

Agreement and Null Subjects*

Christer Platzack

Lund university

1. Introduction

1.1. Purpose

The purpose of this paper is to outline a theory for the relation between agreement and thematic roles, arguing that agreement is a theta-role bearer, either directly, when agreement is externally merged (Chomsky 2001b) in a theta position, or indirectly, when agreement is internally merged, heading an argument chain. Agreement is analyzed as an affix or a clitic, in line with Anderson (1982) and Alexiadou & Anagnostopoulou (1998). Like true clitics, it is either pronominal or anaphoric in nature, hence either locally free (Principle B of the Binding Theory) or locally bound (Principle A). This distinction enables me to account for the fact that some languages with rich subject verb agreement are null subject languages, e.g. Italian, Spanish, Arabic, while others are not, like German and Icelandic. I will refer to these two types of languages as Italian-like and Icelandic-like languages, respectively, arguing that the Italian-like languages have pronominal agreement, whereas the Icelandic-like languages have anaphoric agreement. Such an account directly explains why both types of agreement languages have verb raising, and it has clear predictions for the structural properties of visible subjects in the two types of languages.

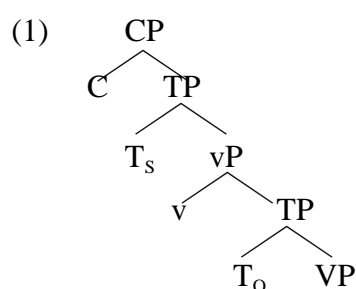
The rest of this section is devoted to a presentation of the particular version of the Minimalist Program that I am using. Section 2 presents my approach to agreement and the possibility to leave out the subject. In this section, two types of languages with subject-verb agreement are discerned: the Italian type, where no visible subject DP is necessarily present, and the Icelandic type, where a visible subject must be present (except for some well-defined contexts). Section 3 is about visible subjects in null-subject languages, section 4 highlights agreement in Icelandic, and section 5 summarizes the paper.

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1.2. Background

1.2.1. The MTV Hypothesis

This paper is part of a larger project (Platzack 2001, 2002b) with the object to show that Merging Tense with Verbs (including little *v*), henceforth the *MTV Hypothesis*, derives the backbone of the clause. The MTV-hypothesis is inspired by Pesetsky and Torrego (2001, 2002), and couched in a version of the computational system outlined in Chomsky (2000, 2001a,b). The general sentence structure is presented in (1), where, in accordance with Pesetsky and Torrego (2002), the T merged with *vP* is marked T_S and the T merged with VP is marked T_O .



The idea that TP or a similar type of projection (Aspect Phrase) is interfering between *vP* and VP is not new; in its essence this idea was proposed already in Koizumi (1993, 1995), and in a partly different tradition by Tenny (1987), Borer (1993), Arad (1995) and Egerland (1998). Informally, we may identify T_S with the time of the expressed event or state, and T_O as the internal time of this event/state (a momentary point of time or a time interval, inherently limited or not).

It is well known that the complement of the verb has a particular role to play with respect to internal time; see e.g. Platzack (1979), Tenny (1987), Borer (1993), Schmitt (1996) and several others. Pesetsky & Torrego (2002) take advantage of this role of the object in their attempt to replace abstract accusative Case with a tense-relation between T_O and the object DP, expanding their attempt in Pesetsky & Torrego (2001) to use a similar mechanism based on T_S to replace abstract nominative Case.

Pesetsky & Torrego provide two types of arguments for a TP below *v*. Firstly they show there is evidence for the presence of two T-projections in the clause, and secondly, that the T-projection below *vP* is made visible by the Spanish preposition *a*, used to introduce a certain type of direct objects.

The structure proposed in (1) predicts that the object belongs to a distinct TP, different from the "main" TP of the sentence. One type of argument for this analysis is the existence of predicates which refer to two points of time, like *want* and other intensional predicates. As illustrated in

(2), a sentence based on such a predicate can have two time adverbials, one specifying the time of the wish, the other one the time of the fulfillment of the wish:

(2) A week ago, Bill wanted your car today.

For other types of transitive predicates, the two TPs are only indirectly discernable.

A second type of argument for a lower TP is provided by Torrego (1999), who argues that the Spanish preposition *a*, which sometimes precedes the direct object, grades the participants of eventive predicates along temporal or spatial dimensions, as in (3) (examples from Pesetsky & Torrego 2002):

- (3) a. La policía detuvo *(a) un ladrón.
the police detained (to) a thief
 ‘The police detained a thief.’
 b. La lluvia empapó *(a) muchos turistas.
the rain soaked (to) many tourists
 ‘The rain soaked many tourists.’

With achievement predicates, as in (3), *a* is obligatorily present. In other instances we have cases where a stative predicate is turned into a non-stative when *a* is added:

- (4) a. La policía tapaba los oradores. [stative only]
 ‘The police blocked the view of the speakers.’
 b. La policía tapaba a los oradores. [non-stative]
 ‘The police moved so as to block the view of the speakers.’

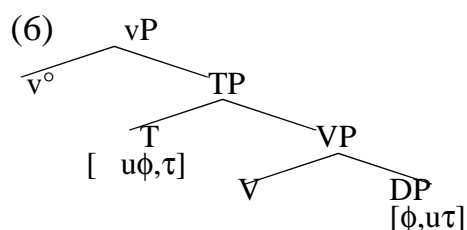
According to Torrego (1999) *a* is a preposition, located between little *v* and VP. Pesetsky & Torrego (2002) generalize this analysis, claiming that prepositions in general are overt instances of T, capable of licensing an accusative object.

In this paper I will use the MTV-hypothesis as a background for my discussion of agreement and null subjects. In line with the implementation of the conceptual system in Pesetsky and Torrego (2001, 2002), syntactic structure is the result of a manipulation of features, where all features have a semantic value, but may come in two guises, interpretable and uninterpretable, thus meeting the criteria for Relativized Extreme Functionalism (Pesetsky & Torrego 2001). Only interpretable features are

allowed at the interfaces, which means that the syntactic computation must delete the uninterpretable instances for the derivation to converge. In the general case, this is accomplished by the operation Agree, which can be formulated as in (5), see Chomsky (2000):

- (5) The relation *agree* is established between a probe and a goal iff
- a. the probe has one interpretable and one uninterpretable feature, F and uG, and the goal has the same features but with reversed values for interpretability, uF and G and
 - b. the probe c-commands the goal and
 - c. there is no element closer to the probe than the goal with the relevant feature-values.

I will work with two features, ϕ (for gender, number and person)¹ and τ (for Tense), assuming with Pesetsky & Torrego (2001) that every argument DP² has the features [ϕ , u τ] and every T the features [u ϕ , τ]. (6) illustrates how Agree is operating.



In (6), T acts as a probe, deleting the uninterpretable τ -feature on DP at the same time as its own uninterpretable ϕ -feature is deleted. When this is accomplished, all uninterpretable features are omitted, and the derivation may converge at the interfaces.

¹ Very probable this is a simplification. In a more detailed study it may well be that we need to distinguish Gender, Number and Person. For the purposes of this study, however, such a precision is not necessary.

² Non-argument DPs lacking an uninterpretable τ -feature cannot be merged in argument positions. Such DPs must be adjoined to the structure, as e.g. the adverbially used DP (underlined) in (i):

- (i) He used to read the newspaper the whole morning.

Left dislocated DPs, as well as DPs used in isolation, are other instances of DPs lacking an uninterpretable τ -feature:

- (ii) a. John, he is never in time.
b. God in heaven!

1.2.2 Thematic Roles and UTAH

In this section we will show how thematic roles expressed by DPs are linked to the verb. Presupposing that UG is common for all human languages, there must be a universal link between thematic roles and grammatical structure. The first attempt to establish such a link was presented in Baker (1988:46), who proposed the Uniformity of Theta Assignment Hypothesis (UTAH).³ An updated version of this hypothesis is presented in Baker (1997, 104-05), and reprinted in (7):

- (7) *The Uniformity of Theta Assignment Hypothesis (UTAH)* (Baker 1997)

Arguments bearing similar thematic roles are expressed in similar initial structural positions both within and across languages [...]. [T]he alternations in the realization of arguments of a predicate that one does find are either the result of different conceptualizations of the event, or the result of syntactic movement processes.

Although thematic roles have been a part of linguistic theory for quite a while, the theory of thematic structure is still very sketchy. For the purpose of this paper I will assume three classes of thematic roles: Agent, Goal, and Theme, related to syntactic structure in the following ways, when expressed as DP-arguments of the verb:

- (8) **Agent** is always a DP externally merged in Spec-vP. This class includes thematic roles like Agent, Cause, and Instrument.
Goal is a DP externally merged in Spec-VP. This class includes thematic roles like Goal, Experiencer, Receiver, Benefactor, and also the role Location.
Theme is a DP externally merged as the complement of V or as a part of this complement. This class includes thematic roles like Theme and Patient.

³ Notice that Baker (1988, 1997) does not restrict UTAH to thematic roles expressed by DPs, a choice that has several unwanted consequences. One of the most obvious drawbacks is that this forces us to assume that an agentive verb always has a PP in its Spec-vP, where P is null in active but *by* in passive. Similarly, it would force us to assume that there is an invisible preposition in the indirect object, to capture the alternatives *give somebody something* and *give something to somebody*.

It is immediately obvious that this linking captures the main cases. Thus, e.g., it provides a direct structural correlate to the Thematic Hierarchy (see e.g. Jackendoff 1972: 45, Grimshaw 1990, Maling 2001), that states the order Agent > Goal > Theme.

2. Agreement and Null Subjects

2.1 Two types of subject-verb agreement languages

In his stratified sample of 104 languages, Gilligan (1987, 196) found 76 languages with subject-verb agreement and null subjects (Italian-like languages), 17 languages with null subjects but no agreement (Chinese-like), 2 languages with agreement but no null-subjects (Icelandic-like), and 9 languages without agreement and no null-subjects (English-like). There are thus two types of languages with agreement, the Italian-like languages with null subjects and the Icelandic-like ones without. Consider the examples in (9) and (10):

- (9) Vengo Italian
 come.1stSG
- (10) Ég kem.⁴ Icelandic
 I come.1stSG

It is not obvious that languages of these two types are different with respect to the “amount” of agreement they show. The tensed verb in Icelandic, as in Italian, is inflected for person and number. In the paradigms presented below, we find different endings in all person and numbers for the present indicative of the Italian verbs *vedere* 'see' and *vengere* 'come,' whereas the paradigms for Icelandic *sjá* 'see' and *koma* 'come' have the same forms for second and third person singular:

| Italian <i>vedere</i> 'see' | Italian <i>vengere</i> 'come' | Icelandic <i>sjá</i> 'see' | Icelandic <i>koma</i> 'come' |
|------------------------------------|--------------------------------------|-----------------------------------|-------------------------------------|
| <i>io vedo; veggo</i> | <i>io vengo</i> | <i>ég sé</i> | <i>ég kem</i> |
| <i>tu vedi</i> | <i>tu vengi</i> | <i>þú sér</i> | <i>þú kemur</i> |
| <i>lui vede</i> | <i>lui venge</i> | <i>hann sér</i> | <i>hann kemur</i> |
| <i>noi vediamo</i> | <i>noi vengiamo</i> | <i>við sjáum</i> | <i>við komum</i> |
| <i>voi vedete</i> | <i>voi vengete</i> | <i>þið sjáið</i> | <i>þið komið</i> |
| <i>loro vedono; veggono</i> | <i>loro vengono</i> | <i>þeir sjá</i> | <i>þeir koma</i> |

Table 1: Present indicative forms of the Italian and Icelandic cognates to *see* and *come*.

⁴ The subject may be left out only in case of Topic drop, see Sigurðsson (1989).

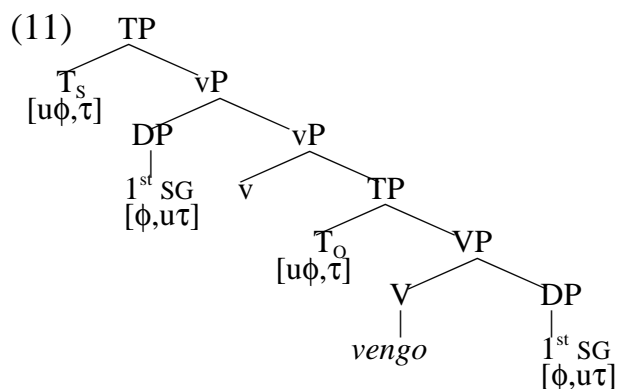
There is a long tradition within linguistics to see agreement on the tensed verb in null subject constructions as a reflex of the subject,⁵ echoed within the generative framework by Taraldsen (1978). Chomsky (1981, 241) expresses the thought in the following words: "The intuitive idea is that where there is overt agreement, the subject can be dropped, since the deletion is recoverable". Instead of dropping the subject, the implementation of this idea within the Principles-and-Parameters version of generative grammar led to the introduction of small *pro* (Chomsky 1982). Small *pro* was seen as an invisible pronoun taking the position of the subject. It is important to notice that this main stream generative tradition looked at agreement not as a representative of the invisible subject itself, but as something which made a small *pro* possible; see e.g. Rizzi (1986), who investigated the role of agreement in licensing and identifying small *pro*. The idea presented here, that agreement is a clitic or a kind of incorporated pronoun, is not without predecessors, however, see Anderson (1982), Jelinek (1986), Borer (1989), Hale (1990), Baker & Hale (1990), Taraldsen (1992), Fassi-Fehri (1993), Alexiadou & Anagnostopoulou (1998) and Benmamoun (1999) among others for earlier approaches along this line. Unlike most of the earlier attempts, however, I will generalize this approach to all languages with syntactically active subject-verb agreement, whether or not these languages accept null-subjects.

I will claim that the agreement ending is merged into the structure as an ordinary argument, and that it, like clitics and weak pronouns, may be syntactically interpreted either as a head or a full phrase. However, ultimately agreement cannot live unsupported at PF but has to align to some other word. It follows from UTAH (see (7) and (8)) that the subject agreement affix is merged into the structure in different positions, depending on its thematic role. As an Agent it is merged in Spec-vP as well, as a Goal in Spec-VP, and as a Theme in the complement of V. In all three cases it will be merged in Spec-vP, externally merged⁶ here when

⁵ Bloomfield (1935, 193) claims that the subclasses of agreement "contain an actual mention of the forms with which they are joined. This mention is in the shape of a substitute-form, resembling our pronouns."

⁶ Chomsky (2001b) claims that Merge is unconstrained, hence either external or internal. When an element present in the numeration is (externally) merged it is not removed from the numeration but may be merged to the structure again at a later point in the derivation (internal merge); it is re-used in some way. As Chomsky (2001b) points out, this assumption gives us displacement: an element is related to two positions in the structure. What is important in the present context is to notice that a DP is externally merged in its Theta-role position, and internally merged in positions that form a chain with the Theta-position.

being the Agent, internally merged here in case it is externally merged within VP. That agreement must be present in Spec-vP, irrespectively of where it is externally merged, follows directly from the MTV-hypothesis, as illustrated by (11), which gives the structure for (9), the case with an unaccusative verb.



Being an argument, the affix has the features $[\phi, u\tau]$. Merged in the complement of V, the affix is probed by T_O , which leads to the deletion of the uninterpretable ϕ -feature in T_O and the uninterpretable τ -feature in DP. Due to the presence of the higher T_S , which also hosts an uninterpretable ϕ -feature, the agreement affix must be merged in Spec-vP as well. The two instances of *1st SG* are links in the same argument chain, but there is just one set of phonological features accompanying each chain, spelled out on the highest link of the chain. I assume late insertion of phonological features according to Marantz (1993). Since every link in a chain except the lowest one is the result of internal merge, i.e. the "re-use" of a merged element, the links are identical with respect to grammatical and semantic

features.⁷ Hence each link can be seen as a copy of the phonologically expressed element in the head of the chain (Chomsky 2001b). As in earlier versions of generative grammar, we assume this "A-trace/copy" or "NP-trace/copy" to be anaphoric in nature and thus subject to Binding Principle A.

It should be obvious that the analysis of a case where agreement is externally merged in Spec-VP will proceed identically to the one just presented; in particular, the argument must be reused and internally merged in Spec-vP, due to the MTV-hypothesis (in order to delete the uninterpretable ϕ -feature in T_S). The case where agreement is externally merged in Spec-vP will differ, though, since in that case there is no copy within VP.⁸ It should also be explicitly mentioned that the analysis presented here for Italian holds for Icelandic as well, hence both for null-subject languages with subject-verb agreement and for languages with subject-verb agreement that must have a visible DP-subject.

In the rest of this section, we will consider some consequences of the proposed analysis. In section 2.2. I will show that my account immediately explains why all languages with rich subject-verb agreement have V-to-I raising. Section 2.3. concerns the difference between agreement languages with and without null subjects. In short I will argue that the agreement morpheme has the status of a pronoun in the Italian type, but the status of an anaphor in the Icelandic type; thus agreement must be locally bound in Icelandic, but not in Italian.

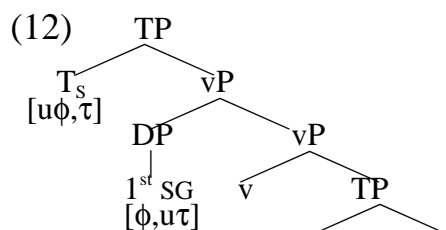
⁷ Notice that the internally merged instance of the affix has an uninterpretable τ -feature as well – since internal merge is the re-use of an element in the numeration, it must be blind for syntactically provided feature deletion. Hence, an internally merged argument has the feature $[u\tau]$, irrespectively of the fact that this feature has been deleted in the position where this argument was externally merged. From a semantic point of view, this is a desirable result, saying in principle that the subject of an ergative or passive verb has a role to play both with respect to internal time (T_O) and with respect to external time (T_S). As is pointed out e.g. in Platzack (1979, 78), the object is the Event Measurer when the verb is transitive, whereas the subject is the Event Measurer when the verb is intransitive. This is shown by the following examples, where the form of the (intransitive) subject has the same effect on the internal time reference of the clause as the form of the object has in a transitive clause:

- (i) a. *Olja rann ut på gatan i en timme.* [unbounded]
 oil ran out in street-the for an hour.
 b. *Tre liter olja rann ut på gatan *i/på en timme.* [bounded]
 three litres of oil ran out in street-the *for/in an hour.

⁸ In this case an object DP must be externally merged in Spec-VP or in the complement of V, to delete the uninterpretable ϕ -feature of T_O . This is in essence Burzio's Generalization.

2.2 *V-to-T raising*

The existence of a correlation between (rich) agreement, possible null-subjects and verb raising has been mentioned by many scholars, including Belletti (1990), Speas (1994) and Rohrbacher (1999). Here I will argue that verb raising is a simple consequence of my Agreement-as-argument thesis.⁹ Consider once again the upper part of the structure in (11), here given as (12):



As we saw above, irrespective of whether agreement is externally or internally merged in Spec-vP, the argument chain headed by agreement will involve this position. Since agreement is an affix, it must be linked to a head. One possibility is that it is linked to the higher T, and that the verb subsequently has to raise to T in order to avoid a violation of the Stranded Affix filter, which says that an affix must be attached to a phonologically realized head.¹⁰ As we see, this analysis immediately accounts for the fact that the verb raises overtly in null subject languages, being placed in front of sentence adverbials, if these are taken to adjoin to vP,¹¹ as in the Catalan example in (13), from Rosselló (2000).

⁹ The anonymous referee has doubts about the existence of a correlation between rich agreement and V-raising, suggesting that the hypothesis can be tested by looking at the V-initial languages. Assuming these languages to have V-raising, we expect them to have rich agreement as well. It is obvious that some well-described VSO-languages like Welsh, Irish, Arabic, Hebrew, Tagalog and Zapotec have agreement; this holds true also for most V-initial Mayan and Polynesian languages. Taking more languages into account, we also find V-initial languages without agreement, however, as is evident from Dryer (forthcoming); in his database of 557 languages, Dryer reports a majority of the V-initial languages to have rich agreement (62%), to be compared to 47% of the SVO-languages and 54% of the SOV-languages. Thanks to Matthew Dryer for letting me read his unpublished paper.

¹⁰ Alternatively, $u\phi$ in T_s has an EPP-feature, forcing movement (internal merge) of the probed element carrying an interpretable ϕ -feature. Hence when this element is a head, as in the affix case, it is moved to T° , when it is a full DP it is moved to Spec-TP.

¹¹ The exact position of sentence adverbials is not of importance here. It might well be that a better description is to assume that these adverbials are above T, in which case

- (13) La Maria fa sovint la migdiada.
the Maria does often the siesta

Alexiadou & Anagnostopoulou (1998), who also relate verb raising to the null subject property, have to suggest another reason for verb raising in languages without null-subjects, like French and Icelandic. Consider the Icelandic example in (14), where the placement of the finite verb in front of the negation in a non-V2 context indicates verb raising:

- (14) Ég veit að María las ekki bókina. Icelandic
I know that Mary read not book-the

Since French and Icelandic have rich subject-verb agreement, the analysis proposed here accounts for V-raising in these languages as well: an affixal argument must align to a phonologically realized head, and hence V-to-T is forced, irrespectively of the presence of null-subjects in the language under discussion. It should also be obvious that agreement in languages without verb raising should not be assigned the status of arguments; agreement in such languages is usually not complete, as e.g. number but not person agreement in Mainland Scandinavian around 1600 (Falk 1993) or the Norwegian dialect of Hallingdalen (Trosterud 1989). In cases like these, agreement is a form of the verb without syntactic consequences.

2.3 *Optional and obligatory subjects in agreement languages*

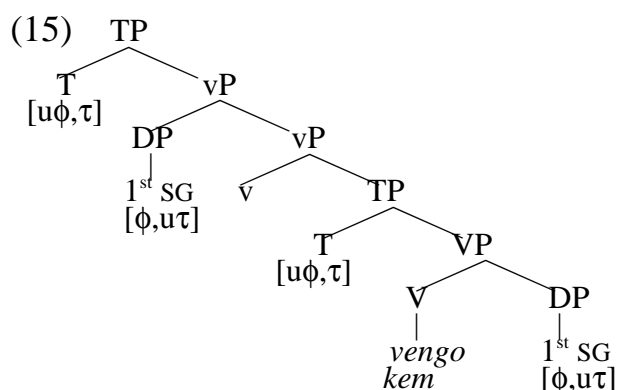
Languages like French, German and Icelandic have rich agreement, still these languages usually do not accept null subjects. On the other hand, languages like Italian, Catalan, and Arabic likewise have rich agreement, but these languages accept null subjects. In this section I will actualize a proposal by Borer (1989) that there are two types of agreement, anaphoric agreement and pronominal agreement, and that this difference determines whether or not a language with agreement is a null-subject language.

A consequence of analyzing agreement as pronominal or anaphoric is that the Binding principles apply to agreement. When agreement is anaphoric, it must be locally bound by an antecedent (Principle A), when agreement is pronominal, it must be locally free (Principle B), finding its antecedent in the context or in a non-locally binding DP. Furthermore,

there must be further verb raising. However, in the absence of V-to-T to provide the agreement affix with a host, further raising would not be possible.

agreement may not locally bind a personal pronoun (Principle B) or a full DP (Principle C).¹²

Consider once again the structure given in (11), here repeated as (15); in addition to the Italian verb in (11) I have added the Icelandic counterpart to remind the reader that my discussion concerns both Italian-like languages and Icelandic-like languages:



In the preceding section we have seen how V-to-T is derived both in Italian and Icelandic as a consequence of the affixal nature of agreement. Here I will concentrate on the consequences of analyzing agreement as pronominal or anaphoric. In true null-subject languages like Italian, Greek, Arabic and many others, a referential subject is left out if it is provided by the context:

- (16) a. Ballava. Catalan; from Rosselló (2001)
dance-PAST. 3rdSG/1stSG
 ‘He/she/I danced.’

¹² The anonymous referee points out that anaphors generally have fewer ϕ -features than pronominals. This indicates that anaphoric agreement should correspond to deficient agreement, and pronominal agreement to full agreement. Hence, (s)he argues, the theory presented here does not solve the problem of why Icelandic and German, with their rich agreement morphology, don't allow null subjects, it only rephrases it as Why do they have anaphoric agreement, although their agreement paradigms look pronominal?

There are two comments to be made. Firstly, it is not obvious to me that there always is a difference with respect to number of ϕ -features between anaphors and pronominals: consider the English example *John kissed his wife*, where *his* is either a possessive anaphor (*John = his*) or a possessive pronoun (*John ≠ his*). Secondly, Icelandic and German actually have fewer distinct agreement forms than Italian has (see Table 1 above): whereas Italian has different forms for all 6 combinations of person and number, Icelandic has only 5 (2nd and 3rd person singular have the same form) and German only 4 (3rd singular and 2nd plural have the same form, as do 1st and 3rd plural).

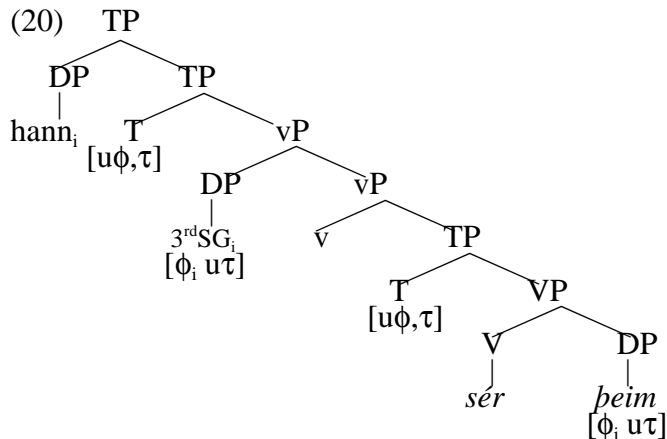
- (19) a. *Ne les voit pas. compare a'. Lui ne les voit pas.
ne them see.3rdSG not he ne them see.3rdSG not
 b. *Sér ekki þeim. compare b'. Hann sér ekki þeim
see.3rdSG not them he see.3rdSG not them
 'He does not see them.'

For agreement languages of the Italian type I suggested above that the agreement affix like an ordinary personal pronoun can get its specification from the discourse or speech situation. For agreement languages like French and Icelandic, however, the ungrammaticality of the examples in (19) indicates that such a specification is not available. A possible way to account for the French/Icelandic case would be to assume that agreement is anaphoric in such languages, hence subject to Binding Principle A that says that the anaphor (i.e. the agreement affix) must be locally bound. This means that there has to be a clause internal antecedent that binds the anaphoric agreement. Hence, if the numerations in (19) do not contain *lui/hann* the derivations will crash.

If agreement in French and Icelandic is anaphoric in nature, it must be locally bound by its antecedent.¹⁵ When provided by the numeration, as in (19a',b'), *lui/hann* must be merged in a position c-commanding agreement, presumably Spec-TP. Furthermore, *lui/hann* must be co-indexed with agreement, since this is a prerequisite for binding.¹⁶ This also follows from the Theta-criterion: a DP merged in Spec-TP will not get any Theta-role and can thus only survive if it can be part of some already established theta-chain (taking for granted that the Theta-criterion at least will prevent us from freely inserting DPs in a structure). The proposed analysis is illustrated by the structure in (20):

¹⁵ As the anonymous referee points out, the DP–agreement relation is not quite like ordinary antecedent–anaphor relations, since there is only one theta-role involved. Hence the relation DP–agreement rather corresponds to the relation in *John hurt himself*, where there is only one theta role, than to the relation in *John shaved himself*, where there are two theta roles.

¹⁶The pronoun *lui/hann* 'he' must minimally carry the feature [ϕ]. Since the pronoun is not present in the numeration as an argument, it is not marked [u τ], see footnote 2.



The structure in (20) represents the Icelandic example (19b') prior to verb raising. The description outlined here can be extended to all types of verbs with a nominative subject.

In section 3 below I will present my account of the cases where agreement languages of the Italian type have a visible "subject" in addition to agreement. Cases with a pre-verbal "subject" are discussed in 3.2, cases with a post-verbal "subject" in 3.3. I will return to a discussion of Icelandic-like agreement languages in section 4 below.

3. Visible subjects in null-subject languages

3.1 Introduction

In addition to null subjects that get their meaning from the context, languages of the Italian type may also have visible subjects, either pre-verbally or post-verbally. How these facts are handled is shown in sections 3.2 and 3.3.

3.2 Pre-verbal subjects

Although not necessary for convergence, there may be pragmatic reasons for a visible DP subject in Italian-like agreement languages, as illustrated by the Catalan example in (21):

- (21) En Joan ballava.
the Joan dance-PAST.3rdSG

In the previous section we have claimed that agreement in languages of this type is pronominal in nature, hence *en Joan* in (21) cannot A-bind agreement, since that would lead to a violation of Binding Principle B. Our description thus predicts that the DP in cases like (21) is in an A-bar position, or in an A-position outside the binding domain of the agreement

affix. If it is in an A-bar position, it must be an operator, A-bar binding the chain headed by agreement. In this case it is merged with only a [ϕ]-feature, see the discussion in footnote 3 above. It is to be noticed that this DP must be in an A-bar relation to the agreement chain; otherwise we get a violation of the Theta Criterion.

It is actually not controversial to claim that the preverbal DP in cases like (21) is in some kind of left-dislocated position and hence not in an argument position. Such an account has been proposed by many linguists, including Solá (1992), Ordóñez & Treviño (1999), Alexiadou & Anagnostopoulou (1998), Roselló (2000). Some of the arguments mentioned in the literature will be recapitulated here.

Since anaphoric agreement must be locally bound, whereas pronominal agreement is locally free, my account predicts that preverbal subjects in the Italian type of languages may be further away from the agreement affix than the preverbal subject in the Icelandic type of languages. Alexiadou & Anagnostopoulou (1998) have observed that this is true at least for some languages. In Greek, i.e. a language where agreement in my view is pronominal in nature, a number of adverbs may intervene between the preverbal subject and the verb, whereas this is not possible in languages like French and Icelandic, where agreement according to my account is anaphoric and hence has to be locally bound by the preverbal subject. The examples in (22a, b) are taken from Alexiadou & Anagnostopoulou (1998).

- (22) a. O Petros stes meta apo poles prospathies sinandise ti Maria. Greek
the Peter y'day after from many efforts met the Maria
 'After many efforts, Peter met Mary yesterday.'
- b. *Jean probablement/hier a recontré Marie. French
Jean probably/yesterday has met Mary
- c. *Ég veit að Pétur ekki/igær keypti bókina.¹⁷ Icelandic
I know that Peter not/y'day bought book.the

Another argument for the analysis that a preverbal subject is in some kind of A-bar position in Italian-like languages is taken from Solà (1992), who has shown that quantificational elements in a preverbal subject position have unambiguous scope, a property also characterizing Clitic Left Dislocated elements, but not subjects in A-positions. As shown in (23), a preverbal quantificational subject in Icelandic may have either narrow or wide scope, whereas a preverbal quantificational subject in Greek must

¹⁷ Due to verb second in Icelandic main clauses, I illustrate my point with an embedded clause.

have wide scope, just as a Clitic Left Dislocated subject. The Greek examples are from Alexiadou & Anagnostopoulou (1998).

- (23) a. Tveir stúdentar lásu fimm bækur. (2>5 or 5>2)
two students red five books
 b. Kapios fititis stihiothetise kathe arthro. (some>every,
 *every>some)
some students filed every article
 c. Kapjo pedi to eksetase kathe kathigitis. (some>every,
 *every>some)
some child cl-ACC examined every professor

3.3 Post-verbal subjects

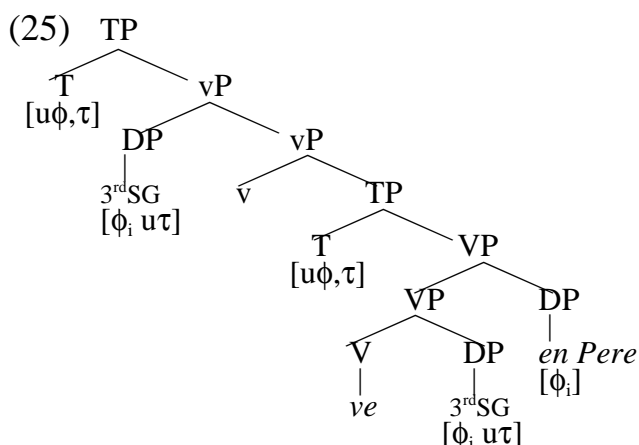
When the visible subject appears postverbally, null subject languages fall into two classes: languages with uniform agreement, where we find the same agreement independently of the position of the subject, and languages with alternate agreement, where the finite verb only agrees in person, not in number, with the post verbal subject. I will begin the discussion with a uniform agreement language like Catalan in 3.3.1, turning to an alternate agreement language like Standard Arabic in 3.3.2.

3.3.1 Uniform agreement languages

Consider the Catalan examples in (24).

- (24) a. Ve en Pere.
come-PRES-3rdSG the Peter
 ‘Peter comes.’
 b. Ballava en Joan.
dance-PAST-3rdSG the Joan
 ‘Joan danced.’

We have to distinguish the case where the post-verbal DP is an Agent as in (24b), i.e. according to UTAH externally merged in Spec-vP, from all the other cases where the post-verbal DP is not an Agent and thus may be externally merged somewhere within VP. Consider the example in (24a), which can be taken as representative for this second group. (24a) has the analysis in (25) below. The ϕ -features in Spec-vP are co-indexed with the corresponding features in *en Pere*; we assume this to be necessary for convergence, since otherwise the structure would violate the Theta criterion. Notice, however, that *en Pere*, being no argument, is merged in an adjoined position, lacking [$\mu\tau$]:



Notice that co-indexation of agreement and the DP within VP does not lead to a violation of Binding Principle C, since DP is not in an A-position.

Consider now (24b), where the visible argument is an Agent and hence in the corresponding English example would be externally merged in Spec-vP. Since I assume that the agreement affix is merged in Spec-vP, there are two elements competing for one position, which would lead to a crash. There seems to be two possible solutions.¹⁸ According to the first alternative the post-verbal subject may be in a kind of topic position adjoined to vP; this has been proposed for Italian in Belletti (1998),¹⁹ and is equal to the solution I gave for VP-internal subjects above.²⁰ Another possibility is that an Agentive subject may be in a left peripheral position, with the remnant of the clause crossing leftward over the subject by dislocation or focus movement, as suggested by Longobardi (2000). In both cases, Spec-vP is reserved for the agreement affix.

¹⁸ A third solution, which I will not pursue in detail, would be to assume a "big DP" in the way Boeckx (2001) analyses cases with resumptive pronouns; compare also Kayne (2001). In this scenario, what we find in the argument position is a complex DP as in (i):

(i) [_{DP} [_D Agr] NP]

Since the feature bundle [$\phi, u\tau$] is associated with the D-head of a DP, alignment of the D-head (i.e. Agr) to T at PF would leave a feature-less remnant in Spec-vP, hence there is no Principle C-violation at hand. This analysis can be expanded to the cases where the thematic role of agreement is a VP internal role, assuming that only D = Agr is (internally) merged in Spec-vP.

¹⁹ Thanks to Anna Cardinaletti (p.c.) who has informed me of this paper.

²⁰ The DP must be "tucked in" between agreement and v° (see Chomsky 2001b), otherwise it will prevent agreement from aligning to the verb in T.

3.3.2 Alternate Agreement Languages

Standard Arabic and Celtic are well known examples of languages with alternate agreement. In such languages the verb shows full agreement in person, gender and number when the subject is in front of it, but partial agreement (only person and gender) when the subject follows the verb. Consider the examples in (26), taken from Ouhalla (1994):

- (26) a. $l-?$ awlaadu ra? a-w Zaydan Standard Arabic
 the-boys *saw.3rdMPI* Zayd
 ‘The boys saw Zayd.’
- b. ra? a-w Zaydan
 saw.3rdMPI Zayd
 ‘(They) saw Zayd.’
- c. ra? a-a $l- ?$ awlaadu Zaydan
 saw.3rdMSG *the boys* Zayd
 ‘The boys saw Zayd.’

Cases like (26a,b) with a subject DP in front of the verb or no overt subject at all, are described in the same way as the corresponding cases for uniform agreement languages, see the discussion of (24a,b). Agreement is a pronominal affix aligned to V in T, and a preverbal DP co-indexed with agreement is an operator of some kind, A-bar binding the chain headed by agreement. In this subsection we will consider the situation where the subject is realized behind the verb, in which case the verb does not show full agreement.

As we saw above, there are two types of post verbal subjects to take into consideration: those where the subject is the Agent, and those where the subject is a non-Agent, i.e. belong to some other class of thematic roles. In the Agent case, the agreement affix qua pronoun is competing with the overt DP for Spec-vP, and since only one element may be the Theta role bearer, DP must yield. In the non-Agent case, the agreement affix qua pronoun must be prevented from binding the subject within VP, since that would violate Principle C of the Binding Theory. For the uniform agreement languages, both problems are solved with a single assumption, as I have argued above: a post-verbal subject must be in an A-bar position.

With regard to the alternate agreement languages, I will assume that the case with post verbal Agent is accounted for in the same way as for uniform agreement languages: the DP must be in an A-bar position, presumably a second Spec-vP (Belletti 1998), tucked in between agreement and v° . For the cases where a violation of Principle C must be avoided

there is an alternative solution: the absence of number agreement might prevent the agreement affix from binding the DP; hence even if the DP remains in an A-position, it may stay behind the verb. This description predicts different status of post verbal subjects in uniform agreement languages and alternate agreement languages; it will be the subject of further research to see if this prediction holds true.

4. Agreement in Icelandic

4.1 Introduction

As I have demonstrated in section 2.3. above, treating agreement in Icelandic as an anaphoric affix heading an argument chain accounts both for V-to-T raising and for the obligatory presence of a DP subject. In this section we will consider a couple of cases that initially seem to be problematic for this approach. In section 4.1. we will discuss cases where the nominative DP follows the finite verb, and in section 4.2. we will proceed to a discussion of remnant null subjects in Icelandic, which are mostly found in modal contexts.

4.2 Post-verbal nominatives and oblique subjects

So far we have only looked at cases where the nominative DP agreeing with the verb is to the left of the verb, presumably binding the agreement chain. In this section we will consider cases where the nominative is to the right of the verb. Since Icelandic is a verb second language, we have to discern true post-verbal nominatives that are Icelandic counterparts to the cases discussed in 3.3. above from cases where the nominative is behind the verb as a result of verb raising to the V2 position, which we assume to be within CP or at least at the left periphery. In the latter case the nominative may be in Spec-TP, binding agreement. An example of this type is given in (27a). An analogous analysis must be assumed for cases like (27b), see the discussion in Sigurðsson (2000), and for Transitive Expletive Constructions (27c). In these examples I have indicated the head of the agreement chain as t_{AGR} :

- (27) a. [_{CP} Hér kem [_{TP} ég t_{AGR} ..]]
here come.1stSG I
 ‘Here I come.’
- b. [_{CP} Það erum [_{TP} bara við t_{AGR} ..]] .
it are.1stPL only we
- c. [_{CP} Það hefur [_{TP} einhver t_{AGR} étið hákarlinn]]
it has.3rdSG. someone eaten shark.the

More interesting are instances where the visible nominative DP seems to be within VP, since here it cannot c-command Spec-vP. Unlike languages of the Italian type discussed above, the post verbal DP can never be an Agent in Icelandic, hence such a DP is only present when the agreement chain has a theta-role assigned to a position within VP. DPs of this kind are usually referred to as "nominative objects". As always, the agreement affix is externally merged in its theta-position within VP and internally merged in Spec-vP. The ϕ -feature associated with the agreement chain must be co-indexed with the DP in VP to avoid a violation of the Theta Criterion. In cases like this, the finite verb optionally agrees in number but not in person with the nominative object, as illustrated by the examples in (28):²¹

- (28) a. Mér líkuðu þeir.
me.DAT liked.3rdPL they.NOM
 'I liked them.'
- b. *Mér líkuðuð þið.
me.DAT liked.2ndPL you.NOM.PL
- c. Mér líkuðu þið.
me.DAT liked.3rdPL you.NOM.PL
 'I liked you.'

In examples like (28), the datives have subject properties and the nominatives have object properties, see e.g. Sigurðsson (1989, 1992, 2001) and references there. Given my analysis of the agreement affix in Icelandic as anaphoric in nature, we must consider how the agreement affixes in cases like (28) are bound. As we have seen, the nominative cannot be used, since it does not c-command the agreement affix. I will here apply an idea argued for in Boeckx (1998) and taken up by Sigurðsson (in press), that the oblique subject has a kind of invisible person agreement with the verb. In our implementation of this idea, there is a shared feature between an oblique subject in Spec-TP and the agreement affix. Thus, in examples like (28), the dative argument is merged in Spec-TP, binding the agreement affix and thus preventing a violation of Principle A.

Many languages besides Icelandic have subject-like oblique arguments. German is a case at hand, consider the examples in (29):

²¹ Naturally, agreement is not allowed to bind the DP in VP, which would result in a Principle C violation (see section 3.3. above). We may claim that the absence of person agreement will do the trick – binding presupposes person agreement. Alternatively we may apply to the "big-DP" hypothesis of Boeckx (2001), analyzing agreement as a kind of resumptive pronoun.

- (29) a. Mir ist kalt.
me.DAT is.3rdSG cold
 ‘I am freezing.’
 b. Mir wurde geholfen.
me.DAT was.3rdSG helped
 ‘I was helped (by somebody).’

As shown in Zaenen, Maling & Thráinsson (1990),²² there are good reasons to assume that *mir* in the two examples in (29) is not a grammatical subject. One of their arguments is based on the observation that the preverbal oblique DP cannot be deleted under identity with a nominative subject, whereas a preverbal nominative DP can; in Icelandic, deletion is possible also of a preverbal oblique DP:

- (30) a. Er kam und (er) wurde gehaftet.
he came and he.NOM was arrested
 b. Er kam und *(ihm) wurde geholfen.
he came and him.DAT was helped
 c. Hann kom og (honum) var hjálpað.
he came and him.DAT was helped

Another argument, taken from Sigurðsson (in press), is that most Icelandic quirky constructions can easily be embedded under control verbs, as in (31a), whereas this is impossible in similar German constructions (31b):

- (31) a. Ég vonaðist til að verða hjálpað.
I hoped for to be helped
 b. *Ich hoffte geholfen zu werden.
I hoped helped to be

Both tests indicate that the Icelandic datives are in A-positions, which also follows from our analysis of the datives as binding agreement, whereas the German datives in corresponding examples are in A-bar positions.

If German as argued is a language of the Icelandic type, i.e. a language with anaphoric agreement, it is not obvious how cases like (29) should be analyzed. Since the form of the agreement affix is always 3rdSG in these cases, one possibility would be to assume that default agreement, as we

²² In a recent paper, Barðdal (2002) argues that the differences between Icelandic and German with respect to the syntactic status of Oblique experiencers are much smaller than hitherto has been assumed.

seem to have here, is pronominal and not anaphoric in nature. Being pronominal and not anaphoric, no antecedent is allowed to locally bind the agreement affix, which in such a case will get an arbitrary reading. This would be in line with my conclusion above that the German dative that corresponds to an Icelandic oblique subject, actually is in an A-bar position.

Since it could be claimed that allowing both pronominal and anaphoric agreement in one and the same language weakens my proposal, I must at least give empirical support for the idea that such a variation within a single language is possible. As a matter of fact, there seems to be a number of languages where such an analysis is called for. Consider e.g. the following data from Hebrew, taken from Shlonsky (1997, 116), showing that null subjects are admitted in conjunction with first and second person agreement, but not with third person agreement:

- (32) a. (/ani xosev se-) tixt' vi
I think.MSG that 2nd FSG-write story
 '(I think that) you will write a story.'
- b. *(/ani xosev se-) yixt' vu sipur
I think.MSG that 3rd PL-write story
- c. (/ani xosev se-) hem yixt' vu sipur
I think.MSG that they 3rd PL-write story
 '(I think that) they will write a story.'

The asymmetry displayed in (32) is easily handled within the proposal given here if 1st and 2nd person agreement are analyzed as pronominal in nature, whereas 3rd person is anaphoric.

4.3 Null subjects in Icelandic and German

If it is true that default agreement in German is pronominal and not anaphoric in nature, it follows that there must never be a DP binding this type of agreement. This holds true for impersonal passives (33a), as well as for other types of impersonal constructions (33b); in these examples there is no overt subject:

- (33) a. (Ich weiß) daß (*es) getanzt wird.
I know that it danced is.3rdSG
 'I know that people is dancing.'
- b. Heute ist (*es) Montag.
today is.3rdSG it Monday

There is no DP available in these cases that may function as a binder of agreement. Notice that German cannot have an expletive subject *es* in cases like these.

Although Icelandic, as claimed, has access to oblique subjects that presumably agrees invisibly with (anaphoric) agreement, there are other cases where Icelandic, like German, lacks a subject altogether, and hence seems to use pronominal agreement. Below in (34) to (39) I will present six types, taken from Sigurðsson (1989, 161ff.); notice that the verb is in 3rdSG in all cases.²³

(34) **Weather verbs**

Ígær ringði.
y'day rained.3rdSG
 'It rained yesterday.'

(35) **Impersonal passives**

Verður farið til Ítalíu á morgun?
will-be.3rdSG. gone to Italy tomorrow

(36) **Extraposed clause or infinitive**

Ekki er alltaf gaman [að læra mál].
not is.3rdSG always pleasant to learn languages
 'It is not always pleasant to learn languages.'

(37) **The impersonal present participle construction**

Við Ólaf er ekki talandi.
with Olaf is.3rdSG not talking
 'Olaf is impossible to talk with.'

(38) **The optional ergative construction**

Ekki skal harma þetta.
not shall.3rdSG deplore this
 'This should not be deplored.'

²³ In his presentation of cases with null subjects in Icelandic, Sigurðsson (1989, 162) also includes the existential construction. In this case, however, the verb agrees with the logical subject, and it will hence not be analyzed as having default (pronominal) agreement with arbitrary reading:

(i) *Voru stundum mýs í baðkerinu.*
 were.3rdPL sometimes mice in the bathtub

(39) **The impersonal modal construction**

Ekki má gleyma raðherranum.
not may.3rdSG forget minister.the
 ‘The minister must not be forgotten.’

In these cases I assume 3rdSG to be externally merged within VP, and internally merged in Spec-vP; in both positions it is probed by T, leading to the deletion of all uninterpretable features present in the structure. As Sigurðsson (1989, 163f.) mentions, it is possible to have a sentence initial expletive *það* ‘it, there’ in all these construction. This expletive is not a subject, however, and it seems clear that it is not in an A-position binding agreement. This is also what we expect, given our analysis that agreement is pronominal and not anaphoric in these cases.²⁴

5. Concluding discussion

In this paper I have outlined a theory for the relation between agreement and thematic roles, arguing that agreement is a theta-role bearer, either directly, when agreement is externally merged in a theta position, or indirectly, when agreement is internally merged, heading an argument chain. Agreement is analyzed as an affix or a clitic. Like true clitics, it is either pronominal or anaphoric in nature, hence either locally free (Principle B) or locally bound (Principle A). This distinction enables me to account for the fact that some languages with rich subject verb agreement are null subject languages, like Italian, Spanish and Arabic, whereas others are not, like German and Icelandic. The Italian type of languages has pronominal agreement, whereas the Icelandic type of languages has mainly anaphoric agreement. My account directly explains why both types of agreement languages have verb raising, and it has clear predictions for the structural properties of visible subjects in the Italian type of null subject languages. I have also offered an explanation for the fact that Icelandic but not German has oblique subjects.

In conclusion, the reader should notice that described in the way I have proposed here, agreement languages like Italian and Icelandic are not fundamentally different from polysynthetic languages, as they are described in Baker (1996). It is typical for such languages that DPs are not found in argument positions, but are adjoined to the structure, where

²⁴ A possible explanation of the role of *það* could proceed along the following line. For agreement to be able to get its meaning from the context, it must have access to the Left Periphery. *Það* might signal that there is no such link to the context, hence the only available interpretation of agreement would be the arbitrary reading.

agreement affixes of various kinds are representing the thematic roles. As Baker (1996, 10) shows for Mohawk, the sentence corresponding to *He likes it* consists of a single word, as in (40a), and when the subject and the object are specified as *Sak* and *her dress*, respectively, these DPs can be added in any logically possible order:

- (40) a. Ra-núhwe'-s (V)
 ^{3rdSG} like-HAB
- b. Sak ra-núhwe'-s ako-[a]tyá'tawi. (SVO)
 Sak like her-dress
- c. Ra-núhwe'-s Sak ako-[a]tyá'tawi (VSO)
 like Sak her dress
- d. Ra-núhwe'-s ako-[a]tyá'tawi ne Sak (VOS)
 like her dress NE Sak
- e. Ako-[a]tyá'tawi ra-núhwe'-s ne Sak (OVS)
 her dress like NE Sak
- f. Ako-[a]tyá'tawi Sak ra-núhwe'-s (OSV)
 her dress Sak like
- g. Sak ako-[a]tyá'tawi ra-núhwe'-s (SOV)
 Sak her dress like

From the perspective taken in this paper, polysynthetic languages are at one end of a continuum, where every thematic role is carried by an agreement affix. Italian-like languages and Icelandic-like languages are in the middle of this continuum, having some thematic roles expressed by affixes, others by DPs. Languages like English and Chinese are at the opposite end, since in these languages thematic roles are usually always expressed by full DPs (including personal pronouns). The presence of null arguments in Chinese-like languages where no agreement is at hand is understood as a kind of Topic drop in line with Huang (1984), see Platzack (2002a) for a recent discussion.

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