'

If we assume that manner adverbs are adjoined to a VP (Miyagawa 1997, Koizumi 1994), the appearance of manner adverbial phrases in QSCs suggests that not all VP-internal elements are missing.

If the meaning of the missing elements is recovered, what is recovered is only the verb of saying, and you would never get the manner interpretation of the event of saying: e.g. the sentence (16) does not mean that the man said loudly or quickly, or in any manner. This suggests that the missing element cannot include a manner component, and it cannot be something larger than the verb, but rather what is missing is only the verb.

(16) "Koko-kara deteike!,"-to sono otoko.
Get-out-of-here -COMP the man
"Get out of here!", the man (said).'

Let us now discuss the main question: why is there no morphologically visible verb? To discuss this question, we need to look into the feature specification of verbs. Chomsky (1995:278) suggests that verbs have the following feature specification.

(17) [V] (interpretable)
[ø] (uninterpretable)

The ø-features are eliminated by entering into a checking relation with the subject at [Spec, TP]. To implement this checking, V must move to T first. Let us suppose that T^0 is deficient. Then, T^0 does not have a feature to attract the verb. If so, the ø-features of the verb would not be checked. This would lead the [uninterpretable] feature of the verb to remain at the interface, which would violate the principle of Full Interpretation. As a remedy, let us assume a deletion operation as follows.

(18) Elide the features that are irrelevant to LF.

The features irrelevant to LF are phonological features and [uninterpretable] syntactic features of the verb. By deleting the phonological features of the verb, QSC has a morphologically invisible verb. By deleting the [uninterpretable] features of the verb, QSC gets a convergent derivation. Thus, the proposal (23) accounts for why the verb in QSC is missing.

In contrast, let us assume that T^0 is not deficient. Then, V-to-T raising takes place to check the ø-feature of the verb, and the derivation would converge, without verb deletion. Under such an approach, the verb undergoes deletion of phonological feature in an *ad hoc* manner, and we cannot give a systematic explanation of why the verb must be invisible.

To sum up this section, I have shown that the subject in QSCs stays in-situ, and that its structural Case/ø-features are not licensed by T^0. I have argued that these properties of QSCs are accounted for by the proposal that QSCs have a deficient functional category T^0, in that T^0 lacks any uninterpretable syntactic features. This explains the three properties of QSCs (i.e. no verb, no case and no flexible word order) simultaneously: since T^0 lacks an [EPP] feature, the subject stays in-situ; since T^0 lacks a [Case] feature, no structural Case licensing occurs; since T^0 lacks a feature to trigger V-to-T movement, [uninterpretable] feature deletion on V needs to happen for convergence.

Now two questions arise, as to the status of the deletion operation (18) and the existence of Tense projection. These questions will be discussed in the next two sections.

3. Some questions on deletion operation

In the previous section, I proposed an operation that elides the features irrelevant at LF (i.e. [uninterpretable] features and phonological features). The question that immediately arises is how the deleted verb is recovered. It has been argued that deletion must obey the principle of recoverability of deletion (Chomsky and Lasnik 1977, Williams 1977), which is stated in (19).

(19) The Principle of Recoverability of Deletion
Deleted items must be recoverable.

The question, then, is how the deletion operation (18) satisfies the Principle of Recoverability of Deletion. For (syntactic) LF, which consists of [interpretable] features, the deletion operation (18) would not cause a violation of (19), because it only elides [uninterpretable] features and phonological features, both of which are irrelevant to LF interpretations: every [interpretable] feature is still there at LF. Thus, the deletion operation (18) does not cause the violation of (19).

How, then, is the deleted verb recovered? The key to this question is the presence of a quote. The presence of a quote is the only information that can be used for the recovery of the missing verb. The presence of a quote ensures that there is an activity of utterance, which indicates that the missing verb is a verb of saying. In other words, the recovery can be made based on the information that some part of the sentence has. Let us state this in a general form, as in (20).

(20) The parts of a sentence can imply the (deleted) verb type.

Now the question is whether (20) is true or not. In fact, there is evidence that supports (20). In Japanese, there are other kinds of sentences with missing matrix verbs. These sentences contain onomatopoeia, followed by a complementizer and a subject. Almost any kind of non-stative verbs can occur in this construction, as long as the activity makes sound that can be expressed by onomatopoeia. Some examples are shown below.

(21) Basi-to Mary. ("*Basi*" is onomatopoeia for hitting.)
-COMP Mary
'Mary hit (somebody/something)'

(22) Gosigosi-to Bill. ("*Gosigosi*" is onomatopoeia for washing.)
-COMP Bill
'Bill washed (something).'

Notice that the verbs are missing in these examples. Nevertheless, these sentences are understood as having non-stative verbs, because the presence of onomatopoeia implies the activities that the verbs describe. This suggests that the recovery can be made with the help of some part of a sentence, even though that part is not identical to the deleted element.

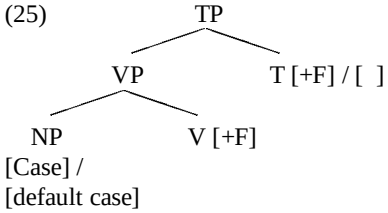
Another question that immediately arises is why both phonological and syntactic features must be elided. Given that "overt [syntactic] operations cannot detect phonological features at all" (Chomsky 1995:230), this correlation between syntactic and phonological properties is surprising. It has been noted, however, that there is some correlation between phonological properties and syntactic properties: phonologically empty elements are inert for movement.

(23) Empty categories lack some qualification to undergo movement. (Takahashi 2001).
(24) Empty categories cannot pied-pipe. (Chomsky 2001)

At this point, I have no account of why (23-24) holds, but at least there *is* some correlation between phonological properties and syntactic properties, in that empty elements are deprived of checking properties.

The third question would be: is it possible to elide [uninterpretable] features freely? Deletion can apply, as long as it gives a convergent derivation. Let me illustrate how the present system works.

(25)



In (25), T^0 can be either normal (i.e. [+F]) or deficient (i.e. [ ]). A normal T^0 has phonological content, while a deficient T^0 does not. Syntactically, a normal T^0 has a set of formal features, while a deficient T^0 does not. The subject NP can have a set of formal features including a Case feature; or it has no formal feature. Since morphological case can appear on an NP only if its abstract Case is checked, subject NPs with a Case feature can only occur with a morphological case. Thus, the combination of these two types yields four theoretical possibilities: (i) a sentence with a normal T^0 and feature-bearing NP; (ii) a sentence with a normal T^0 and an NP with default case; (iii) a sentence with a deficient T^0 and feature-bearing NP; and (iv) a sentence with a deficient T^0 and an NP with default case. In (i), T^0 attracts NP and V^0 and the derivation converges. This prediction is borne out, as in (26).

(26) "Asu-made syukudai -o yatte-kinasai"-to sensei -ga itta.
tomorrow-by homework-ACC do-IMP -COMP teacher-NOM said
'"Do your homework by tomorrow," the teacher (said).'

In (ii), T^0 attracts V^0 and NP, but it cannot enter into a checking relation with NP because the NP does not have the matching feature [Case]. Thus, the derivation crashes. This is indeed the case, as in (27).

(27) *"Asu-made syukudai -o yatte-kinasai"-to sensei itta.
tomorrow-by homework-ACC do -IMP -COMP teacher said

In (iii), T^0 does not attract anything because of its deficiency. As a result, the feature of the NP (i.e. [Case]) remains unchecked, and the derivation would crash.

(28) *"Asu-made syukudai-o yatte-kinasai"-to sensei-ga.
tomorrow-by homework-ACC do-IMP -COMP teacher-NOM

In (iv), T^0 does not attract anything. However, the NP is self-sufficient, so it does not need to be checked. As a result the derivation converges. This prediction is also borne out, as in (29).

(29) "Asu-made syukudai -o yatte-kinasai"-to sensei.
tomorrow-by homework-ACC do-IMP -COMP teacher

Thus, the present analysis correctly explains the (un)grammaticality of quotative sentences with/without a verb and/or morphological-case-bearing NP.

Next we consider how the deletion operation interacts with the two options available to T^0 (i.e., [+F] or [ ]). There are four possible combinations. When T^0 is [+F], we should consider the case when deletion applies and when it does not. If it does not, then the features on both T^0 and the verb will go unchecked, and the derivation does not converge. In this scenario it is necessary for the verb to move to T^0 in order to check-off both features. Note that verb movement and deletion cannot both apply in this case, since each requires a verb with [+F] on it. If deletion does apply, then the features on T^0 will go unchecked, and the derivation does not converge. Now let us consider the cases in which T^0 is [ ]; again deletion may or may not apply. If it does not, then the features on the verb will prevent the derivation from converging. And if it does, then we have the convergent derivation that we are seeking.

So far I have argued for the existence of a deficient T^0. A reasonable question one might ask would be whether such a deficient category really exists or not. In particular, the question is: what is the difference between having a deficient T^0 and having no T^0. This question seems to be reasonable, because it could be possible to get the same effect by positing the structure without Tense projection at all. I will discuss this issue in the next section, and argue for the deficient T^0 approach.[8]

4. On Tense Projection

So far I have argued QSC has a deficient T^0. The deficient T^0 has no function in syntax. Why, then, does such a deficient category still need to exist in the structure? Put differently, the question is: what if there is no such T^0 in QSCs? To answer the question, we need to consider the conceptual reasons to assume functional categories. Chomsky (1995:240) notes: "postulation of a functional category has to be justified by output conditions such as phonetic or semantic interpretation." For example, a complementizer is phonetically realized as *that* in English, and it has the semantic property of being declarative. A determiner is also phonetically realized in most cases in English, and it has the semantic property of definiteness/referentiality. These functional categories are thus justified by output conditions. Tense also has semantic properties such as [±finite] and is the locus of event interpretations. Tense in QSCs has no

[8] Even if the verb in QSC has no formal feature, it still assigns its θ-roles. Under standard assumptions, this is not a problem, because θ-roles are not formal features. Thus, a verb without formal features still can assign a θ-role to its argument. The verb assigns its θ-roles, therefore, and then deletes.

phonetic properties, so the issue is whether or not it has temporal/event interpretations. The prediction is that QSC has a Tense projection if the sentence expresses a temporal interpretation (or an eventuality).

The following evidence shows that QSCs do have temporal interpretations.[9] The sentence (30) is felicitous only if the teacher's utterance happened in the past.

(30) "kondo mata ai -mashoo" -to (kinoo-no /
next-time again meet -shall-we -COMP yesterday-GEN /
*asita-no / *tatta ima) sanzi-ni eki -de sensei.
tomorrow-GEN / just now three-at station-LOC teacher
√'"See you again," the teacher (said) at three at the station yesterday.'
*'"See you again," the teacher (will say) at three at the station tomorrow.'
*'"See you again," the teacher (is saying) at three at the station just now.'

This fact suggests that even morphologically invisible, unrealized Tense (i.e. T^0) still project in syntax.

5. Conclusion

To sum up the discussion so far, I have argued that the unique properties of QSCs are explained in terms of syntactic deficiency of T^0. Specifically, I have argued that T^0 of QSCs does not have any [uninterpretable] syntactic features, including an EPP feature, a Case feature, ø-features and the feature that triggers V-to-T. By arguing so, I have shown that the subject in QSC stays at the base position, where no phrase can follow it, and that it is not structurally Case-licensed, bearing a default (i.e. zero, in Japanese) case. T^0 also lacks ø-features,

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[9] Mysteriously, the following example seems to be ungrammatical. The only difference from (30) is that (i) lacks a locative phrase.

(i)*"kondo mata ai -mashoo" -to sanzi-ni sensei.
next-time again meet -shall-we -COMP three-at teacher
'"See you sometime again," the teacher (said) at three.'

The reason could be syntactic. Syntactically, temporal adverbs in QSCs could need the support by another adverb such as a locative one, for some reasons (e.g. the licensing of temporal adverbs would be satisfied by adjoining to a locative adverb (cf. Sohn 1994)). The prosodic reason of ungrammaticality of (i), however, seems to be more convincing to me. Prosodically, the example (i) might contain a prosodic mismatch. A temporal modifier needs a pause after it when it occurs in pre-nominal positions. The intermediate modifier position in QSCs (i.e. X of QXS) generally does not have a pause between the modifier and the subject. Thus, the proximity of the temporal modifier and the subject causes a mismatch in prosody. In contrast, the example in (30) does not have a temporal adverb next to the subject; instead, it has a locative adverb next to the subject. Locative adverbs would be different from temporal adverbs in that they do not require a pause after it. The proximity of the temporal adverb to a locative adverb in (30) does not cause a prosodic mismatch, because the locative phrase is not a noun phrase. The mismatch occurs only when a temporal adverb is next to a noun phrase. Although this could be an interesting issue, since this is beyond the scope of the paper, I leave this for future research.

because it lacks any agreement properties. I have also discussed the issue of why the verb is missing in QSCs. The deficient T^0 cannot check the [uninterpretable] ø-feature of the verb, which would lead the derivation to crash. To save the derivation from crashing, the operation deletion elides the [uninterpretable] feature (i.e. ø-feature of the verb). This type of deletion elides the features irrelevant to LF. Thus, it applies not only to syntactic features but also to phonological features. The phonological properties of the verb are thus invisible. Thus, the reason for the missing verb is also accounted for in terms of the deficiency of T^0.

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Adjectival agreement in the Arabic noun phrase

Joost Kremers

This paper discusses the properties of adjectival agreement in noun phrases in Standard Arabic. Arabic has a particular construction, in which an adjective has a subject internal to the adjective phrase. The agreement phenomena in this construction show that we must distinguish two separate agreement operations in the constructions under consideration, rather than just one. In this way, we obtain an analysis for adjective agreement that accounts for the presence of the definite determiner on Arabic modifying adjectives. Furthermore, it turns out that modifying adjectives have a structure that is very similar to that of relative clauses.

1. Introduction

The structure of adjective phrases is a topic that receives relatively little attention in the linguistic literature. There are some assumptions, e.g. by Abney (1987) and Zwarts (1992) that the adjective phrase is headed by a DegP, and there are some proposals that adjective phrases should be analysed in a way similar to relative clauses Kayne (1994).

In this paper, I look at the structure of the adjective phrase in Arabic. Discussing definiteness agreement and the mixed agreement construction, I argue for a more elaborate structure of the Arabic adjective phrase. More specifically, I claim that traditional accounts of adjective agreement, supported recently in Carstens (2000), cannot be maintained in light of the mixed agreement facts.

This paper is organised as follows: in the remainder of this introduction, I present the agreement phenomena in the Arabic adjective phrase. In section 2, I discuss the mixed agreement facts. I argue that the adjective phrase has a clause-like structure and that adjective agreement is a case of the standard Agree operation (Chomsky 1995).

Then in section 3 I look at definiteness agreement, arguing that it establishes a relation between the noun and the adjective that modifies it. In section 4, I take a

quick look at relative clauses, which, as it turns out, can be analysed in much the same way as adjective phrases.

First, let me demonstrate agreement in the Arabic adjective phrase. Adjectival agreement in Arabic shows the pattern familiar from Romance languages: there is agreement in gender (1a,b) and number (1c,d).

(1) a. rağul-un ṭawīl-un
man-NOM tall.M-NOM
'a tall man'
b. imra'at-un ṭawīl-at-un
woman-NOM tall-F-NOM
'a tall woman'
c. riğāl-un ṭiwāl-un
men-NOM tall.M.PL-NOM
'tall men'
d. nisā'-un ṭawīl-āt-un
women-NOM tall-F.PL-NOM
'tall women'

Adjectives also agree with the noun in case.[1]

(2) a. ra'aytu -mra'at-an ṭawīl-at-an
I.saw woman-ACC tall-F-ACC
'I saw a tall woman'
b. nağlisu ḥawla -l-ṭāwilat-i -l-mustadīrat-i
we.sit around the-table-GEN the-round-GEN
'we are sitting around the round table' (SASG p. 153)[2]

There is, however, another phenomenon, which distinguishes the Arabic concord pattern from that of Romance languages: there is also agreement in definiteness. The adjective takes the same definiteness marker as the noun it modifies.

(3) a. rağul-u-n ṭawīl-u-n
man-NOM-INDEF tall-NOM-INDEF
'a tall man'
b. al-rağul-u al-ṭawīl-u
the-man-NOM the-tall-NOM
'the tall man'
c. fī 'amrīkā -l-lātīniyyat-i
in America.GEN Latin-GEN
'in Latin America' (SASG p. 153)

[1] The definite determiner in Arabic is *al-*. The *a-* is dropped when the preceding word ends in a vowel.

[2] Most of the examples were taken from the descriptive grammar of Modern Standard Arabic by El-Ayoubi et al. (2001), which I abbreviate as *SASG*.

d. ’ağlisu ᶜalā maqᶜad-i-n fāḫir-i-n
I.sit on chair-GEN-INDEF luxurious-GEN-INDEF
ğildiyy-i-n
leather-GEN-INDEF
‘I’m sitting in a luxurious leather chair’ (SASG p. 153)

(3a) and (3b) show the contrast between an indefinite and a definite noun: an adjective has the same definiteness marker as the noun, either *-n* or *al-*. (3c) shows that this is not merely a copying of the determiner: the proper noun *’amrīkā* does not have a determiner but is inherently definite. The adjective accompanying the noun takes the determiner in agreement with this. (3d) is provided as an extra example, and can be contrasted with (2b).[3]

[3]This phenomenon of definiteness agreement seems very similar to the phenomenon of Determiner Spreading found in Greek, (see, for example, (Androutsopoulou 1995) and (Alexiadou & Wilder 1998)), but there are some differences. DS in Greek is not obligatory. Adjectives that allow it, do not have to undergo it. In Arabic, however, definiteness agreement is obligatory.

(i) a. *al-rağul-u ṭawīl-un
the-man-NOM tall-NOM.INDEF
‘the tall man’
b. *al-ṭāwilat-u mustadīrat-un
the-table-NOM round-NOM
‘the round table’

The examples in (i) cannot have the indicated meanings (They are in fact grammatical with a sentential reading: *the man is tall* and *the table is round*.).

Another difference is that in Greek, DS is only allowed with so-called predicative adjectives.

(ii) a. o ipotithemenos (*o) dolofonos
the alleged (*the) murderer
b. *o dolofonos itan ipotithemenos
the murderer was alleged
Alexiadou & Wilder (1998)

This is notably different in Arabic. All adjectives are required to agree in definiteness with the noun they modify, no matter whether they are predicative or not.

(iii) a. al-qātil-u *(al)-mazᶜūm-u
the-murderer the-alleged
‘the alleged murderer’
b. *al-qātil-u mazᶜūm-un
the-murderer alleged-INDEF
‘the murderer is alleged’

As shown in (iiib), the adjective *mazᶜūm* cannot be used as a sentence-level predicate, which indicates it is not a predicative adjective. However, as (iiia) shows, the determiner is still required when the adjective is used attributively.

2. Establishing agreement

The common assumption is that adjectival agreement inside the DP consists of a direct agreement relation between the head noun and its modifiers. This position is taken by Carstens (2000), for example. However, data from Arabic suggest that more is involved than the establishment of a direct agreement relation. Consider the following phrase.

(4) li -l-ǧazāʾir-i -l-mutaqaddim-i ḏikr-u-hā
to the-islands.F-GEN the-preceding.M-GEN mentioning.M-NOM-their
'to the aforementioned islands'

The construction in (4) has no direct equivalent in English. The head of the phrase is the noun *al-ǧazāʾir* 'the islands'. It takes genitive case because of the preposition *li*. The noun is modified by an adjectival participle, *al-mutaqaddim* 'preceding'. However, although it is modified by the participle *al-mutaqaddim*, the noun *ǧazāʾir* 'islands' is *not* the subject of the participle. The subject of the participle is *ḏikr-u-hā* 'their mentioning'. This is a gerund-like deverbal noun, modified by a pronominal suffix *-hā* 'their'. This resumptive pronoun expresses the object of the action expressed by the deverbal noun, and it refers back to 'islands'. Note that the noun *ḏikr-u-hā* has nominative case.

The combination *mutaqaddim ḏikr-u-hā* means 'their mentioning preceding' (litt.). When it is used attributively with the noun *ǧazāʾir*, the whole has the meaning *the islands whose mentioning preceded*(litt.), which is best translated in English as indicated in (4).

The agreement facts in (4) are particularly interesting. The head noun *al-ǧazāʾir* is feminine plural, definite and has genitive case. The subject of the participle, *ḏikr-u-hā*, is masculine singular, definite and has nominative case. Somewhat surprisingly, the participle *al-mutaqaddim* shows a mixed set of features. It is masculine singular, definite and has genitive case. That is, its φ-features are assigned by its subject, *ḏikr-u-hā*, whereas its case and definiteness features are assigned by the noun it modifies, here *ǧazāʾir*.

The following examples show the versatility of this construction.

(5) a. raʾaytu -mraʾ-at-an ǧamīl-an
I.saw woman-F-ACC.INDEF beautiful.M-ACC.INDEF
waǧh-u-hā
face.M-NOM-her
litt. 'I saw a woman beautiful her face'
'I saw a woman with a beautiful face'

b. ǧāʾat min balad-in maᶜrūf-at-in
it.came from country.M-GEN.INDEF famous-F-GEN.INDEF
šidd-at-u ḥarārat-i-hi
strength-F-GEN heat-GEN-its
litt. 'it came from a country famous the strength of its heat'

‘it (the heat) came from a country famous for (the strength of) its heat’ (SASG p. 187)

c. ’ilā silsilatin ǧadīdatin min al-ḥurūb-i$_i$ -l-ṣa^{c}b-i
to chain new of the-wars.F-GEN the-difficult.M-GEN
-l-taḥakkum-u bi natā’iǧ-i-hā$_i$
the-containing-NOM with results-GEN-their
lit. ‘to a new chain of wars their effects difficult to contain’
‘(this tension could lead) to a new chain of wars whose effects will be difficult to contain’ (SASG p. 187)

The examples show that the construction is not limited to participles, but also occurs with adjectives. They also further illustrate the two agreement processes. In (5a), the modified noun, *imra’a* ‘woman’, is feminine, indefinite, and takes accusative case. The modifying adjective, *ǧamīl* ‘beautiful’, is masculine, agreeing with *waǧh* ‘face’, but the adjective is at the same time indefinite, agreeing with *imra’a* rather than with *waǧh-u-hā*, which is definite. Note that the adjective also has accusative case, like the head noun.

Both (5b) and (5c) show a difference in gender between the head noun and the modifying adjective. In (5b), the head noun is *balad* ‘country’, which is masculine, whereas the modifying adjective is *ma^{c}rūfa* ‘famous’,[4] which is in the feminine form. The subject of this adjective, *šidda* ‘heat’, is feminine as well. This example clearly shows that the modifying adjective agrees in gender with its DegP-internal subject, not with the head noun. (5c) is similar: the head noun *ḥurūb* ‘wars’ is a feminine plural. The modifying adjective *ṣa^{c}b* ‘difficult’, however, is masculine singular.[5] The subject of the adjective, *taḥakkum* ‘containing’, is a masculine noun. This shows that the adjective agrees in number with its own subject *taḥakkum*, not with the head noun *ḥurūb*.

Furthermore, the last example, (5c) shows that the resumptive pronoun does not have to occur on the subject of the adjective. Here, the subject is a nominal infinitive, *al-taḥakkum* ‘the containing’, and the resumptive pronoun occurs on the object of that infinitive *natā’iǧ-i-hā* ‘their results’.

All these examples clearly demonstrate that there is not one but two agreement processes involved in the adjectival agreement in (4) and (5). Agreement in φ-features is distinguished from agreement in case and definiteness. In other words, the way in which adjectival agreement is established is more complex than usually assumed.

Let us look at this structure to see how we can analyse it; for the moment, I only look at the adjectival phrase. Consider the example in (5a). The adjective phrase contains two elements: the A head *ǧamīl* and the subject *waǧhu-hā*. I will

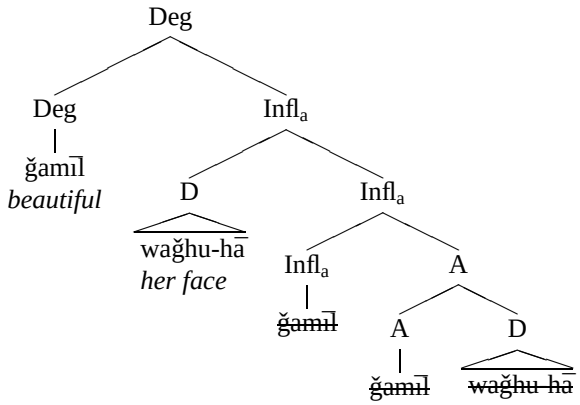
[4]The feminine ending in Arabic is *-at*. The /t/ of this ending is dropped at the end of a clause and when the word is quoted.

[5]In fact, the noun *ḥurūb* ‘wars’ is an inanimate plural, which means it will trigger feminine singular agreement: all nouns that are inanimate plurals trigger feminine singular agreement on verbs, demonstratives, adjectives, pronouns, etc.

follow proposals by Abney (1987) and Zwarts (1992) that the adjective phrase is a DegP.

The evidence shows that there is an agreement relation between the adjective and its subject. Let us say that the subject is generated as a sister of the adjective and moves to the specifier position of an agreement position, which I will call Infl_a. The adjective is assigned its φ-features in the agreement process with Infl_a, and this process is also responsible for movement of the subject to spec,Infl_a.[6]

(6)



In the examples so far the DP-internal adjective has an overt subject. Most DP-internal adjectives in Arabic do not, however. Usually, they just modify the noun, as in (7).

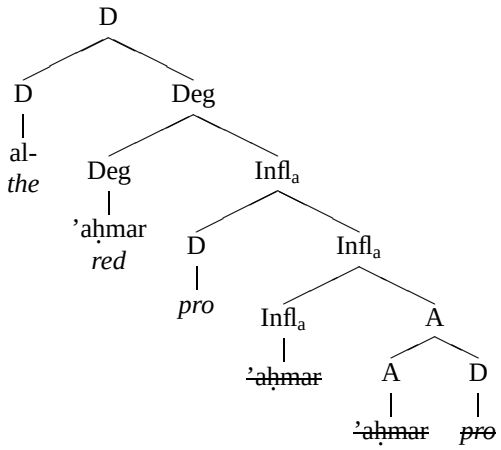
(7) a. al-baytu -l-’aḥmaru
the-house the-red
‘the red house’

b. ’abniyat-u landan al-qadīmat-u
buildings-NOM London the-old-NOM
‘the old buildings of London’ (SASG p. 187)

We have two options open to us. We can either say that the structure of the examples in the previous section is exceptional, and assume that examples such as (7) have a much simpler structure. The alternative is to say that (7) has a structure very similar to that of the earlier examples. Because a unified analysis of adjectives is preferable, I will assume that the latter is, in fact, the case. This means we must posit the presence of an empty element in the DegP-internal subject position.

[6] In Kremers (2003) I show that the subject of the adjective must be generated in a higher position, outside the AP. It would take too long to go into the details of that analysis here, however. Similarly, I show that the adjective itself moves to Deg.

(8)



Here the argument of the adjective is syntactically realised as a *pro* element. The structure is essentially the same as the one for (4): the adjective has its own subject with which it agrees. The only difference is that this subject is now a covert element: *pro*.

As I indicated above, the examples of (4) and (5) all contain a resumptive pronoun that refers back to the head noun of the DP. We now see that adjective phrases that do not have an overt DegP-internal subject also have a resumptive pronoun, which is *pro*.

3. Definiteness agreement

In the introduction, I showed that Arabic adjectives exhibit a phenomenon that can be termed *definiteness agreement*. In this section, I will show how we can account for it and why it takes place. To begin, let me repeat the relevant example in (9).

(9) a. rağul-u-n ṭawīl-u-n
man-NOM-INDEF tall-NOM-INDEF
'a tall man'

b. al-rağul-u al-ṭawīl-u
the-man-NOM the-tall-NOM
'the tall man'

As can be seen, the definiteness feature of the adjective manifests itself in the same way as it does on the noun: indefiniteness is marked with a suffix *-n*, whereas definiteness is marked with the determiner *al-*.

In Kremers (2003) I analyse the determiner *al-* and the indefiniteness marker *-n* on the noun as projections of the head D. Apparently, this D head is present in the adjective phrase as well. This conclusion seems problematic because Zwarts (1992) argues that the Deg head is the adjectival equivalent of D and C, which

would mean that there can be no extra D head in the adjective phrase.

However, there is good reason to assume that there is indeed a D head dominating the Deg head in the adjective phrase.[7] Not only is the D head visibly present in the adjective phrase, it also has a function. In section 2 I reached the conclusion that every adjective phrase contains a DegP internal subject argument and a resumptive pronoun that refers back to the modified noun. DP-internal adjectives usually have *pro* as subject, which functions as the resumptive pronoun.

(10) al-baytu [$_{\text{DegP}}$ -l-'abyaḍu *pro*]
the-house the-white
'the white house'

Following Higginbotham (1985), who argues that all adjectival modification is in fact predication, we can give the following semantic representation of the adjective phrase.

(11) $\iota x(\textbf{house}(x) \wedge \textbf{white}(x))$

What (11) tells us is that the resumptive pronoun is in fact a variable. The variable x, which is bound by the outer ι-operator, also occurs in the adjective phrase. We can plausibly say that the *pro* element in the syntactic structure is the equivalent of this variable. And it is this variable that requires the presence of the adjectival determiner.

Under common assumptions, the (nominal) determiner functions as the binder of the open argument position in the noun phrase. This argument position is the *R* role of the noun, which is generally not syntactically realised. As such, the determiner is the syntactic equivalent of the semantic ι operator.

When we look at the structure of the adjective phrase, we see that the adjectival determiner is also a binder. The variable it binds is the resumptive pronoun present in the adjective phrase. The adjectival determiner functions as a binder for the resumptive pronoun, making sure that the adjective phrase can be used as a DP-internal modifier.

With adjectives that have an overt DegP-internal subject, the analysis is the same.

(12) a. ra'aytu -mra'-at-an ğamīl-an
I.saw woman-F-ACC.INDEF beautiful.M-ACC.INDEF
wağh-u-hā
face.M-NOM-her
lit. 'I saw a woman beautiful her face'
'I saw a woman with a beautiful face'

b. $\iota x(\textbf{woman}(x) \wedge \iota y(\textbf{face}(y) \wedge \textbf{of}(x)(y) \wedge \textbf{beautiful}(y)))$

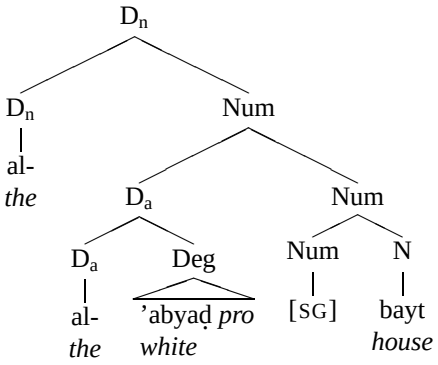
[7] Furthermore, Szabolcsi (1994) argues that the D and the C head should each be separated into two heads. The occurrence of both a D and a Deg head in the Arabic adjective phrase may be explained in terms of this proposal.

For convenience, I have used a predicate **of** to indicate possession.[8] Again we see that the adjective phrase contains a variable that refers back to (the *R* role of) the head noun. This variable in the syntactic structure of (12a) is the resumptive pronoun *-hā* 'her' which is the possessor of *waǧh* 'face'.

As we see, the adjectival D head functions as a binder for the resumptive pronoun present in the adjective phrase. However, when we look at the semantic structure, we see that there is only one operator that binds both occurrences of the variable x. In the syntactic structure, there are two binders: the nominal D and the adjectival D. This raises the question why the syntactic structure needs two binders.

This question becomes even more compelling when we examine the proposed tree structure for (12).[9]

(13)



The resumptive pronoun in the DegP is in the c-command domain of the nominal D_n, which would mean D_n should be able bind it.

The answer to this question can be found in in the assumption by Chomsky (1999) that derivations are built up phase by phase. Chomsky (1998) defines phases on the basis of propositional content. Since the adjective phrase contains all the elements that make up a proposition (i.e. a predicate, the predicate's arguments and a subject) we must assume that the adjective phrase is a phase. In other words, the adjective phrase is built separately, and only when it is finished is it included in the noun phrase.

It is reasonable to assume that the resumptive pronoun needs to be licensed locally, inside the phase it is contained in, i.e. adjective phrase. For this reason, a D head is added to the adjective phrase; such a D head ensures that the variable is bound, and in this way, licenses it.

[8] Note that the variable y is the *R* argument of the adjective's subject 'face'. It is irrelevant to the point at hand.

[9] The tree in (13) suggests that the surface order would be D-Adj-N. However, I assume that syntax is in fact more flexible, in that an adjunct is not linearly ordered with respect to the node it is adjoined to. Linear ordering takes place at PF, and in Arabic, adjectives are ordered after the nouns they modify. See Kremers (2003) for details.

The D head that is inserted must, of course, itself be identified. Because this D head is at the edge of the phase, we can argue that this identification does not have to occur locally. There are basically two ways in which the D head can be licensed. Firstly, the adjective phrase can be used independently, as in (14).

(14) al-ṭawīl-u
the-tall-NOM
'the tall one'

Here, the D head is identified in the same way that the D head of any noun phrase is identified.[10] If the adjective phrase is merged inside a noun phrase, modifying the head noun, it will be bound by the noun's D head. In this case, the features of the nominal D are transferred to the adjectival D. These features include DEF and CASE, but also the φ-features. The φ-features are then transfered to the resumptive pronoun, which is bound by the adjectival D.[11]

4. Relative clauses

Thus far, I have developed an analysis of the DP-internal adjective phrase in Arabic. I claim that an adjective phrase has a clause-like structure, and that the adjective agrees with a subject internal to the DegP. Furthermore, I have shown that the adjective phrase contains a resumptive pronoun, and that the definiteness marker on the adjective plays a role in identifying this resumptive pronoun. In this section, I take a quick look at relative clauses, which appear to have a very similar structure.

A relative clause in Arabic is a clause with normal word order that follows the noun it modifies. The relative clause contains a resumptive pronoun and there is no *wh*-element.[12] The relative clause is introduced by a relative clause marker.

(15) al-raǧul$_i$ alladī ra'aytu-hu$_i$
the-man REL I.saw-him
'the man that I saw'

The relative clause marker agrees with the antecedent in gender and number. In (15), *alladī* is marked for masculine singular. When the antecedent is feminine and/or plural, it takes different forms.

(16) a. al-mar'a$_i$ allatī ra'aytu-hā$_i$
the-woman REL.SG.F I.saw-her

[10] This is presumably some interpretational process beyond the scope of syntax.

[11] The exact nature of the binding that takes place between the nominal and the adjectival D heads needs further explanation, because it is not typical operator-variable binding. I will leave this matter to future research.

[12] Substantive relative clauses, i.e. relative clauses without an antecedent, are formed with *wh*-elements, but I will not discuss those here.

'the woman that I saw'

b. al-riğāl$_i$ alladīna ra'aytu-hum$_i$
the-men REL.PL.M I.saw-them
'the men that I saw'

c. al-nisā' allātī ra'aytu-hunna
the-women REL.PL.F I.saw-them
'the women I saw'

The relative marker also has dual forms. These forms have an additional property: they agree with the head noun in case.

(17) lam 'ağidi -l-rağulayni -lladayni baḥatā
not I.found the-men.DUAL.ACC REL.M.DUAL.ACC they.DU.searched
ᶜan-nī
for-me
'I did not find the two men that were looking for me'

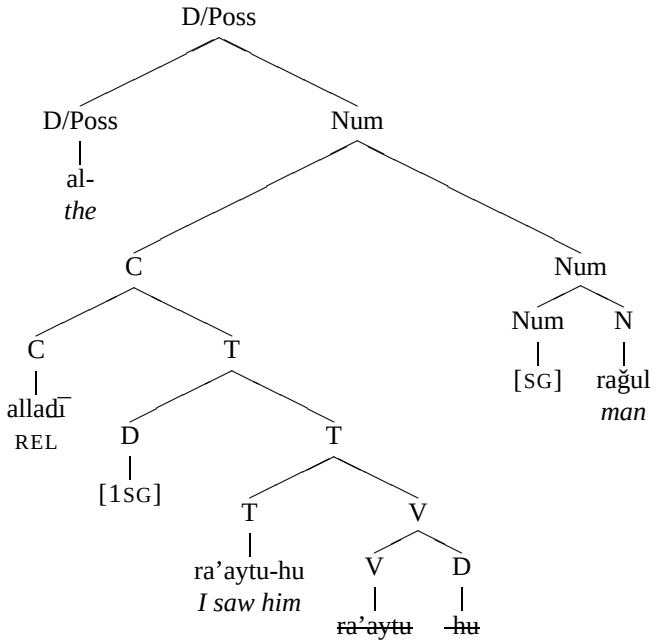
Note that the accusative case of the relative marker *alladayni* is the same as the case of the antecedent *al-rağulayni* 'the two men', but different from the nominative case of the (covert) resumptive pronoun in the relative clause (which in (17) is a *pro* subject). So we see that the relative marker agrees with the antecedent in gender, number and case. Interestingly enough, it also agrees in definiteness. When the antecedent noun is indefinite, the relative marker is dropped.

(18) ğā'a bi kitāb-in ∅ lam yaqra'-hu baᶜdu
he-came with book-GEN.INDEF (REL) not he.read-it yet
'he brought a book that he had not read yet'

In (18), the antecedent *kitāb* 'book' is immediately followed by the relative clause. Like the previous cases, the relative clause contains a resumptive pronoun, but now there is no relative marker. These facts indicate that a relative clause in Arabic has a C head that contains a form of the relative marker *alladī* and that agrees with the head noun. If we assume that relative clauses are adjoined to Num, just like adjectives, the structure of a phrase as in (19a) will be (19b).

(19) a. al-rağul$_i$ alladī ra'aytu-hu$_i$
the-man REL I.saw-him
'the man that I saw'

b.



The structure of (19) is very similar to the structure of the adjective phrase in (13) above. In the adjective phrase, the D head is bound by the matrix D. In (19), the C head is also bound by the nominal D head and receives its features in this way. Furthermore, the relative marker C binds the resumptive pronoun in the clause in the same way that the adjectival D binds the resumptive pronoun in the adjective phrase.

It turns out, then, that we do not need any extra assumptions to explain the agreement in relative clauses. Relative clauses use the same mechanisms that adjectives use.

5. Conclusions

In this paper, I have shown that adjectival agreement in Arabic consists of two separate agreement processes. First, there is agreement in the adjective phrase (DegP) between the predicate (the adjective) and its subject. This subject can be overt, but in most cases it will be *pro*. This *pro* will be identified through the second agreement process that takes place, which is a process of binding between the D head of the noun and the D head of the adjective. In this process, the features of the nominal D (definiteness, case, and φ-features), are transferred to the adjectival D.

The *pro* subject of the adjective functions as a resumptive pronoun that refers back to the head noun. If the DegP-internal subject of the adjective is not *pro* but

overt, it will contain a resumptive pronoun, as genitive modifier or more deeply embedded as modifier of an argument of the subject. This pronoun will be realised overtly.

Both D heads in the structure function as operators binding variables in the projections they head. The nominal D head binds the *R* role of the noun, the adjectival D head binds the resumptive pronoun in the adjective phrase. Through this binding, the pronoun gets its φ-features. If the resumptive pronoun happens to be the subject of the adjective, the adjective will receive the same φ-features through agreement. The result of this is that the adjective will give the appearance of agreeing directly with the head noun, whereas in fact the agreement takes place indirectly, through the process described.

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V2 in Adult L2 German: analysing the inter-language grammars

Chiara Leonini

This paper focuses on adult second language acquisition of German Verb Second by native speakers of Italian. We will investigate original L2 German data collected from a group of Italian adults learning German at the university, analysing their inter-language grammars with respect to an area where the two languages involved differ, specifically the position of the finite verb within the clause. It will be shown that the learners have not yet acquired the V2 parameter at this stage of acquisition; rather they use a representation based on their L1 grammar.

1. Introduction

Recent research on second language (L2) acquisition has focused on the nature of the mental representations, or inter-language grammars (ILGs), attained by L2 learners, investigating the kind of grammatical knowledge that characterizes L2 developing grammars from the initial to the final states (White 2000).

One of the main issues currently under investigation is the kind of grammatical knowledge that the L2 learner starts out with, as well as the role of L1 on L2 acquisition. As far as these points are concerned, three possibilities have been described: the first is the Minimal Trees Hypothesis (Vainikka & Young-Scholten 1994) according to which only lexical categories and their linear orientation transfer from the L1 grammar[1]. The second approach is the Valueless Feature Hypothesis (Eubank 1994), according to which the L2 initial state comprises all of the L1 grammar, except for the values of features under functional heads, which are initially unspecified or inert[2]. The last approach is the Full Transfer/Full Access Hypothesis (Schwartz 1998; Schwartz & Sprouse 2000; White 2000), which assumes that the whole of the L1 grammar, including functional projections, determines the initial state of L2 acquisition. The learner initially uses a representation based entirely on the L1 grammar,

[1] Thus, the L2 learners' early grammars are incomplete and lack functional categories.

[2] During the L2 development the acquisition of inflectional morphology drives the appropriate L2 values.

however, when this grammar cannot assign a representation to the input, restructuring takes place.

The purpose of this study is to investigate the L2 German inter-language grammars, by analysing the spontaneous production data of a group of young adults with Italian as L1. In particular, we will be concerned with the acquisition of the Verb Second Parameter, thus examining whether the learners, at this stage of acquisition, are able to locate the finite verb in the right position within the clause. We argue, in fact, that the L2 acquisition of German Verb Second by learners of a language, such as Italian, which does not have this syntactic option, can be a suitable test case by which to investigate the nature of L2ers' intermediate stages and the role of L1 in the developmental process[3].

The first part of the paper will supply some methodological information about the experiment (section 2); secondly we will provide an overview of the theoretical background that we will use (section 3); the results of the study will be reported and analysed in detail in sections 4 and 5, while section 6 concludes the paper.

We will provide data that support the Full Transfer Hypothesis: analysis of the data reveals that L1 plays an essential role at this stage of acquisition. The learners taken into account for the study have not yet acquired the V2 Parameter and in fact produce many verb placement errors in main and in embedded clauses as well. It seems that they use a representation taken from their first language.

2. The experiment

In the present section we will provide a methodological description of the experiment.

The nine subjects taking part at the experiment were adult Italian-speaking learners of German, who were attending German classes at the University of Siena at the time of the interview. They were all young adults, between 18 and 22 years of age. The first exposure to German for 5 of them was as adults taking university courses, the other 4 had learned some German in high school, starting in their mid teens. Moreover, 2 students had attended a summer language course in Germany when they were at high school. However, none of the subjects had had any early exposure to the language.

First, a proficiency test was administered for the purpose of establishing the participants' level of L2 German. They were then classified as advanced or intermediate: in the following, we will consider exclusively the production data of those subjects – seven in number – who where classed as intermediate on the basis of the proficiency test. We decided not to take into account the production

[3] The two grammars involved here, namely German and Italian, differ with respect to the V2 Parameter, with the parameter being attributed a positive value in the former, but not in the latter.

data of the two advanced learners for reasons of homogeneity, since their L2 competence were considered to be much better than that of the others.

The subjects were tested individually. They were asked to summarise the Little Red Riding Hood tale, after having heard an easy version of the story during one of their German classes[4]. Data were collected through recordings; only the subject and the investigator were present at the interview. The data were then transcribed and analysed. We took into consideration for the analysis only utterances consisting of at least two constituents in addition to V, while repetitions were discarded.

The purpose of the study was to investigate the learners' competence as far as the verb placement is concerned. Analysis of the data reveals that the learners produce verb placement errors which in most of the cases seem to derive from their L1.

3. V2 in German

In this section we will very briefly review some properties of V2 in German, in order to set up the theoretical background that guided the study.

In contrast to Italian, German is a V2 language. V2 languages are characterized by the syntactic property according to which the finite verb of matrix clauses surfaces in second position and is preceded by one (and only one) maximal projection, irrespective of whether the first constituent is the subject or any other constituent XP. As illustrated in (1) below, the XP preceeding the finite verb is the subject in (1a), an object in (1b) and (1c) and a sentential adverb in (1d)):

(1) a. DP[Mein freund] hat dem Mann gestern das Buch gegeben
my friend has the man-DAT yesterday the book-ACC given
'My friend gave the man the book yesterday'
b. DP[Das Buch] hat mein Freund dem Mann gestern gegeben
c. DP[Dem Mann] hat mein Freund gestern das Buch gegeben
d. Adv[Gestern] hat mein Freund dem Mann das Buch gegeben
e. *Adv[Gestern] DP[mein Freund] hat dem Mann das Buch gegeben

Subordinate clauses, instead, typically show the verb-final pattern[5], as illustrated in (2a), and V2 is in complementary distribution with an overt complementizer here, as shown in (2b):

[4] We chose the Little Red Riding Hood tale because we considered it to be an easy text and very well known to all the students.

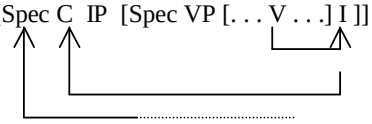
[5] Although the verb usually occupies the clause-final position, German has embedded Verb Second in certain contexts. In the absence of the complementizer verb movement is possible in hypothetical or conditional clauses, or if the matrix verb is a bridge verb. (See Vikner 1995 for a detailed discussion of embedded-Verb Second in the Germanic Languages). Moreover, V2 is sometimes possible in embedded clauses introduced by *weil* 'because', at least in colloquial spoken language (Schönenberger, 1998).

(2) a. ob mein Freund dem Mann gestern das Buch gegeben hat
if my friend the man yesterday the book given hat
'whether my friend gave the man the book yesterday'
b. *ob mein Freund hat dem Mann gestern das Buch gegeben.

We will follow here the influential analysis on V2, that has its origins in the seminal work by Den Besten (1977), and has recently been revived by various authors (see a.o. Tomaselli 1990 and Vikner 1995). We will refer to this account as the 'traditional analysis', following the terminology of Vikner (1995); but see also Travis (1984) and Zwart (1993) for a partially different proposal. The basic assumption of this analysis is that VP in German is head-final, just like IP, thus German has an underlying SOV order. As shown in (3), V2-clauses can be analysed as involving the CP-level, since the V2-pattern results from finite verb movement into C°, or into any of its 'split projections', following the Split-CP Hypothesis of Rizzi (1997), via I°, and from the raising of a constituent XP to [Spec CP]. But V cannot move into C° when this position is already occupied, for example, by a base-generated complementizer, which blocks the verb from raising to C°. This is the case in embedded clauses in German, in which the finite verb occupies the final position. These are analysed as involving movement of the verb to the head of the head-final IP. Therefore the finite verb and the complementizer are in complementary distribution (den Besten 1977).

In this sense, verb placement in embedded clauses overtly reflects the underlying order of German, namely the SOV order, as opposed to the SVO order of Italian.

(3) CP[Spec C IP [Spec VP [. . . V . . .] I]]



4. Analysis of the data

In order to evaluate whether L2 Italian learners of German are able to set the Verb Second parameter, let us turn to the investigation of their inter-language grammars.

A first quantitative analysis of the data we collected shows that the subjects produced main clauses in the vast majority of cases, as illustrated in (4) below:

(4) **Tab. 1 Sentence types**

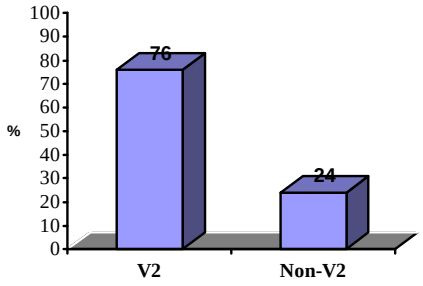
Main clauses	Embedded clauses	Tot
121	38	159
76%	24%	

Let us now analyse main clauses and subordinate clauses separately. We will first consider main clauses.

As we can see in (5) 92 main clauses out of 121, 76%, have Vfin in second position; the remaining 29, 24%, show a word order that is not target-consistent.

We want to remind the reader that the focus of the present study is the acquisition of the target verb placement. Therefore, what we here refer to as correct and incorrect only concerns the position of V. We will not take into consideration other types of error, involving, for example, case, gender, agreement or the use of functional categories in general. Such errors, however, are to be found in the learners' developmental stages we examined. Therefore, those sentences that we consider correct are not always target-consistent.

(5) **Fig. 1 Verb Placement in main clauses**

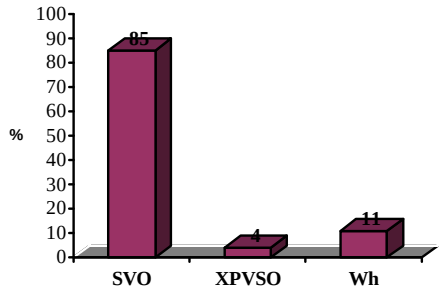


V2	Non-V2	Tot
92 – 76%	29 – 24%	121

Figure 1 shows that most of the main clauses display a correct word order, since they are V2. The low percentage of mistakes in itself does not suggest, however, that the Verb Second parameter has been correctly set by the students. Such an assumption is based on the fact that if we look at the types of correct main clauses in more detail, we note that in the majority of cases they are simple declaratives, involving an SVO order, such as those shown in the examples below (6). This is shown also in the graph in (7), where we can observe that 78 out of 92, 85%, main clauses with the V2 pattern are indeed simple declaratives, while only 4,4%, display the order XPVSO and can be considered 'real V2'. The remaining 10, 11%, are Wh-questions.

(6) a. Sie traf einen Wolf[6]
'She met a wolf'
b. Ihre Mutter fragt sie
'Her mother asks her'
c. Der Wolf fraβ die Groβmutter
'The wolf ate the grandmother'

(7) **Fig. 2 Types of correct main clause**

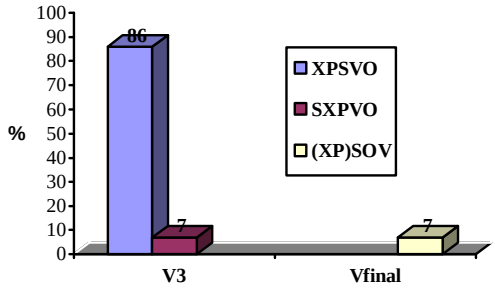


SVO	XPVSO	Wh
78	4	10
85%	4%	11%

Moreover, if we consider the incorrect main clauses we find that in most of the cases the learners use the V3 pattern, as we can see in (8):

[6] Recall that errors concerning gender, case, inflection and use of prepositions or of functional categories in general have not been considered in the present analysis.

(8) **Fig. 3 Types of incorrect main clause**



V3		**Vfinal**
27 – 93%		2 – 7%
XPSVO	SXPVO	(XP)SOV
25	2	2

The graph in (8) shows that we found that around 93% of the main clauses had the finite verb in third position, and that these are of two different types. In the vast majority of cases they begin with a constituent XP that is not the subject, as in (9), whereas 2 of them have S in initial position, such as in (10). Moreover, 7% of incorrect main clauses have Vfin in final position, the sentences thus displaying the (XP)SOV order, as in (11)[7]:

(9) a. In diesemAugenblick der Jäger kommt
in this moment the huntsman arrived
'Meanwhile, the huntsman arrived'

b. In der Wald Rotkäppchen traf ein Wolf
in the forest LRRH met a wolf
'As she was going through the forest, she met with a wolf'

c. Um Ende diese Märchen der Wolf fraβ Rotkäppchen
at.the end of.the story the wolf ate LRRH
'At the end of the story the wolf ate her up'

d. Ein Tag seine Mutter fragt er
one day his mother asked him
'One day her mother said to her'

(10)a. Das Rotkäppchen in der Wald traf der Wolf
LRRH in the forest met the wolf
'LRRH met the wolf in the forest'

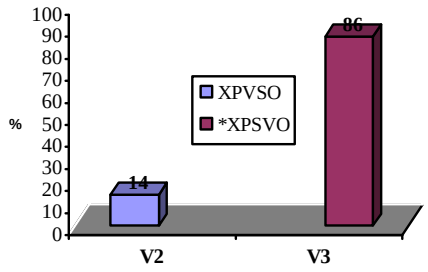
[7] Again, we do not consider here other types of errors, that do not involve the position of V. Notice, moreover, that the SOV underlying structure of German has been reproduced in the examples in (11).

b. Der Jager mit eine Schere schnitt der Wolf
the huntsman with the scissors cut the wolf
'The huntsman took some scissors and cut open the wolf's belly'

(11)a. Sie Rotkäppchen genannt wird
she LRRH called is
'She was called Little Red Riding Hood'
b. So der Wolf ermordet wird
so the wolf killed is
'The wolf was killed'

We assume that the examples above clearly suggest that the learners have not acquired the V2 parameter. Such an assumption is further strengthened when we take into account all main clauses beginning with an XP other than S, and then compare those that are V2 (thus having the XPVSO order), with those that involve V3 (thus displaying the XPSVO order), as in (12):

(12) **Fig. 4 Types of main clause beginning with an XP other than S**



XPVSO	***XPSVO**	**Tot**
V2	**V3**	
4 – 14%	25 – 86%	29

It also seems that the learners have been influenced by their first language, in the structuring of the L2 representation. As a matter of fact, notice that, unlike German, V3 is possible in Italian. Italian allows topicalization (of e.g. Adverbs or Prepositional Phrases) in pre-subject position and in some cases the order SXPV is possible when both elements preceding V are topicalized. As shown in (13) and (14) below, the Italian equivalent forms corresponding to (9) and (10) are target consistent:

(13)a. In quel momento il cacciatore arrivò…
in this moment the huntsman arrived
'Meanwhile, the huntsman arrived'

b. Nel bosco Cappuccetto Rosso incontrò il lupo
in.the forest LRRH met the wolf
'As she was going through the forest, she met with a wolf

c. Alla fine della storia il lupo mangiò Cappuccetto Rosso
at.the end of.the story the wolf ate LRRH
'At the end of the story the wolf ate her up'

d. Un giorno la mamma le disse
one day his mother him asked
'One day her mother said to her'

(14)a. Cappuccetto Rosso, nel bosco, incontrò il lupo
LRRH in.the forest met the wolf
'LRRH met the wolf in the forest'

b. Il cacciatore, con le forbici, tagliò la pancia al lupo
the huntsman with the scissors cut.open the belly to.the wolf
'The huntsman took some scissors and cut open the wolf's belly'

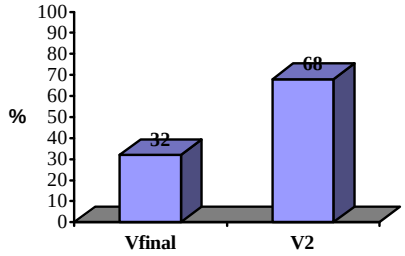
Let us now turn to subordinate clauses. We will concentrate here, solely on embedded sentences containing finite verbs.

The first classification that we make here is syntactic. In the corpora we examined, we find two types of subordinate clauses: sentences introduced by an overt complementizer (in the vast majority of cases *dass* 'that' and *ob* 'whether'); and embedded questions introduced by a Wh-word. In German, embedded questions have the same order as subordinate clauses introduced by a complementizer: as proposed by Cardinaletti & Giusti (1996) the Wh-element occupies the first position of the sentence, and V cannot move to the second position, as this position is already filled by a null complementizer. Thus V remains in situ, at the end of the sentence[8].

Let us now consider verb placement. As we can see in (15) the majority of embedded sentences containing finite verbs do not show V in final position. In fact, only 12 out of 38 have the target order CompSOV, in the other 68% of cases the learners place the finite verb in a different position, leading to a verb placement that is not compatible with the target grammar.

[8] Such an analysis is confirmed by the fact that in some varieties of German (Bavarian), as well as in Dutch, but also in some Italian dialects (Venetian) the complementizer can be overtly expressed in the sentence despite the presence of a Wh-element. See Cardinaletti & Giusti (1996) for examples.

(15) **Fig. 5 Types of subordinate clause**



Vfinal	***NotV-final**	**Tot**
12	26	38
32%	68%	

Embedded clauses that are not V-final display the CompSV(O)(PP) order: there is a constituent intervening between Comp (or a Wh-element) and Vfin, which is generally the subject, either pronominal, as in (16), or non-pronominal, as in (17). Thus, the sentences display the V2 order. Four of them, however, are introduced by *weil* 'because'. V2 in weil-subordinate clauses appears to be a feature of colloquial spoken German, (Salustri 2002) and does not constitute a mistake. This phenomenon has also been reported for German-speaking children (Schönenberg 1998, Meisel & Müller 1992).

(16)a. ... dass sie geht zu Groβmutter
... that she goes to grandmother
'… that she was going to visit her grandmother'
b. ... ob sie wollte nach Groβmutter gehen
... whether she wanted to grandmother go
'… whether she wanted to go to visit her grandmother'

(17)a. Wann Rotkäppchen kommt dort
when LRRH arrives there
'As soon as LRRH arrived there'
b. ... warum die Groβmutter hat sehr groβe Augen
... why the grandmother has very big eyes
'… why she has such big eyes'

4. Results

Analysis of the data reveals that even though the learners produced a high number of main clauses which display a correct verb pattern, they have not acquired the Verb Second parameter at this stage. In what follows we will provide evidence for this assumption.

First of all, if we look at the data again, we notice that most of the V2 sentences produced by the learners are of the simple declarative type. The graph in (7) shows, in fact, that 85% of main clauses with the V2 pattern display the SVO order. Sentences with such an order, however, do not reveal whether the V2 parameter has been set, since they reproduce a possible order of Italian.

Secondly, main clauses that are 'real' V2 were produced only a few times. We found only 4 main clauses out of 92 which have the XPVSO order. These clauses were found in the production data of two of the seven students who took part at the experiment, where we also found simple declaratives SVO, V3 main clauses, and non-standard V2 subordinate clauses.

The comparison illustrated in the graph in (12) then becomes relevant for our analysis. It is shown, in fact, that sentences beginning with an XP other than S are in the vast majority of cases V3 and have a non-standard XPSVO structure. Again, the learners seem to reproduce one possible structure of their L1: as we illustrated in the examples in (13) and (14), Adjunct-S-V-O is a possible order in Italian.

Finally, as presented in (15), 'apparent' V2 has been extended to embedded clauses, thus showing that not only the V2 parameter but also the underlying structure of German, and consequently the new-value for the head-complement parameter has not yet been acquired by these Italian learners of German. In order to corroborate this last assumption, however, we have to consider those contexts in which a complex verb form (either V_{+fin} + $V_{past.part}$, or Modal + V_{-fin}) are used. Sentences of this type were produced only a few times; they are all embedded clauses and are non-standard sentences with V_{+fin} in second position, following the first constituent of the clause, and V_{-fin} at the end, after the direct/indirect object, as in (18):

(18)a. ... ob s ie wollte nach Groβmutter gehen
... whether she wanted-V+FIN to grandmother go-V-FIN
'… whether she wanted to go to her grandmother'

b. Wenn er hat diese Antwort gehabt
when he has-V+FIN this answer had-VPAST.PART
'As soon as he had the answer'

c. Wenn sie hat diese Worte gesagt
when she has-V+FIN this word said-VPAST.PART
'As soon as she pronounced that word'

Taking the data in (18) into account we argue that at this stage of acquisition the learners have realised that the German VP is head-final, but they have not activated the new value of the head complement parameter internal to the IP, since they appear to extend the Italian head-initial IP to their representation of German. It seems, then, there is a difference in the way in which L2 Italian learners of German reset the head complement parameter internal to the VP and IP: the headedness of V may be decided on the basis of simple clauses, while the headedness of I requires evidence from embedded clauses.

Furthermore, a striking fact of our data is that the learners we investigated are often influenced by L1, since they make use of mechanisms employed in their first grammar. As we saw above, we found verb placement errors both in main and in embedded clauses, and in many cases, they seem to derive from L1, as the learners reproduce an order that is possible in Italian. Our results, then, provide some evidence for those accounts (Schwartz 1998; White 2000) according to which L1 plays a crucial role in second language acquisition. It seems, indeed, that syntactic properties of L1 transfer, thus, that L1 becomes the starting point of L2 acquisition.

5. Further considerations

Before concluding the paper, we want to consider very briefly one last point resulting from our analysis. The data show that the learners' inter-language grammars lack the property of V2, however they do not provide evidence that learners do not distinguish between finite and non-finite forms, and thus that functional categories and features are lacking in their developing grammar. Actually we found only three infinitival verbs in contexts where a finite form is required in the target language, namely:

(19)a. … dass ich dich besser sehen
... that I you better see-INF
'… the better to see you'

b. ... dass ich dich besser riechen
... that I you better smell-INF
'… the better to smell you with'

c. ... dass ich dich besser fressen
... that I you better eat-INF
'… the better to eat you with'

These instances of infinitival verbs were produced by the same learner, and appear in final position of embedded clauses introduced by *dass* 'that'. We assume that the absence of inflectional morphology on V results here from the omission of a modal verb, as shown in (20), rather than due to impairment:

(20)a. ... dass ich dich besser sehen Ø Ø = kann (können = can-INF)

Moreover, if functional categories were absent from the developing grammars, other types of variation would be expected, such as subject/verb agreement mismatches (since a checking mechanism would not be available). These, however, were not observed. In this sense our results fail to confirm those views according to which L2 grammars suffer from some form of impairment in the functional domain (Eubank 1994; Beck 1998).

This does not mean, however, that we did not find any errors at all. Indeed, the learners sometimes exhibit variability with regard to the morphological realization of particular forms[9]. Most errors involve the assignment of case and gender to NPs, as well as the use of agreement markers between articles and NPs, or pronouns and NPs. The learners seem to resort to default agreement markers, mostly over generalizing the nominative case or using bare forms without any suffixes at all. Some examples are listed in (21) below:

(21)a. Der Jager mit eine Schere schnitt der Wolf
the huntsman-SUBJ with a scissor-NOM cut the wolf-NOM
'The huntsman took a pair of scissors and cut open the wolf's belly'

b. Er sagt, dass sie hat ein_ groβ_ Mund
he-NOM,M,SG says that she-NOM,F,SG has a_ big_ Mouth
'She said that she had such a big mouth…'

c. Wenn er zu Hause ihre_ Mutter ist,
as he-NOM,M,SG at home her mother-NOM is,
er trift der Wolf
he-NON,M,SG meets the wolf-NOM,M,SG
'As she arrived at her mother's home, she encountered the wolf'

We argue that such errors stem from difficulties in supplying the exact morphology, thus, they are instances of missing surface inflection. In other words, we assume that they derive from morphological uncertainty, rather than that they are structurally determined. In this sense, the position we defend is consistent with the Missing Inflection Hypothesis (Hazenard & Schwartz 1997; Prévost & White 2000), and favours it over an extension to the adult L2 acquisition system of theories – such as the Truncation Theory (Rizzi 1993/1994) according to which variation in the use of functional morphology reflects a structural deficiency[10]. Proposals along these lines are currently

[9] Variability has been the centre of much recent research in language acquisition. It is found in L1 and in L2 acquisition as well, both in the inter-language grammars and in the L2 final states (Lardiere 2000; Sorace 2000). At issue has been whether variability in L2 takes the same form as in L1 acquisition or whether it is of a different nature.

[10] According to the Truncation Theory the Root Principle, whereby all matrix declaratives are CPs, is not fully operational initially in child acquisition. This means that the structural root of main declaratives can vary – it can be CP, IP or VP – and that main verbs appearing in RIs are truly non-finite.

assumed to account for variability in L1 acquisition and child L2 acquisition as well, but we argue that they are probably not appropriate to account for adult L2 variability. To sum up, the position we defend contends that L2 learners have difficulties mapping morphology and syntax, thus resorting to default forms; in other words there is what Lardiere (2000) describes as 'mapping problems' between surface forms and abstract features.

6. Concluding remarks

In this paper we analysed the inter-language grammars of L2 young-adult Italian learners of German; in particular we focused on the acquisition of the verb second parameter. A striking fact of our data is that the learners produced many verb placement errors in main clauses and in embedded clauses as well that seem to derive from their L1. As far as matrix clauses are concerned, the data show that the learners made use of simple declaratives SVO sentences in the vast majority of cases, but these sentences do not necessarily show that the V2 parameter has been correctly set here; they rather reproduce one of the possible orders of Italian. Moreover, most of the sentences beginning with an XP other than S are V3, and we saw that this order is, again, allowed in their L1 but not in the target L2.

In embedded clauses introduced by a complementizer, the use of the verb final pattern is very rare. In most of the cases, the learners locate the verb in a higher position, producing verb placement patterns that are not compatible with the target grammar.

Analysis of the data reveals that V2 has not yet been acquired by the students at this stage of acquisition. Rather they use a representation based on their L1 grammar.

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Temporal anchoring of habituals

J. Magdalena Scheiner

I argue that so called 'habitual sentences' contain an extensional HAB-operator that is different from the generic operator. It locates points of time/intervals within a larger interval characterized by a habitus that is a cumulatively quantized property of times. HAB therefore acts as a stativizer, which accounts for the combination of habitualized predicates with certain adverbials and tense forms that require homogeneity of the predicates they combine with. Quantificational adverbs like *often, rarely,* etc. are not overt forms of HAB. Instead, they modify its complement yielding a habitus (frequentative reading) or, on a non-habitual reading, count events (iterative reading).

1. Introduction

The distinction between sentences dealing with single events or particular individuals and sentences presenting properties holding of typical instances of kinds or events that happen regularly seems to be well attested crosslinguistically. The latter class is usually subsumed under the cover term of genericity. Sentences that in the broadest sense deal with things that happen regularly are called habituals.

Most of the literature dealing with habituals considers them as some special sort of generics, namely those that involve generic quantification not over individual variables, but over the situation variable provided by some eventive verb (Carlson & Pelletier 1995, Cohen 1999, Lenci & Bertinetto 2000). Following Carlson & Pelletier (1995) the proposed structures roughly look like the one in (1):

(1) GEN_s [...s...][...s....]

It is claimed that there is a generic quantifier (here: GEN) which is somewhat similar to the universal quantifier but nevertheless differs from the latter in various important respects. This quantifier is claimed to resemble a Lewisian adverb of quantification (Lewis 1975) and therefore unselectively bind the free variables in the restrictor, be it that they run over situations (as indicated in (1))

or over individuals. So the claim is that to know how to analyse the generic operator when running over individuals is to know the right treatment for habitual sentences as well.

However, a closer look at the structure in (1) shows that it cannot account for the temporal and aspectual properties exhibited by habituals. I will therefore follow the lines taken in Paslawska & von Stechow (2002) providing for an analysis that is able to integrate them in a framework which allows us to explain their behaviour in connection with temporal adverbials and certain tense aspect forms.

2. Fencing off habituals

When I have so far spoken of 'habituals' as referring to events that happen regularly I have concealed the fact that it is all but clear what has to count as a habitual. We are hardly ever provided with something like a definition when taking a look at the relevant literature.

I will start out with the idea that we can count as habituals all those sentences that either already contain periphrases such as *used to, has the habit of* (and their respective translations to the languages in question) (cf. 2a), or can be modified with one of these without change in meaning (cf. 2b):

(2) a. Marina used to drink coffee.
b. Sonja drinks tea.

2.1. Habituals are not eventives

Parting with this rough characterization we can now try to set them apart from other types of sentences.

Quite a standard assumption is that they are to be kept apart from eventive sentences:

(3) a. Volker is smoking a cigarette.
b. Volker smokes cigarettes.

While (3a) speaks about one particular event of Volker smoking a cigarette, (here implicitly) located in time and space, (3b) abstracts over many such events therefore presenting cigarette-smoking as a habit of Volker's. At least in the present tense, English is quite explicit about this distinction, using either the Simple Present or the Present Continuous. Although only some dialects of German (Rheinische Verlaufsform) provide us with such a distinction in the verbal paradigm, periphrases, adverbs or pragmatic considerations help to disambiguate the relevant readings in German.

2.2. Habituals are different from dispositions and rules

In contrast to Carlson & Pelletier (1995) and Lenci & Bertinetto (2000) I will follow Cohen (1999) in assuming that habituals have to be set apart from modalized sentences as well. One such type of sentences that usually gets conflated with habituals is **dispositions** (cf. 4):[1]

(4) Dieses Auto geht 250 km/h.
this car goes-PRESENT 250 kph
'This car makes 250 kph.'

If (4) really were habitual it should not change its meaning when applied one of the aforementioned periphrases:

(5) a. This car has the habit of making 250kph.
b. This car can make 250 kph.

Considering the outcome it is rather the modal auxiliary *can* expressing circumstantial possibility (cf. 5b) than the habituality periphrasis (cf. 5a) that renders the most prominent reading of (4) correctly (this is not to say that (4) can't have the reading (5a) has – it's just not the dispositional reading usually discussed when taking into account sentences like (4)). I therefore assume that dispositional readings have to be kept apart from habitual readings.

The same goes mutatis mutandis for **constitutive rules** as exemplified in (6):

(6) a. Bishops move diagonally. (taken from: Cohen 1999)
b. #Bishops have the habit of moving diagonally.
b'. Bishops may only move diagonlly.

Again the correct periphrasis for (6a)'s most prominent reading is not the explicit habitual (6b)[2], but (6b') which involves deontic necessity. We can easily imagine a scenario where the first is true, but the second false: just assume the international rules and regulations board for chess has been changed, assimilating bishops to lets say towers, thereby falsifying (6b'). Nevertheless, until people get to know the new rule, (6b) might still be true.

We can therefore conclude that whatever semantics we finally assign to habituals need not and shall not account for the specific properties of sentences talking about what individuals or objects can do (dispositions) or are designed to do (constitutive rules).

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[1] Throughout this paper I leave out case and agreement marking in the glosses since only the temporal/aspectual properties added to the verb stem are relevant for the discussion of habituals.

[2] The pragmatic markedness of (6b) is due to the fact that the habitual periphrase encourages a notion of agentivity that tends to disambiguate the noun *bishop* in favour of its clerical reading.

2.3. Habituality and genericity in the individual domain need not go together

In this section I show that the relation between habituality and genericity is not so obvious as it has often been assumed.

In fact it cannot be that case that generic sentences (like (7b)) involve one generic operator yielding a generic reading for the subject and automatically causing a habitual reading for the predicate as assumed in Chierchia (1995).

Von Stechow (p.c.) has pointed out to me that it is important to see that a sentence like (7a) involves only one, while (7b) involves two step of abstraction:

(7) a. John builds dams.
b. Beavers build dams.

In (7a) we abstract over individual events of John building dams, thus getting a habitual reading for the predicate. In (7b) we further abstract over individual beavers of which we predicate the aforementioned habitualized activity. Independently of how we want to derive the generic semantics we have to cope with how to explain the habitualization already present in (7a) in order to get (7b) right.

Further evidence for this independence between habituality and genericity stems from the behaviour of stative predicates. Without adverbial modification they cannot be read habitually, although allowing for a generic interpretation.

(8) a. John is sick.
b. Only 50% of the people in a hospital are sick.

While (8a) can only be interpreted as an episodic sentence claiming John to be sick at utterance time, (8b) can well be understood us talking about hospitals in general, thus involving a generic reading irrespective of the main predicate's stativity.

Last but not least the fact that generic sentences can but need not contain habitual predicates shows the independence of the two phenomena:

(9) a. Good people smile or laugh loudly.
b. Good people smile or laugh loudly at least once in their lives.

While both (9a) and (9b) involve a generically read subject NP only the predicate in (9a) is habitualized. (9b) relates the members of the (derived) kind of good people to an existentially quantified eventive predicate.

Of course this does not prove that abstracting over single events and abstracting over single individuals may not be the same operation. It only tells us that we need to postulate two separate steps of abstraction anyway. If therefore the specific temporal-aspectual properties of habituals force us to

assign them a particular semantics that cannot be used to explain the phenomena in the nominal domain, we need not be concerned.[3]

3. Critical properties of habituals

In order to account for their specifically habitual semantics I will assume that habitual sentences contain an operator, called HAB. It is distinct from the generic operator GEN the semantics of which cannot be investigated here. Contrary to the major part of the literature (cf. Carlson & Pelletier 1995, Cohen 1999), following Lenci & Bertinetto (2000) I will argue that HAB is no covert quantificational adverb which would thus substitute an overtly missing *generally*, *always* or the like.

In this section I want to take a look at the specific properties of habitual sentences (as singled out in chapter 2) that have to be explained by the semantic analysis of the habitual operator.

3.1. Stativization

A first puzzling fact about habituals is that they result as homogeneous and thus stative, irrespective of the nature of the underlying predicate (cf. von Stechow 2002a). Homogeneity being defined as cumulativity and divisivity (cf. Krifka 1989) HAB can easily been shown to be a stativizer.

(10) **cumulative**: A predicate is cumulative if its extension is closed under summation of entities.

definition: I, J intervals, ϕ a property of intervals:
$CUM(||\phi||) \leftrightarrow \forall I,J[(\phi(I) \wedge \phi(J)) \rightarrow \phi(I \cup J)]$

example: John used to go to the movies last July.
John used to go to the movies last August.

John used to go to the movies during all of last summer.

(11) **divisive**: A predicate is divisive if its extension is closed under partitioning of entities.

definition: I, J intervals, ϕ a property of intervals:
$DIV(||\phi||) \leftrightarrow \forall I,J[(\phi(I) \wedge J \subseteq I) \rightarrow \phi(J)]$

[3] During the discussion at Console XI, Federico Damonte pointed out to me that it is always elements expressing habituality, not genericity that seem to undergo grammaticalization. This in fact might be evidence for the two processes being distinct. I have to leave that point open for further investigation.

example: John used to go to the movies during all of last summer.

John used to go to the movies last August.

Considering the definition in (11) one may well argue that it seems to strong. Even if the particular 1st of December mentioned in (12) falls within a lets say five year interval of John drinking ten beers a day, (12) is strange:

(12) #In the morning of December 1st John had the habit of drinking 10 beers a day.

According to (11) it should be fine under such circumstances though: assuming that the habit holds of a five-year interval *J* which includes an interval *I* referring to the morning of December 1st, (11) says that the same habit predicated from *J* can be truthfully predicated of *I*. Obviously that is not quite right.

Nevertheless I don't think that (11) is to strong. As soon as a particular event renders the smaller interval pragmatically salient, the sentences get fine. If John was hospitalized on the morning of December 1st, the habit is predicated of exactly the same interval in (13) as it is in (12). Nevertheless (13) is fine:

(13) John had the habit of drinking 10 beers a day when they hospitalized him.

I therefore conclude that (11) is correct, but that we have to bear in mind that full divisivity of habituals is often suspended due to pragmatic factors. As (13) shows, it can be recovered creating the right contexts.

As shown by the example given with the definitions in (10) and (11) habituals are cumulative as well as divisive and therefore homogeneous.

This inherent stativization of habituals explains their cocurrence with adverbials that don't allow for non-homogeneous predicates. This is the case for German *seit* + duration 'for X time' which introduces an interval restricted as to what can be predicated of it (cf. von Stechow 2002a):

(14) a. Winnie lebt seit 3 Jahren in Tübingen.
W. lives since 3 years in T.
'Winnie has lived in Tübingen for 3 years.'
b. *Magda ist seit 2 Jahren dreimal in Tübingen gewesen.
M is since 2 years three-times in T. been
roughly: '*For 2 years Magda has been to Tübingen three times.'

The predicate *Winnie in Tübingen leben* 'Winnie in Tübingen live' is homogeneous due to the lexical properties of *live*, and as predicted (14a) is fine; on the other hand *Magda dreimal in Tübingen sein* 'Magda be in Tübingen three times' involving a quantized predicate is not homogeneous,

thus yielding the ungrammatical sentence (14b) when combined with *seit 2 Jahren* 'for 2 years'. We can now show that habituals patterns with the stative predicate in (14a) irrespective of the underlying nature of the lexical predicate:

(15) Hans geht seit drei Jahren (oft) mit Maria ins Kino.
H. goes since three years (often) with M. in-the cinema
'For three years Hans has (often) been going to the cinema with Mary.'

While *ins Kino gehen* 'go to the movies' is not homogenous, the habitualized form (with or without *oft* 'often') behaves like a stative. Besides the progressive (cf. Dowty 1979), habituality is therefore a further means to stativize eventive predicates (achievements, accomplishments, activities) which can then be predicated of time intervals/points of times. This is why we often get habitual readings with certain adverbials (i.e. German *seit* + DURATION, Italian *per* + DURATION) or tense forms (i.e. Italian Imperfect (cf. Arosio this volume), English Simple Present).

3.2. Extensionality

Habituality (and genericity as well) has sometimes been analyzed as involving quantification over "normal worlds" thus assuming that the habituality operator expresses necessity (cf. Lenci & Bertinetto 2000 for an approach along these lines). Apart from the fact that it is all but clear how to make the underlying notion of "normal world" precise (cf. Scheiner 2000) it can be shown that a modal approach does not make the right predictions.

3.2.1. Presuppositions of Existence

Truly habitual sentences always come with existence presuppositions:

(16) John used to play tennis with Mary.

For (16) to be true at least some events of John and Mary playing tennis together must have occurred, thus indicating that the *used to*-construction is extensional. Lenci & Bertinetto (2000) are well aware of that problem and claim that the actual world is mostly included under the worlds the necessity operator is quantifying over, hence inevitably yielding an existence presupposition for the event type in question. Nevertheless according to them we do find rare cases which do not include the actual world in the modal base, e.g. (17):

(17) Gianni vendeva macchine usate.
G. sold-IMPERFECTIVE cars used
'Gianni sold used cars.'

In fact, (17) has a reading under which it is true without Gianni ever having sold a single car. I do not think that this is an instance of a truly habitual reading. Rather it seems to depend on a genuine lexical ambiguity of *vendere (macchine usate)* 'sell (used cars)' which can always be read as 'being a (used car) dealer'. I conclude that lack of existence presuppositions is not due to habituality in these cases.

3.2.2. Substitution salve veritate

Further evidence against an intensional analysis for habituals comes from the fact that they allow for substitution salva veritate: two expressions that are extensionally equivalent in the actual world can be exchanged without a change in truth value. This has been pointed out by Cohen (1999). At first sight this does not seem correct for (18a) and (18b):

(18) a. John accompanies the Queen of England to Ascot.
b. John accompanies Elizabeth II. to Ascot.

In fact it might be the case that John's job might be either accompanying the Queen of England whoever happens to be Queen of England, or Elizabeth II, irrespective of her being Queen of England. On closer inspection, we can easily see that we have to require a stronger premise for the substitution test: the two expressions have to be equivalent for the whole interval the habitual is said to hold for. The problem with the sentences in (18) is that the present tense does not allow us to see what exactly that interval would be. As soon as there is some contextual clue or some adverbial specifying the duration of John's accompanying status they no longer allow for different truth values. Given that Elizabeth II. was in fact Queen of England from 1995 to 2000 (19a) and (19b) are clearly either both true or both false :

(19) a. From 1995 to 2000 John used to accompany the Queen of England to Ascot.
b. From 1995 to 2000 John used to accompany Elizabeth II to Ascot.

Taking into account the behaviour of truly habitual sentence concerning existence presuppositions and substitution salva veritate we have to conclude that the habitual operator is extensional.

4. A semantics for HAB

4.1. Idea & Preliminaries

What does it take to make an ordinary habitual sentence like (20) true?

(20) Ede often goes to the movies.

My intuition is that it should mean something roughly along the following lines. The utterance time lies within an interval that contains a number of events of Ede going to the cinema that is larger than some contextually given standard (possibly what Ede usually does, how often other people go to the cinema, etc.). I will assume that the LF for (20) looks more or less like (21a) and gets assigned truth conditions as in (21b):

(21) a. [HAB often [$_{VP}$ Ede-go-to-the-movies(e)]]
b. PRES $\lambda I \exists J[I \subseteq J \ \& \ |\{e: \tau(e) \subset J \ \& \ \text{John-go-to-the-movies}(e)\}| > C]$, C some contextually defined standard.

Before going into what HAB and the quantificational adverb contribute to the semantics in (21b) let me point out some preliminary assumptions on tense and aspect required in the following.

Following von Stechow (2002a,2002b) I assume a deictic theory of tense (cf. Partee 1973). Morphological tenses introduce semantic tenses (PRES, $PAST_j$, FUT_j). The latter are variables for intervals/points of time[4] which are restricted for their localization relative to utterance time (g is the assignment function):[5]

(22) $||PRES_j||^g$ = g(j) if g(j) overlaps with utterance time (t_c), undefined otherwise.
$||PAST_j||^g$ = g(j) if g(j) preceeds utterance time, undefined otherwise.
$||FUT_j||^g$ = g(j) if g(j) follows utterance time, undefined otherwise.

Aspectual relations (PERFECTIVE; IMPERFECTIVE) introduce the reference time via a relation to the event time. The reference time is the interval for which the proposition is claimed to hold. I will not go into the semantics here since we will later see that the HAB-operator itself establishes the necessary relation.

The tense- and aspectless VP expresses Vendlerian Aktionsarten, which are either properties of events (type <s,t>) which is the case for achievements, accomplishments and activities, or properties of intervals (type <i,t>) when statives. Statives are homogeneous predicates.

As for quantificational adverbs we can assume that they relate predicates to intervals. I give the eventive version for *often* as an example:

(23) $||often_s|| = \lambda P \lambda t[|\{e: \tau(e) \subset t \ \& \ P(e)\}| > C]$, C a contextually given standard for the amount of e such that P(e) in t.

[4] Points of time may be considered minimal intervals for the present purposes.

[5] Just like a personal pronoun, e.g. *he* is restricted as to evaluations which assign it a male individual, PAST is restricted to being assigned some interval preceding speech time.

often(P(e)) is true of an interval t if the amount of e, such that P(e) is larger than contextually specified for t and P.

Given these background assumptions what role is there for HAB to play? I want to propose that HAB gives us a property of times, namely the property of being included within a larger interval which is characterized by a **habitus**. A habitus is a quantized property of times which has to be cumulative. often go to the movies, never swim, rarely play tennis are habitus: the union of any two (adjacent) intervals being truthfully characterized by one of these predicates may be characterized likewise (cf. 3.1). This does not hold for *go to the movies three times, play tennis several times* and the like which are therefore not cumulative and consequently can not be understood as habitus. These assumptions correctly predict the paradigm in (24):

(24) a. John rarely goes to the movies.
b. *John goes to the movies three times.

While (24a) contains a habitus (*rarely go to the movies*), (24b) does not and therefore cannot get the habitual reading required for the present simple of eventive verbs. Consequently (24b) results ungrammatical.

The resulting picture is given in (25):

(25) <<<<< FILE: habitus.eps >>>>>>>>>>>>>>>>

Quantificational adverbs are consequently not overt variants of the HAB-operator but obligatorily modify HAB's complement. In those cases where we don't see such an adverb but nevertheless get a habitual reading I assume that a covert quantificational element Q_C turns the eventive predicate into a habitus (Q_C *go to the movies*, Q_C *get up late*, ...). Q_C gets interpretated as either *often*, *mostly* or *regularly*.

We are now ready to assign a semantics to the covert HAB-operator:

(26) HAB := $\lambda Q \lambda P \lambda I \exists J[I \subseteq J \ \& \ Q(P)(J)]$,
$HAB_{<<st,it><st,it>>}$, defined only if CUM(||Q||).
cumulativity as restriction on a quantifier:
$CUM(||Q||) \leftrightarrow \forall P \forall I \forall J[Q(P)(I) \ \& \ Q(P)(J) \ \& \ I><J \rightarrow Q(P)(I \cup J)]$.

This definition for the HAB-operator is a modification of the formula given in Paslawska & von Stechow (2002) who directly combine the quantifier with the

predicate (yielding the habitus), and then apply the operator to the habitus requiring that the latter has to be cumulative. The problem with doing it that way is that one cannot distinguish quantified cumulative predicates from lexically homogeneous ones. *be blond, be sick,* etc. should therefore always be able to come out habitual. An alternative solution to my rebracketing strategy would have been to recur to structured propositions (cf. von Stechow 1982).

4.2. Cumulativity is not enough

On closer inspection (26) proves to be still not correct for it cannot rule out sentences like (27):

(27) *Ede goes to the movies more than 3 times.

(27) confronts us with a puzzle: While *more than 3 times* is clearly cumulative (if Ede went to the movies more than 3 times in June and more than 3 times in July he also went to the movies more than three times in June+July (at least: 6 times)), (27) cannot get a habitual reading. Consequently, it is ungrammatical given the particular restriction on the English simple present. We have shown that habituality is in fact divisive (apart from pragmatic considerations, cf. chapter 3.1), so can we claim the same for the habitus itself? (The distinction is the following: on the one hand we are talking about the property of being located within a certain time span for which a habitus holds – this being habituality, which is divisive; on the other hand we are talking about being an interval characterized by some quantified property, e.g. there being more movie-going-events of Ede than corresponds to the contextually given standard; - should the latter be divisive as well?) It can easily be shown that divisivity of the habitus would be too strong a requirement, for it would immediately rule out wellformed habituals like our familiar example (20), here repeated as (28):

(28) Ede often goes to the movies.

We can not reasonably claim that any subinterval of a larger interval which is characterized by more movie-going-events of Ede than correspond to the contextually given standard is itself characterized by more movie-going-events of Ede than correspond to the contextually given standard. In fact there will be a lot of subintervals without any movie-going-events at all. Therefore we cannot require the habitus-building quantifier to be divisive.

But when taking into account the situations that make a sentence like (28) true we may notice that there is a subtle requirement hitting in that direction. Assume we wanted to predicate *Ede often went to the movies* of the years 2001 and 2002 and found that he in fact went to the movies every evening during all of January and February 2002 but apart from that hardly ever. Due to the fact that not many people go to the movies 59 times in 2 years, we would most

likely agree that "there are more movie-going-events of Ede than corresponds to the contextually given standard" is true under the given scenario. Nevertheless we might hesitate to judge (28) itself as true. Therefore the truth conditions derived by (26) are still too weak.

What seems to be at stake is a kind of **restriction of even distribution**. The witness events for the habitus predicate have to be distributed more or less evenly over the period we are taking into account. The restriction is not very sharp, we seem to be quite prone to leave aside holidays, periods of sickness etc. when evaluating habits. I therefore conclude that the ultimate fine-grainedness of the distribution-check is something that should be left to pragmatics, giving us a final version for HAB that looks like (29):

(29) $\text{HAB} := \lambda Q \lambda P \lambda I \exists J[I \subseteq J \,\&\, \forall J'[J' \subseteq_{RELEVANT} J \rightarrow Q(P)(J)]$,
$\text{HAB}_{<<st,it><st,it>>}$, defined only if $\text{CUM}(||Q||)$.

The relation $\subseteq_{RELEVANT}$ is pragmatically determined and makes sure we take into account only subintervals we consider relevant, i.e. those having a certain size, those not presenting any outstanding circumstances as holidays or sicknesses, etc. Perhaps we have to require semantically that the large habitus-interval *J* itself is always relevant.[6]

What we finally require for a habitual sentence to be true is that the reference time be located in an interval for which it holds that all its relevant subintervals are instances of the habitus described by the cumulative quantifier and the predicate.

5. Not every quantificational adverb comes with HAB

As a consequence of the semantics for HAB given in (34) quantificational adverbs like *often, rarely, usually*, etc. are not overt variants of the habituality operator but rather obligatorily modify its complement.

This assumption allows us to give a straightforward account of the fact that most quantificational adverbs also have an **iterative** usage (IA) besides the **frequentative** (= HAB-modifying) one (FA). This way, we can avoid having to double all the lexical entries for quantificational adverbs.

In the following I want to discuss three contexts that provide evidence for IA vs. FA usages and show that the HAB semantics can account for the respective interpretations.

In the context of the present perfect, *often* can assume its frequentative HAB-modifying usage (cf. (30a)), or its iterative usage, thus patterning with adverbials like *three times, several times*, etc. (cf. (30b)):

[6] The solution given here is a repair of the one in Scheiner (2002) where I defined a concept of Restricted Divisivity which has the failure of boiling down to ordinary divisivity under closer inspection.

(30) a. For three years Arnim has been playing tennis often/*a few times/*three times. (FA)
b. Between Christmas and Easter Arnim has played tennis often/a few times/three times. (IA)

While a quantized predicate cannot be progressivized, a habitual one can. *Often* on assuming its frequentative reading is fine in (30a), the purely iterative adverbials producing ungrammaticality in the same context. But *often* can also appear in a non-habitual context: Just like *three times* and *a few times*, it then only serves to count the number of events in question (still comparing it to the inherent contextually specified parameter). As with the other iterative adverbials we don't find the restriction on even distribution familiar from habituals. Furthermore we would be prone to specify what "*often*" should mean in the given context by indicating e.g. "*four times a week*" in (30a), but "*at least 50 times*" for the iterative reading of (30b), thus specifying frequency vs. absolute amount.

The same distinction has to be made to get the readings of German *schon* 'already' in the paradigm in (31) right, the ambiguity of *often* hinging on which interpretation of the German Present Perfect is available respectively (cf. von Stechow (2002a) who shows that the German Perfect is ambiguous between an Extended Now- and a PAST-interpretation):

(31) a. Hans ist jetzt schon oft mit Maria Cocktail trinken
Hans is now already often with Maria cocktail drink
gegangen. (IA)
gone
'By now there are already many instances of Hans and Maria going for a cocktail together.'
b. Hans ist schon oft mit Maria Cocktail trinken gegangen,
H. is already often with M. cocktail drink gone,
als sie noch in der Schule waren. (FA)
when they still in the school were
'Hans already had the habit of often going for a cocktail with Mary when they were still at school.'

schon 'already' always has to modify a focused constituent: this can be either an instance of time (as in (31b)), or a constituent expressing a certain amount of a particular entity (events in (31a)).

Let us consider (31b) first: if we wanted to get an iterative reading for *often*, we would have to take a particular interpretation of the German Present Perfect, namely the one opening up an interval starting somewhere in the past and leading up to the (present) reference time (Extended Now). *often* could then quantify into that Extended Now interval and evaluate the absolute amount of cocktail events to be found within it. But this interpretation is blocked by the temporal adverbial clause *als sie noch in der Schule waren* 'when they were still at school' which is in the Preterite and thus requires a past reference time.

So we have to look for another interpretation of the German perfect, i.e. the PAST denoting one. *schon* can now combine with the past reference time, saying that already that point of time had a certain property: it seems that this can only be a homogeneous one, thus forcing us into inferring an underlying HAB-operator and taking the frequentative interpretation of the quantificational adverb *often*.

Since there is nothing to keep us from assuming an Extended Now interpretation for the German present perfect in (31a), we can well take *often* to count the amount of cocktail-drinking-events in question. *schon* then compares this amount to alternative, lower quantities and states that at reference time the actual amount of events in question is already big (cf. Löbner (1999), Krifka (2000) for discussion and formalization of the different usages of *schon*). Assuming that the Extended Now-interpretation of the German Perfect is derived via the semantics in (32) for the Perfect Auxiliary, we thus arrive at (33) for (31a) (*often* as in (23), *schon* following Krifka 1999):

(32) $||\text{HAVE}_{\text{GERM}}|| = \lambda P \lambda t \exists t'[t' >< t \ \& \ P(t')]$, t' an interval, >< the abutting relation (cf. von Stechow 2002a).

(33) $\exists t'[t' >< t_o \ \& \ |\{e: \tau(e) \subseteq t' \ \& \ \text{hans-go-for-a-cocktail-with-mary}(e)\}| > C]$, alternatives considered: *never, a few times, sometimes*.

It is also possible to combine two quantificational adverbs; e.g. it is quite straightforward to get an interpretation for iterative adverbs counting periods for which a certain habit holds (thus iterative adverbs having scope over a HAB-operator and its modifying frequentative adverbial):

(34) Cecile has often smoked once in a while.

(34) gets interpreted as saying that by now there are many periods of Cecile being an occasional smoker, thus reading *often* iteratively and *once in a while* frequentatively.

Exactly as observed for (30b), the iteratively interpreted *often* in (31a) and in (34) don't show the restriction of even distribution which thus proves to be inherent to the frequentative usage only.

6. Conclusion

In contrast to competing accounts the semantics for habituals proposed here explains their combination with certain temporal adverbials and tense forms that exhibit a restriction on the predicate they combine with (namely homogeneity).

The analysis further makes correct predictions regarding the extensional nature of the context the habitual operator creates. Last but not least it enables us to account for the fact that most quantificational adverbs allow for both frequentative (HAB-modifying) and iterative (event-counting) usage. This does

not come out correctly under approaches that assume HAB to be a covert quantificational adverb forcing them into doubling the lexical entries for all the adverbs in question.

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Transparency is not less structure:
A look at Tagalog Restructuring

Raphael Mercado

In this paper, I examine Verb Raising and Restructuring in Tagalog. I present evidence that shows that Tagalog Restructuring embedded clauses contain a CP, a TP, a *v*P and a PRO, contra Wurmbrand's (1998a/b, 2001) Bare-VP analysis for German Restructuring. Following Roberts' (1997) T°-raising approach, I claim that Verb Raising creates transparency across clauses, thus rendering the matrix clause accessible to movement of elements from within the embedded clause. I propose that Verb Raising fulfills the requirement that all verbs in Tagalog be associated with a finite T°.

1. Introduction

In this paper, I look at Verb Raising in Tagalog (Austronesian; Philippines). In this phenomenon, the embedded verb raises to C°, and then pied-pipes the complementiser as it raises to the matrix clause. Once there, the complementiser – embedded verb complex incorporates into the matrix verb.[1]

(1) a. [Sinubukan] ni Maria [$_{CP}$ -ng[2] [$_{TP}$ kumain ng pansit]].
try.DAT.PERF. NOM Maria COMP eat.NOM.NF. ACC noodles
'Maria tried to eat some noodles.'
b. [Sinubukan [-ng [kumain]$_V$]$_C$] ni Maria [$_{CP}$ t$_C$ [$_{TP}$ t$_V$ ng pansit]].

[1] Unless otherwise indicated, the Tagalog data in this paper are mine—I am a native speaker—and have been checked with consultants. I use these abbreviations in the glosses: 1=first person, 3=third person, ACC=accusative case, COMP=complementiser, CONT=contemplated aspect, CL=clitic, DAT=dative case, DEC-COMP=declarative complementiser, IMPF=imperfective aspect, INT-COMP=interrogative complementiser, NF=non-finite, NOM=nominative case, OBL=oblique case, PERF=perfective aspect, PLT=Philippine linguistics topic, SG=singular.

[2] This complementiser—Tagalog has others, see section 3.1—has two forms: *na* and *-ng*. *Na* is the full form, while *-ng* is the allomorph that appears when the preceding word ends in a vowel or an /n/. There is a third allomorph, *-Ø*, which optionally appears when the preceding word ends in a consonant that is not /n/. (This third allomorph is optional in that the full form can appear in the same context). (Richards 1999b, Schachter and Otanes 1972).

Compare (1a) on the previous page, where there is no Verb Raising, to (1b), where the embedded verb has raised to the matrix verb position. There is no change in meaning.

Verb Raising occurs only when the embedded verb is non-finite. So, while (2a) below is fine, the sentence with Verb Raising in (2b) is ungrammatical.

(2) a. [Nagulat] si Isabel [$_{CP}$ na [$_{TP}$ kumakain
surprise.NOM.PERF. PLT Isabel COMP eat.NOM.IMPF.
si Lito ng pansit]].
PLT Lito ACC noodles
'Isabel is surprised that Lito is eating noodles.'
b. * [Nagulat [na [kumakain]$_V$]$_C$] si Isabel [$_{CP}$ t_C [$_{TP}$ t_V si Lito ng pansit]].

Note that the embedded verb in (2), *kumakain* 'is eating', is finite and is marked for the imperfective aspect, while the embedded verb in (1), *kumain* 'to eat', is in non-finite form.

Verb Raising is a necessary condition for Restructuring and is a trigger for four different phenomena which all occur across clausal boundaries. These phenomena are Clitic Climbing, Long Distance Focalisation, Long Distance Object Shift, and Interclausal Scrambling. None of these four phenomena can occur when the embedded verb is finite.

(3) Clitic Climbing.
Gusto siya$_{CL}$ [-ng [pakainin]$_V$]$_C$ ni Maria [t_C [t_V t_{CL}]].
want 3SG.PLT.CL. COMP feed.ACC.NF. NOM Maria
'Maria wants to feed him.'

(4) Long Distance Focalisation.
[SA KUSINA]$_F$ gusto [-ng [sumayaw]$_V$]$_C$ ni Juan
OBL kitchen want COMP dance.NOM.NF. NOM Juan
[t_C [t_V si Diego t_F]].
PLT Diego
'It is in the kitchen that Juan wants Diego to dance.'

(5) Long Distance Object Shift.[3]
Nagbalak [na [dalawin]$_V$]$_C$ ni Juan [t_C [t_V si Maria
plan.NOM.PERF. COMP visit.ACC.NF. NOM Juan PLT Maria
sa bahay]].
OBL house
'Juan planned on visiting Maria at home.'

[3] Compare the sentence in (5) to the sentence below in (i), where Long Distance Object Shift and observable Verb Raising do not occur. Note that *Juan* bears a different case marker in each sentence. In (5), this case marker is *ni*, while in (i), it is *si*.

(i) Nagbalak si Juan [-ng [dalawin si Maria sa bahay]].
plan.NOM.PERF. PLT Juan COMP visit.ACC.NF. PLT Maria OBL house
'Juan planned on visiting Maria at home.'

(6) Interclausal Scrambling.

a. Nag-atubili [-ng magbigay]$_i$ si Maria t_i
hesitate.NOM.PERF. COMP give.NOM.NF. PLT Maria
ng pera sa bata.
ACC money OBL child
'Maria hesitated to give money to the child.'

b. Nag-atubiling magbigay si Maria sa bata ng pera.
c. ng pera si Maria sa bata.
d. ng pera sa bata si Maria.
e. sa bata si Maria ng pera.
f. sa bata ng pera si Maria.

So, what is Restructuring? It is defined by Kroeger (1993:181), who works on Tagalog Restructuring in an LFG framework, as '[licensing] an alternation between biclausal structures and semantically equivalent monoclausal structures which contain two verbs in a kind of complex-predicate relationship.' According to Rizzi (1978:114), Restructuring is a rule that '[transforms] an underlying bisentential structure into a simple sentence, creating a unique verbal complex consisting of the main and the embedded verb.' Roberts (1997:423) considers Restructuring to be a phenomenon in which 'processes and dependencies that are normally limited to a single clause [can take] place across clause boundaries.' It is generally agreed that Restructuring sentences are seemingly biclausal sentences that behave monoclausally.

There are two main points of inquiry dealt with in this paper. The first concerns the structure of the embedded clause of a Restructuring sentence. The second relates to how the transparency of the clause boundary comes about.

In the literature, most notably Wurmbrand (1998a/b, 2001), Restructuring embedded clauses are argued to be structurally reduced, lacking certain functional projections that would normally be found in an ordinary embedded clause. Wurmbrand, for instance, claims that, in languages like German, Restructuring embedded clauses are bare VPs selected for by a matrix Restructuring verb.[4] Therefore, in her analysis, clausal boundaries are transparent in Restructuring contexts because they do not exist.

However, in section 3 of this paper, I present evidence that a Tagalog Restructuring embedded clause contains a CP, a TP, a *v*P and a PRO, and is not just a bare VP. Adopting Roberts' (1997) T°-raising approach, I propose in section 4 an analysis of Restructuring that takes into account the amount of structure in the embedded clause, but still allows for the transparency effects exemplified in (3) to (6). I provide in section 5 a motivation for the Verb Raising facts without positing the existence of a special [±Restructuring]

[4] Working on Italian Restructuring, Cinque (to appear) also proposes a Bare-VP analysis. However, unlike Wurmbrand, he contends that so-called Restructuring verbs head functional projections in the extended projection of the infinitival (embedded) verb. According to him, the infinitival verb must be a bare VP because of the functional nature of Restructuring verbs.

I do not discuss the status of Restructuring verbs in this paper.

feature. Crucially, all verbs in Tagalog must associate with a finite T°. If the embedded verb is non-finite, it raises to the matrix clause to associate with the matrix finite T°. In the final section, I conclude. But, before I present my analysis, I show in the following section the basic assumptions that I make regarding Tagalog syntax.

2. Basic assumptions

Following Guilfoyle, Hung and Travis (1992), Kroeger (1993), Maclachlan (1996), Mercado (2002a/b/c), Rackowski (2002b), Richards (1999a), and Schachter and Otanes (1972), among others, I assume that Tagalog is a predicate-initial language.

To account for the language's well-known agreement system, I adopt Rackowski's (2002b) Configurational Case Hypothesis, which states that the verbal morphology (in **underlined bold** in the sentences in (7) below) indicates agreement with the case of the DP (in ***bolded italics***) marked by the *ang*/*si* particle:

(7) a. Nominative.
B**um**ili ***si*** ***Diego*** ng saging sa palengke
buy.NOM.PERF. PLT Diego ACC banana OBL market
para sa bata.
for OBL child
'Diego bought a banana at the market for the child.'

b. Accusative.
Binili-**Ø** ni Diego ***ang*** ***saging*** sa palengke
buy.ACC.PERF. NOM Diego PLT banana OBL market
para sa bata.
for OBL child
'The banana was bought at the market for the child by Diego.'

c. Dative.
Binilh**an** ni Diego ng saging ***ang*** ***palengke***
buy.DAT.PERF. NOM Diego ACC banana PLT market
para sa bata.
for OBL child
'The market was bought a banana at for the child by Diego.'

d. Oblique.
Ibinili ni Diego ng saging sa palengke
buy.OBL.PERF. NOM Diego ACC banana OBL market
ang ***bata***.
PLT child
'The child was bought a banana for at the market by Diego.'

I refer to the *ang*/*si*-marked DP as the Philippine Linguistics Topic (PLT). It receives case at its merge position. I consider it to be the subject of the sentence, because it is the PLT, and not the nominative-marked DP, that

triggers agreement with the verb. The chart in (8) shows some of the different kinds of agreement morphemes.

(8) (adapted from Rackowski 2002b; her (39)).

	Type of Argument	Type of Case	Verbal Morpheme[5]
a.	External Argument	Nominative	-um-
b.	Complement of Verb	Accusative	-in (-Ø some in contexts)
c.	Low Applicative	Dative	-an
d.	High Applicative	Oblique	i-
e.	Object of Preposition	Acc./Dat./Obl.	-in/-an/i-

According to the chart above, if the PLT is the external argument, it gets nominative case and the verb is marked with the infix *-um-*; see (7a) above. If the PLT is the complement of the verb, it gets accusative case and the verb is marked with the *-in* or *-Ø* suffix (depending on the presence or absence of aspect morphology); see (7b) above. And so on.

In order for a DP to become the PLT, it must be the structurally closest DP to T° in the clause. The external argument is the closest DP to T° by virtue of merging in Spec-*v*P. As for internal arguments, they become the closest DP to T° through Object Shift, as argued for in Rackowski (2002a). [6,7]

According to Rackowski (2002b), the verb enters into two Agree relationships. The first relationship is established with the PLT, and is spelled out as the verbal morphology shown in (8). The second relationship is with the external argument, and it is for the purposes of nominative case assignment. If the external argument is the PLT, the verb agrees with such a DP twice.

Besides the Configurational Case Hypothesis, I also assume Massam and Smallwood's (1997) Predicative EPP, which is satisfied in two ways: (1) if the predicate is an X°, it moves to T° and checks the [EPP_{PRED}] feature via head-movement (in Tagalog, this occurs in non-copular constructions); and (2) if the predicate is an XP, it moves to Spec-TP and checks the [EPP_{PRED}] feature via Spec-Head agreement (in Tagalog, this occurs in copular constructions).

Spec-TP is thus left empty in non-copular constructions, since it is not necessary for some DP to raise to this position to fulfill EPP requirements. These are satisfied when a predicate raises to the TP domain.

Because it is empty, Spec-TP can be occupied by a focalised phrase that moves to that position for feature-checking purposes, as argued for in

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[5] This is not an exhaustive list of the verbal morphemes that may correspond to these cases.

[6] DPs undergo Object Shift in fulfillment of specificity requirements. If a DP is specific, it must raise out of its base position and move to the edge of Spec-*v*P, above the external argument. If a DP is not specific, it remains in-situ.

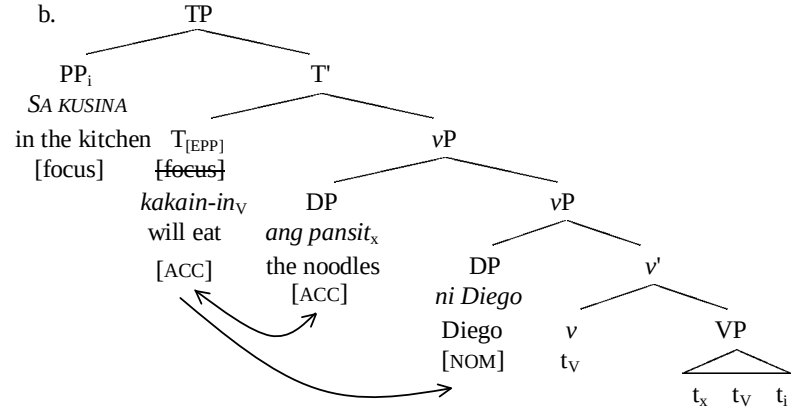
[7] Rackowski (2002a/b) does not address the word-order issues of Tagalog. From the sentences in (7a-d) and (9), the PLT does not necessarily have to be directly to the right of the verb, with no intervening material, as implied by the Object Shift analysis. However, this does not seem to be a big problem in light of the Scrambling facts in the language. Without going into too much detail, all the arguments within a Tagalog clause can scramble with each other, while the verb remains at the left edge. See (6) above for an example of Scrambling in a Restructuring sentence.

Zubizarreta's (1998) Generalised TP Analysis, which I also adopt. According to the Generalised TP Analysis, a [focus] feature parasitically incorporates into T°, thus creating a syncretic projection. (See Alboiu 2000, 2002, and Mercado 2002a: both use this parasitic [focus] in their respective analyses of Romanian and Tagalog focus constructions).

Consider (9). In (9b), the complement of the verb, *ang pansit* 'the noodles', is specific. It raises to the edge of *v*P. At that position, it establishes an Agree relationship with the verb, *kakainin* 'will eat', which has raised to T° in order to satisfy the [EPP_{PRED}] feature. This Agree relationship is spelled out as the *-in* suffix on the verb. The verb also enters an Agree relationship with the external argument, *ni Diego*, for nominative case assignment. T° bears a parasitic [focus] feature, which attracts the focus phrase, *sa kusina* 'in the kitchen', to Spec-TP, which is empty up until the point of movement of the focus phrase.

(9) a. SA KUSINA kakainin ni Diego ang pansit.
OBL kitchen eat.ACC.CONT. NOM Diego PLT noodles
'It is in the kitchen that Diego will eat the noodles.'

b.



3. Structure of the embedded clause of a Restructuring sentence

Having laid out my assumptions, I now present my arguments for the presence of full structure in the embedded clause of a Restructuring sentence.

Such an analysis is directly counter to Wurmbrand's (1998a/b, 2001) Bare-VP analysis. She argues that, in languages like German, a Restructuring embedded clause does not contain a CP, TP, *v*P or PRO. With the Bare-VP analysis, there is no need for stipulations that explain the inactivity of these projections, which Wurmbrand deems to be barriers to transparency effects. Such an analysis also obviates the need for a stipulative [±Restructuring] feature. A Restructuring verb knows that it is a Restructuring verb in so much as it knows that it selects for a VP, instead of a CP, as its complement.

However, the Bare-VP analysis does not work for Tagalog. Evidence from

the language suggests that there indeed is a CP, a TP, a *v*P and a PRO in the embedded clause of a Tagalog Restructuring sentence.

3.1. Evidence for CP

In Tagalog, an overt complementiser marks the boundary between two clauses. Consider (10) and (11), where the complementiser is in ***bolded italics***.

(10) Nag-atubili si Maria ***-ng*** magbigay
hesitate.NOM.PERF. PLT Maria COMP give.NOM.NF.
ng pera sa bata.
ACC money OBL child
'Maria hesitated to give money to the child.'

(11) Gusto ni Isabel ***na*** sumayaw si Pedro.
want NOM Isabel COMP dance.NOM.NF. PLT Pedro
'Isabel wants Pedro to dance.'

Verb Raising and all the Restructuring effects occur in the presence of an overt complementiser.

(12) Nag-atubili [***-ng*** [magbigay]$_V$]$_C$ si Maria [t_C [t_V
hesitate.NOM.PERF. COMP give.NOM.NF. PLT Maria
ng pera sa bata]].
ACC money OBL child
'Maria hesitated to give money to the child.'

(13) Gusto siya$_i$ ni Isabel ***na*** sumayaw t_i.
want 3SG.PLT.CL. NOM Isabel COMP dance.NOM.NF.
'Isabel wants him to dance.'

In (12), the embedded verb has raised to the matrix clause, pied-piping the overt complementiser with it. The sentence in (13) is an example of Clitic Climbing—note the lack of observable Verb Raising—and an overt complementiser is present.[8]

[8] Following Zwart (2001), I consider in Mercado (2002c) all movement to be feature movement. There are two kinds of features. These are lexical features (LEX-features), and formal features (F-features). Zwart proposes that movement occurs more frequently than standardly assumed. F-features move all the time, but movement becomes observable only when both LEX- and F-features move. With respect to Verb Raising, the lower verb's F-features always raise to the matrix clause. Verb Raising is only observable when the embedded verb's LEX-features also raise.

Now, there seem to be two kinds of Tagalog Restructuring effects. Clitic Climbing and Long Distance Focalisation occur with or without observable Verb Raising, while Long Distance Object Shift and Interclausal Scrambling can only occur with observable Verb Raising. Interestingly, apart from the observable vs. unobservable Verb Raising, these two types of Restructuring effects bear other properties. Clitic Climbing and Long Distance Focalisation target the TP projection,

It is logically possible to analyse *na*/*-ng*, which, thus far, has been glossed as the complementiser, as some sort of verbal element like English infinitival *to*. After all, *na*/*-ng* seems to always be adjacent to the embedded verb. However, this would result in the wrong analysis. The *ay*-inversion facts from Tagalog show that it is possible to have material intervene between *na*/*-ng* and the embedded verb.

In the *ay*-inversion construction, an element in the sentence is raised to a position to the left of the predicate. The particle *ay* is found between this raised element and the predicate. The fronted element can be a PLT, an adverbial, a verb complement or an expression introduced by *ni* 'not even' or by *ni...ni* 'neither...nor' (Schachter and Otanes 1972). Below, in (14), is an example of *ay*-inversion contrasted to its counterpart without *ay*-inversion.

(14) (adapted from Schachter and Otanes 1972:486).

a. PLT with *ay*-inversion.

Ang	**sulat**	***ay***	tinanggap	ko	kahapon.
PLT	letter	AY	receive.ACC.PERF.	1SG.NOM.CL.	yesterday

'I received the letter yesterday.'

b. PLT without *ay*-inversion.

Tinanggap	ko	**ang**	**sulat**	kahapon.
receive.ACC.PERF.	1SG.NOM.CL.	PLT	letter	yesterday

'I received the letter yesterday.'

So, what does *ay*-inversion do? What is the fronted element? According to Maclachlan (1996), these *ay*-inversion sentences are some kind of topicalisation construction. Kroeger (1993) says that *ay*-inversion constructions can be instances of topicalisation or of focalisation, depending on the fronted element; fronted PLTs are topics (in the general sense), while fronted non-PLTs are foci.

But, regardless of what this construction does, it is important to note that the embedded clause can undergo *ay*-inversion. Consider the following sentence (note the Long Distance Focalisation):

(15)

[SA	KUSINA]$_F$	gusto	ni	Isabel	
OBL	kitchen	want	NOM	Isabel	
[***na***	**si**	**Pedro**	**ay**	***sumayaw***	t_F].
COMP	PLT	Pedro	AY	dance.NOM.NF.	

'It is in the kitchen that Isabel wants Pedro to dance.'

In the sentence in (15), the complementiser, *na*, and the embedded verb, *sumayaw* 'to dance', are separated by the PLT, *si Pedro*, and the particle, *ay*.

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while Long Distance Object Shift and Interclausal Scrambling take place at or below *v*P.

A. Cardinaletti (p.c.) and G. Giusti (p.c.) suggest that these two different kinds of Restructuring effects are two different sets of phenomena altogether. However, I am not ready to make this claim because both sets of effects occur in the same context (i.e. when the embedded verb is non-finite), and also because each set of effects targets different domains.

People have been known to split infinitives, at least in English, but not with topics or foci. This, therefore, demonstrates that *na*/*-ng* is not some sort of verbal element.

Further evidence regarding the status of *na* comes from its distributional facts. Rizzi (1997, 2002) proposes an expanded CP domain.

(16) (taken from Rizzi 2002; his (57)).
Force° Top° Int° Top° Focus° Top° Mod° Top° Fin° T°

According to him, the CP does two things: look up into the matrix clause and look down into the embedded clause. The element that looks up is Force°. It expresses the sentence type of the embedded clause (declarative, interrogative, exclamative, etc.) and can be selected by something higher.[9] This is exactly what *na*/*-ng* does.

Tagalog has more than one kind of complementiser (Richards 1999b, Schachter and Otanes 1972). *Kung*, for example, is an interrogative complementiser. The use of *na*/*-ng*, which is a declarative complementiser, and of *kung* is determined by the matrix verb.

Consider (17) and (18).

(17) Sinubukan siya$_i$ ni Isabel **na** / *** kung**
try.DAT.PERF. 3SG.PLT.CL. NOM Isabel DEC-COMP/ INT-COMP
pakainin t_i ng lugaw.
feed.ACC.NF. ACC congee
'Isabel tried to feed him some congee.'

(18) Itinanong ni Alejandro **kung** / *** na**
ask.OBL.PERF. NOM Alejandro INT-COMP / DEC-COMP
dadating si Diego.
arrive.NOM.CONT. PLT Diego
'Alejandro asked if Diego was going to come.'

The data indicate that the complementisers are selected by the matrix verb; the wrong complementiser with the wrong verb results in ungrammatical sentences. Note the Clitic Climbing in (17).

Therefore, *na* fits Rizzi's description of a complementiser in Force°. As shown in the schema in (16), Force° is too far above T° for *na* to be a verbal element; if Kroeger (1993) is correct regarding the functions of *ay*-inversion, within a Rizzian approach, it would be assumed that *ay* merges as the head of either FocusP or one of the TopPs.

I do not adopt Rizzi's Expanded CP, and, for the purposes of this paper, I refer to the Force° position as C°.

Based on the *ay*-inversion facts and the facts regarding the distribution of *na*, I conclude that *na* is a complementiser in C°.

[9] I do not discuss the element that looks down, which, according to Rizzi (1997, 2002), is Fin°.

3.2. Evidence for TP

Earlier, I discussed the agreement morphology on the verb. According to Rackowski (2002b), the PLT sits at the edge of *v*P and enters into an Agree relationship with T° from this position. This Agree relationship is spelled out as the verbal morphology.

This kind of agreement between the verb and the PLT is also found in non-finite contexts:

(19) a. Gusto ni Juan$_x$ [-ng kain**in** PRO$_x$ ***ang*** ***pansit***].
want NOM Juan COMP eat.ACC.NF. PLT noodles
'Juan wants to eat the noodles.'
b. Gusto [-ng [kain**in**]$_V$]$_C$ ni Juan$_x$ [t$_C$ t$_V$ PRO$_x$ ***ang pansit***].

In (19a), the suffix *-in* on the verb, *kainin* 'to eat', agrees with *ang pansit* 'the noodles'. Verb Raising can occur even in the presence of such verbal morphology, and, by extension, TP, as seen in (19b). Again, there is no change in meaning. When the morphology changes on the verb, as in (20), the case marker on *pansit* 'noodles' changes too.[10] In (19), the case marker on *pansit* is *ang*, while in (20), it is *ng*.

(20) Gusto [-ng [k**um**ain]$_V$]$_C$ ni Juan$_x$ [t$_C$ [t$_V$ ***PRO***$_x$ ng pansit]].
want COMP eat.NOM.NF. NOM Juan ACC noodles
'Juan wants to eat some noodles.'

Thus, assuming that verb-case agreement in non-finite contexts arises in the same way as in finite contexts, the agreement morphology on the non-finite, embedded verb is proof that a TP exists in Restructuring complement clauses.

Other evidence for the existence of TP in Restructuring embedded clauses comes from the focus facts in Tagalog. As mentioned earlier, I assume Massam and Smallwood's (1997) Predicative EPP as the reason why Spec-TP is not necessarily generated in Tagalog sentences. In this approach, the Predicative EPP is satisfied in two ways. If the predicate is an X°, it will move to T° and check the [EPP$_{PRED}$] via head-movement. If, on the other hand, the predicate is an XP, it will move to Spec-TP and check the [EPP$_{PRED}$] via a Spec-Head relationship.

The first situation, where the predicate is an X°, leaves Spec-TP free to be occupied by expressions that are non-subjects. Assuming Zubizarreta's (1998) Generalised TP Analysis, I have argued in Mercado (2002a) that a [focus] feature can parasitically incorporate into T° and that Spec-TP can act as a

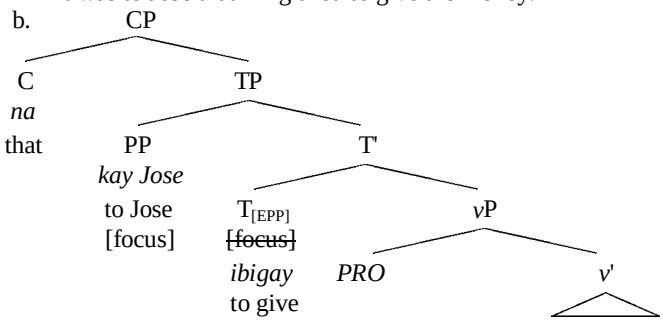
[10] Because I assume Rackowski (2002a/b), I am forced to say that it is the nominative case assigned to PRO that the embedded verb agrees with in (20). However, see Harley (2000), who argues that PRO gets nominative case in finite and in infinitival clauses in Irish. Further research is required to understand the implications of Harley's analysis of PRO for Tagalog.

landing-site for focus expressions, which check this parasitic feature.

Just as with an *ay*-insertion construction, a focus construction can be embedded underneath the main clause of a sentence. Consider (21) below:

(21) a. Sinubukan ni Bing$_x$ **na** [**KAY JOSE**]$_i$ **ibigay**
try.DAT.PERF. NOM Bing COMP OBL Jose give.OBL.NF.
PRO$_x$ ang pera t$_i$.
PLT money
'It was to Jose that Bing tried to give the money.'

b.



The tree in (21b) shows the structure of the **bolded** elements in the sentence in (21a). *Kay Jose* 'to Jose' is the focalised phrase, and, as shown in the tree, sits in Spec-TP, where it has checked the parasitic [focus] feature that has incorporated into T°.

An embedded focus construction can also occur with Clitic Climbing. In (22), the clitic, *siya* 'him', has climbed from the lower clause, which is also a focus construction. *Sa Davao* 'to Davao' is the focalised phrase in (22).

(22) Gusto siya$_i$ ni Isabel na **SA** **DAVAO** t$_i$ pumunta.
want 3SG.PLT.CL. NOM Isabel COMP OBL Davao go.NOM.NF.
'It was to Davao that Isabel wanted him to go.'

Given the presence of agreement morphology on the verb in Restructuring (non-finite) contexts and the possibility for Restructuring phenomena, like Clitic Climbing, to occur when the embedded clause is a focus construction, TP must be present in Restructuring contexts.

3.3. Evidence for vP

Using the Long Passive facts in German, Wurmbrand (1998a/b, 2001) argues that there is no *v*P in the embedded clause of a Restructuring sentence:

(23) (adapted from Wurmbrand 1998a; her (27b)).
weil die Autos zu reparieren versucht wurden/ * wurde
since the cars.NOM to repair tried were/ * was
Lit: 'since the cars were tried to repair'

The Long Passive is an odd construction, since it is the matrix subject that is demoted and the embedded accusative case that is suppressed.

Wurmbrand assumes that *v*P assigns accusative case. So, given Burzio's Generalisation (Burzio 1986), the facts in (23) suggest that, in non-passive Restructuring contexts, the embedded object gets its accusative case from the matrix *v*P.

In recent analyses of Tagalog phrase structure (Rackowski 2002b, Richards 1999a), Tagalog does not have a passive construction. Within Rackowski's approach, the agreement relationship between the verb and the PLT involves case, but not in the same way that agreement between the verb and the subject involves case in English. In English, as is well known, subject agreement is case-driven; the argument that agrees with the verb needs case. In Tagalog, on the other hand, there is no movement for case. According to Rackowski (2002a), verb-case agreement in Tagalog is really more like a by-product of the independently motivated Object Shift.[11]

Now, Tagalog has a construction that resembles the German Long Passive. In this construction, the matrix agent is demoted (i.e. no longer the PLT) and the verb does not agree with it. However, the embedded object unexpectedly does not become the PLT. Compare (24) and (25) below:

(24) a. S**um**ubok ***si*** ***Manuel*** [na [kumain
try.NOM.PERF. PLT Manuel COMP eat.NOM.NF.
ng pansit]].
ACC noodles
'Manuel tried to eat noodles.'

b. [S**um**ubok [na [kumain]$_V$]$_C$] ***si Manuel*** [t_C [t_V ng pansit]].

(25) a. Sinubuk**an** ni Manuel [na [kumain ng pansit]].
try.DAT.PERF. NOM Manuel COMP eat.NOM.NF. ACC noodles
'Manuel tried to eat noodles.'

b. [Sinubuk**an** [-ng [kumain]$_V$]$_C$] ni Manuel [t_C [t_V ng pansit]].

Note the change in the verbal morphology and in the case marking of the matrix argument, *Manuel*, in the (a) sentences. In (25a), *ni Manuel*, has been demoted and no longer triggers agreement on the verb; it is not the PLT. Instead, the matrix verb in (25) agrees with its clausal complement. *Ng pansit* 'some noodles' is the embedded object and is marked with accusative in both (24a) and (25a). With the demotion of the matrix argument in (25a), *ng pansit* 'some noodles' should be marked with PLT but it is not. Therefore, accusative case must have come from the lower *v*°, and there is no Long Passive in

[11] See footnote 6 for discussion.

Tagalog.

Verb Raising is fine for both sentences, as seen in the (b) examples.

Given the presence of an embedded *v*P, verb-case agreement with the direct object is not surprising. Recall that agreement with the direct object (complement of the verb) is spelled out as the *-in* suffix on the verb, as in (26). For this Agree relationship to take place, the direct object must undergo Object Shift, which puts the specific direct object at the edge of *v*P. Note that Verb Raising is fine in (26b).

(26) a. [Sinubukan] ni Juan [-ng [kain**in** ***ang*** ***pansit***]].
try.DAT.PERF. NOM Juan COMP eat.ACC.NF. PLT noodles
'Manuel tried to eat the noodles.'

b. [Sinubukan [-ng [kain**in**]$_V$]$_C$] ni Juan [t_C [t_V ***ang pansit***]].

The presence of an overt agentive DP in the embedded clause is further evidence for the existence of an embedded *v*P. In (27), this overt DP is *si Juan*. Verb Raising is fine in the (b) sentence.

(27) a. [Gusto] ni Isabel [na [k**um**ain ***si*** ***Juan***
want NOM Isabel COMP eat.NOM.NF. PLT Juan
ng lugaw]].
ACC congee
'Isabel wants Juan to eat some congee.'

b. [Gusto [-ng [k**um**ain]$_V$]$_C$] ni Isabel [t_C [t_V ***si Juan*** ng lugaw]].

Given standard assumptions regarding θ-theory, the overt embedded agentive DP in (27) merges at Spec-*v*P.

The absence of the Long Passive construction, the existence of verb-case agreement and the possible presence of an overt agentive DP in the embedded clause points to the presence of an embedded *v*P in Restructuring contexts.

3.4. Evidence for PRO

As mentioned earlier, the verb bears morphology that agrees with the PLT even in non-finite contexts. In (28), the verbal morphology changes just as the PLT-marked DP changes. In other words, the embedded non-finite verb agrees with the embedded PLT.

(28) Gusto ni Rosa -ng ...
want NOM Rosa COMP
'Rosa wants....'

a. ... [b**um**ili ***si*** ***Maria*** ng saging sa palengke].
buy.NOM.NF. PLT Maria ACC banana OBL market
'...Maria to buy a banana from the market.'

b. ... [bilh**in** ni Maria ***ang*** ***saging*** sa palengke].

buy.ACC.NF. NOM Maria PLT banana OBL market
'...the banana to be bought by Maria from the market.'

In sentences where it is clear that there is a PRO, PRO triggers agreement. Consider the *tough*-movement[12] examples in (29) and (30).

(29) a. Madali -ng lutu**in** [***ang adobo***]$_i$ PRO t_i.
easy COMP cook.ACC.NF. PLT adobo
'It is easy to cook adobo.'
b. Madali [***ang adobo***]$_i$ -ng lutuin t_i PRO t_i.

(30) a. Madali -ng **mag**luto ***PRO*** ng adobo.
easy COMP cook.NOM.NF. ACC adobo
'It is easy to cook adobo.'
b. * Madali [***ng adobo***]$_i$ -ng magluto PRO t_i.

In (29a), *ang adobo* 'the adobo' is specific, undergoes Object Shift—thus raising over PRO to sit at the edge of *v*P—, and triggers agreement with the verb, *lutuin* 'to cook'. It can then undergo *tough*-movement, as in (29b). On the other hand, *ng adobo* 'some adobo' in (30a) is not specific, and therefore cannot undergo Object Shift and raise over PRO. The embedded verb must agree with PRO and this is spelled out as the prefix *mag-*. *Tough*-movement is blocked in (30b) because *ng adobo* 'some adobo' cannot raise over PRO. This can be explained by appealing to some sort of account of Shortest Move.

PRO also triggers verb-case agreement in control constructions. The same kind of facts shown in (28) can be seen in (31). Again, the embedded non-finite verb agrees with the embedded PLT, even if that PLT is PRO. Verb Raising is fine for the sentences in (31); I derive (32) below from (31a).

(31) Sinubukan ni Juan$_i$ -ng ...
try.DAT.PERF. NOM Juan COMP
'Juan tried....'
a. ... [b**um**ili ***PRO***$_i$ ng saging sa palengke].
buy.NOM.NF. ACC banana OBL market
'...to buy a banana from the market.'
b. ... [bilh**in** PRO$_i$ ***ang saging*** sa palengke].
buy.ACC.NF. PLT banana OBL market
'...to buy the banana from the market.'

(32) Sinubukan [-ng [b**um**ili]$_V$]$_C$ ni Juan$_i$ [t_C [t_V ***PRO***$_i$
try.DAT.PERF. COMP buy.NOM.NF. NOM Juan
ng saging sa palengke]].
ACC banana OBL market
'Juan tried to buy a banana from the market.'

[12] *Tough*-movement refers to the Raising alternation exemplified in the following sentences:
(i) It is easy to cook adobo. (ii) Adobo$_i$ is easy to cook t_i.

And finally, the presence of PRO in the embedded clause should also not be surprising since, as mentioned in the previous section, an overt agentive DP can appear in the embedded clause (see (27) and (28)).

Because of the agreement morphology on the embedded verb and also because of the possibility for overt embedded agentive DPs, I conclude that PRO is present in Restructuring embedded clauses.

3.5. Summary

The presence of an overt complementiser in Restructuring sentences in Tagalog points to the existence of a CP in these sentences. The agreement morphology on non-finite verb forms and the embedded focus construction facts suggest the presence of an embedded TP. The accusative case marking on the embedded object (i.e. no Long Passive construction), the verb-case agreement facts on the embedded verb and the presence of an overt agentive DP in the embedded clause are evidence that there is an embedded *v*P within a Restructuring sentence. And finally, the fact that PRO triggers agreement on the embedded non-finite verb in a control construction and the possibility of embedded overt agentive DPs are proof that there is an embedded PRO.

4. Transparency is not less structure: Roberts (1997)

Thus far, I have argued that Tagalog Restructuring embedded clauses contain the same amount of structure as non-Restructuring embedded clauses. All that structure shows that transparency does not obtain due to less structure in the syntax, as Wurmbrand (1998a/b, 2001) proposes, at least, not in Tagalog. So, in this section, I briefly outline Roberts' (1997) T°-raising approach, which I adopt to account for the transparency effects in Tagalog Restructuring.[13]

According to Roberts, T°-raising has the effect of combining the embedded and matrix clauses in the same extended projection, which he defines as the domain in which the morphosyntactic features of a lexical category L are projected. T°-raising is constrained by the following:

(33) (adapted from Roberts 1997; his (6)).
  a. Head movement is copying.
  b. *$[_{X^\circ}\ W_1\ W_2]$, where W_n are morphological words.
  c. A head is spelled out in the highest L-related position of its chain, subject to (33b).

[13] I necessarily reject Chung's (2003) Subject Lowering analysis of Chamorro Restructuring. It is unclear how the transparency across clauses would obtain if the subject (i.e. PLT) were to lower to some position in the embedded clause of a Tagalog Restructuring sentence.

Roberts points out that (33a) and (33c) are standardly assumed. His innovation is (33b), which is a condition on Spell-Out. So, under (33b), two morphological words cannot be spelled out in the same head X°. However, Roberts leaves this condition open to parametrisation; for a given language, (33b) can be active or inactive.

Roberts distinguishes between two different kinds of head positions: those that are L-related and those that are not. L-relatedness is a kind of morphological association with a lexical head.

With respect to Verb Raising, which really is a kind of T°-raising, it is possible to assume Roberts' (1997) analysis with the added condition that (33b) is inactive in Tagalog. The inactivity of (33b) accounts for the V-C-V (matrix verb – complementiser – embedded verb) complex in Restructuring sentences, which, I assume, arises through head movement.[14]

Roberts claims that, since it combines the embedded and matrix clauses in the same extended projection, T°-raising renders accessible all the relevant positions in the matrix clause to movement of elements from within the embedded clause. So, for Clitic Climbing in Tagalog, T°-raising allows the embedded clitic to 'see' the matrix second position. In Long Distance Focalisation, the embedded focus phrase 'sees' the matrix Spec-TP, just as the embedded specific object 'sees' the matrix Spec-*v*P in Long Distance Object Shift. As for Interclausal Scrambling, the various embedded arguments 'see' the relevant positions in the matrix clause.

5. A motivation for Tagalog Verb Raising

In previous sections, I have described what Verb Raising looks like and what its effects are. In this section, I provide a motivation for this phenomenon.

As mentioned earlier, Verb Raising only occurs when the embedded verb is non-finite. When Verb Raising takes place in a sentence whose embedded verb is finite, as in (2b), repeated as (34b), the result is ungrammatical.

(34) a. [Nagulat surprise.NOM.PERF. si PLT Isabel [na COMP Isabel [kumakain eat.NOM.IMPF. si PLT Lito ng ACC pansit]]. Lito noodles
'Isabel is surprised that Lito is eating noodles.'

b. * [Nagulat [na [kumakain]$_V$]$_C$] si Isabel [t_C [t_V si Lito ng pansit]].

[14] It is standardly assumed that, when a head X° raises to another head Y°, X° adjoins to the left of Y°. I, however, have assumed without any argumentation throughout this paper that X° adjoins to the right of Y°. I have done so to account for the word order of the matrix verb – complementiser – embedded verb constituent without complicating my assumptions on Tagalog phrase structure. Were I to adopt standard assumptions of head-to-head adjunction, I would get the opposite word order (embedded verb – complementiser – matrix verb) and would have to find other ways of getting the correct order.

It is safe to assume, therefore, that finite embedded verbs do not raise to a position outside their clause.

So, why do non-finite verbs raise out of their clause?

Non-finite verb forms in Tagalog do not bear morphology that mark non-finiteness, unlike English infinitives with infinitival *to* or Spanish infinitives with the -Vr suffix. The chart in (35) on the following page shows a list of the finiteness morphology in Tagalog. (For a more detailed discussion on finiteness morphology in Tagalog, see Schachter and Otanes 1972:361-375).

(35) Finiteness morphology on the verb *halikan* 'to be kissed'.

root:	hali:k	kiss	
non-finite:	halik-a:n	kiss.DAT.NF.	'to be kissed'
perfective:	h-in-alik-a:n	kiss.DAT.PERF.	'was kissed'
imperfective:	hina:-halik-a:n	kiss.DAT.IMPF.	'is being kissed'
contemplated:	ha:-halik-a:n	kiss.DAT.CONT.	'will be kissed'

As the chart shows, non-finiteness is marked by the absence of finiteness morphology on the Tagalog verb. Verb Raising can thus be interpreted as the non-finite embedded verb 'wanting' to associate with a finite T°, the closest of which is in the matrix clause. I propose the following generalisation:

(36) A verb must associate with a finite T°.[15,16]

This generalisation is not implausible since association with a finite T° occurs throughout the language. Finite verbs do this all the time, except that the movement they undergo is clause-bounded.

The generalisation in (36) precludes the need for a special [±Restructuring] feature in Tagalog. A matrix verb 'knows' that it is a Restructuring verb in so much as it knows that its clausal complement must be non-finite.

6. Conclusion

In this paper, I have demonstrated that Restructuring transparency in Tagalog is not at all correlated with less structure in the embedded clause. Tagalog Restructuring embedded clauses have a CP, TP, *v*P and a PRO. Despite the presence of full structure in the embedded clause, transparency still obtains.

Adopting Roberts' (1997) T°-raising approach, I have argued that Verb

[15] With the generalisation in (36), I discard the possibility that a null morpheme marks non-finiteness in Tagalog. I have included 'NF' in the glosses of non-finite verbs for the sake of clarity.

[16] As discussed in footnote 8, a non-finite embedded verb's F-features always raise to the matrix clause. This accounts for sentences like (28a/b) and (31a/b), in which Verb Raising is not observable (i.e. no LEX-movement), even though the lower verb is non-finite. Thus, it must be assumed that F-movement is enough to establish an association between a verb and a finite T°.

The conditions governing the optionality of LEX-movement in Tagalog Verb Raising require further examination; I leave this for future research.

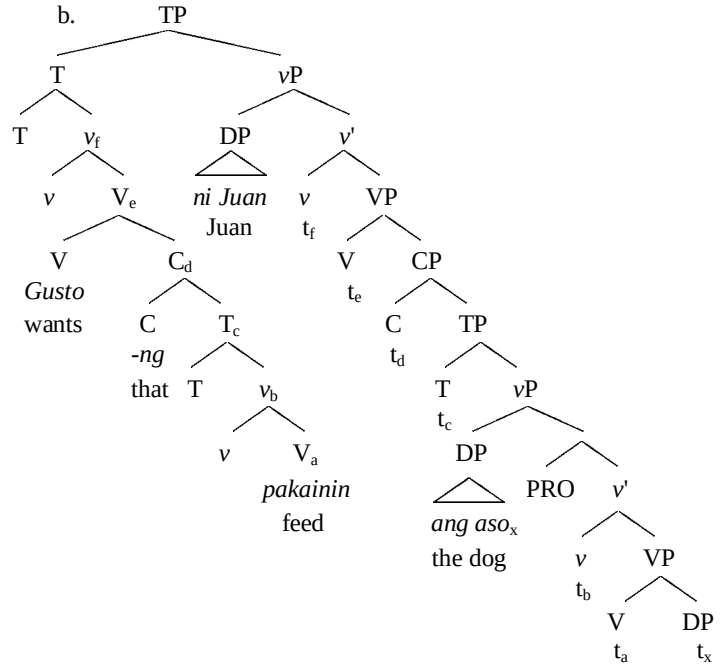
Raising creates transparency across clauses: with Verb Raising, the matrix clause becomes accessible to elements within the embedded clause.

Finally, I have proposed that Verb Raising is a result of the requirement that all verbs in Tagalog be associated with a finite T°. The only difference between finite and non-finite verbs in this regard is the distance they move before reaching a finite T°. Matrix and embedded finite verbs raise to the finite T° within their own clauses, whereas non-finite embedded verbs must raise to the finite T° in the matrix clause. With this analysis, a [±Restructuring] feature on Tagalog verbs is unnecessary.

An example of a tree for a Verb Raising sentence appears in (37) below.

(37) a. Gusto [-ng [pakainin]$_V$]$_C$ ni Juan [t_C [t_V ang aso]].
want COMP feed.ACC.NF. NOM Juan PLT dog
'Juan wants to feed the dog.'

b.



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Genitive of Quantification in Russian:
What morphology can tell us about syntax

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The paper focuses on Case properties of Russian numerals assumed by previous accounts to involve Case conflicts (Franks, 1994). Resolution of Case conflicts required complex theoretical machinery introduced in the syntactic component. The new analysis achieves a greater descriptive adequacy while eliminating the need for complications in the Case theory. It bears on the relationship between abstract and morphological Case, arguing for a systematic distinction between the two lacking in the previous accounts. The proposed approach takes into consideration morphological processes characteristic of Russian declension, which allows to sort out morphological idiosyncrasy and results in a more restricted core.

1. Introduction

The fact that abstract Case (a-case) does not always correspond to morphological (m-case) in Russian is illustrated in (1). Here we see that the NOM(inative) subject in (a) and ACC(usative) object in (b) are inflected identically.

(1)a. Derev-**o** rost'ot vozle dom-a.
Tree-neuter-NOM grows near house-GEN
'The tree is growing near the house.'
b. Ivan srubil derev-**o**.
John-NOM cut tree-neuter-ACC
'John cut a/the tree.'

An analysis that relies on morpho-phonological realization of Case to identify a-case would have to claim that the object in (1b) is NOM. Standard analyses of a sentence like (1b), however, look past m-case and let the syntactic relations in the sentence be their guide. What is glossed in (1) then is a-case, and not m-case.[1]

[1] Henceforth, I will use the upper case notation for glossing a-case and low case notation for m-case.

The inconsistency between a-case and m-case caused by Case syncretism is hardly a controversial issue. However, the problem arises because there are instances where it is not clear whether the two correspond to each other directly or not. One example of a situation where a-case/m-case correspondence is not immediately clear is the so-called quirky or lexical Case, when a-case is unpredictable, and we are forced to use the phonological form of the Case exponent as our guide for identifying a-case.

Compare (2a) and (3a). In these two examples, the objects have phonologically identical m-case: gen. We cannot identify a-case simply by looking at the examples in (2a) and (3a). We have to look at N's of various declension classes and compare their m-case. This would reveal that complements of V in (2) are either gen (2a) or nom (2b) depending on the animacy status of N. Knowing that inanimate nouns in Russian exhibit syncretism of nom and acc, while animate nouns gen and acc would allow us to determine that objects in (2) are ACC: gen/ACC in (2a) and nom/ACC in (2b).

On the other hand, a similar analysis for the verb in (3) reveals that the animacy status of N does not affect m-case and the complement is always gen. This leads us to believe that V in (3) is indeed a quirky Case assigner and the objects are gen/GEN.

(2)a. Pavel lyubit Ivan-**a**. b. Paul lyubit grom-**ъ**.
Paul-NOM loves Ivan-**gen/ACC** Paul-NOM loves thunder-**nom/ACC**
'Paul loves Ivan.' 'Paul loves thunder.'

(3)a. Pavel boits'a Ivan-**a**. b. Pavel boitsa grom-**a**
Paul-NOM fears Ivan-**gen/GEN** Paul-NOM fears thunder-**gen/GEN**
'Paul is afraid of Ivan.' 'Paul is afraid of thunder.'

Thus on the one hand, in our syntactic analyses we often have to look past phonology and let the structural relations be our guide. On the other hand, we cannot always be guided by syntax to identify Case on a particular NP, and our only guide in this situation is the phonological representation.[2] Because of this inconsistency, the existence of the two distinct levels may be obscured, and m-case may be mistakenly taken for a transparent representation of a-case especially in analyses abstracting away from morphological detail. To avoid this error while accounting for the array of Case facts in a Case-rich language, one must be aware that a-case/m-case mapping is not vacuous, but is an operation at the level of grammar where Syntax and Morphology interface. Hence, we need a principled view of m-case to reflect this operation. It has to include two mappings: from syntactic structure to morphology on the one hand and from morphology to phonology on the other hand. Failure to distinguish the levels of Case results in empirical and/or conceptual problems. I will use Genitive of Quantification (GEN Q) in Russian to illustrate this point.

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[2] Whether in the latter situation there still exists a possibility of non-correspondence of a-case and m-case is a theoretical issue worth to be addressed separately.

2. *Data*

A typical example of GEN Q, where NumP[3] is in the object position of a transitive verb is given in (4):

(4) Ivan kupil tri stul-a
Ivan $\text{bought}_{\text{ACC}}$ 3-ACC chair-sing-GEN Q
'Ivan bought three chairs.'

From this example one may conclude that Numerals in Russian assign a special GEN to N, namely GEN Q. However, in other contexts, we do not see GEN Q assigned. Instead, the Case assigned by the verb percolates throughout the NumP:

(5) Ivan vladejet tri-ma stul-jami
Ivan $\text{own}_{\text{INSTR}}$ 3-INSTR chair-pl-INSTR
'Ivan owns three chairs.'

As these examples illustrate, in Russian both Num and N bear overt Case marking, which can be homogeneous when both the Num and the NP are marked with the same Case, or heterogeneous with a distinct Case marking on Num, as opposed to the NP. Whether the pattern is homogeneous or heterogeneous is determined by the Case context in which the NumP occurs. If it occurs in the context of a verb that controls OBLIQUE Cases (Cases other than NOM and ACC), this Case gets uniformly assigned to both Num and NP, resulting in a homogeneous pattern. Thus, in (5) the verb assigns INSTR(umental) and both Num and N are INSTR. In the context of ACC-assigning verbs, only the Case of the Num is determined by the verb.[4] The NP gets a special GEN(itive) case, GEN Q, assigned by the Num, resulting in a heterogeneous Case assignment.[5] Thus, in (4) the verb assigns ACC and the Num is ACC, but the N is assigned GEN Q. I will term this phenomenon the Case effect, indicating that the Case pattern within the NumP is conditioned by the Case context.[6]

Example (6) illustrates another effect, which I will call the Animacy effect. It shows that the category 'animacy' also plays a role in determining Case assignment in NumPs. In the ACC context, the numerals 'two', 'three', and 'four' are ACC with inanimate nouns, but are GEN with animate nouns:

[3] I am using the label (Num)eral P(hrase) here in a pre-theoretical sense to indicate a phrase consisting of a Num(eral) and NP without commenting on their structural relationship until later in the paper.

[4] Prepositions behave in exactly the same way as verbs: Oblique-assigning ones induce homogeneous and ACC-assigning ones heterogeneous pattern.

[5] I will use the term 'assign Case'; however the precise mechanism by which a DP receives Case, via assignment or checking does not affect the analysis.

[6] I will address NOM context below.

(6)a. Sasha videl tr-**i** dom-**a**.
Sasha saw 3-**ACC** house-sing-**GEN Q**
'Sasha saw three houses.'
b. Sasha videl tr'-**ox** mal'cik-**ov** / * tri malchka
Sasha saw 3-**GEN** boys-pl-**GEN/ ***3-**ACC** boy-sing-**GEN**
'Sasha saw three boys.'

There is also a difference in N. In (6a) the object is glossed GEN Q, while in (6b) GEN. The reason for that is that in (6a) the pattern is heterogeneous, expected if GEN Q is assigned, while in (6b) it is homogeneous, as indicated by the uniform assignment of GEN and also by the plurality of the N, characteristic of OBLIQUE Cases.

Another pattern is given in (7). Here we see that with the numeral 'five', as well as other numerals through 'twenty', GEN Q is manifested as GEN pl(ural), while with the numerals 2-4 as GEN sing(ular).[7] I will refer to this phenomenon as the Numeral effect.

(7)a. Sasha videl **tr-i** dom-**a**
Sasha saw **3**-ACC house-**sing-GEN Q**
'Sasha saw three houses.' .'
b. Sasha videl p'at' dom-**ov**
Sasha saw **5**-ACC house-**pl-GEN Q**
'Sasha saw 5 houses

The Numeral effect allows us to see that GEN Q is a distinct Case from regular oblique GEN. Verbs and prepositions assigning oblique GEN induce a homogeneous pattern (8a), and in this situation the NP is not singular like the NP's to which GEN Q is assigned (10b), but plural, showing that GEN Q has been blocked.

(8)a. Maria otkazalas' ot_{GEN} tr'-**ox** predlozen-**ij** (Homogenous pattern)
Maria declined from 3-**GEN** offer **–PL-GEN**
'Maria declined 3 offers.'
b. Maria vnesla$_{ACC}$ tr'-**i** predlozenij-**a**. (Heterogeneous pattern)
Maria gave 3-**ACC** offer-**sing-GEN Q**
'Maria introduced three suggestions.'

When the NumP is in the subject position and hence is assigned NOM, we find a slightly different pattern from the ACC position. We no longer have the Animacy effect with any numerals, and hence the Case assignment pattern is heterogeneous for both animate and inanimate N's, but we still have the Numeral effect requiring GEN Q sing. for numerals 2-4, and GEN Q pl. for 5 through 20.

[7] Compound Num behave like their right-most element, e.g. 25 would behave like 5.

(9)a. tr-**i** dom**a** / malcik-**a** …
3-**NOM** house-**sing-GEN** / boy-**sing-GEN**
'three houses/ boys'
b. p'at' dom**ov** / mal'cikov …
5-**NOM** house-**pl-GEN**/ boy-**pl-GEN**
'five houses/ boys'

So far in reviewing the data, the upper-case notation was used indicating that morpho-phonological representations of Case found on Num's and N's are transparent in respect to a-case, an implicit assumption adopted in the literature on this phenomenon. I will argue that this assumption is incorrect and has to be revised.

3. Existing Syntactic Accounts

The existing accounts (Babby (1980a, 1984, 1985, 1986, and 1987) and Franks (1994, 1995)) focus on a subset of the reviewed facts, namely the Case effect. Both Babby and Franks handle the pattern as a Case conflict between the verb and the numeral as Case assigners. The generalization they make is that the numeral assigns GEN Q, stipulated to be a structural Case in Russian. GEN Q gets to be assigned only if the verb itself is a structural Case assigner (NOM or ACC). In this situation, the most local Case assigner (Num) prevails inducing a heterogeneous pattern. If the verb is a lexical (oblique) Case assigner, the oblique Case overrides GEN Q. In this situation, the verb prevails, hence the homogeneous pattern

The goal of their analysis is to explain how the type of Cases involved in the conflict leads to particular outcomes of conflict resolution. Since the Case theory within GB/Minimalism doesn't predict the existence of Case conflicts, the existing theory has to be modified in various ways in order to accommodate Russian facts. Thus, for Babby (1986) and Franks (1994) Case agreement within NP is a result of the interaction of two processes: Case assigned by the verb or preposition percolating from N^{max} down to the members of the nominal complex and simultaneous NP-internal Case assignment by a Case assigning head embedded inside NP, such as NumP, assigning GEN to the material it c-commands, namely N^2 ($\neq N^{max}$). The percolation of the Case from N^{max} can be blocked under certain conditions.

The resolution of Case conflict is handled by Babby by a Case hierarchy from oblique (lexical) cases via GEN Q to structural cases. The hierarchy stipulates that in a conflict, a Case on the left in the hierarchy overrules a Case on the right. Thus, GEN Q overrides structural Cases (ACC and NOM), but not oblique cases (DAT, INSTR, LOC, regular GEN).

Franks (1994) tries to improve on this theory by deducing the hierarchy from the notions of Case developed in the then current GB theory. Space limitations prevent me from giving a full description of Frank's account here. Briefly put, he proposes a theory of Case that uses modern developments in the theory, such as the DP hypothesis, but that also deviates from the standard GB theory in some crucial ways. Importantly, in addition to the commonly assumed

dichotomy between structural and inherent Case, he makes another distinction corresponding to traditional descriptive notions of direct and oblique: between configurational and lexical Case. Franks argues that the latter distinction is due to different properties of particular Cases as to whether their features are fixed lexically or configurationally. The former distinction for Franks is independent from the latter and simply has to do with the level of representation at which Case is assigned: D-structure vs. S-structure. Furthermore, he departs from the standard GB assumption that all Structural Case is assigned at S-structure and allows for the existence of D-structure configurational cases. He maintains the standard assumption that once an element is Case-marked, it cannot change its Case.[8] If an already Case-marked element occurs in an environment of structural (S-structure) Case assignment, the structural Case fails to be assigned.

Thus, oblique Cases being lexical and assigned at D-structure percolate throughout the nominal projection marking its every element and resulting in a homogeneous pattern. If there is no oblique Case, at S-structure, ACC or NOM is assigned to the nominal complex by configuration, but GEN Q, which is structural in Russian, is assigned by the numeral to its complement NP because it is its closest Case assigner, resulting in a heterogeneous pattern. Hence, GEN Q in Russian fails to be assigned when in conflict with D-structure (oblique) cases, but wins over S-structure ACC and NOM assigned by configuration.

This elegant reasoning, unfortunately, has both theoretical and empirical flaws. In particular, it cannot handle the Animacy effect, the Numeral effect, and the differences between ACC and NOM positions.

4. Animacy-induced GEN: Syntax or Morphology?

The Animacy effect presents a special problem for the Case conflict theory. It results in a situation when animate N in ACC contexts fail to be assigned GEN Q even though the conflict is between structural Cases.

(10). Ivan liyubit et-**ikh** tr'-**okh** sovremenn-**ix** xudozhnik-**ov**
Ivan loves this-**pl-gen** 3-**pl-gen** contemporary-**pl-gen** artist-**pl-gen**
'Ivan likes these three contemporary artists.'

In (10) the Num is not ACC and the N is not gen. sing, as with inanimate N's. Instead, all members of the nominal are gen. pl. What is the animacy-induced gen in syntax becomes clear when we look at some morphological properties of Russian declension.

The inflectional paradigm of nouns, given in (12), is characterized by a number of syncretisms. Syncretism is seen as erased lines between cells, which share some morphological features, such as gender. Cells that share features are adjacent to each other in the chart. The source of syncretism is conceptualized as an operation at the level of Morphology, such as a change of a feature value, e.g.[+masc]→[-masc], in the matrix that constitutes a site for lexical insertion.

[8] Franks crucially relies on having Case assignment and not Case checking for his model to work.

As a result of such operation, an overlap in the featural composition between categories is created. Thus, in dat, loc, and instr pl we see one morphological gender class instead of three we see in nom sing. We account for that by positing a feature change operation, whereby masc(uline) N's with the features [+masc, -fem] and fem(inine) N's with the features [-masc.,+fem] both become [-masc,-fem], a combination characteristic of neuter N's. Hence, only one inflectional class is found in oblique pl.[9]

The chart shows that animate pl N's are characterized by acc/gen syncretism, while inanim pl N's by acc/nom .

(11)a. …kartiny et'**ix** sovremenn-**ix** xudozhnik-**ov**
painting-pl-ACC this-pl-**gen/GEN** contemporary-pl-**gen/GEN** artist-pl-**gen/GEN**
'… paintings of these contemporary artists.''

b. Ja lyublyu et'-**ix** sovremenn-**ix** xudozhnik-**ov**
I like this-pl-**ACC/gen** contemporary-**pl-ACC/gen** artist-**pl-ACC/gen**
'I like these three contemporary artists.'

(12) **Case/number inflections for the most common declension classes:**

	sing				**plural**			
	fem	**neut**	**masc.**		**neuter**	**fem**	**masc.**	
	inanim/anim	inanim	inanim	anim	inanim	anim	inanim	inanim anim
Nom	a	o		a				
Acc	u		ъ			i		
Gen	i		a		ъ		ov	
Dat	e	u			am			
Loc					ax			
Inst	oj	om			ami			

ъ indicates a Yer vowel

This suggests Animacy-induced gen is none other than ACC, assigned uniformly and realized as gen m-case. Once Animacy-induced GEN is reanalyzed as an instance of homogeneously assigned ACC, the Case-conflict account runs into a problem: even though ACC is structural, it blocks the assignment by the Num of GEN Q.

Thus, we have established that Num's 2-4 with animate N's induce a homogeneous Case assignment pattern. However, Num appear to assign GEN Q sing to inanimate N's. I referred to this anim/inanim split as the Animacy effect. This situation is difficult to account for at the level of syntax. In the next section, I will propose an analysis under which this problem is eliminated

[9] Not all phonological identity can be attributed to syncretism. Thus, phonological identity of the featurally distinct cells (not adjacent in the chart) is attributed to homonymy, e.g. fem sing nom and masc. sing gen.

and will show that inanimates syntactically behave in a manner parallel to animates, and the idiosyncrasy is morphological.

5. Dual in Russian?

As I described earlier, with inanimate N's, we have what looks like a heterogeneous pattern in ACC contexts. Compare (13) and (14). Except for the animacy status of the NP, they are identical. How, then, can we explain the heterogeneous case assignment in (14)?

(13) Ivan liubit eti-x tro-x sovremenni-x xudoznik-ov
Ivan likes this-pl-gen/**ACC** 3-gen/**ACC** contemporary-pl-gen/**ACC** artist-pl-gen/**ACC**
'Ivan likes these three contemporary artists.'

(14) Ivan liubit et-**i** tr-**i** sovremenn-**yje** portret-**a**
Ivan likes this-pl-**ACC** 3-**ACC** contemporary-pl- **ACC** portrait-**sing-GEN Q**
'Ivan likes these three contemporary portraits.'

I propose that it is the familiar homogeneous pattern with a twist. As was mentioned earlier, inanim pl N's are characterized by acc/nom syncretism. In (14) all members of the nominal, except N, are ACC/nom due to this phenomenon. If we reanalyze the N, standardly assumed to be gen. sing, as ACC/nom non-singular, homonymous with gen. sing, the pattern becomes homogeneous and completely predictable.

There are reasons to favor this analysis. First, while GEN Q sing inflection in (15) is identical to GEN sing (–a) in this declension class, in another declension class, it is also identical to acc/nom plural (-i). Thus, for fem nouns we find NP's in a NumP (15a), subjects (15b) and objects (15c) inflected identically.

(15)a. Daniela procitala tr-**i** knig-**i**
Daniela read 3-ACC book-?
'Daniela read 3 books.'

b. Knig-**i** lezat na stol'e.
Book-pl-**NOM** lie on table
'The books are (lying) on the table.'

c. Daniela procitila et-**i** knig-**i**
Daniela read this-pl-**ACC** book-pl- **nom/ACC**
'Daniela read these three books.'

It make sense to reanalyze the number category of the N modified by the Num 2-4 from sing (idiosyncratic) to plural (predictable). We know, however, that plural acc/nom inflection for these N's is different. Perhaps, the Number category we are dealing with here is neither sing nor plural, which would mean that the number distinction in Russian is not binominal (sing vs. plural) but trinominal: sing / plural/ paucal, with the latter denoting a small set. The

position maintaining that Russian in addition to sing and pl with their respective Case paradigms has paucal with a distinct Case paradigm is strongly supported by the historical data.

Old Russian had three number categories: singular, plural and dual. The noun was dual with the numeral 2 and plural with the numerals 3 and up. Eventually numerals 3 and 4 assumed the same pattern as 2 in controlling the feature 'dual' (Ivanov, 1964), thus forming a class that can be called 'paucal'. Interestingly, the numerals inducing 'paucal' number on N (2-4), as well as 'one', unlike 5-20, were adjectival. They did not assign Case to the NP, but agreed with it in Case and gender (the numerals 1 and 2 still have gender agreement in Modern Russian). These Num's behave this way in Modern Russian with animate nouns, as discussed in the previous section. The numerals 5-20, on the other hand, were substantive in that they could be modified by adjectives agreeing with the numerals in gender (fem) and the NP was assigned GEN pl.

Interestingly, for all 'dual/paucal' nouns, acc was syncretic with nom and the affixes were –á for [+masc] nouns and -i for [+feminine], the very same affixes we find on inanimate NP's modified with the numerals 2, 3, and 4 in Modern Russian! Thus, in OR dual ACC /nom and NOM was homophonous with GEN sing. I propose that they still are, and the category dual, which semantically evolved into paucal, still exist in MR.

The homogeneous Case assignment can now be explained by saying that the numerals 1-4 preserved their adjectival categorical status; hence they do not assign Case but agree with the noun in Case. What appears to be gen. sing in ACC context is no other than nom/ACC paucal. Thus, inanimate NP's modified by the numerals 2 – 4 behave in the same manner as animate NP's but with a different, but predictable pattern of syncretism: instead of acc/gen syncretism, inanimates are characterized by the familiar acc/nom syncretism, which for paucal N's is filled with a distinct inflection from acc/nom pl. The adjectival nature of these Num's is best illustrated by the Num 1,
Which displays acc/gen and acc/nom syncretism dichotomy: For Num's 2 – 4, the pattern is the same, but the N is not singular, but paucal.

(16)a. On luybit odn-**ovo** inostran-**ovo** student-**a**
He likes one-masc-**gen/ACC** foreign-**sing**-masc-**gen/ACC** student-**sing**-masc-**gen/ACC**
'He likes one student.'

b. On lyubit odin-**ъ** balet-**ъ**
He likes one-masc-**nom/ACC** ballet-**sing**-masc-**nom/ACC**
'He likes one ballet.'

c. On lyubit dv-**ukh** student-**ov** / dv-**a**
he likes two-**gen/ACC** student-**paucal-gen/ACC** two-**nom/ACC**
ballet-**a**
ballet-**pauc-nom/ACC**
'He likes two students/ballets.'

Only acc/nom paucal affix is distinct from pl.[10] All other forms for paucal (in OR in addition to nom/acc, there were also gen/loc, and dat/instr) were lost and are now syncretic with plural.

There is independent evidence for the preservation of the dual/paucal feature in Russian, as well as in other Slavic languages, such as the existence of phonologically distinct gen. sing with the stress on the stem and ACC/nom paucal (stress on the inflection) in a small class of nouns:

(17)a. Ivan prošel dva šag-à.
Ivan took 2-nom/ACC step-**paucal-nom/ACC**
'Ivan took 2 steps.'
b. bystrota šàg-**a/ ***šagà
quickness step-**sing-GEN**
'quickness of pace'

We find similar facts in other Slavic languages. In Ukranian, we find the dual inflection with numeral 2 preserved in fem and neuter nouns. With N's with movable stress we find the most consistent trace of preserved dual in: in the NOM position and in case of inanimate nouns also in identical to NOM ACC, the stress distinguishes dual from pl: (Durnovo, 1962).

(18)a. dva bratt-**ý** … b. bràtt**y** … c. bràt**a** …
2 brother-dual-NOM brother-pl-NOM brother-sing-GEN

Thus, we reanalyzed GEN Q sing with inanimate NP's modified by the numerals 2-4 as ACC, and hence for both anima and inanim N's, the Num 2-4 induce a homogeneous pattern of Case assignment, a pattern not predicted by the Case conflict theory.

This analysis explains why the Numeral effect, the number alternation (sing vs. pl) conditioned by the cardinality of the numeral, appears only with inanimate nouns. What we see with animate nouns is gen/ACC paucal, not distinct from plural. What we see with inanimate nouns is the preserved distinct nom/ACC paucal. After the numerals 5-20, we see plural with both animate and inanimate nouns as expected. It also explains why the Animacy effect does not apply in NOM: in NOM there is no longer Case syncretism distinguishing anim and inanim N's. Instead, all N's are NOM paucal.

(19)a. Tri malchik-**a** stoyali v biblioteke.
3-Nom boy-**paucal-NOM** stood in library
'Three boys stood in the library.'

[10] For the N's whose nom/acc pl is stressed –á, nom/acc paucal is unstressed –a, and vice versa: e.g. ókn**a** (windows-pl) vs. 2 okn**á** (2 windows-paucal), glaz**á** (eyes-pl) vs. 2 gláz**a** (2 eyes-paucal). For N's with the nom/acc pl –i, such stress shift only characteristic of a small group, such as s'óstr**i** (sisters-pl) vs. 2 sestr-**í** (2 sisters-paucal). For the rest of the N's nom/acc pl and paucal are identical.

b. Tri stol-**a** stoyali v biblioteke.
3-nom table-**paucal-NOM** stood in library
'Three tables stood in the library.'

A result of the emerged homogeneous pattern with the numerals 2-4 in ACC context is that Num's seem to fall into distinct classes in respect to their Case assigning properties. Num's 1-4 behave differently from 5-20 in several respects, in addition to their ability to induce heterogeneous Case assignment pattern and to control sing/paucal vs. plural feature, there is a difference in the behavior of the adjectives.[11] This suggests that the key to understanding the Case assignment in NumP's lies in understanding the nature of the two groups rather than in the properties of a-case. The question remains, why the latter group (5 – 20) exhibits the homo-/heterogeneous Case assignment dichotomy. In order to answer this question, we need to look at the pattern of Case assignment with other types of quantifiers.

5.1. Case Properties of Other Quantifiers

If we look at a list of quantifiers, we will see that they fall into 3 groups in respect to the Case assignment pattern: those who follow the homogeneous pattern, those who follow the heterogeneous pattern, and those that follow a dual pattern conditioned by the Case context. One generalization that can be made from this is that entities in the left-most column are adjectives, while those that are in the middle column are nouns, as indicated by both morphological and syntactic evidence. A question remains what the categorical nature of the entities in the right-most column is. Another question is whether the split between the homogeneous and heterogeneous patterns found with the items in the right-hand column can be handled along the familiar lines of the Case effect

(20). **Case assigning patterns of Russian quantifiers**:

Homogeneous pattern	Heterogeneous pattern	Dual pattern
numerals 2-4	tys'acha (thousand)	numerals 5 - 20
demonstratives	milion (million)	*mnogo* (many)
collective numerals	nouns of measure (killo, pack,etc.)	
ordinal numerals		
nekotoryje (some)		
wh-words (čej (whose),		
ves' (all)		
oba (both)		

First, let's demonstrate the adjectival nature of the elements in the left-most column. The morphological evidence includes the fact that the items in the left-most column follow the adjectival declension. Syntactic evidence would come

[11] I will not be able to address the distinct behavior of adj in the two group of Num's due to space limitations.

from demonstrating that the items in the left-hand column, display concord with the head noun in gender/number/Case. In the plural the gender feature gets neutralized and only number/Case concord is visible. Due to concord, the adjective would assume the pattern of syncretism characteristic of the N they modify: nom/acc if they modify inanimate N's and gen/acc if animate N's.

(21)a. …vs'-**u** et-**u** tolst-**uju** knig-**u**
all-**sing-fem-ACC** this-**sing-fem-ACC** thick-**sing-fem-ACC** book-**sing-fem-ACC**
'… all of these thick books'
b. vs-**ej** et-**oj** tolst-**oj** nig-**oj**
all-**sing-fem-INSTR** this-**sing-fem-INSTR** thick-**sing-fem-INSTR** book-**sing-fem-INST**
'… with all of these thick books'

Now let's look at the items from the middle column. These items are characterized by inducement of a heterogeneous Case assignment pattern including in OBLIQ contexts. Both morphological and syntactic evidence suggests that these items are substantive.

(22)a. On napisal tyc'ach-**u** stix-**ov**.
He wrote thousand-**sing-fem-ACC** poem-**pl-masc-GEN**
'He wrote a thousand poems.'
b. On znamenit tys'ach-**ej** stix-**ov**
He famous a-thousand-**sing-fem-INSTR** poem-pl-**GEN-masc**
'He is famous for a thousand poems.'
c. On napisal mnog-ije tyc'ach-**i** stix-**ov**.
He wrote many-**pl-nom/ACC** thousand-**pl-fem-ACC** poem-**pl-masc-GEN**
'He wrote many thousands of poems.'

The substantive quantifiers, unlike the adjectival ones, do not exhibit feature concord with the head N. Instead, they have inherent Gender (fem), inherent number (sing or pl), assigns GEN pl to its noun complement regardless of the Case context, and can be modified by adjectives agreeing with it in number/gender/Case. This behavior, as well as their inflectional morphology are exactly the same as that of nouns.

Thus, we have seen that for adjectival and substantive quantifiers in Russian the Case effect generalization is not applicable. Now we will try to understand what is responsible for creating the split in the Case assignment pattern for this last group of quantifiers and determine whether Case effect is a valid generalization and Case conflict a valid explanation of it.

5.2. How Real is Case Effect: the Case of 'Many'

Like the Num 5-20, *mnogo* ('many') seems to exhibit the Case effect:

(23)a. Ivan vstretil mnog-o lingvis-ov
Ivan met$_{ACC}$ many-**ACC/nom** linguist-pl-masc.**-GEN**
'Ivan met many linguists.'
b. Ivan vosxischen$_{INSTR}$ mnog-imi lingvist-ami.
Ivan admires many-**INSTR** linguist-pl-masc.**-INSTR**
'Ivan admires many linguists.'

On a closer examination, it turns out that in (23) we are dealing with two distinct quantifiers: an agreeing and non-agreeing (inflected with a default affix –o). As (23) demonstrates, in the ACC context, either form is allowed. The agreeing variety exhibits the homogeneous and the non-agreeing variety the heterogeneous Case assignment pattern in ACC contexts. The N is gen with both varieties, but the agreeing variety, which we know is syntactically ACC (as determined by the ACC-assigning verb) tells us that the whole nominal is ACC/gen.

(24). a. John videl$_{ACC}$ mnog-**ix** linguist-**ov**. / mnog-**o**
John saw many-pl-**ACC/gen** lingist-pl-**ACC/gen** many-**non-agr**
linguist-**ov**
linguist-pl-**GEN**
'John saw many linguists.'
b. John videl mnog-**ije** film-**i** /mnog-**o** film-ov
John saw many-pl-**ACC/nom** film-pl-**ACC/nom/** many-non-agr film-pl-**GEN**
'John saw many films.'

In OBLIQUE contexts, there is an asymmetry: we no longer have two forms, but only one – the agreeing one.

(25)a. John vosxischen mnog-**imi** linguist-**ami**/ film-**ami**.
John admires many-**pl-INSTR** linguists-**pl-INSTR** / film-**pl-INSTR**
'John admires many linguists/films.'
b. John vosxischen *mnog-**o** linguist-**ami** / film-**ami**.
John admires many-**non-agr** linguists-**pl-INSTR** / film-**pl-INSTR**
'John admires many linguists/films.'

What is causing the ungrammaticality of the non-agreeing doublet inserted in the OBL context? We will return to this question shortly.

As is expected, the agreeing doublet has morphological properties associated with plural adjectives (num/Case concord, adjectival declension), while the non-agreeing one has only one default non-agreeing affix *–o,* which we also see on other non-agreeing elements, such as adverbs or 'impersonal' predicates of expletives (null in Russian).

The two stems are homophonous: mnog$_1$- and mnog$_2$-. Each stem is compatible with a different set of affixes. The existence of two doublets of 'many' with only one of them, namely the agreeing one, being able to occur in OBLIQ contexts, creates an illusion of the duality of Case assignment pattern, when OBL is assigned uniformly, while ACC is not. In other words, what we

have instead of the Case effect, is a Doublet effect: concord (homogeneous pattern) with the agreeing doublet, and GEN assignment (heterogeneous pattern) with the non-agreeing one.

There is strong evidence that mnogo-$_1$and mnogo-$_2$ are indeed two different entities. One difference is semantics. The non-agreeing *mnog$_1$-o* can be paraphrased 'the cardinality of the set of linguists that John invited was large'. The agreeing *mnog$_2$-ikh* carries a presupposition of a given set and can be paraphrased as 'many of the linguists' or 'of all the contextually relevant linguists, John invited many '.

Another difference is that only 'mnog$_1$-o' has comparative and superlative and can be modified by degree words:

(26)a. Ivan imejet mnog$_1$-o knig, a Mariya bolsh-e.
Ivan owns many-ACC book-pl-GEN, but Mary more
'Ivan has many books, but Mary does more.'
a'. Ivan imijet mnog$_2$-ije knigi, * a Mariya bolsh-ije.
Ivan owns many-pl-ACC/nom books-ACC/nom, but Mary more-INS
'Ivan owns many of the books, but Mary does more.'

Next, only *mnog$_1$*-o can be part of a wh-phrase 'how many':

(27)a. Kak mnog-o knig imeyet Ivan?
How-ACC many$_1$-non-agr books-GEN owns Ivan
b. *Kakije mnog-ije knig-i imeyet Ivan?
How-ACC/nom many$_2$-ACC/nom books-ACC/nom owns Ivan
'How many books does Ivan own?'

Finally, only mnog$_1$-o can be used with the exclamatory operators:

(28)a. Ivan imeyet stolko/tak mnog-o knig!
Ivan owns so / such many$_1$-ACC books-GEN
b. *Ivan imeyet stolk-ije/tak-ije mnog-ije knig-i
Ivan owns so-ACC/nom/ such-ACC/nom many$_2$-INSTR books-INST
'Ivan owns so many books!

Both are adjectival: *mnog$_{2-}$* because of its adjectival declension and concord with the N, and *mnog$_{2-}$* because it has a comparative (*bolshe*)[12]and superlative form. Interestingly, in its superlative form it requires the presence of the overt noun 'number' (*kolitchestvo*) and behaves like a fully agreeing adjective:

(29) naibolsh-eje kolitchestvo film-ov
many-superl-neuter-sing-NOM quantity-neuter-sing-NOM film-masc-pl-GEN
'the largest number of films'

[12] There is stem allomorphy: mnog-o (many), bolsh-e (more), nai-bolsh-e-je kolitchestvo (the most).

If their category is the same, what causes their distinct behavior? I will adopt an assumption from Kayne (2002) that *tak mnogo* ('so many') is obtained by raising within DP, which must be licensed by an appropriate head. It is reasonable to conclude that this licenser is unavailable in Russian in case of $mnog_2$, but available for $mnog_1$ (the non-agreeing doublet). This head, as is proposed by Kayne for English 'many' and 'few', is a silent noun 'NUMBER', a quantity word that is modified by 'many' and which we hear in its superlative form.

For the non-agreeing stem '$many_1$-' there is a requirement that it modifies only the null element KOLITCHESTVO (NUMBER). This demystifies the heterogeneous pattern we see with this doublet, which as I mentioned earlier occurs only in ACC or NOM contexts. GEN pl on N that we see with $mnog_1$-*o* is assigned by the silent N NUMBER and hence is an instance of adnominal GEN. The incompatibility of the silent N with OBLIQ context accounts for $many_1$ being restricted to non-oblique contexts.[13]

6. Numerals 5 - 20

If the dualism of Case assignment pattern does not exist with 'many', but is only an illusion due to the existence of two distinct agreeing and non-agreeing doublets, then the numerals 5-20 remain the only group that seem to exhibit Case effect. To handle the heterogeneous pattern, we have to decide between assuming the numeral a Case assigning head or a modifier which does not modify the noun directly. These numerals lack substantive properties like those of '*thousand*' or the numerals 5-20 in Old Russian, which had inherent gender and number and could be modified by adjectives. It would be undesirable to postulate an entirely new category to accommodate the data of a small language-specific group of numerals. It is plausible that the numerals in question are adjectival, like their '$many_1$-'counterpart, and the dual Case assigning pattern is due to the existence of two doublets: one modifying N directly and the other that doesn't. Instead, the latter modifies a phonologically null element, along the lines of Kayne's (2002) unpronounced noun NUMBER, which assigns GEN pl to its complement noun as expected for a noun and as we discussed in the previous section for '$many_1$'. The numeral and the null N are assigned ACC by the verb. The null N assigns GEN pl to its complement DP. The numeral does not display concord with the animacy and the phi-features of the noun because it is outside of the DP. A number of syntactic tests support this analysis, but cannot be included here due to space restrictions. This analysis has the advantage over the previous analyses in being the most parsimonious and empirically accurate.

[13] The incompatibility of NUMBER and OBLIQE contexts can be handled by a difference in featural composition between oblique and nom: the former is specified for Case features, while the latter is default (unmarked in the Jakobsonian sense) containing no Case features. ACC is syncretic with NOM and therefore inherits its featural composition. The unmarked Case morpheme can be filled with a null element, while the marked one can't and requires an overt stem to anchor the obligatorily overt affix.

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The interpretations of coordinated bare nouns in French

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In this paper, we will show that the widespread assumption according to which French is a language with no bare nouns is too strong: French does have bare nouns in the form of coordinated bare nouns (CBNs), which must be subdivided into coordinated bare singulars (CBSs) and coordinated bare plurals (CBPs). We will argue that the absence of an overt determiner is licensed, in both cases, by the presence of the conjunction *et*: the conjunction is able to spell-out a [+Plural] feature, which is crucial for the licensing of bare nouns in the languages discussed (cf. Delfitto & Schroten (1991)). By looking in detail at their interpretational properties, we will show that French CBPs have all the properties associated with non-coordinated BPs as they exist in languages like English and Italian, a fact for which we will try to propose an account.

1 Background

As it follows from the representative overview of Longobardi (2001), French is not a language that is traditionally associated with the discussion of bare nouns, that is nouns used in argument position without a determiner. Longobardi observes that within the languages that have both a definite and an indefinite determiner, three groups must be distinguished. This is illustrated by the hierarchy in (1), which goes from languages that are particularly restrictive (French) to languages that allow bare nouns more freely (English).

(1) The hierarchy of Longobardi (2001):
- Languages with *freer* bare nouns (English and perhaps most of Germanic)
- Languages with *stricter* bare nouns (apparently the rest of Romance: Spanish, Italian…)
- Languages with no bare nouns (French)

The notions 'freer' and 'stricter' refer both to the distribution and the interpretation of bare nouns.[1] Bare nouns in English are free with respect to their distribution, because they can be used both in subject and in object position, while they are free with respect to their interpretation, because they allow both for existential and for generic readings[2].

(2) a. John was eating *biscuits*.
b. *Politicians* have occupied the building.
c. John hates *cats*.
d. *Cats* are mammals.

Italian bare nouns are stricter, because they are possible in a subset of the cases in which freer bare nouns of languages like English are allowed. Stricter bare nouns can only be used in object position[3], and they only allow for an existential reading.[4]

(3) a. Gianni mangiava *biscotti*.
b. *Politici* hanno occupato il palazzo.
c. *Gianni odia *gatti*.
d. **Gatti* sono mammiferi.

In French, bare nouns are totally excluded (even when they are modified).

(4) a. *Jean a mangé *gâteaux*.
b. **Politiciens (corrumpus)* ont occupé le bâtiment.
c. *Jean aime *chats*.
d. **Chats* sont des mammifères.

Delfitto & Schroten (1991) have suggested that the main reason of the sharp contrast between French and the other languages concerns the difference in place where the plural number affix is realized: in English and Romance languages like Italian, the plural affix is systematically realized on the noun, while in French the plural affix is not systematically realized on the noun itself, but only on an external element (often the determiner).

(5) Delfitto & Schroten (1991):

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[1] In languages like English and Italian, bare nouns can correspond to plural nouns or singular mass nouns. Singular count nouns cannot be used bare in either of these languages. In this paper, we will not discuss singular mass nouns, but we will concentrate mainly on plural nouns.

[2] As we will see in section 3 and 4, generic readings must be further subdivided into so-called 'definite' and 'indefinite' generic readings (cf. Longobardi (2002)). The reading referred to here corresponds to the definite generic reading, the only reading of the two whose availability depends on inherent properties of the bare noun and not on the presence of other elements in the linguistic context, as is the case with indefinite generic readings (see *infra*).

[3] Italian bare nouns can be used in subject position when they are modified/focalized: *Politiciens *(corrumpus) ont occupé le bâtiment.*

[4] Italian excludes definite generic readings (see note 1).

- "[In French] (…) there is no phonological evidence for the presence of the number affix on the noun (the orthographic *–s* is no longer phonologically realised (…), cf. *étudiants*, *garçons* (…))."
- "BPs do not exist in this language, and bare nouns cannot be interpreted since there is no number affix which can be raised to the D-position at LF."

Although it is not entirely true that French doesn't have bare nouns at all – they are possible in expressions like *chercher querelle / avoir faim /* etc.– these cases are considered as exceptions or idiomatic expressions. However, there exists at least one case that cannot be considered as an exception, because it is fairly productive in French: namely coordinated bare nouns (CBNs) of the form *N et N*.

CBNs do not belong to colloquial spoken French (although they are not totally excluded from it), but they are perfectly acceptable in more formal and written registers. CBNs show up in two different types: as coordinated bare plurals (CBPs), illustrated by (6), and as coordinated bare singulars, illustrated by (7).

(6) Dans cette classe, *garçons et filles* sont intelligents.
'In that class, boys and girls are intelligent.'
(7) J'ai rencontré *ami et collègue* à l'aéroport.
'I met friend and collegue at the airport.'

This means that, at least from a formal point of view, it is not true that French doesn't allow for BNs, because (6) and (7) show that they exist in coordinated form. The question is to what extent the properties of CBNs, and more in particular those of CBPs, are comparable to those of non-coordinated bare nouns of languages allowing for stricter or freer BPs. Interestingly, this relation has been studied recently by Heycock & Zamparelli (2002), who propose an analysis of CBNs in English and Italian. In the next section, we will turn to their main observations and we will look at the predictions that are made for CBNs in French.

2 English / Italian CBNs

Just as is the case for French, English and Italian CBNs have to be subdivided into CBPs and CBSs. Let us start by looking at the former. Heycock & Zamparelli (2002) (H&Z) observe that CBPs allow for two types of interpretations: a **definite** interpretation and an **existential** interpretation. These two interpretations are illustrated by (8) and (9) respectively.

(8) We had to set the table for the queen. We arranged one crystal goblet_h, one silver spoon_i, two antique gold forks_j and two platinum knives_k. *Forks_j and knives_k* were set on the right of the plate. [H&Z (2002)]

(9) a. Market day in town. *Customers and onlookers* walked about the stands.
b.Giornata di mercato in città. *Clienti e curiosi* gironzolavano per i banchi. [H&Z (2002)]

The CBP *forks and knives* in (8) is definite, in the sense that is anaphoric and refers back to the forks and knives introduced in the previous sentence. The CBP *customers and onlookers* in (9) is existential in the sense that its referents do not have been introduced earlier in the context.

As for the availability of the definite reading, CBPs differ from non-coordinated BPs, which do not allow it. This is illustrated in (10) as for English, but it is also true for Italian.

(10) […] *$Forks_j$ were set on the right of the plate. [H&Z (2002)]

The existential reading in (9), however, is available for non-coordinated BPs as well, as was already shown by (2ab) and (3ab).

Descriptively speaking, the preceding observations can be summarized as follows.

- The definite reading is special, in the sense that it is "proper" to CBPs (for a reason that has of course to be explained).
- The existential reading of CBPs is shared with non-coordinated BPs (it is "borrowed" in some sense).

The notion 'borrowed' should be understood in the following way: if a language has existential bare nouns as in (11a), (11b), in which these bare nouns are just coordinated, is automatically available as well.

(11) a. There were *forks* on the table.
b. There were *forks and knives* on the table. [H&Z]

The idea that only the definite reading is proper to the CBN, seems to be confirmed by the behaviour of CBSs in Italian and English. In these languages, bare singulars only exist in coordinated form, which means that the existential reading is not independently available in the way it is with CBPs. As expected within this reasoning, CBSs only allow for the definite reading.

(12) a. He gave me a key, a letter for the landlord, and some instructions. I have to give *key and letter* to the tenant, and read the instructions myself. [H&Z (2002)]
b. Market day in town. #*Customer and onlooker* walked about the stands.

2.1 French CBNs

We are now in a position to look at the behaviour of CBNs in French. Let us first look at French CBSs. Just as in Italian and English, French doesn't allow for bare singulars in non-coordinated form. This predicts that French CBSs should only allow for the definite reading, "proper" to the coordination.

As shown by example (13a), CBSs allow indeed for the definite/anaphoric reading, while (13b) shows that the existential reading is excluded.[5]

(13) a. Un chien noir et un chat gras se battaient dans notre jardin. *Chien et chat* avaient l'air sale. [H&Z (2000)]
'A black dog and a fat cat were fighting in the garden. Cat and dog looked filthy.'
b. Jour de marché en ville. *#Client et curieux* se promenaient autour des étalages.
'Market day in town. Customer and onlooker walked about the stands'

Whether CBSs really behave like definites can be made even more clear when it is taken into account that singular definites in a language like French allow for two other readings, next to the anaphoric one: namely, singular definites allow for generic and Kind-readings, as illustrated respectively by (14a) and (14b).

(14) a. *Le dauphin* est un mammifère.
'The dolphin is a mammal.'
b. *La baleine* sera bientôt en voie d'extinction.
'The whale will soon be extinct.'

If French CBSs really behave like definites, it is expected that these generic and Kind-readings show up with them as well. Examples (15a) and (15b) show that French CBSs do indeed allow for exactly the same readings.

(15) a. […] *Baleine et dauphin* sont des mammifères.[6]
'Whale and dolphin are mammals.'
b. […] *Baleine et dauphin* seront bientôt en voie d'extinction.
'Whale and dolphin will soon be extinct.'

The parallelism between (14) and (15) shows that it is plausible to consider French CBSs as definites, which means that, as far as CBSs are concerned, H&Z's observation seems correct from a descriptive point of view.

Let us turn now to the behaviour of French CBPs. Within the light of the idea sketched in section 2 –i.e. that the definite reading is "proper" to the CBN, while the existential reading is shared with non-coordinated BPs– a strong prediction can be made given that French, contrary to Italian and English,

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[5] (13b) is only appropriate with a definite reading in a context in which earlier mention has been made of a particular client and a particular curious person.

[6] An appropriate context facilitates the availability of these interpretations for CBSs: lack of space prevent us from giving it here.

doesn't have non-coordinated BPs, it is predicted that French CBPs only allow for the definite reading, and **exclude an existential reading**.

The question is whether this prediction is true. According to H&Z it is. The examples in (16) and (17) show that French CBPs allow for a definite/anaphoric reading. (16) is definite in the same way as (8) above (the referents of the CBP have been mentioned earlier in the context). (17) is slightly more complicated: although the *marins et passagers* haven't been mentioned earlier, their presence follows from the earlier introduction of a ship. Cases like these are generally referred to as 'bridging'.[7]

(16) […] *Chiens et chats* avaient tous l'air très sale. [H&Z]

(17) Un navire transportant des réfugiés vient d'arriver à Puglia. *Marins et passagers* étaient Albanais, le capitaine était Italien. [d'après H&Z (2002)]
'A refugees' ship just arrived in Puglia. Sailors and passengers were Albanian, the captain was Italian.'

According to H&Z, an existential CBP like (18) would be excluded.

(18) Jour de marché en ville. ??*Clients et curieux* se promenaient autour des étalages. [judgment of H&Z (2002)]
'Market day in town. Customers and onlookers walked about the stands'

However, according to native speakers, the judgement of (18) is wrong: the example is perfectly acceptable. This doesn't represent some confusion about one particular example. Although one could think that (18) is grammatical for a reason similar to that which renders (17) acceptable, namely that the presence of 'marché' makes it possible to interpret the CBP by bridging. The examples (19)-(20) show that this is not necessary and that French CBPs do allow for existential readings as well.

So, in (19) the context is such that nothing announces the presence of books and journals: this means that the CBP is used totally out of the blue.

(19) L'inspecteur Williams se rendit dans cette chambre de bonne sans avoir aucune idée de ce qu'il allait y découvrir. Il eut un peu de peine à trouver l'interrupteur. Il n'y avait pratiquement aucun meuble dans la pièce, mise à part une table. *Livres et revues* jonchaient le plancher. [d'après Fabienne Martin (p.c.)]
'Inspector Williams went into the room without having a clue of what he would find there. He had some trouble finding the switch of the light. There was almost no piece of furniture in the room, except for a table. Books and journals were all over the floor.'

The same is true for the CBP in (20), which has not been mentioned earlier.

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[7] We will come back to the availability of other definite readings in section 4.

(20) Les voyageurs ne pouvaient pas bouger dans le métro ce matin. *Chômeurs et cégétistes* avaient envahi les rames pour se rendre à une manifestation.
'The passengers couldn't move their body in the subway this morning. Unemployed and trade-union members had entered the carriages in order to go to a manifestation.'

As we have argued in Roodenburg (2003), the availability of existential readings for French CBPs does not correspond to what is expected within the reasoning sketched above, and that underlies H&Z. Before we will try to explain this situation, we will first take a closer look on the non-definite properties of French CBPs and the relation they have with those of non-coordinated bare nouns. This is what we will do in the next two sections.

3 Properties of French CBPs

As shown in the preceding section, French CBPs behave like non-coordinated BPs in languages like Italian and languages like English as for the availability of the existential reading. This raises the question whether there are more parallels. We will answer this question in two steps: in subsection 3.1, we will take a closer look at *stricter* bare nouns, which allow for other readings next to the existential one, and check whether French CBPs have them as well. In subsection 3.2, we will look at some semantic properties characterizing BPs as opposed to indefinites, and confront them to French CBPs.

3.1 French CBPs vs. Romance BPs

In Longobardi (2002), a more fine-grained description of the differences separating languages has been made, allowing for stricter bare nouns like Italian and languages allowing for freer bare nouns like English. Most important point is the sharp distinction between *indefinite* generic readings and *definite* generic readings (cf. note 2 and 4 above); while both are available for English BPs, Italian BPs only allows for indefinite generic readings. In this subsection, we will look more closely on indefinite generic readings and their availability for French CBPs.

Romance BPs in languages like Italian can typically be interpreted, next to the existential reading, with an indefinite generic reading. As shown by Longobardi (2002), the indefinite generic reading is available under the following conditions.

(21) *Indefinite generic reading*: Available with S-level predicates, provided the tense of the verb is habitual and/or a generalizing adverb is present.

According to this characterization, example (22) below doesn't allow for a generic reading because, although involving a S-level predicate, nor has it

habitual tense, nor a generic adverb is present.[8] On the contrary, (23a) and (23b) do have an indefinite generic reading, because they respectively have habitual tense and a generalizing adverb. (23c) shows why this generic reading is called indefinite: it is also obtained with indefinite NPs (whether they are plurals introduced by cardinal determiners or the so-called partitive article).

(22) *Elefanti di colore bianco* hanno creato grande curiosità. ***Gen** [Longobardi (2002)]
'White-colored elefants may have raised a lot of curiosity'

(23) a. *Elefanti di colore bianco* possono creare grande curiosità. **Gen** [Longobardi (2002)]
'White-colored elefants may raise a lot of curiosity'
b. *Elefanti di colore bianco* hanno creato creare sempre/spessi grande curiosità in passato. **Gen** [Longobardi (2002)]
'White-colored elefants may always/often raises a lot of curiosity in the past.'
c. *Degli/Due elefanti di colore* bianco possono creare grande curiosità. **Gen** [Longobardi (2002)]
'[Degli]/Two white-colored elefants may raise a lot of curiosity'

If we compare the behaviour of Italian BPs to example (24), involving a French CBP as an argument of an S-level predicate with habitual tense accompanied with a generalizing adverb, we observe that the same indefinite generic reading is obtained.

(24) Je ne peux pas croire que cet homme soit ministre et que son voisin soit haut-fonctionnaire. *Ministres et haut-fonctionnaires* ne voyagent pas en seconde classe. **Gen** [d'après Laca & Tasmowski (1996)]
'I can't believe that that man is minister and that his neighbour is high-civil servant. Ministers and highly placed civil servants don't travel second class'

According to Longobardi, the indefinite generic reading is also available to Italian BPs with a particular subset of I-level predicates: those which are 'eventive' in a certain sense.

(25) a. *Cani da guardia di grosse dimensioni* sono più efficienti/aggressive. **Gen**
'Watchdogs of large size are more efficient / aggressive.'
b. *Degli/Due cani da guardia di grosse dimensioni* sono più efficienti/agressivi. **Gen** [Longobardi (2002)]
'[Degli]/Two watchdogs of large size are more efficient / aggressive.'

[8] All the Italian BPs used in this and the following examples are modified by an adjunct, in order to circumvent the constraint, mentioned in section 1, that Italian BPs can only be used in subject position when modified/focalized.

The indefinite generic reading is available to French CBPs in this case as well.

(26) […] *Requins et piranhas* sont plus agressifs / efficaces. **Gen**
'Sharks and piranhas are more aggressive / efficient.'

The preceding observations clearly show that the behaviour of French CBPs is compatible with that of the behaviour of BPs as they exist in Romance languages like Italian, not only as for the availability of the existential reading (see section 2.1), but also as for the availability of the indefinite generic one.

However, this parallelism between French CBPs and Romance BPs only shows compatibility of properties; it doesn't allow us to conclude that French CBPs should be treated as BPs in these cases, because both the indefinite generic reading and the existential reading are available to indefinites as well. Nothing determines at this point whether French CBPs should be treated as indefinites or as BPs. We will turn to this question in the next subsection.

3.2 French CBPs vs. BP-properties

In the recent literature on BPs, for example in Dobrovie-Sorin & Laca (2002), the behaviour of BPs is sharply distinguished from that of indefinites. The most important differences concern their behaviour with respect to scopal and aspectual properties.

For example, it can be shown that Romance BPs take narrowest scope with respect to other scope inducing elements in the sentence, while indefinites are ambiguous and typically are able to be interpreted with a wider scope. The examples (27) and (28), taken from Dobrovie-Sorin & Laca, show this contrast with respect to negation.

(27) #Ho trovato *libri* e non ho trovato *libri.*
'I bought books and I didn't buy books.'
(28) Ho trovato *un libro* e non ho trovato *un libro.*
'I bought a book and I didn't buy a book.'

Example (27) is interpreted as contradictory, because the BP cannot escape the negation. Example (28), containing an indefinite NP, is not contradictory, because the indefinite is able to take wide scope and so escapes the negation.

A comparable contrast between BPs and indefinites is observed between the examples in (29) and (30), also taken from Dobrovie-Sorin & Laca. These examples involve a predicate that expresses an achievement/accomplishment when its object is an indefinite (29), while it expresses an activity when its object is a BP (30). For this reason, (29) is compatible with culminating adverbs like *in three hours*, expressing a delimited time, while (30) is compatible with non-culminating adverbs like *during hours.*

(29) Ha stirato *molte camicie* in due ore/*per due ore in seguita.
'I ironed a lot of blouses in two hours/*during two hours.'
(30) Ha stirato *camicie* *in due ore/per due ore in seguita.

'I ironed blouses *in two hours/during two hours.'

If we turn now to French CBPs, we observe the following. French CBPs in examples like (31) show contradictory readings; this means that they tend to prefer narrowest scope.

(31) #J'ai trouvé *livres et articles* et je n'ai pas trouvé *livres et articles*.
'I found books and articles and I didn't find books and articles.'

With a CBP in object position, predicates like those in (32) express an activity, which is shown by their compatibility with adverbs like *during hours*.

(32) Comme chaque année, le 15 février, Jean a planté pendant des heures *bégonias et jacinthes* au fond de son jardin.
'Just like every year, on February 15, John has planted, begonias and hyacinths in his backyard for hours.'

The preceding observations show that French CBPs behave like BPs, rather than as indefinites.

However, an important remark must be made: it is not true that French CBPs behave exactly the same as BPs. Although the French CBP in (33) is most naturally interpreted with a narrow scope reading –meaning 'no matter which grammars and dictionaries'– a wide scope reading, in which is referred to a particular set of grammars and dictionaries, is not excluded.

(33) […] Tous les linguistes consultent régulièrement *grammaires pédagogiques et dictionnaires*.
'All linguists regularly consult traditional grammars and dictionaries.'

Moreover, French CBPs are also compatible with adverbs like *in three hours*, which means that they can delimit the action expressed by predicates as those in (34).

(34) […] Jean a planté *bégonias et jacinthes* en trois heures.
'John has planted begonias and hyacinths in three hours.'

However, we think that the facts in (33) and (34) do not imply that French CBPs do not behave like BPs; these facts can be explained in another way. As we already noticed in section 2, CBPs are ambiguous: next to the existential and indefinite generic readings, CBPs allow for definite/anaphoric ones. This opposes them to non-coordinated BPs, which do not allow for these definite readings.

It is this difference that can explain the behaviour of CBPs in (33) and (34); indeed, the CBPs in these examples can only be interpreted as definite/anaphoric. The wide scope reading in (33) is only available when an earlier mention has been made of *romans et articles*. In (34), the predicate is terminative when the *bégonias et jacinthes* refer back to earlier introduced begonias and hyacinths.

To conclude this section, we can say that the behaviour of French CBPs is compatible with that of ordinary BPs, not only because they allow for both existential and indefinite generic readings (subsection 3.1), but also as for the properties described in the present subsection.

However, this still cannot be our final conclusion; BPs in languages like Italian are called stricter and allow for a subset of the properties available to freer BPs that exist in languages like English. This means that the behaviour of French CBPs with respect to the properties described until now, is compatible with those of English BPs as well. As a consequence, we have to test whether French CBPs behave like Italian BPs or whether they behave rather like English BPs. We will turn to this question in the next section.

4 More on French CBPs: French CBPs vs. English BPs

As is made clear in Longoabardi (2002), freer BPs typically allow for so-called definite generic readings, next to the existential and indefinite generic readings we saw in the preceding sections. The conditions under which the definite generic reading is available (as sketched by Longobardi (2002)), are given in (35).

(35) *Definite generic reading*: Can be obtained with S-level predicates without the presence of habitual tense and without a generalizing adverb.

The availability of the definite generic reading does depend on inherent properties of the bare noun, and not from elements in the linguistic context. According to this definition, an example like (36a), involving an English BP, allows for a generic reading. This is in contrast with the Italian BP of (36b), which does not allow a generic reading here; as we saw in section 3.1, Italian BPs can only be generic in the presence of habitual tense and/or a generalizing adverb. Example (36c) shows why this generic reading is called definite: in the Romance languages, including French, definite generic readings are typically available to plural nouns introduced by the definite article.

(36) a. *White-coloured elephants* will undergo the Final Judgment tomorrow at 5. **Gen**
b. *Elefanti di colore bianco* passeranno il Giudizio Universale domani alle 5. ***Gen**
c. *Gli elefanti di colore bianco* passeranno il Giudizio Universale domani alle 5. **Gen**

If we now turn to French CBPs, as those in example (37), we observe that they have they can be interpreted generically as well, just like English BPs.

(37) […] *Eléphants blancs et cygnes noirs* subiront le Jugement Final demain à 5 heures. **Gen**

Another instance of the generic reading shows up, according to Longobardi, when English BPs are subject of an I-level predicate (which ascribes them a permanent property). As shown by (38ab), only English bare nouns can be interpreted generically in this case, while Italian BPs cannot.

(38) a. *Watchdogs of large size* are more hairy/intelligent. **Gen**
b. *Cani da guardia di grosse dimensioni* sono più pelosi/intelligenti. **??Gen**

Example (39) shows that French CBPs behave like English BPs and allow for a generic reading with the same predicates.

(39) […] *Requins et piranhas* sont moins poilus/intelligents. **Gen**
'Sharks and piranhas are les hairy/intelligent.'

Finally, and this is perhaps the most striking case, another instance of the definite generic reading concerns the so-called Kind-reading. English BPs typically allow for Kind-readings, while Italian BPs do not allow them. This is shown by (40a) and (40b).

(40) a. *White-colored elephants* grow larger as one drives north.
b. **Elefanti di colore bianco* diventano sempre più grandi man mano che si va nord.

With respect to the availability of the Kind-reading, French CBPs behave like English BPs.

(41) *Loups et ours* deviennent plus grands à mesure qu'on avance vers le nord.
'Wolves and bears grow larger as one drives north.'

So, all the properties described in this sub-section indicate that the question we started with, namely whether French CBPs share the interpretational properties of freer BPs, must be answered positively. French CBPs allow for the following readings: **definite generic reading**, **indefinite generic reading**, **existential reading**. In this respect, French CBPs do not differ from English and Italian CBPs.[9] In the final section, we will try to account for this range of interpretations and in particular for that of the French ones.

5 Consequences for the analysis of CBPs

Although the properties of French CBPs are by now clear from a descriptive point of view, we have indicated how their behaviour could be accounted for. It is important to remind ourselves that CBPs allow for a definite/anaphoric

[9] Although we did not give systematic examples, this is confirmed by our informants. See also H&Z.

reading, next to the three readings summarized at the end of section 4, which are unavailable to non-coordinated BPs.

Although it has to be explained why a definite reading shows up with CBPs[10], we do not go into this problem here, but we refer to Heycock & Zamparelli (2002) and to the 'reply' by Roodenburg (2003). Let us just accept as a fact that a definite reading shows up, and look what consequences this has for the analysis of CBPs, in English, Italian and French.

English CBPs represent the most simple case. Because English is a language that has freer bare nouns, only the definite/anaphoric reading has to be accounted for independently; the other readings (i.e. the (in)definite generic and the existential ones) follow from the fact that English has freer BPs.

In Italian, the situation is slightly different. Because Italian has stricter BPs, only the existential and the indefinite generic reading of CBPs are immediately accounted for. An independent account is needed for both the definite/anaphoric reading and the definite generic reading, because none of these readings are available to stricter BPs.

This is not real problem, however, because the definite generic reading can be explained in terms of definiteness as well; at this point, Romance languages like Italian differ from English by the fact that definite generic readings typically ask for the presence of the definite article (see (36c) above). This means that Romance definites not only allow for anaphoric readings, but also for definite generic ones. As a consequence, the behaviour of Italian CBPs is explained; Italian CBPs can be *Romance* definites.

As for French, however, there is a problem. Although the definite/anaphoric reading can be accounted for in the same way as in Italian –definites in French also allow for both anaphoric and definite generic readings– there is no way to account for the existential and the indefinite generic reading: contrary to Italian, French doesn't have non-coordinated BPs. This situation is summarized in the following schema.

Readings	**English**	**Italian**	**French**
Anaphoric	Definite	Romance definite	Romance definite
Definite generic	Property of BP	Romance definite	Romance definite
Indefinite generic	Property of BP	Property of BP	**Problem**
Existential	Property of BP	Property of BP	**Problem**

In other words, the following question is raised.

(42) Why does French only allow for BPs in coordinated form?

We will argue in the next and final subsection that this question can be answered with the help of the hypothesis of Delfitto & Schroten (1991), that we have introduced in section 1.1.

[10] More generally, with CBNs, because CBSs have a definite reading as well (see section 3.1).

5.1 How to analyse French CBPs

As was suggested in (5) above, the reason why French excludes non-coordinated BPs has to do with the proposal of Delfitto & Schroten, namely that the plural affix is no longer realized on the noun in French. This means that BPs are subject to a constraint like the following.

(43) Plural hypothesis: "For a 'bare' use to be possible, plural NPs must minimally contain material that is able to *lexically* realize the [+Plural] feature. "

We argue that this hypothesis can help to answer the question in (42) and give an explanation why CBPs are legitimate in French. There is a crucial difference between French CBPs and French BPs: CBPs contain an overt element that is able to spell-out a plural feature, namely the conjunction *et*.

In all the CBNs above, both with CBSs and with CBPs, plurality is involved: the CBNs all refer necessarily to two disjoined groups (CBPs), or to two different objects (CBSs). This is shown by (44a), which is agrammatical when the adjective *autres* forces the soldiers to be a part of the group of officers, and by (44b), which is agrammatical when the verb shows singular agreement.

(44) a. **Officiers et autres soldats* répugnaient à cette besogne.
'Officers and other soldiers didn't like that task.'
b. *Ami et collègue* *a / ont attendu à l'aéroport.
'Friend and collegue has / have waited at the airport.'

This clearly indicates that *et* is able to spell-out of a [+Plural] feature.[11] Note furthermore that (43) is supported by the fact that CBNs are less acceptable when the conjunction *et* is replaced by the disjunction *ou*, which is less appropriate to spell-out [+Plural]. This is illustrated by (45), taken from Bouchard (2002), who quotes Curat (1999).

(45) **Officiers ou soldats* y répugnaient.
'Officers or soldiers didn't like that.'

It should be stressed that the plural spell-out appears to be more important for the licensing of BPs than the mere presence of a plural feature. So, we do not claim that French BPs are excluded because they would not be specified for a number feature (*contra* Bouchard (2002)). That French nouns must have a plural feature is clearly shown by the contrast between CBSs and CBPs: CBSs

[11] It would be too strong to argue that *et* is inherently plural: this doesn't seem to be true,. In coordinations involving a single determiner (whose properties differ from the CBNs described here), *et* is able to join two nouns which refer to one single referent:
(i) Mon [collègue et ami] est / *sont arrivé hier.
'My friend and collegue has / have arrived yesterday.'

can only be definite (For more on the contrast between French CBPs and French CBSs, see Roodenburg (2003).).

Conclusion

We have shown that French licenses bare nouns in the form of CBNs (subdivided into CBSs and CBPs), because the conjunction is able to spell out a plural feature. In this way, a general constraint to which all bare nouns in languages like English and Italian are subject (cf. Delfitto & Schroten (1991)), can be satisfied. The existence of this constraint has been strengthened by a detailed look at the interpretations of French CBPs. This has revealed an important fact: the behaviour of French CBPs is surprisingly common to that of Italian-like BPs as for the availability of existential and indefinite generic readings, and to BPs in general as for special semantic properties concerning scope and aspect. The resemblance with English-like BPs for the availability of definite generic readings, is due to the fact that CBNs make a definite interpretation available (cf. Heycock & Zamparelli (2002)). This also accounts for the fact that both CBPs and CBSs allow for definite/anaphoric readings.

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Neither passive nor active

Polish *-no/-to* structures in comparison to formally and functionally related structures of other languages

Ewa Rudnicka-Mosiadz

The morpho-lexico-syntactic properties of Polish *-no/-to* structures form a mixture of the defining properties of actives and passives. There have been many attempts within the GB theory to classify them with either of the two voices. We are going to argue against these proposals and suggest an account of *-no/-to* within the Construction Grammar model, which, joining the formal and functional perspectives on language study, allows one to analyse language constructions in all aspects of their linguistic structure.

1. Introduction

Our main concern in this paper is going to be Polish *-no/-to* structures as illustrated in (1).

(1) Nakarmiono psa.
feed-*no*-PAST-PERF dog-ACC
'The dog has been fed/was fed./Someone has fed/fed the dog.'

-no/-to structures, as strongly argued to be an instance of 'impersonal passive' as that of 'active indefinite', have not been given a successful account yet. Due to their unique properties *-no/-to* have always been a challenge for GB theory, since they violate both Burzio's generalization and the EPP. The *-no/-to* clause, as an active clause, has an internal argument in the direct object position where it is marked with the accusative case. Moreover, in contrast to passives, the *-no/-to* verb is not preceded by an auxiliary and cannot be followed by *by*-phrases. Still, an agent of an action or an experiencer of a state cannot be coded linguistically, as no surface subject is allowed in the *-no/-to* clause. On the other hand, such syntactic phenomena as control, raising, and binding suggest the existence of a fully thematic covert subject (cf. Kibort 2000). The status of the *-no/-to* form raises a lot of controversy as well, as it is argued to be a true past participial and a pseudo-participial form. In their analyses of *-no/-to*

structures, GB linguists have always struggled to establish their voice membership, opting either for active or passive status of these curious structures. We would like to argue that *-no/-to* structures can be classified neither with actives nor with passives, as they display the defining properties of both voices.

Crucially, GB theory determines voice membership of a given structure exclusively on the basis of its morpho-lexico-syntactic properties. It does not take into account semantics, communicative functions, or the information structure. It seems to us that linguistic phenomena such as voices should be defined with respect to both formal and functional properties. Our proposal (inspired by Goldberg 1995, Spiewak 2000, and Lambrecht 1994) is to analyse *-no/-to* in all aspects of their linguistic structure. Since this cannot be pursued within the GB model, we have chosen to work within the Construction Grammar as developed by Goldberg (1995), a theoretical alternative to GB. Importantly, Construction Grammar (henceforth, CG) is based on the assumption of dealing with form and meaning/function simultaneously. *-no/-to* structures have already been acknowledged as a CG-construction by Spiewak (2000). Still, he discusses them only as an instance of a NLC macro construction. By virtue of being dominated by a NLC macro construction *-no/-to* structures inherit the lack of the nominative NP paired with the *light Effector* semantics. Our proposal is that the construction status of *-no/-to* structures is due to the unique aspects of their information structure, as in the case of functionally close passive (cf. Goldberg 1995). After defending the construction-status of *-no/-to*, we will account for their relation to passive construction.

2. Neither passive nor active

In this section we offer a detailed comparative analysis of morphosyntax and lexicosemantics of Polish *-no/-to* showing that they have as much in common with actives as with passives.

2.1. Morphosyntax

-no/-to structures use a single verb form, in contrast to passives formed by means of finite form of the auxiliary *be* or *become* + past participle form of the lexical verb (5b). The *-no/-to* form, as the very name suggests, consists of a lexical stem plus the *-no/-to* suffix, which can be analysed as either one or two morphemes, *-n/-t* and *-o*, respectively. Distribution suggests that the *-n/-t* morpheme is precisely the same morpheme that marks the past participle:

(2) a. nakarmio**n**y
feed-PAST-PART
nakarmio**n**o

feed -*no*-PAST-PERF

b. rozbi**t**y
break-PAST-PERF
rozbi**t**o
break -*to*-PAST-PERF

Moreover, the tense scope of *-no/-to* structures is restricted to past. That would suggest that the *-no/-to* form is a kind of past participial form. Still, those who opt for one morpheme-status of the *-no/-to* suffix (cf. Kibort 2000) argue that the-*no/-to* form is only pseudo-participial. The *-o* morpheme is viewed as the null agreement marker (Spiewak 2000), because the *-no/-to* form is not specified for Φ-features i.e. number, person and gender.[1] Yet it may as well be claimed the default agreement marker, since it also marks 3rd singular neuter agreement, as illustrated in (3):

(3) Jedno z rodzicow przyszl-**o**. (Patrycja Jabłońska p.c.)
one of parents come-PAST-3SG-NEUT
'One of the parents has come.'

The external argument is absent from the surface structure of *-no/-to* clauses, similarly to middles (6). It can appear neither in the subject position nor in the oblique complement position of the optional *by*-phrases, since both are lacking. Kibort (2000:1-2) argues for the existence of a covert fully thematic subject on the basis of syntactic control constructions (infinitival (4a) and participial (4b)), raising (4c) and the binding of reflexives (4d).

(4) a. Chciano wyjechać.
wanted-*no*-PAST leave-INF
'There was eagerness to leave.'

b. Zakonczywszy posilek rozpoczeto
finish-$PART_{ANTERIOR}$ meal-MASC-ACC began-PAST-PERF
dyskusje.
discussion-FEM-ACC
'Having finished the meal, they began the discussion.'

c. Zdawano sie tego nie dostrzegac.
seemed-*no*-PAST REFL this-GEN NEG notice-INF
'[Those people] seemed not to notice it.'

d. Ogladano swoje zbiory.
looked-at-*no*-PAST own-REFL collections-NONVIR-ACC
'One looked at one's collection./They looked at their collection.'

(5) a. Janek nakarmil psa.

[1] These are normally carried by inflectional morphemes.

John-NOM feed-PAST dog-ACC
'John fed the dog.'

b Pies zostal nakarmiony (przez Janka)
dog-NOM become-PAST feed-PAST-PERF by John
'The dog was fed (by John.)'

(6) Bawelna latwo sie pierze.
Cotton easily REFL wash
'Cotton washes easily.'

(7) a. One watches TV in the evenings.
b. You go skiing in winter.

As for the internal argument, it appears in the direct object position where it is marked with the accusative case, as in the case of actives and *one/you* impersonals (4a) and (6), respectively.

2.2. Lexicosemantics
2.2.1. Selectional restrictions on verb classes

-no/-to structures are productive with Subject Experiencer verbs (8), Object Experiencer verbs if their external argument is an Agentive (9), agentive transitives, reflexive experiental constructions (10), unaccusatives in (11) and unergatives in (12). Moreover, Rozwadowska (1992) and Kibort (2000) claim that *-no/-to* can be formed from passives as well (13):

(8) Kochano swoje dzieci.
'One loved one's children.',

(9) Zaskoczono mnie nagla wizyta.
'I was surprised by a sudden visit.'

(10) Spozniano sie na zajecia.
'One was/people were late for classes.'

(11) Tonieto w morzu, a nie w wannie.
'People drowned in the sea, not in a bathtub.'
(Rozwadowska 1992: 62-63)

(12) a. Tanczono.
dance-*no*-PAST
'One was/people were dancing.'
(Kibort 2000: 3, my translation, E.R.)
b. Zatanczono (*przez Jana).
dance-*no*-PAST-PERF (by Jan)

'They danced.' (Cetnarowska 2000).

(13) a. Zostano ukaranym.
become-*no*-PAST-PERF punished
'One was punished.' (Rozwadowska p.c.)

b. Dostawano rozne
receive-*no*-PAST various-NONVIR-ACC
kary i bywa**no**
punishments-NONVIR-ACC and be$_{habitual}$-*no*-PAST
bitymi.
beat-PART-PL
'One would receive various punishments and be beaten.'
(Kibort 2000)

Yet the *-no/-to* structures' behaviour with respect to intransitivity split and passivization raises controversies. Cetnarowska (2000), in sharp contrast to Rozwadowska (1992) and Kibort (2000), claims that they are ungrammatical with passives (14) and unaccusatives (15a). Still, she allows for one exception, admitting that *-no/-to* unaccusatives are possible provided '…they denote iterative or habitual eventualities' (15b):

(14) * Byto ponizanymi.
be-*no*-PAST humiliated-MASC-P-INSTR
'They were humiliated.'

(15) a. *Wyrosnieto w atmosferze terroru.
grow-up-*no*-PAST-PERF in atmosphere-LOC terror-GEN
'They grew up in the atmosphere of terror.'

b. Umierano z glodu i wycienczenia.
die-*no*-PAST from hunger-GEN and exhaustion-GEN
'People would die from hunger and exhaustion.'(Cetnarowska 2000)

Passives, on the other hand, target transitives and, according to Kibort (2000), unergatives:

(16) a. Tutaj było tanczone.
Here was-3SG-NEUT dance-PART-3SG-NEUT
'There was dancing here./The dancing was done here.'

b. Dzisiaj bylo juz sprzatane
today was-3SG-NEUT already clean-PART-3SG-NEUT
przez sprzataczki.
by cleaners.
'The cleaning has already been done today by the cleaners.'
(Kibort 2000: 1-3)

A similar example was attested in actual conversation as noted by Rozwadowska (p.c.):

(17) Bylo juz dzwonione.
was already rung
'One has already been ringing.' (my translation, E.R.)

In Kibort's view passives of unergatives are the true manifestations of impersonal passives. Note that they are structurally parallel to impersonal passives of Germanic languages, Dutch and German, for instance:

(18) Es wurde getantz.
It become-3SG-PERF-PAST dance-PERF-PAST
'One /people danced.'

2.2.2 .The external argument

The lexicosemantic restrictions on *-no/-to* formation described in the previous section let us draw some generalizations about the semantic and thematic properties of the overtly unexpressed external argument. The first characteristic of this argument that emerges after the examination of the external arguments of the verbs sensitive to *-no/-to* formation is the obligatoriness of the [+human] feature in its semantic specification. Rozwadowska (1992) claims that this argument is '…a sentient participant, that is a participant who has some conscious control or awareness over the action or state.' This further implies that it does not necessarily have to be an Agent, but also an Experiencer as Subject Experiencer, verbs or standard unaccusative verbs participate in *-no/-to* formation as well.

The obligatory absence of the external argument from the surface structure can be interpreted as evidence that the instigator of the action or the experiencer of the state is either unknown to the speaker or, alternatively, is particularly undesired/not wanted to be named by the speaker. It seems that these are rather proponents of the former view who attach to this unexpressed argument the 'indefinite reference' gloss. Among those there is certainly Kibort (2000), who includes *-no/-to* structures in her group of grammaticalized indefinites/generics. Still, it appears to us that the unexpressed participant of the event is much more often known to the speaker than it is usually assumed, cf.(19):

(19) Powinienes zostac didzejem.
'You should become a DJ.'
Proponowano mi to.
propose-*no* I-DAT it-ACC
'One /people offered me such a job./I was offered such a job.'

Clearly, the second speaker must know from whom he got the proposal of becoming a disc-jockey. Moreover, the unexpressed participant can also be known to both interlocutors:

(20) Zrozumiano?!
Understood-*no*
'Is it clear?!" [spoken by an angry boss to an employee]
(Spiewak 2000: 193)

In some, yet rather exceptional, cases the unexpressed participant can be the speaker himself:

(21) Podano herbate.
Serve-*no* tea-ACC
'Here is the tea.'

In view of the properties of the unexpressed external argument of *-no/-to* structures, it is worth examining the properties of the underlying external argument of Polish passives not followed by *przez*-phrases, and compare them. In contrast to the unexpressed argument of *-no/-to*, the unexpressed argument of passives without *przez*-phrases is not restricted to human reading only. It can have both human and a natural force reading, as illustrated by (22):

(22) Kosciol zostal zniszczony (przez ogien/powodz/wroga).
Church became destroyed (by fire/flood/enemy)
'The church was destroyed.'

In some cases human or animal interpretation obtains:

(23) Jedzenie zostalo zjedzone (przez dziecko/psa).
Food became eaten (by the child/by the dog)
'The food was eaten.'

It seems to us that the number and kind of possible readings is dependent on the (lexico)semantics of the verb used.

2.3. Communicative functions and information structure
2.3.1. Communicative functions

As subjectless clauses, *-no/-to* structures can easily be ascribed the function of de-emphasising the external argument, since it is canonically linked to a subject position. This is the property they unequivocally share with passives, although the latter reach the same goal by a bit different means. Eliminated from the subject position, the external argument can still re-appear in the oblique argument position of the optional *by*-phrases. The question remains:

how do functions of the two structures differ, or, in other words, what do they put the emphasis on?

2.3.2. Information structure

In this paper we are going to follow Lambrecht's (1994: 5) concept of information structure defined as:

> INFORMATION STRUCTURE: That component of sentence grammar in which propositions as conceptual representations of states of affairs are paired with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret these structures as units of information in given discourse contexts.'

There are a few reasons why we have chosen to adopt this definition. First, it restricts the domain of study to a sentence level, on which we are working. Second, it deals only with the phenomena that are marked formally. Third, this definition of information structure is also implicit in the Construction Grammar framework of Goldberg (1995), which we intend to develop in this paper. Moreover, Lambrecht (1994: 35) stresses that the main interest of information structure research are the pairs of sentences such as, for instance, active/passive, which he describes as, '…**ALLOSENTENCES**, i.e. semantically equivalent but formally and pragmatically divergent surface manifestations of given propositions.' He notes that pragmatic differences between allosentences in a given pair always involve the issue of why this and not the other member of a pair was used in a given context[2].

2.4. Conclusions

The aim of this section was to show that *-no/-to* structures cannot be successfully classified with either active or passive voice within GB theory. Their morpho- and lexico-syntactic properties are a mixture of the defining properties of both actives and passives. Moreover, *-no/-to* structures have no overt surface subject, so to save the EPP one has to postulate the existence of covert subject, which is a controversial idea.

Both *-no/-to* structures and passives can be formed from transitives and intransitives. Yet, it seems to us that passives formed from intransitives are rather rare. Both structures are productive with agentive transitives; and with Subject- and Object-Experiencer verbs. As for intransitives, both structures are productive with unergatives, while only *-no/-to* with unaccusatives.

[2] Unfortunately, Lambrecht (1994) does not offer his analysis of the information structure contrast between active/passive pair.

Nevertheless, the formation of *-no/-to* from unaccusatives seems to be further restricted to those that denote iterative or habitual eventualities. Moreover, there are cases of *-no/-to* clauses formed from passives clauses.

While the external argument of passives **can** be [+sentient], in the case of *-no/-to* structures it **must** be [+sentient]. In sharp contrast to passives, *-no/-to* exclude the possibility of animal or natural force reading.

Crucially, GB theory does not take into account communicative functions or information structure in its analyses. We believe (following Lambrecht 1994) that form and function should not be separated in language description. The communicative functions of *-no/-to* structures and passives are similar. Both constructions serve to de-emphasise the instigator of the action, but the question remains: what do they put the emphasis on?

3. -no/-to structures in view of Construction Grammar

In this section we will offer a CG analysis of *-no/-to* structures and their relation to passive. It seems to us that within CG one can offer a better account of both structures in their own right and their mutual relationships, as it takes into account both formal and functional properties of the grammatical constructions.

3.1. The concept of construction

C*onstruction,* a key concept in Construction Grammar, is defined by Goldberg (1995:4) as follows:

> 'C is a CONSTRUCTION iff$_{def}$ C is a form-meaning pair <F_i , S_i > such that some aspect of F_i or some aspect of S_i is not strictly predictable form C's component parts or from other previously established constructions.'

All constructions form a hierarchical network of interrelations called the inheritance hierarchy. Goldberg exploits the concept of multiple, normal mode inheritance. A single construction may both dominate more than one construction and inherit some of its properties from more than one construction. Argument structure constructions are distinguished from the whole inventory of constructions by the fact that they are attributed with the set of roles, similarly to verbs. Crucially, the construction roles are called *arguments*, while verb roles are glossed *participants*. The reason for this stems from the fact that for a long time the term *argument* has been associated with such general labels as *Agent*, *Patient, Theme, Goal. Source*, *Instrument* etc. It is exactly how Goldberg understands argument roles of constructions. As for participants, they are interpreted as particular instances, specific for a given verb realizations of more general argument roles. Both within arguments and

participants *profiled* ones are distinguished. To be qualified as profiled, participants must be '…normally obligatorily expressed in finite clauses' (Goldberg 1995: 45). In the case of arguments the constraint is even stronger, only those fulfilling subject, direct and indirect object functions are considered profiled.

In CG the sentential meaning is the result of the *integration* of lexical items' meanings and constructional meaning. The necessary precondition for this process is that the event type denoted by a verb be a subtype of the event type denoted by a construction. If this is satisfied, another condition for the integration is the *fusion* of verb roles and construction roles. The simplest instance of fusion occurs when, first, the number of profiled arguments equals the number of profiled participants and second, all roles can be grouped into 'semantically compatible' pairs. Still, other, more complex cases are possible as well. The number of profiled arguments may overgrow the number of profiled participants, and vice versa. Yet profiled participants are more privileged in this situation, because all of them must be expressed anyhow, while the same does not hold for profiled arguments. Nevertheless, a few violations to this principle are observed. Some non-basic constructions allow for the non-expression of some profiled participants. Interestingly, the passive construction belongs to this exceptional group.

Goldberg (1995: 43) classifies passive with '…non-basic clause-level constructions (…) [which] are primarily designed to provide an alternative information structure of the clause by allowing various arguments to be topicalized or focused.' The question immediately arises: if they are 'to provide an alternative information structure of the clause' what are they an alternative to? They are an alternative to 'basic sentence types', which are classified as argument structure constructions. It seems that the information structure of a clause can be said to be a basic one if all profiled participants are fused with all profiled arguments and mapped to syntactic positions canonically linked with them. Otherwise we are dealing with an alternative information structure, which is rendered by non-basic constructions like passive.

Spiewak (2000) suggests that *-no/-to* structures and a few other constructions often referred to as impersonal, subjectlesss, or agentless form a class of nominativeless constructions (NLCs). He acknowledges the construction-status of all members of the NLC class arguing for the very NLC pattern to be a macro-construction in CG terms. Unfortunately, developing an argument for the construction-status of NLC pattern Spiewak assumes the construction-status of its particular instantiations without justifying his claim. The NLC pattern is formally distinguished by the lack of a noun phrase (NP) carrying nominative case in the syntactic structure. This feature of the syntactic form is directly associated with the particular semantics, namely the *light Effector* one. *Effector* is a participant role that is causally involved in the action denoted by the predicate. The adjective *light* accounts for the special property of this participant, which is its non-identifiability. Moreover *light Effector* has one more property, which is the obligatory specification for a [+human] feature.

3.2. -no/-to structures as a CG construction

The aim of this section is to defend the construction status of *-no/-to* structures on the basis of the unique aspects of their form and meaning.

3.2.1. Aspects of form

-no/-to are the only Polish structures that use the *-no/-to* verb form. Goldberg (1995) recognizes the construction-status of morphemes, so the *-no/-to* morpheme might be claimed to be a construction in CG terms. We would only need to specify the particular meaning/function it is associated with. Still, a lot speaks for the *-no/-to* suffix to contain two morphemes: one consisting of *-n/-t* and one of *-o*. Splitting the *-no/-to* suffix into two morphemes forces one to address the question of whether all the properties of the *-no/-to* form are not '…strictly predictable from C's component parts or from other previously established constructions.' (Goldberg 1995: 4). If they turned out to be so, *-no/-to* structures could not be claimed to be a CG construction. Still, it is possible that both *-n/-t* and *-o* are distinct morphemes and CG constructions, and yet the *-no/-to* form exhibits properties that are not fully recoverable from either of them, hence *-no/-to* structures can be claimed to be a CG construction as well. This is the proposal we would like to pursue.

We would like to adopt the basic insight of the cognitive framework, which is also implicit in CG, namely, that similarity or sameness of form must correlate with that of meaning or function. To start with the *-n/-t* morpheme, it appears in past participle and the *-no/-to* verb form. Consequently, it can certainly be argued to include the specific time reference, in this case past, in its specification. Moreover, both forms do not allow for the expression of a highest ranked participant in the subject position. As a result, *-n/-t* suffix might be attributed with the function of 'shade the highest ranked participant role,' which is ascribed by Goldberg to passive construction. By all means the *-n/-t* morpheme strongly contributes to the overall meaning of both passive and the *-no/-to*-construction, but it is certainly not the only denominator of their functions. As for the *-o* suffix, it appears in both agreeing and non-agreeing verb forms. The former include 3rd person singular neuter past while the latter *-no/-to* structures, 'adversity' impersonals, weather verbs, arbitrary *się*, dispositional Dative + *się*, and modal verbs. It seems to us that the 'central sense' of the functional meaning of *-o* morpheme can be argued to be the default past agreement marker.

3.2.2. Aspects of meaning

As far as the aspects of meaning of *-no/-to* structures are concerned, our intuition is that what makes them distinguishable and unique is hidden in their information structure. *-no/-to* structures are supposed to be a member of the 'non-basic' constructions class, since they disallow one of the profiled participants to be expressed[3]. Crucially, the group of 'non-basic' constructions is characterised by providing different information structures. Furthermore, if we take truth-conditional semantics into account, *-no/-to* structures can be argued to form a semantically synonymous pair with passives without *przez*-phrases (the equivalents of English *by*-phrases.) The sentences in (24) clearly '…express the same state of affairs in a given world' (Lambrecht 1994:14):

(24) a. Janek nakarmil psa.
John-NOM feed-PAST dog-ACC
'John fed the dog.'

b. Pies zostal nakarmiony (przez Janka).
Dog-NOM become-PAST feed-PART (by John).
'The dog was fed (by John.)'

c. Nakarmiono psa.
feed-*no*-PAST-PERF dog-ACC
'The dog was fed.'

According to *The Principle of No Synonymy* (cf. Goldberg 1995), the two semantically synonymous and formally distinct constructions must be pragmatically distinct. Therefore, the difference between passive and *-no/-to* structures must reside in their information structure. Lambrecht argues that the corresponding active and passive clauses form semantically synonymous, but pragmatically divergent pair, a pair of ALLOSENTENCES in his terms. Interestingly, he admits that one construction can be a member of more than one pair of ALLOSENTENCES (cf. Lambrecht 1994: 17). Capitalizing on his insights we would like to propose that in Polish passive followed by *przez*-phrase (*by*-phrase) forms a pair of ALLOSENTENCES with active clause, while passive without *przez*-phrase forms a pair of ALLOSENTENCES with *-no/-to* clause.

Now, we have to specify the difference in the information structure between *-no/-to* structures and passives without *przez*-phrases. Our intuition is that the main function of *-no/-to* structures is to put an emphasis on the event, while passives put the emphasis on the entity affected by this event (a patient or a theme). Let us once again look at sentences in (24). In passive clause (24b) the subject *pies* – 'dog' bears a topic relation. The *-no/-to* clause in (24c) has no subject, so it is the verb that is supposed to bear a topic relation, as there is no thematic participant present. Therefore, it seems to us that it is the Event (coded by a predicate) that receives the greatest value of emphasis in *-no/-to* clause, while the entity Affected by this Event in the case of passive.

[3] cf. sec. 3.1. on the contrast between basic and non-basic constructions.

We would like to argue that the constructional 'meaning' of *-no/-to* structures is the result of the *joint contribution* (to use Spiewak's term) of the NLC macro-construction (lack of the nominative NP paired with *light Effector* semantics), *-n/-t* morpheme ('shade the highest ranked participant'), and *-o* morpheme (default past agreement). Essentially, the meaning of *-no/-to* structures is not '…strictly predictable from C's component parts or from other previously established constructions' (Goldberg 1995: 4), as none of these constructions is associated with the meaning of 'emphasise the Event', which is claimed by us to be uniquely associated with *-no/-to* structures.

4. Conclusions

In this paper we have proposed a Construction Grammar account of *-no/-to* structures and their relation to passives that centers on aspects of their information structure. From the very beginning we have been arguing in the spirit of the intuition that form and function should not be separated in language description, therefore the emphasis we have put on the information structure follows quite naturally[4].

We have argued (following the intuition of Spiewak 2000) that *-no/-to* structures are CG construction comprising the *-no/-to* verb form and 'emphasise the Event' function. The *-no/-to* construction is dominated by a passive construction inheriting there from the *-n/-t* morpheme associated with the function of "shade the highest ranked participant" and by a NLC macro-construction inheriting there from lack of the nominative case paired with *light Effector* semantics. All components of *-no/-to* constructions namely, the *-n/-t* and *-o* morphemes together with the lack of the NP to inherit nominative from the NLC macro constructions, pertain to its overall meaning. Still, the overall meaning of *-no/-to* cannot be reduced to the sum of meanings of its component parts.

Goldberg (1995: 110) suggests that there probably exists a universal inventory of constructions with particular languages making use of particular subsets of this inventory. It is certainly worth checking whether some other pro-drop languages have the equivalents of the Polish *-no/-to* construction. Ukrainian seems to be a good candidate to examine in this respect, as this language too has *-no/-to* structures, exemplified in (25).

(25) Cerkvu bulo zbudovano v 1640 roc'i.
Church-ACC-FEM be-PAST-NEUT build-*no* in 1640 year.
'The church was built in 1640. (Sobin 1985, his transcription)

[4] Lambrecht (1994: 1) asserts that, '…the linguists dealing with information structure must deal simultaneously with formal and communicative aspects of language.'

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The syntax of ergativity
Collective versus individual feature checking

Mario van de Visser

Syntactically ergative languages like Dyirbal challenge generative syntactic theories. They treat the direct object as the highest argument in the clause, instead of the (transitive) subject. Previously formulated theories overestimate (Marantz 1984, Murasugi 1992) or deny (Bobaljik 1993) the phenomenon. I will show that a theory on feature checking, taken from Koster (1999, 2000), predicts two different types of syntactic ergativity when extended to ergative case patterns. Apart from Dyirbal, syntactically ergative constructions in languages like Balinese can now be accounted for. Finally, the proposal makes an interesting prediction on the status of morphologically ergative languages.

1. Introduction

In ergative languages, intransitive subjects (S) and direct objects (O) are treated alike and differently from transitive subjects (A).[1] In most cases, A receives a morphologically marked case (ergative) and the verb agrees with S or O, which are in the unmarked case (absolutive). This so-called 'morphological ergativity' is found in about 25% of the world's languages (Dixon 1994) and is exemplified in (1) by Tsez/Dido (Northeast Caucasian, example taken from Polinsky & Potsdam 2001):

(1)a. ziya b-ik'i-s
cow.III.ABS III-go-PST.EVID
'The cow left.'

b. eniy-ā ziya b-išer-si
mother-ERG cow.III.ABS III-feed-PST.EVID
'Mother fed the cow.'

[1] In the literature on ergativity, the labels S, A and O, with A being a mnemonic for 'actor' or 'agent', are commonly used when referring to the core grammatical roles. In this paper, I will follow this tradition, even when dealing with word order. For example, an SVO-language has SV or AVO word order.

Far less common and much more debated is a phenomenon called 'syntactic ergativity'. It amounts to treating S and O alike and differently from A in clause combining. For example, the second conjunct of a coordination typically contains an elided S or O, but an overt A. Only a few remote and endangered languages seem to display syntactically ergative behaviour, Dyirbal being their most celebrated example (Dixon 1972, example taken from Dixon 1994):

(2)a. nguma banaga-n^{y}u
father.ABS return-NONFUT
'Father (S) returned.'

b. nguma yabu-ngu bura-n
father.ABS mother-ERG see-NONFUT
'Mother (A) saw father (O).'

c. nguma yabu-ngu bura-n banaga-n^{y}u
father.ABS mother-ERG see-NONFUT return-NONFUT
'Mother (A) saw father (O) and he (S) returned.'

d. nguma banaga-n^{y}u yabu-ngu bura-n
father.ABS return-NONFUT mother-ERG see-NONFUT
'Father (S) returned and mother (A) saw him (O).'

In syntactically accusative languages like English, S or A can be omitted in conjunction reduction, necessarily coreferent with another S or A:

(3) a. Father (S) returned.
b. Father (A) saw mother (O).
c. Father (A) saw mother (O) and (he (S)) returned.
d. Father (S) returned and (he (A)) saw mother (O).

If one assumes that only the structurally highest argument of the second conjunct can be phonologically empty, the syntax of languages like Dyirbal must be fundamentally different from the syntax of languages like English. It suggests that in English, S and A end up in a structurally higher position than O, whereas in Dyirbal, S and O are higher than A. Various researchers have been addressing this problem since the seventies. Marantz (1984) for example argues that in a deep ergative language like Dyirbal, theta-roles are reversed: the internal role is assigned to the specifier of V, whereas the external role is assigned to its complement. In other words: O is base-generated as the specifier of the verb and A starts out in the complement position:

(4) Marantz (1984)

[O [V A]

It is not difficult to see that this account runs into problems if binding asymmetries are to be explained in terms of c-command. Although the syntax of Dyirbal is one of the most deeply ergative in the world, there are no

reflexives in A-function bound by an antecedent in O-function. This seems to be true cross-linguistically (Dixon 1994).

Murasugi (1992) offers an alternative analysis. She assumes that base-generation of O and A is the same in all languages, with O being the complement and A the specifier of V. This enables all languages to have the same kind of reflexive binding. Movement in order to check case and phi-features, however, is different in ergative languages. Accusative and ergative case are checked in a transitivity projection (TrP), whereas nominative and absolutive case are checked in the structurally higher tense projection (TP):

(5) Murasugi (1992)

[Spec	[T		[Spec	[Tr		[A	[V		O	]	]	]]]]]
	NOM			ACC								
	ABS			ERG								

The advantage of a system like this is that the morphologically marked cases are grouped together in the Tr-head and that the unmarked cases can be considered as one class, possibly representing absence of case.[2] A major disadvantage is that all languages with ergative case marking are predicted to be syntactically ergative as well, because O always moves to the highest projection in those languages. This clearly is much too strong a prediction, as most morphologically ergative languages are syntactically accusative. Note that if binding conditions apply to all A-positions, situations where O binds A are still not ruled out.[3]

Bobaljik (1993) assumes that both accusative and absolutive case are checked in Agr2P, whereas nominative and ergative case are checked in the higher Agr1P. This analysis prevents O from ever being higher than A, so it excludes the possibility of syntactic ergativity:

(6) Bobaljik (1993)

[Spec	[Agr1	[Spec	[Agr2	[A	[V		O	]	]	]]]]]		
	NOM		ACC									
	ERG		ABS									

In this paper, I will develop a theory of feature checking which predicts the existence of syntactic ergativity without ignoring the morphologically ergative languages that are syntactically accusative. The theory is largely based on work by Koster (1999, 2000), originally developed as an explanation for word order differences between English on the one hand and Dutch and German on the other hand. I will first show that this theory allows for three types of languages, which differ in the way they check case and phi-features. Extending this

[2] I consider nominative and absolutive DP's to be caseless, and therefore these case labels will be omitted in the glosses of the examples in the remainder of this paper.

[3] Languages like Georgian and Chukchi seem to have reflexive/reciprocal elements in the ergative case. However, they are not entirely anaphoric, but refer to a (set of) property(s) of the antecedent, which is in the absolutive (Baker 1996, Amiridze 2002).

analysis to languages with ergative case marking, we will see that each type has an 'ergative' variant, resulting in six language types. Evidence from Balinese, a language which does not show any sign of case and agreement but which seems to use syntactically ergative constructions alongside syntactically accusative constructions will support this typological inventory.

2. Collective versus individual feature checking: a typology

2.1. Three types of accusative languages

A wh-feature can percolate to higher nodes, resulting in pied-piping: movement of a more inclusive category. In (7a), a DP has been moved, whereas in (7b) the moved category is a PP containing the DP:

(7)a. [Who]$_i$ did you dream [of [t_i]] last night?
b. [Of [whom]]$_i$ did you dream t_i last night?

This can be explained by percolation of the wh-feature: in (7b) it percolates to the PP-node, whereas in (7a) it does not. Koster assumes that case and phi-features of subjects and objects are able to percolate as well. Whereas this seems to be an optional process in the case of wh-features in English, the object features in this language obligatorily percolate to VP, causing the entire VP to move to a functional projection where accusative case is checked, say AccP:[4]

(8) English
[A$_k$ [T [[t_k[V O]]$_i$ [Acc t_i]]]]
TP AccP VP

In languages like Dutch and German, object features do not percolate to the VP-node. This enables the object to move individually, just like the subject:

(9) Dutch, German
[A$_k$ [T [O$_i$ [Acc [t_k[V t_i]]]]]]
TP AccP VP

The difference between movement of the entire VP and movement of the object only is supposed to account for some fundamental differences in word order between the two types of languages: VO (English) versus OV (Dutch/German) word order, absence or presence of leftward scrambling and the possibility of most or hardly any adverb at all to appear to the right of the verb:

(10)a. that John read *the book* VO order
b. dat Jan *het boek* las *t* OV order

[4] The issue whether phi-features of the object are checked as well will be left open. The proposal that I will develop in this paper does not depend on it.

(11)a. * that John *the book* probably read *t* — no scrambling
b. dat Jan *het boek* waarschijnlijk *t* las *t* — scrambling

(12)a. that he (*yesterday) [saw John] (yesterday) — postverbal adverb
b. dat hij (gisteren) [Jan zag] (?gisteren) — no postverbal adverb
(13)a. that he (*everywhere) [saw John] (everywhere)
b. dat hij (overal) [Jan zag] (*overal)
(14)a. that he (*very hard) [worked] (very hard)
b. dat hij (erg hard) [werkte] (*erg hard)
(15)a. that he probably [saw John] (*probably)
b. dat hij waarschijnlijk [Jan zag] (*waarschijnlijk)

This suggests that VP in English is a constituent which moves itself over a temporal, spatial or manner adverb. In Dutch and German this is impossible, the adverb invariably precedes VP. Instead, the object moves out of VP. Modal adverbs precede VP in English as well. This is not a problem for Koster's theory, as we may assume that modal adverbs attach at a higher level, above AccP. Presumably this has to do with the natural wide scope of this type of adverb.

Koster is unclear about the movement of A: it is simply stipulated that this happens individually in both English and Dutch/German. One might be tempted to assume that morphology plays a role here: English does not show any overt case marking on nouns, but the agreement features on the verb are visible to a certain extent. The problem with this assumption is that there is a case distinction in the pronominal system. Also, although morphological case is represented in the determiner system of German, accounting for individual movement of the object, in Dutch there are no such case distinctions whereas the object in this language moves individually as well. Moreover, Icelandic, which has 'English' word order, has very rich case morphology (Koster, p.c.). Note, that it is not clear at all why movement of A out of VP would be visible on the verb itself anyway. Moving A along with V over T is not so different from that. Although it is unclear why VP does not move to Spec, TP in English, I will assume for the moment that Koster's analysis is right and predict that there is a third category of languages where all movement is collective movement. In section 5 I will show that there are indeed candidates for the syntactic structure proposed in (16):[5]

(16) ?

[	[A	[V O]	]$_i$ [T	[t_i [Acc t_i	]]]]
TP	VP			AccP	

To summarize: Koster's idea that case and phi-features obligatorily percolate up to VP in languages with strict word order predicts three different systems, all of which are entirely accusative:

[5] The fourth logical possibility, which would arise when the object moves individually, followed by movement of the VP to Spec, TP will not be discussed in this paper.

(17) individual : Dutch, German
mixed : English, Icelandic
collective : ?

In the next subsection I will show that extending this system to languages with ergative case marking predicts two different types of syntactically ergative languages, which are actually found in the real world.

2.2. Three types of ergative languages

An ergative counterpart of Dutch and German may look like (18), where A moves to Spec, ErgP in order to check its case feature and O moves to Spec, TP where its phi-features are checked:[6]

(18) Dyirbal, Wargamay, Yidin^{y}

[O_k	[T	[A_i	[Erg	[t_k [V	t_i	]]]]]
TP		ErgP		VP		

These movements are similar to the movements assumed by Murasugi (1992), although different projections are involved. A is base-generated higher than O, but O ends up in a higher position than A after movement. Syntactically ergative behaviour of Pama-Nyungan languages like Dyirbal, Wargamay (Dixon 1981) and Yidin^{y} (Dixon 1977) can be explained by (18).

An ergative counterpart of English and Icelandic would have the structure in (19): VP moves entirely to Spec, ErgP in order to check the case feature of A. O moves individually to Spec, TP as in (18). In the next section, I will argue that Balinese can be assumed to be of this type, although it is a language without morphological ergativity.

(19) Balinese

[O_k	[T	[	[A [V t_k	]]$_i$	[Erg	t_i	]]]]
TP		ErgP	VP				

Finally, the theory predicts that there are also ergative languages in which VP is moved all the way through. This would result in (20), the counterpart of (16):

(20) ?

[	[A [V O	]]$_i$	[T	[t_i	[Erg	t_i	]]]]
TP	VP			ErgP			

[6] I assume that O bears a case feature in morphologically accusative systems, whereas A does not carry such a feature. In these languages, the features of O are automatically checked earlier than the features of A, because checking of a case feature in TP is impossible. In morphologically ergative languages, only A has a case feature. This explains why in those languages, the A features are checked first, irrespective of percolation.

In this type of language, A is always structurally higher than O, although case and agreement show an ergative pattern. It follows that clause combining will always be accusative. Clearly, this is the result we would like to obtain for morphologically ergative languages: their syntax is entirely accusative. In section 5, I will argue that there are reasons to believe that this is true.

3. Hybrid syntax: the case of Balinese

Despite the fact that Balinese, a language from the Western Malayo-Polynesian family, lacks any sign of an overt case/agreement system, various authors have convincingly shown that this language has constructions which are syntactically ergative (Artawa & Blake 1997, Artawa 1998, Wechsler & Arka 1998):

(21) ia opak tiang lantas [ ] ngeling — coordination
3SG scold I then N-cry
'I scolded her/him, then (s)he cried.'

(22) a. tiang edot teka — control
I want come
'I want to come.'

b. tiang edot [periksa dokter]
I want examine doctor
'I want to be examined by a doctor.'

(23) a. ngenah ia mobog — raising
seem 3 lie
'It seems that (s)he is lying.'

b. ia ngenah mobog
'(S)he seems to be lying.'

(24) a. ngenah sajan [kapelihan-ne engkebang ci]
seem much mistake-3POSS hide 2

b. kapelihan-ne ngenah sajan [engkebang ci]
mistake-3POSS seem much hide 2

c.?* ci ngenah sajan [kapelihan-ne engkebang]
2 seem much mistake-3POSS hide
'It is very apparent that you are hiding his/her wrongdoing.'

If O is the highest element in the first conjunct, an omitted S has the same reference as this O-argument (21). O can be controlled (22) or raised to the matrix predicate (23, 24). This behaviour is actually triggered by the verb form. Balinese verbs can be in their base form, as in the previous sentences, or they can carry a nasal prefix. Bare verbs trigger OVA-order (25a), but nasalized verbs surface in AVO-sentences (25b):

(25)a. Nyoman lempag tiang
Nyoman hit I
'I hit Nyoman.'

b. tiang ng-lempag Nyoman
I N-hit Nyoman
'I hit Nyoman.'

This principle predicts that if the verb in the first conjunct of coordination or in an embedded sentence bears a nasal prefix, A will be the highest argument in the corresponding clause, so syntactically accusative behaviour is expected. This is illustrated in the following sentences:

(26) tiang ngopak ia lantas ngeling coordination
I N-scold 3Sg then N-cry
'I scolded her/him and then cried.'

(27) tiang edot [meriksa dokter] control
I want N-examine doctor
'I want to examine a doctor.'

(28)a. ngenah sajan [ci ngengkebang kapelihan-ne] raising
seem much 2 N–hide mistake-3POSS

b. ?* kapelihan-ne ngenah sajan [ci ngengkebang]
mistake-3POSS seem much 2 N-hide

c. ci ngenah sajan [ngengkebang kapelihan-ne]
2 seem much N-hide mistake-3POSS
'It is very apparent that you are hiding his/her wrongdoing.'

We can conclude from this that Balinese syntax is actually hybrid: it treats S and O as one category in clause combining when a bare verb is involved, but it chooses to treat S and A alike with nasalized verbs. Depending on the verb form, Balinese is syntactically ergative like Dyirbal or syntactically accusative like English.

The question is whether checking of features is individual or partly individual and partly collective. Remember from (20) that entirely collective checking is impossible because that would rule out syntactic ergativity. Balinese word order suggests that feature checking is of the English type. The verb and the argument immediately following it behave like a unit which can be preceded or followed by the other argument:

(29)a. lempag tiang Nyoman (cf. 25a)
hit I Nyoman

b. Nglempag Nyoman tiang (cf. 25b)
N-hit Nyoman I
'I hit Nyoman.'

Furthermore, the postverbal argument cannot be separated from the verb by an adverb:[7]

[7] The data in (30) are taken from Artawa (1998). Wechsler & Arka (1998) contains two examples of an adverb separating the verb and the argument it follows. This could be because V moves out of VP to adjoin to T, after VP has moved to Spec, ErgP. Note that this movement is

(30) a. baju-ne ene beli tiang ibi
shirt-DEF this buy I yesterday
b. ibi bajune ene beli tiang
c. bajune ene ibi beli tiang
d. * bajune ene beli ibi tiang
'I bought this shirt yesterday.'

This indicates that the postverbal argument is not individually moved in order to check its case feature. Rather, the VP can be assumed to be moved for that purpose, like the English VP. In order to account for (29), an additional assumption must be that movement of VP over the preverbal argument is possible in Balinese.

4. Dyirbal syntax

Turning to the syntax of Dyirbal, we will see that there is evidence that this language is more like Dutch and German. Both O and A precede the verb in most sentences, indicating that both of them have been moved. Adverbials typically occur between the arguments and the verb, so scrambling seems to be possible and VP does not have to move over the adverb. Although any word order seems to be possible in Dyirbal, the ordering described above is the preferred one according to Dixon (1972: p. 291).

A striking fact of Dyirbal is that the syntactic behaviour of pronouns is similar to the behaviour of nouns, although their forms show a morphologically accusative pattern:

(31)

	A	S	O	
'rainbow'	*yamani-gu*	yamani	yamani	marked A (erg.)
'snake'	*wadam-bu*	wadam	wadam	
1SG	ngadja	ngadja	*ngayguna*	marked O (acc.)
2SG	nginda	nginda	*nginuna*	

(32)a. ngana banaga-n^{y}u
we.all return-NONFUT
'We returned.'
b. n^{y}urra ngana-na bura-n
you.all we.all-ACC see-NONFUT
'You all saw us.'
c. ngana banaga-n^{y}u n^{y}urra bura-n
we.all return-NONFUT you.all see-NONFUT
'We returned and you all saw us.'

---

necessary anyway, because otherwise we would end up with OAV-order in sentences with bare verbs (cf. (19).

d. nʸurra ngana-na bura-n banaga-nʸu
you.all we.all-ACC see-NONFUT return-NONFUT
'You all saw us and we returned.'

This is another indication that morphology does not necessarily determine word order, as we saw in the discussion of Icelandic. It seems to be the case that an accusative pronoun (O) in Dyirbal moves to Spec, TP where phi-features of the object are checked. A nominative pronoun in a transitive sentence (A) moves to Spec, ErgP to check the ergative case feature. Nominative pronouns in intransitive sentences (S) undergo the same movement as objects. An explanation for the mismatch between form and behaviour could be that the accusative paradigm is reminiscent from an earlier stage in which the syntax of Dyirbal, or at least part of it, was accusative. At a later stage, pronouns started to behave like nouns and the syntactic effect of the accusative morphology disappeared. Wargamay, a closely related language, displays similar behaviour.

However, Yidinʸ, another syntactically ergative language less closely related to Dyirbal and Wargamay, seems to behave differently. In this language, syntactic ergativity is reported in clauses that contain only nouns. When pronouns are involved, the language generates syntactically accusative constructions (Dixon 1977):

(33) ngayu guri:li gala: baga:linʸu minʸa badʸa:r
I wallaby spear.INST spear.GOING.PAST animal leave.PAST
biri gundʸi: nʸ
PARTICLE return.PAST
'I went and speared a wallaby with a spear, left the meat and went home.'

We now have two languages which seem to fall within two categories: Balinese in the mixed checking accusative and ergative category, and Yidinʸ in the individual checking accusative and ergative category. Dyirbal and Wargamay are of the individual checking ergative type. This means that the inventory in (17) can be elaborated to the scheme in (34):

(34)	accusative	ergative
individual :	Dutch, German Yidinʸ (nouns)	Dyirbal, Wargamay Yidinʸ (pronouns)
mixed :	English, Icelandic Balinese (N-V)	 Balinese (bare V)
collective :	?	?

In the next section, I will present evidence for the existence of languages that do collective movement all the way through.

5. Collective movement

In many languages, arguments are cross-referenced by clitics or affixes on the verb. These languages are called polysynthetic or pronominal argument (PA) languages (Baker 1990, 1995, 2002, Jelinek 1984, 2001). The main characteristics are free word order and the possibility of dropping DPs. This is commonly explained by the nature of the agreement on the verb: the affixes (or clitics) are pronominal arguments which are in argument positions. Outside the argument structure, the pronominal arguments can but need not be doubled by DPs which are clitic left-dislocated. This means that a verbal complex can function as a complete sentence and that DP's are only there to establish new referents or to avoid ambiguity. The real arguments are in fixed positions attached to the main predicate. They cannot be separated from the predicate by adverbials. The structures in (16) and (20), repeated below, can account for this phenomenon:

(35) accusative polysynthetic/PA

[	[A [V O]]$_i$	[T	[t_i [Acc t_i]]]]
TP	VP		AccP

(36) ergative polysynthetic/PA

[	[A [V O]]$_i$	[T	[t_i [Erg t_i]]]]
TP	VP		ErgP

I assume that all case and phi features percolate up to VP in these languages, so they are checked collectively, that is, by movement of VP up to TP. In Jelinek's approach, the affixes on the verb are base-generated in A and O position. They immediately cliticize to the verb and movement might take place after that. Baker assumes that the actual arguments are empty, but they are licensed by the affixes that attach to the verb. Either way yields a system in which the order of A, V and O is fixed, so it is not important to make a choice between the two analyses here. What is important for my proposal is that adverbs cannot intervene between the verb and its arguments.

Languages of the type represented by (35) include Warlpiri, Mohawk, Navajo, Mapudungun. In these languages, S and A are cross-referenced similarly and different from O, as in (37) (Warlpiri, Blake 1977):

(37)a. ngatju ka-na pula-mi
1SG PRES-1SG shout-NONPAST
'I shout.'

b. njuntu ka-npa pula-mi
2SG PRES-2SG shout-NONPAST
'You shout.'

c. ngatju-lu ka-na-ngku njuntu nja-nji
1SG-ERG PRES-1SG-2SG.ACC 2SG see-NONPAST
'I see you.'

In (37c), *-ngku* is a 2nd person O-clitic, which is different from the 2nd person S-clitic in (37b). The 1st person clitics in (37a) and (37c) are the same (S and A, respectively). Note that although this is an accusative pattern, the free pronouns surface in an ergative pattern. Just like the pronouns for 1st and 2nd person in Dyirbal, case marking on free pronouns and nouns in Warlpiri does not reflect their syntactic behaviour. Clause combining in Warlpiri is accusative, even when each argument is doubled by a DP, so no syntactic ergativity is attested. This is to be expected if all movement is collective movement in this language. Note that argumental clitics/ affixes are obligatory, so they cannot be left out in clause combining. At present, I do not have an explanation for the mismatch between form and behaviour of DP's in languages like Warlpiri.

In languages of the type represented by (36), S and O trigger the same clitics/affixes on the verb and A is cross-referenced differently. Abkhaz (Northwest Caucasian) is a case in point (Kathman 1994):

(38)a. sarà sə-yʷnà-le-yt'
1SG 1SG-in-come-AOR.ACT
'I came in.'

b. Zaira sarà sə-l-bé-yt'
Zaira 1SG 1SG-3SG.F.ERG-see-AOR.ACT
'Zaira saw me.'

c. sarà Amra də-z-gʷəʒə-yt'
1SG Amra 3SG.H-1SG.ERG-kiss-AOR.ACT
'I kissed Amra.'

d. Amra də-tʷ'ò-wp'
Amra 3SG.H-stand-PRES.STAT
'Amra is standing.'

The first person S in (38b) and O in (38b) are both cross-referenced with *sə-*. In A-function, there is a different ergative prefix (z-)(35c). The 3rd person ergative A in (38b) is different from a 3rd person O (38c), which in turn is identical to S (38d). Note that there is no case marking on free pronouns and nouns in Abkhaz and that syntactic ergativity has not been attested. Abaza, a close relative of Abkhaz, displays the same behaviour. The same is true for several Mayan languages (Dixon 1994). Languages with ergative cross-referencing and accusative case-marking on (pro)nominals do not seem to exist (Blake 1977, Dixon 1994).

Many polysynthetic languages show a split pattern determined by person features. Lummi (Salish), for example, has accusative cross-referencing of 1st and 2nd person arguments only (Jelinek 2001):

(39)a. ye'-ɬə'-sən
go-PAST-1SG
'I left.'

b. ye'-łə'-sx^{w}
go- PAST-2SG
'You left.'
c. nəp-t-ongəs-sx^{w}
advise-TRANS-1SG.ACC-2SG
'You advise me.'

In (39), S and A are cross-referenced similarly and differently from O. Arguments that refer to 3rd persons, however, show an ergative pattern:

(40)a. ye'- łə'-∅
go-PAST-3
'He/They left.'
b. nəp-t-s-∅
advise-TRANS-3ERG-3
'He advises him.'

Languages that have a similar split are Yimas (Papuan) and Nez Perce (Sahaptian). This illustrates that polysynthetic languages can use both (35) and (36) as their base structure. This is not surprising, as the same is possible in languages with individual and mixed checking.

Summarizing, the inventory of languages discussed in this paper is as below:

(41)	accusative	ergative
individual :	Dutch, German	Dyirbal, Wargamay
	Yidin^{y} (nouns)	Yidin^{y} (pronouns)
mixed :	English, Icelandic	
	Balinese (N-V)	Balinese (bare V)
collective :	Mohawk, Warlpiri, Navajo	Abkhaz, Abaza, Mayan
	Mapudungun	
	Lummi (1st, 2nd)	Lummi (3rd)
	Nez Perce	Nez Perce
	Yimas	Yimas

6. Conclusions and perspectives

In this paper, I discussed Koster's (1999, 2000) analysis of the main differences in word order between English and Dutch/German, which is based on the principle of feature percolation. I have tried to show that instead of two types of languages, a third type is predicted by this theory. This type applies to polysynthetic languages like Warlpiri. Moreover, the system can be extended to ergative languages, rendering a typology of six different categories. Two of these categories can account for syntactic ergativity. This has been illustrated

for Dyirbal ('ergative' German/Dutch) and Balinese ('ergative' English). Abkhaz is an example of a morphologically ergative language ('ergative' Warlpiri). Each way of feature checking (individual, mixed and collective) may apply to languages that are partly accusative and partly ergative (Yidin^{y}, Balinese and Lummi).

Several questions remain to be answered. Firstly, my proposal predicts that all (syntactically accusative) morphologically ergative languages are polysynthetic. This has not been proven yet, not even for a language like Abkhaz. Languages like Tsez/Dido (cf. (1)) which agree with only one argument challenge this prediction. Secondly, syntactically ergative languages cannot be polysynthetic according to this typology. Baker (1995) considers Alutor, related to Chukchi (Chukotko-Kamchatkan), to be polysynthetic. But Dixon (1994) claims that the language may be syntactically ergative, which would be problematic for the present analysis. As it is not clear whether this is really true, we cannot consider Alutor to be a serious counterexample yet.

Finally, a lot of polysynthetic languages in Australia use a case system in the adjuncts which is different from the system used by the argumental clitics/affixes. They are problematic in the sense that the adjunct cases do not have syntactic effects. An interesting observation is that a combination of an ergative cross-referencing system and accusative case marking in the adjuncts is ruled out. I expect this to be related to the observation that languages with a person split case marking like in Lummi never have an ergative pattern in 1st and 2nd person arguments opposed to an accusative system in 3rd person arguments. Future research will have to shed more light on this issue.

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On the licensing and recovering of imperative subjects

Melani Wratil

Imperative verbs displaying no overt inflectional marking for their mood specification never demand any explicit identification of their addressee. Consequently, the formally unmarked imperative is generally considered to be 'subjectless'. Nonetheless, in this paper, I argue that formally unmarked imperatives always license a syntactic subject. While in some languages this subject may be optionally phonetically realized, it is usually represented as a specific imperative zero pronoun that shares mixed properties of the more common empty pronouns *pro* and PRO.

1. Introduction

It has long been observed in the study of sentence types that imperative clauses often lack an overt subject. As a consequence it was concluded that, in contrast to other verbal moods, the imperative is in principle subjectless in its use. Contrary to assumptions made by Rosengren (1992), Platzack & Rosengren (1994), and Han (1998), this generalization surely does not hold for imperative constructions on a crosslinguistic basis. Instead it turns out that, in any case, this applies to the class of formally unmarked imperatives. In fact, those never demand the overt realization of their syntactic subject, neither in null subject languages nor in non-null subject languages. But how could we account for this peculiarity? Should we think of a structural deletion process? Or - is it more reasonable to assume a factual absence of any subject in imperative sentences?

In this paper, I will provide answers to questions like the ones above. It is organized as follows: In section 2 I will give a brief overview of the main morphosyntactic properties of formally unmarked imperatives. The next section outlines the problem. Formally unmarked imperatives do not require the explicit identification of their addressee, but they do allow it in some cases. Hence, it seems unclear whether formally unmarked imperatives actually take a syntactic subject or not. I will review arguments for both views in the following subsections. In section 4, it is shown that, due to their specific structure, formally unmarked imperatives license a zero subject pronoun, which is replaced by an overt nominative DP under certain circumstances.

2. Formally unmarked imperatives

With regard to their inflectional morphology, imperatives are divided into two variants. Imperatives that do not display any inflectional marking for mood specification constitute the set of the formally unmarked imperatives. They are found, for instance, in the entire Indo-European language family. Their representation as a grammatical category occurs covertly and requires, at least in earlier stages of language history, no other inflectional marking either (Szemerényi 1990:263). Therefore, the lack of inflectional morphemes can be defined as the formal characteristic of the initial Indo-European imperative. Accordingly, as shown in (1), the Hittite (cf. 1a) as well as the early Sanskrit (cf. 1b) imperative verb consist solely of the bare verbal root or, in case of thematic conjugation, of the bare verbal root plus connection vowel.

On the contrary, formally marked imperatives which form the other group are always represented by an overt imperative morpheme. Such an inflectional marking results in most cases from an advanced functionalization of future temporal or agent oriented modal morphology (Bybee, Perkins & Pagliuca 1994:210ff). Alamblak (cf. 2a) and Tibeto-Burman (cf. 2b) imperatives are instances of the formally marked group. Consequently, they are always identifiable by a specific morpheme.

(1) a. **da** (Hittite)
give
'Give.'
b. **cala** (Sanskrit)
hurry
'Hurry up.'

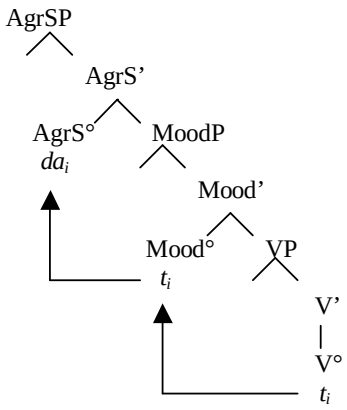
(2) a. nikë **wa-roh-twa- kë** (Alamblak)
you IMP-sit- FUT+IRR+IMP-2PL
'Sit down.'
b. daju-bhai **mun-dhupt-a-chi**! (Tibeto-Burman)
brothers talk -IMP -2DUAL
'Talk to each other as brothers.'

In contrast to those imperatives that are overtly marked within the inflectional morphology, formally unmarked imperatives were never involved in any modal-morphological grammaticization process (Bybee 1990). This is why they are not only formally, but also semantically unmarked. Hence, the imperative mood of the languages concerned indicates directive speech acts on each level of deontic strength (Palmer 1986:108). It behaves analogously to the likewise formally unmarked indicative, which, being the unmarked member in the epistemic domain, holds in its use the entire class of assertives.

Structurally, the imperative verb is attracted by the abstract features of the functional head AgrS°, to which it moves successively before Spell out.

Indicating the default mood of the deontic system, it is, just as its epistemic counterpart, exempt from licensing any overt inflectional marking at the head of the lower Mood projection. Since it differs, on the other hand, from the indicative verb in that its tense characterization as well as its person agreement are only determined in a modal-immanent directive way, it selects no functional head T° and is therefore unable to project a T-node (cf. structure (3) for the Hittite imperative).

(3)



These structural properties are in fact reflected in its morphological development. In the course of morphosyntactic change, the formally unmarked imperative often allows the affixation of inflectional markings like, for example, aspect morphemes (cf. the Russian example (4a)), voice morphemes (cf. the Ancient Greek example (4b)) or number agreement morphemes (cf. the Spanish example (4c)).[1] But to avoid redundancy within the modal-inherent prospectivity and reference to an addressee, it never permitted the affixation of morphological tense or person agreement specifications. Hence, neither the Italian imperative verb with the future morpheme (4d) nor the German one with the overt agreement specification for the second person (4e) are acceptable forms. Note that such strict morphological restrictions cannot be observed in the case of an overt inflectional marking of the imperative mood (cf. 2).

(4) a. **Smotri!**; **Posmotri!** (Russian)
look PERF-look
'Look.'; 'Look. / You must look.'

b. **Paideyei!**; **Paideyoy!** (Ancient Greek)
educate educate-MID
'Educate.'; 'Educate yourself.'

[1] Imperatives are also found to enter inflectional paradigms of other moods. The present-day imperative paradigm of the Slavic languages, for example, consists of early optative forms. Therefore, we cannot be sure yet whether it should be regarded as pure suppletive paradigm.

c. **¡Tira!**; **¡Tirad!** (Spanish)
pull pull-PL
'Pull.'
d. **Fiorisci!**; ***Fioriscirai!** (Italian)
flourish flourish-FUT
'Flourish.'
e. **Spring!**; ***Springst!** (German)
jump jump -2.PERS
'Jump.'

3. Subjectless imperatives and overt imperative subjects

One of the most outstanding peculiarities of formally unmarked imperatives is the fact that they do not demand any explicit identification of their addressee. This is illustrated by the canonical imperative sentences of the null subject language Bulgarian and the non-null subject languages English and German (cf. 5a-c) whose subjects are apparently absent. The formally unmarked imperative is therefore generally considered to be 'subjectless'. In many languages, it is nevertheless possible to use it together with a 2nd person nominative pronoun. This, however, has to be stressed in most cases. Such pronouns can be found under (6) where the Bulgarian *ti* (6a) and the German *du* (6c) do indeed carry particular emphasis.

(5) a. **Otidi** do hlebarničata! (Bulgarian)
PERF-go to bakery-the
,Go to the bakery.'
b. **Don't touch** that.
c. **Heirate** sie! (German)
marry her
'Marry her.'

(6) a. **TI otidi** do hlebarničata! (Bulgarian)
you PERF-go to bakery-the
'Go to the bakery.'
b. **Don't you touch** that.
c. **Heirate DU** sie! (German)
marry you her
'You marry her.'

Apart from these 2nd person pronominals there are also 3rd person imperative subjects, for example in English and German. In German, only quantificational expressions qualify as lexical subjects (cf. 7a-c). Davies (1986:133) maintains that in English, such a limitation does not exist (cf. 8a-c).

(7) a. **Gib einer** die Chips ‘rüber! (German)
pass someone the potato crisps
‘Someone pass the potato crisps.’
b. **Nimm** sich **jeder** ein Stück Himbeertorte! (German)
take himself everybody a piece raspberry cake
‘Everybody take a piece of the raspberry cake.’
c. ***Trag der starke Kerl** die Koffer! (German)
carry the strong guy the suitcases

(8) a. **Nobody move.**
b. **Someone help** me.
c. **The girl with the gun come** up here. [2]

Clearly, these observations raise a fundamental question: do all imperative sentences contain a syntactic subject, even if it is only covertly realized? Or is it more plausible to assume that imperative subjects need not be syntactically represented, or are in fact disallowed?

The discussion provided in the following two sections suggests that there are pretty good arguments in favour of either view.

3.1. Arguments for non-overt imperative subjects

The assumption that formally unmarked imperatives and even the so-called ‘subjectless’ ones always have a syntactic subject can be confirmed by imperative sentences whose covert subject acts as the binder of a reflexive anaphor. In the German example (9a) as well as in the English example (9b), the reflexive pronoun has to be bound in its governing category in accordance with Condition A of the Binding Theory. And, as shown in (10a-b), obviously only a 2nd person subject can do this job.

(9) a. **Wasch** dich anständig! (German)
wash yourself properly
‘Wash yourself properly.’
b. **Behave** yourselves.

(10) a. ***Amüsier** sich gut! (German)
enjoy herself well
b. ***Don’t torment** himself.

Furthermore the fact that, as illustrated in (11a-b), PRO of an embedded infinitive clause can be controlled by the covert subject of an imperative matrix sentence, suggests that a corresponding empty category exists.

[2] It could be questioned whether English imperatives with non-quantificational 3rd person subjects in fact are not better defined as subjunctive forms.

(11) a. **Versuch** einfach PRO zu grinsen! (German)
try just to sneer
'Just try to sneer.'
b. **Go** away without PRO saying goodbye.

Above all, we have to start with the assumption that imperative sentences, like all other sentence types, are obliged to fulfill the theta-criterion. Therefore, we must inevitably infer that the IP of formally unmarked imperatives hosts a syntactic subject which satisfies the theta-criterion as external argument. Precisely such a structural relation seems to be proved by the nominative Case marking of overt imperative subjects.

3.2. Arguments against non-overt imperative subjects

Of course, also objections to the assumption that imperative subjects exist are put forward in current works on the imperative sentence. But most of these counterarguments are not really convincing. Rosengren (1992) and Platzack & Rosengren (1994), for example, argue that the 2nd person imperative pronoun differs from syntactic subjects in being for the most part stressed, obeying separate restrictions concerning their distribution and in not fully agreeing with the verbal element. Accordingly, the authors come to the conclusion that imperative sentences simply do not have any subject (see Platzack & Rosengren (1994) for more details). Presupposing, however, that an overt nominative Case marking is normally not demanded and the imperative verb movement obligatorily ends up at C° in some languages (Rivero & Terzi 1995) whereby agreement is always specified mood-immanently, the above described behaviour is not very surprising for a real syntactic subject.

On the other hand, we have to realize that, in case overt imperative subjects check indeed some features at the specifier of the AgrSP in order to agree with the imperative verb, subjectless imperative sentences should contain an empty category in this position. Admittedly, none of the four known empty categories seem to be a suitable candidate to fit into the specifier position of the AgrSP of 'subjectless' imperatives.

At first sight one could claim that the covert subject of the canonical 'subjectless' imperative sentence is simply *pro*, because the empty pronoun *pro* bears Case and therefore alternates with overt DPs in the same distribution. Thus, an imperative subject-*pro* would be perfectly compatible with the occurrence of overt nominative imperative subjects. But the well-known fact that *pro*, as its main characteristic, can only be licensed in null subject languages, contradicts this hypothesis.

What about PRO then? We could think that, due to their lack of inflectional mood, tense and person agreement morphemes, formally unmarked imperatives are at most incompletely finite. In accordance with this, PRO, which, bearing Null Case, acts exclusively as the subject of infinitival clauses, seems to be the right choice to fill their subject specifier position. Since,

however, exactly this position hosts optionally overt subjects that, just like all lexically filled DPs, are Case-marked, the licensing condition of PRO cannot be met in imperative sentences. Overt DPs and PROs are always in complementary distribution.

The NP-trace is the easiest option to exclude. If it were true that the imperative subject, because of an assumed non-finiteness of the imperative IP, does not receive Case and is therefore forced to move, the trace left behind would require identification by an antecedent in a c-commanding argument position. Such an antecedent, however, is clearly absent in imperative sentences.

Although in contrast to the NP-trace, the Wh-trace is left behind by a constituent which moved out of a Case-marked position to an A'-position, it must be ruled out as a possible non-overt imperative subject, too. Because an operator in an A'-position which could bind this variable is, just like a binding antecedent-NP in an A-position, nowhere to be found in imperative sentences.

3.3. Imperative subjects versus vocatives

Based on their line of reasoning, Platzack & Rosengren (1994) claim that overt imperative pronouns are to be classified as vocatives since they are used only to talk to the addressee but never to talk about him. This view, though, is not sustainable.

Vocatives are structurally separate elements. Therefore, regardless of their distribution, they do not have any influence on the semantico-syntactic relations of the convergent sentence, according to which they are detached from the structure, orthographically, by commas and, perceptually, by intonation breaks. This essential difference with regard to integrated nominative expressions makes it impossible to equate vocatives with common imperative subjects. Although both the vocative DP as well as the imperative subject are used to address the addressee, they do not behave analogously concerning their function and their insertable elements.[3] In (12), for example, the German imperative sentence can only be accepted if *Hilda* acts as a Vocative DP (cf. 12b). A proper name simply calling the person spoken to can never function as a structurally integrated subject. Conversely, (13) is a well formed sentence only if *einer* acts as syntactic subject (cf. 13a) because, in contrast to imperative subjects, a vocative cannot be used to define a subset of addressees. It must refer to all the addressees if there is more than one (Davies 1986:140ff.). Finally, in the English example (14), we clearly observe an identity of reference between *his* and *somebody* only if *somebody* is interpreted as the real subject of the imperative sentence (cf. 14a).

[3] Moreover, in many languages, for example in Latin, Gothic and Roumanian, vocatives differ from nominatives in their inflectional morphology (cf. salutarius (nominative); salutarie (vocative) (Latin) 'guard').

(12) a. *__Hol Hilda__ das Geld! (German)
fetch Hilda the money
b. Hilda, __hol__ das Geld! (German)
Hilda fetch the money
'Hilda, fetch the money.'

(13) a. __Gib__ mir __einer__ die Knarre! (German)
give to me someone the gun
'Someone give me the gun.'
b. *Einer, __gib__ mir die Knarre! (German)
someone give to me the gun

(14) a. **Somebody$_i$ dry** his$_i$ hair.
b. Somebody$_i$, **dry** his$_j$ hair.

4. The licensing and recovering of imperative subjects

But how can be decided which of the arguments stated in the sections 3.1. and 3.2. are the most convincing after all? At any rate, the data shown in 3.1. give rise to the suspicion that formally unmarked imperatives do license a syntactic subject. And a closer inspection of the inflectional morphology of imperativised verbs leads to the same conclusion. That is because many languages where imperative mood is not represented overtly exhibit number agreement morphemes on the imperative verb (cf. 4c). Since the attached inflectional features, which are not mood-inherently specified, have to be licensed in a spec-head relation with an agreeing XP, we must inevitably assume that the AgrSP of formally unmarked imperatives hosts a syntactic subject as its specifier. Since the imperative verb s-selects an external theta-role that has to be syntactically represented as an argument, this subject is necessarily required in order to satisfy the theta-criterion. The subject of a formally unmarked imperative is therefore an empty category that is optionally replaced by a nominative pronoun.

The discussion of section 3.2., however, strongly opposes the supposition that the imperative AgrSP hosts an empty category as its specifier. Consequently, we have no choice but to inspect the separate empty categories in more detail.

4.1. Topic NP Deletion – a possible solution?

According to Chomsky (1981:330) a distinction has to be made between non-pronominal and pronominal empty categories. Non-pronominal empty categories are traces left behind by a moved element that, as anaphors, have to be A-bound and, as variables, have to be A'-bound by their antecedent.

Variables associated with a discourse-bound zero topic constitute at first sight the only exception to this pattern. For that reason Beukema & Coopmans (1989) defended the thesis that covert imperative subjects are a matter of Topic NP Deletion. They claim that the subject position of an imperative construction is represented at LF as an A'-bound empty element. However, the data of (15) and (16) clarify that their analysis cannot be right.

As Ross (1982) and Fries (1988) point out for German, a constituent - before its deletion by pronoun zap - moves in the preverbal position of a V2-matrix clause, that is to say to SpecC, where this constituent always has to be pronominal, thematic, unfocussed and unstressed. Instances of German zero topics can be found under (15).

(15) a. *e* hab' ich erledigt. (German)
have I carried out
b. *e* komme gleich. (German)
come soon

Obviously, the occurrence of non-overt imperative subjects does not result from such a deletion process. Since German imperatives obligatory build a V1-structure, every preverbal constituent of imperative sentences receives particular stress and consequently can never be affected by pronoun zap. Topic NP Deletion simply does not operate in German imperative sentences. Hence, the second sentence of (16a) is not acceptable because *DAS* attracted by the specifier of the imperative CP has to be stressed and therefore remains undeletable. Of course, the same applies to the second sentence of (16b), where the dropped imperative subject *DU* renders the structure ungrammatical.

(16) a. DAS **erledige du**!; *[$_{top}$e] **erledige du**! (German)
this carry out you carry out you
b. **DU sei** mal ganz still; *[$_{top}$e] **sei** mal ganz still! (German)
you be just quiet be just quiet

If we follow Beukema & Coopman's thought despite this counter-evidence and assume that 'subjectless' imperatives are instances of topicalization structures with empty topics we will get into conflict again with the German language. The sentence (17b) could never be grammatical for if the subject was deleted by pronoun zap, no further topicalization should be possible. That is why (17a) is starred. (17b) with only one topicalized constituent is still clearly acceptable.

(17) a. *[$_{top}$e] deinem Opa **schenk** einen Gameboy! (German)
your grandpa give a Game Boy
b. Deinem Opa **schenk** einen Gameboy! (German)
your grandpa give a Game Boy

Since the non-overt subject of formally unmarked imperatives is evidently not a matter of a non-pronominal empty category, we must conclude that it belongs

to the pronominal empty categories. Accordingly, we are forced to examine the pronominal empty categories more carefully and look for the way in which they are licensed by the inflectional head INFL.

4.2. The licensing and recovering of empty pronouns

Huang (1984) and Jaeggli & Safir (1989) observed that pronominal empty categories are generated as the specifiers of very strong or very weak inflection phrases (IPs). With regard to the constitution of the complete verbal paradigms of the separate languages, this pattern is quite exactly reflected in the distribution of null subject languages (referring to this, Jaeggli & Safir formulated the condition of Morphological Uniformity). Since pronominal empty categories have no lexical antecedent they require identification from the nearest syntactic context. In terms of Huang (1984), as 'genuine zero pronouns', they have to fulfill the 'principle of recoverability'.

Let us start with the empty pronoun *pro*. Just as its overt counterpart, *pro* is licensed in the spec-head relation to a finite INFL, or rather, to an INFL that is specified as [+agreement] [+tense] (Rizzi 1986; Chomsky 1995:120). The principle of recoverability is met by *pro´*s content being recovered by the strong agreement inflection of the verbal head (Chomsky 1981:240f.). In (18) such a recovery is brought about can by means of finite clauses of the Romance null subject language Spanish.

(18) a. *pro* brinco (Spanish)
skip-1SING
'I skip'
b. *pro* brincan (Spanish)
skip-3PL
'they skip'

Not only the individual identification of *pro* by strong INFL but also the acquisition of its usage and distribution contradict the allegedly logical assumption that imperative sentences are simply *pro-drop*-structures. The *pro-drop*-parameter is to be fixed already at an early stage of language acquisition being related only to the set of subject pronouns of the language the learner is exposed to. It cannot be modified with regard to certain selected sentence types. Thus, (19a) and (19b) are not acceptable - the German language does not allow any licensing of argument-*pro*s.

(19) a. **pro* lacht (German)
laugh-3SG

b. ****pro* lach**! (German)
laugh(IMP)

Due to its Null-Case marking, PRO can only be found at the specifier of non-finite IPs, for example of those in (20). That is because only an INFL with the feature matrix [-agreement] [-tense] is able to check Null-Case (Chomsky 1995:119). Consequently, PRO and overt DPs are always in a complementary distribution and therefore – as we have seen above – PRO fails to act as a non-overt imperative subject. The recovering of the latter through control is impossible as expected. This is evidenced in (21). The covert subject of the subordinated imperative of the Ancient Greek example (21a) cannot be controlled by an element in the matrix clause. Similarly, the subject of the English imperative sentence in (21b) is obviously not interpreted as a 1st or 3rd person subject.

(20) a. Uncle Carl ordered Tamara PRO to smile again.
b. PRO to smoke the biggest cigars would please Susan.

(21) a. Kratêres eisin ôn krat' **erepson**. (Ancient Greek)
bowls are whose brims crown
'There are mixing-bowls, the brims of which you must crown.'
b. I hate the Waltons. Please, **switch** over to another channel!

From the above we can conclude that neither *pro* nor PRO qualify as subjects of formally unmarked imperatives.[4] – However, another potentially suitable empty pronoun springs to mind.

Although their IP lacks the AgrS-node entirely, the Asiatic languages Chinese, Japanese and Korean permit the occurrence of subject zero pronouns in finite clauses (Huang 1984). For that reason, Rizzi (1986) groups them together with the *pro-drop*-languages. Their zero pronoun, however, strikingly resembles PRO in not being recoverable through the agreement inflection of the verb. It appears, as shown in the Chinese examples (22) and (23), mainly as the controlled subject of subordinated clauses (cf. 22a,b).[5] In case a potential controller is absent, it is realized phonetically (cf. 23a,b).

(22) a. Zhangsan qi ma qi de *pro*/PRO hen lei (Chinese)
Zhangsan ride horse ride until very tired
'Zhangsan rode until he was very tired.'

[4] Without explicit argument, Han (1998) claims that languages have two options for deriving the imperative structure: infinitive type imperatives have an infinitive INFL, and subjunctive type imperatives have a subjunctive INFL. Depending on whether a language selects the infinitive or the subjunctive type, the imperative subject behaves like the subject of an infinitival or subjunctive, respectively like PRO or *pro*, in the language in question. I do not want to enter into details of this statement. For more discussion, see Han (1998:109ff.).

[5] Only the zero subject pronouns of clauses complemented by the bridge verbs *say* or *believe* do not behave analogously to the controlled infinitival PRO. Since their dominating CP is enclosed within a NP-shell, they do not have any control domain. Therefore, the reference of identity between them and any argument of the matrix clause is not required (Huang 1989).

b. Ting xiwang *pro*/PRO keyi kanjian Lisi (Chinese)
Ting hope can see Lisi
'Ting hopes that he can see Lisi.'

(23) a. Ta kanjian ta le (Chinese)
he see he PERF
'He sees him.'
b. **pro*/PRO kanjian ta le (Chinese)
see he PERF

Since the inflectional head of these languages is thus always negatively specified for at least one feature of finiteness, PRO acts not only as subject of their infinitive clauses but also as subject of their finite clauses. It is replaced by an overt element only if it does not enter into any referential dependency within its immediate syntactic environment and if T° is specified positively.

In my view, the occurrence of such a zero pronoun that is obviously licensed by an INFL with a [-agreement] [+tense]-specification also postulates the existence of a pronominal empty category licensed by an inflectional head with the opposite feature matrix, that is to say with a [+agreement] [-tense]-specification.

4.3. The imperative zero pronoun

Since formally unmarked imperatives project no TP, they are negatively specified for one feature of finiteness, too. I infer from this that their IP, just as the finite IP of Chinese, Japanese and Korean, is weak enough to host a zero subject pronoun. The imperative zero pronoun, however, differs from PRO in that it is never controlled by a constituent within its control domain. Instead, it is identified through verbal morphology, where such a recovering is brought about by the modal-inherent specification for 2nd person agreement on the imperative verb and, in a large number of languages, by an overt marking for number agreement. In German, for example, the plural agreement marking of the imperative verb is effected by the number suffix *–t*. While the verbal element of (24b) therefore exclusively identifies plural subjects, the one in (24a) indicates reference to only one addressee. Moreover, due to the positive [agreement] specification of the imperative inflectional head, it is able to receive nominative Case, and consequently it can appear overtly. Thus, the imperative zero pronoun is licensed in the same way as *pro*/PRO of the mentioned Asiatic null subject languages, but it is recovered just like *pro* of the Romance null subject languages. In accordance with the Principle of Least Effort, it is, in contrast to phonetically realized and Case-marked DPs, the favoured and, in some languages, even the only element to represent the external argument of formally unmarked imperatives.

(24) a. **Warte pro/PRO** doch! (German)
wait just
'Just wait.'
b. **Wartet pro/PRO** doch! (German)
wait-PL just
'Just wait.'

4.4. Overt imperative subjects

Overt imperative subjects bearing nominative Case are licensed only if their spec-head relation with INFL does not guarantee their complete recovery.

Hence, all non-pronominal imperative subjects are realized overtly, like, for instance, all the ones of the English language (cf. 25a). Pronouns that, just like the imperative 2nd person pronouns in German, are focused or stressed are phonetically realized, too (cf. 25b). The same applies to all pronominal expressions that specify or modify the directive reference to the addressee, like, for example, additional 2nd person pronouns in combination with plural quantificational expressions (cf. 25c) or simply singular quantificational expressions (cf. 25d).

(25) a. **Brave guys go** ahead.
b. **Küß DU** den Frosch! (German)
kiss you the frog
'You kiss the frog.'
c. **Schaut [ihr] alle** her! (German)
look you all here
'You all look here.'
d. **Somebody take** a picture.

By using 3rd person quantifiers or any other 3rd person expressions for an imperative subject, the speaker effects a limitation of the set of addressees. In an imperative sentence like (25d), the imperative verb is clearly mood-immanently specified for 2nd person agreement, indicating reference to an addressee. Exactly this addressee, however, can neither be interpreted as 'all of you' nor as 'you as the only person'. Instead it is defined as any given subset that belongs to the addressed set and consists of one individual. Precisely this modification is made explicit by the speaker.[6] Consequently, it may not be very surprising that (25d) can precede a tag question containing a 2nd person subject pronoun (cf. 26a) and that, at least in English, imperative quantifier subjects are able to bind 2nd person reflexive anaphors (cf. 26b).

[6] However, relating to this, we are faced with the apparent problem that it is all but clear how feature checking between the imperative verb, which is mood-inherently specified for 2nd person agreement, and the imperative subject could procede in a case like that. One could speculate that 3rd person DPs because of their lack of any person agreement specification do not create a feature mismatch within their checking domain (see Halle (1997) for more details).

(26) a. **Somebody take** a picture, will you.
b. **Everyone help** yourselves.

5. Conclusion

The aim of this paper has been to resolve the problem of the canonical subjectlessness of formally unmarked imperatives. I have shown that, due to their lack of a T-node, formally unmarked imperatives are able to license a specific pronominal empty category that, despite its legitimization by weak INFL, is yet recovered by the agreement inflection of the verbal head. The imperative zero pronoun behaves therefore like both of the two common empty pronouns PRO and *pro*. In accordance with economy principles it is, in contrast to phonetically realized and Case-marked DPs, the favoured element to represent the external theta-role of imperative sentences.

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