

Some Remarks on Agreement and
Incorporation

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0. Introduction¹

In many languages of the world, the verbal inflection contains an element, commonly labelled “agreement”, reflecting the person and number categories of the subject of the sentence. Three typical examples are given in (1) below, with the relevant inflections underlined:

(1) a. *Spanish (Indo-European, Romance):*

Yo hablo. ‘I speak.’

b. *Navajo (Athabaskan):*

Shí yáshti. ‘I speak.’

c. *Miskitu (Macro-Chibchan):*

Yang aisisna. ‘I speak.’

In these examples, the agreement is “construed with” an overt subject—in this instance, with the independent first person singular pronominal subject *yo*, *shí*, *yang* ‘I’. But, depending upon the “richness” of the subject agreement inflection in a given language, the syntactic subject may be nonovert instead. This is an option in the three languages just illustrated. Thus, besides (1), we also find (2) below:

1. Some of the material appearing here was presented at the 1987 Athabaskan Linguistics Conference, University of Victoria, and at the 1987 Harvard Celtic Colloquium. I wish to thank participants at those events for their discussion and comments. I am especially grateful to Eloise Jelinek, whose work on problems of agreement and configurationality in several language families is inspirational.

- (2) a. *Spanish*:
 Hablo. 'I speak.'
 b. *Navajo*:
 Yásh^hti. 'I speak.'
 c. *Miskitu*:
 Aisisna. 'I speak.'

This alternative is sometimes referred to as "null-anaphora", and a language which utilizes it is sometimes referred to as a "pro-drop" or "null subject" language. We do not, as yet, fully understand the nature of the "richness" condition on the use of null-subjects, but it is quite generally the case that languages whose subject agreement is in fact rich enough to license subject pro-drop use this as an *option*, grammatically speaking, not as a necessity. That is to say, it is normally the case that overt subjects may cooccur with subject agreement inflection in the verb word.

Modern Irish is an exception to this (cf. McCloskey and Hale, 1984)—as are certain other verb-initial languages, such as Breton (cf. Stump, 1984) and Yaté Zapotec (Van Valin, 1987). In Modern Irish, as is well known, verbal inflection for the person and number categories of the grammatical subject is incompatible with overt syntactic expression of the subject argument. Thus, in (3) below (from McCloskey and Hale, 1984:488), the independent subject pronoun *tú* may not appear in the syntactic subject position, i.e., immediately following the verb, which is inflected for second person singular conditional (CND2s):

- (3) Dá gcuirfeá isteach ar an phost sin gheobhfá é.
 (if put-CND2s in on the job that get-CND2s it)
 'If you applied for that job, you would get it.'

And, of course, while Irish has a form corresponding to (2) above (i.e., (4a) below), it does not have a form corresponding to (1), hence the ill-formedness of (4b):

- (4) a. Labhraím. 'I speak.'

- b. *Labhraím mé.

In short, we have a typological difference among languages in relation to the use of null-anaphora in connection with subject agreement. In some languages, evidently the majority, the use of null-subjects is simply an option—from the point of view of sentence grammar, in the narrow sense of the term, setting aside the discourse conditions on its use. But in certain other languages, represented in our sample by modern Irish, the use of the null-subject is obligatory where the verb is inflected for person and number of the subject. The purpose of this paper is to explore one possible explanation for this difference among languages.

1. An elementary theory of person-number agreement.

In addition to subject agreement, of the type exemplified above, it is also common for languages to have object agreement. Thus, for example, in Navajo, the verb of (5) below contains a prefix *yi-* construed with the third person object:

- (5) L^hí í' dzaanééz yi-z-tał.
 (horse mule 3o-PERF-kick)
 'The horse kicked the mule.'

As this sentence shows, the object agreement cooccurs with the overt object argument *dzaanééz* 'mule.' Thus, Navajo exhibits the same behavior in relation to subjects and objects—in both cases, the verbal agreement morphology may cooccur with overt syntactic expression of the arguments. And in both cases, null-anaphora is possible, thus:

- (6) Yiztał.
 'He kicked him.'

Both the subject and the object are "dropped" here. And both are represented in the verbal morphology (though, of course, third person is phonologically zero within the subject person-number paradigm, as is

commonly the case among languages of the world).

While null-anaphora in object position is optional in Navajo, there are languages in which it is obligatory—just as it is obligatory for subjects in Irish. Such a language is Dogrib, a Northern Athabaskan relative of Navajo. In that language, the following pattern is to be observed (from Saxon, 1986:59):

- (7) a. Cheko kwik'í nà-ì -zhì.
(boy gun ADV-PERF-break)
'The kid broke the gun.'
- b. Cheko nà-y ì -ì -zhì.
(boy ADV-3o-PERF-break)
'The kid broke it.'
- c. *Cheko kwik'í nà-y ì -ì -zhì.
(boy gun ADV-3o-PERF-break)

Here, the presence of object agreement is in complementary distribution with the presence of an overt NP argument in object position. Accordingly, (7c) is ill-formed and (7b) shows obligatory null-anaphora.

Of course, Irish does not have object agreement in its verbal system, but it does have a system of so-called "pronominal prepositions." These are simply prepositions inflected for agreement with their objects. Here again, Irish requires null-anaphora—object agreement may not cooccur with overt expression of the object with which it is construed. Hence the ill-formedness of (8c) below:

- (8) a. le Máire
'with Mary'
- b. léi
(with: 3fs)
'with her'
- c. *léi Máire

In this respect, Dogrib conforms to the Irish pattern in showing obligatory null-anaphora in the presence of object agreement, as the following

sentences show (from Saxon, 1986:54):

- (9) (a) Johnny mbeh t'â det' ɔ nâ-ì -t'a.
(Johnny knife with duck ADV-PERF-cut)
'Johnny cut up the duck with the knife.'
- b. Johnny ye-t'â det' ɔ nâ-ì -t'a.
(Johnny 3o-with duck ADV-PERF-cut)
'Johnny cut up the duck with it.'
- c. *Johnny mbeh ye-t'â det' ɔ nâ-ì -t'a.
(Johnny knife 3o-with duck ADV-PERF-cut)

Dogrib uses postpositions instead of prepositions, but the facts of the language are identical to those of Irish in the relevant respects. The postposition may not bear object agreement in the presence of an overt argument in object position. This accounts for the ill-formedness of (9c). The well formed sentences (9a, b) illustrate the complementarity between agreement and the syntactic expression of the object as an overt NP.

Navajo, which uses postpositions in the manner of its northern relative Dogrib, differs from the latter language in permitting inflected postpositions to cooccur with overt object NPs:

- (10) (a) Akałii ł ł ł ł ł'óół y-ee yi-z-loh.
(cowboy horse rope 3o-with 3o-PERF-rope)
'The cowboy roped the horse with a rope.'
- (b) Y-ee yi-z-loh.
(3o-with 3o-PERF-rope)
'He roped it with it.'

In (10a), the object of the instrumental postposition is overt and cooccurs with object agreement. In (10b), all overt nominals are dropped. In terms of agreement morphology, the two sentences are identical.

We have seen that languages may differ according to whether they require null-anaphora in the presence of agreement morphology. In some languages, if the head of a lexical category (e.g., verb (V), or adposition (P)) is inflected for the person and number of the argument it governs,

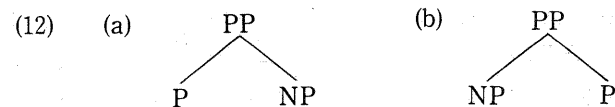
this latter argument must be non-overt in its canonical syntactic position—i.e., null-anaphora is obligatory. In other languages, on the contrary, the governed argument may be overt—so, null-anaphora is optional. This null-anaphora parameter yields the classification set out in (11) below, where the lexical categories are inflected for person and number of the mentioned arguments, and the notation “obl” stands for “obligatory” null-anaphora:

(11)	Subject	Object of V	Object of P
Dogrib	non-obl	obl	obl
Irish	obl	...	obl
Navajo	non-obl	non-obl	non-obl

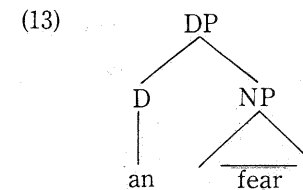
Of these languages, only Irish shows obligatory null-anaphora in the subject function. Navajo and Irish are perfect opposites along the null-anaphora parameter (though, of course, Irish does not inflect its verbs for object agreement), while Dogrib represents a mixed system, opposing subject and non-subject: Irish represents a minority in one respect, in that it requires null-anaphora of the subject. While the sample presented here is small, it is in fact representative of languages of the world, since obligatory null-anaphora of the subject function is relatively rare.

We have two primary purposes: (1) to give an elementary characterization of the distinction between obligatory and non-obligatory null-anaphora, and (2) to attempt to explain why Irish permits obligatory null-anaphora of subjects, while the other languages do not. To address the first of these purposes, we must develop an elementary theory of agreement.

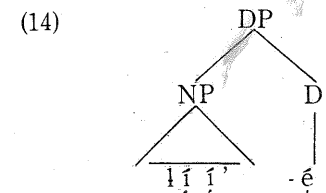
Let us consider the adposition first, since this category inflects for person and number in all three of the languages. The basic structure of the Irish prepositional phrase can be represented as in (12a) below, while that of the two Athabaskan languages is as depicted in (12b):



The two structures differ only according to the position of the “head” of the construction. Irish is a “head-initial” language consistently, while Athabaskan is consistently “head-final”. In all other respects, the structures are identical in the three languages. In particular, in all three, the adposition (P, for preposition or postposition) governs an argument which, in traditional parlance, belongs to the category NP, subsuming not only “noun-phrase” proper, but also phrases headed by pronouns and other determiners. In more recent work on the structure of argument expressions, they are held to have two “heads”, one a functional head and the other a lexical head (cf. Abney, 1987). The functional head is the determiner (D); and the lexical head, if present, is the noun (N). Thus, a lexically headed argument expression is both a DP (determiner phrase) and an NP (noun phrase). For example, the Irish expression *an fear* ‘the man’ takes the form depicted in (13) below:



Correspondingly, the Navajo definite expression *tʰiʰ-ʂe* ‘the (afore-mentioned) horse’ has the structure depicted in (14):



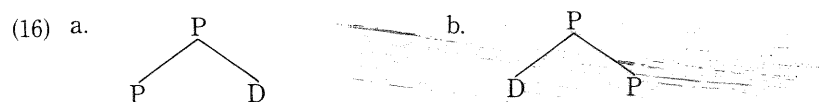
Here again, Irish is head-initial, the Athabaskan language head-final.

Although this is somewhat debatable, we will take the position here that a pronominal argument is simply a DP which lacks an NP complement (cf. Postal, 1966), as illustrated below, for Irish (15a) and Navajo (15b):



With this background, we can introduce our elementary theory of agreement. We propose that agreement is effected by means of the process of incorporation, as suggested for Irish by Armstrong (1977) and Pranks (1983), for Breton by Anderson (1982) and Stump (1984), and for Dogrib by Saxon (1986, 1989).²

According to the incorporation theory of person-number inflection, an inflected adposition, like Irish *liom* 'with me' or Dogrib *ye-t'ã* 'with it', is a compound formed by adjoining the pronominal element—which belongs to the category D, by hypothesis—to the adposition P, yielding a word of the form given in (16a) or (16b), depending upon the linear ordering of the two elements entering into the compound:



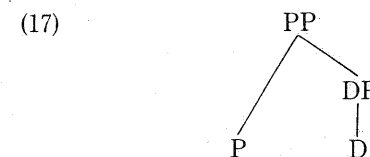
The Irish inflected preposition takes the form (16a), while the Dogrib inflected postposition takes the form (16b). The inflection of other categories (e.g., the verb) would, according to this view, proceed along the same lines.

We now have an elementary theory of the morphology of person-number inflection—i.e., we have a proposal concerning the manner in which an inflected word is formed. We must now concern ourselves with the

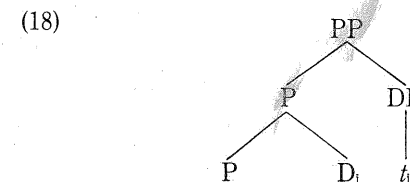
2. Both Saxon and Stump argue against the suggested incorporation analysis. Saxon notes cases in which complementarity fails to hold. Some of these might be compatible with an incorporation analysis according to which the trace of an incorporating pronoun is "spelled out" under specific conditions—e.g., when accompanied by a modifier of some sort, as in the PP construction /nɪ̄ xãrẽ ne-ts'õ / (you self you-to) 'to you specifically' (Saxon, 1989: 155).

question of how the languages we are considering come to differ in respect to null-anaphora. Why is it obligatory in some, optional in others?

Let us consider first the behavior of adpositions in Irish and Dogrib. In both of these languages, an inflected adposition is incompatible with overt expression of the object in canonical object position. This would follow automatically if the inflection itself *were* the argument. And this in turn would follow automatically if the incorporation process were *syntactic*—i.e., if it applied to a syntactic structure of the form given in (17), incorporating the pronoun—i.e., the D—into the adposition (leaving a trace, presumably, in conformity with the general structure preservation requirement on movement rules):



Incorporation would be effected by the general transformational rule "Move Alpha" (cf. Chomsky, 1981), in its "head-movement" variant (cf. Baker, 1988). This would adjoin the pronoun (i.e., D) to its governor, the preposition (P), yielding (18) below:



This is essentially the structure of Irish *liom*; that of Dogrib *ye-t'ã*, in (9b) above, is essentially the same, except for the linear order of the component morphemes, of course—in Dogrib, as expected, the head (P) follows the pronominal element (D). The fundamental property of (18), however, is not the ordering; rather, it is the fact that the incorporation was effected by a *syntactic* rule, leaving a trace, and utterly precluding

thereby the possibility of overt expression of an argument in the basic object position in syntax.

How, then, does Navajo differ from Irish and Dogrib? It apparently does *not* differ from these languages in terms of the morphology of the relevant categories—in each case, the morphology is affixal. Rather, Navajo differs from the other two in terms of the syntactic characteristic that it permits affixal agreement to cooccur with an overt object. This would be impossible if Navajo agreement were effected by a syntactic rule of incorporation, as suggested for Irish and Dogrib.

In Navajo, person-number inflection is “agreement” in the traditional sense—i.e., it is what might, for the present purposes, be called “pure agreement”. Pure agreement, like case, belongs to the system which renders arguments “visible” to relevant syntactic elements (lexical and functional heads) to which they stand in distinguished structural relations. Agreement and case assignment are, of course, syntactic in nature. But the relations they reflect are not realized by syntactic movement. Rather, they are the strictly local sisterhood relations determined by the unambiguous projection of category and syntactic structure from lexical items.³ It has been suggested by Luján (Luján and Hale, in preparation), that the mechanism which is implicated here is the percolation of features, along the shortest path, from head to argument (for case) and, reciprocally, from argument to head (for agreement). The fact that agreement and incorporated D elements may, in their morphic constitution or shape, be identical across related languages is not particularly problematic to this view—in both cases, the same abstract sets of pronominal features are involved; only the mechanism of argument-to-head transferal differs. Ignoring any possible cross-systemic phonological coincidence, I will maintain a rigid distinction between the two types of person-number inflection, calling the one “incorporation” and the other “(pure) agreement”.

3. For some discussion of the notion “unambiguous projection of syntactic structure”, see Hale and Keyser, 1989.

We can assume that the function of Navajo agreement is to acknowledge the person-number categories of the object argument, as part of the visibility requirement on theta-role assignment. By contrast, in Dogrib and Irish, the inflection is literally *identified* with the argument—the person-number inflection *is* the argument, in an obvious sense, in virtue of the fact that it has been incorporated from the argument position by means of a movement rule in syntax.

The foregoing constitutes an elementary theory of person-number agreement and of the observed typological variation within the system. It is appropriate now to turn to the final problem—namely, an account of subject agreement and the contrast there between Irish and Athabaskan.

2. Subject agreement

The two Athabaskan languages agree with respect to the use of null-anaphora for subjects—it is non-obligatory in both languages. Assuming that the account given in the preceding section is plausible, then it is reasonable to assume that the relevant process in those languages is subject agreement, pure and simple, not incorporation. By contrast, since null-anaphora is obligatory in Irish, i.e., since the presence of subject person-number inflectional morphology in the verb precludes overt expression of the syntactic subject, it is reasonable to assume that the inflection is effected by *syntactic* incorporation in that language.

Let us suppose that this is the correct account of the difference between Athabaskan and Irish. While this is descriptively adequate, it is not altogether satisfactory, since it fails to reflect the fact that the Irish phenomenon is somewhat rare, while the Athabaskan situation could not be more common. One wonders, therefore, whether the Irish behavior might not be tied to some other feature of the language. Does the linguistic *type* to which Irish belongs have anything to do with the fact that it requires null-anaphora in the presence of subject person-number inflection?

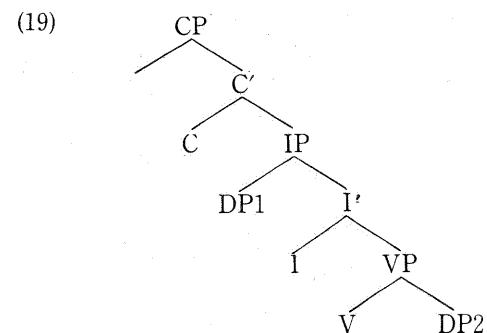
We can put the question another way. Would it be possible for an Athabaskan language, of the type represented by Navajo and Dogrib, to exhibit the Irish behavior in regard to null-anaphora of subjects? Let us speculate momentarily that it would not be possible. Why might this be?

It is well known that there is a syntactic asymmetry between the subject and the object. The asymmetry consists in part in the fact that the subject is not *properly* governed—in particular, it is not *lexically* governed. If the subject is not properly governed in the Athabaskan languages, then the typological position of these languages in regard to null-anaphora of subjects would follow instantly from the theory of movement. Incorporation of a pronoun (D) into the verb would leave an ungoverned trace—violating a general condition to the effect that all traces must be properly governed (cf. Chomsky, 1981). Therefore, these languages could not use *syntactic* incorporation to effect verbal inflection for subject person and number features. Only “pure agreement” can be involved here, i.e., agreement in the sense of the standard morphological reflection, or “acknowledgement”, of the relation holding between a syntactic head and an associated complement or specifier. From this it follows that Athabaskan does not require null-anaphora in subject position; it *could* not require it.

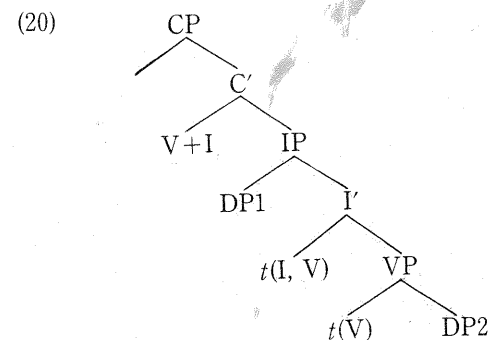
This accounts for Athabaskan, assuming that our assumptions are correct. But what about Irish? Why is it possible for that language to *require* null-anaphora in the presence of subject person-number inflection?

According to the line of argument we have been considering here, subject position must be *properly governed* in Irish. In fact, it must be governed by the verb. Otherwise, a subject pronoun could not incorporate into the verb without violating the above-mentioned general constraint on movement—to the effect that traces must be properly governed. This fits in well with the analysis of Deprez and Hale (1985), following in part the analysis of Welsh presented by Richard Sproat (1985), according to which the surface word order of Irish is derived by means of leftward movements of the verb into the functional categories INFL (inflection,

glossed I in tree representation) and COMP (complementizer, glossed C). In this view of Irish syntax, the basic structure of an Irish verbal sentence is that given in (19) below:



The first argument here, DP1, is the subject, and the second, DP2, is the object. As is well known, Irish is superficially a VSO (verb-subject-object) language, contrary to what is suggested by the deep structure representation (19). Evidence in favor of (19) for Celtic generally is quite strong (cf. Sproat, 1985), and it will be accepted here without further comment. The surface order can be derived by means of the head-movement variant of Move-Alpha, which moves the verb, adjoining it successively to I and then to C, yielding (20) below:



In the derived structure (20), the inflected verb (V+I, an adjunction

structure raised to the head of the C-projection) properly governs the subject. The government relation is possible, in part because the category IP (i.e., S) is not a barrier to government, and in part because the chain formed by the inflected verb and its trace determines the governing category of the subject (see the following section for further remarks).

Given these assumptions, a pronoun occupying DP1 position could incorporate into V at the syntactic level of representation, yielding the desired results. Null-anaphora would be obligatory, by virtue of the syntactic movement. Hence the observed difference between Irish and the Athabaskan languages.

In the following section, I briefly examine independent evidence in favor of the notion that the subject is within the government domain of the verb in VSO languages. The evidence is drawn from Irish and makes reference to some recent work on resumptive pronoun objects in that language (Deprez and Hale, 1985).

3. On V-fronting and the governing category of the subject.

As is well known, so-called direct relativization is obligatory for the subject in Irish, if that argument is directly subjacent to the "leniting" complementizer (symbolized *aL* by McCloskey) which connects it to the head of the relative clause, whether that complementizer is unique (as in (21a) below) or forms a chain of more than one such complementizers (as in "long-distance" relativization of the type exemplified by (21b)):

- (21) a. an fear *a dhíol t* an domhan
 'the man who sold the world' (McCloskey, 1979 : 5)
- b. an t-Aire *a deir siad a dúirt t go raibh an cogadh thart*
 'the minister that they say said the war was over'
 (McCloskey, 1979 : 17)

We assume that direct relativization is effected by the general rule Move-Alpha, applying successive cyclically in structures of the type

represented by (21b). Accordingly, a trace (*t*), is left in the d-structure position of the relativized argument. We can assume further that the complementizer introducing the relative clause is coindexed with the head of the relative structure, in both direct and indirect relatives. It is by means of this coindexation that the head NP (or DP) is "connected" to the relative clause (and, therefore, properly interpreted in relation to it); in the case of long-distance direct relativization, as in (21b), the entire chain of complementizers is coindexed with the head. When we make reference below to the "relevant" complementizer (normally italicized in example sentences), we mean that complementizer, coindexed with the head, which is closest to the position of the relativized argument.

By contrast, indirect relativization, we can assume, does not involve movement; a resumptive pronoun appears in the position of the relativized argument, and the oblique relative complementizer, termed "nasalizing" by McCloskey (and symbolized *aN* by him) is utilized. Indirect relativization of a subject is impossible if that argument is immediately subjacent to the complementizer connecting the relative clause to the head (and coindexed with the latter). Hence:

- (22) *an fear *a ndíolann sé* an domhan
 'the man who sells the world' (McCloskey, 1979 : 6)

Like the subject, the object undergoes direct relativization, as exemplified by (23) below:

- (23) a. an scríbhneoir *a mholann na mic léinn t*
 'the writer whom the students praise'
 (McCloskey, 1979 : 6)
- b. an t-úrscéal *a mheas mé a thuig mé t*
 'the novel that I thought I understood'
 (McCloskey, 1979 : 17)

But unlike the subject, the object may also undergo indirect relativization, as in the following:

- (24) a. an scríbhneoir *a* molann na mic léinn *é*
 'the writer whom the students praise'
 (McCloskey, 1979:6)
- b. an t-úrscéal *ar* mheas mé gur thuig mé *é*
 the novel that I thought I understood'
 (McCloskey, 1979 : 155)

A subject may of course undergo indirect relativization if it is not directly subjacent to the relevant complementizer, thus (25) is grammatical:

- (25) an fear *ar* mheas mé go raibh *sé* ann
 'the man that I thought was there'
 (McCloskey, 1979 : 142)

As expected, this has a direct relative variant in which the relativized argument is subjacent to a chain of leniting complementizers:

- (25') an fear *a* mheas mé *a* bhí *t* ann

In general, indirect relativization is obligatory if a barrier of any sort intervenes between the position of the relativized argument and the relevant complementizer. Most maximal projections (CP=S', DP or NP, PP, details aside) constitute barriers in this sense for Irish (cf. McCloskey, 1979, for full discussion of matters having to do with constraints on discontinuous dependencies in Irish).

I turn now to a consideration of the subject-object asymmetry just exemplified. Why, we might ask, is direct relativization obligatory in the case of an immediately subjacent subject (i.e., a subject not separated from the relevant complementizer by some barrier)? And why are both relativization patterns equally possible in the case of an object?

It is perhaps not surprising that indirect relativization is quite regularly observed when a barrier intervenes between the relativization site and the relevant complementizer. But with subjects, indirect relativization is *impossible* if no barrier intervenes, suggesting that the resumptive pro-

noun associated with that strategy cannot be "too close" to the relevant complementizer. It is natural to ask whether this has anything to do with the surface VSO word order in Modern Irish tensed clauses.

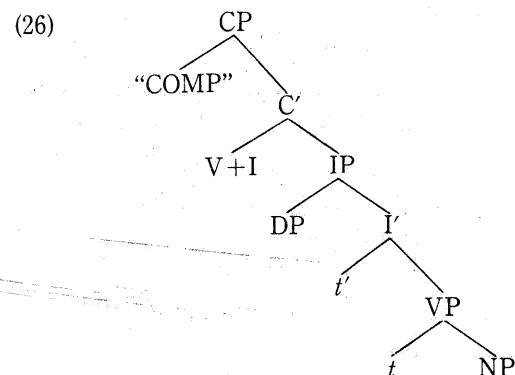
The subject position is evidently properly governed in the VSO order, and the grammaticality of sentences like (21b) supports this claim for Irish (cf. Chung, 1983, on the VSO language Chamorro; but see also Sproat, 1985, for an opposing position and a counterargument based on Welsh). Since the complementizer is proclitic to the verb, it does not seem unreasonable to suggest that the subject is within the governing category (cf. Chomsky, 1981, and elsewhere) which contains the complementizer. If this is correct, then it is quite possible that indirect relativization of a subjacent subject would violate the principle according to which a pronoun must be free within its governing category.

Sproat (1985) has argued persuasively that the VSO order observed in Irish and Welsh tensed clauses is derived by verb-fronting, from a d-structure configuration of the more familiar sort. We accept his arguments for this and propose that the movement proceeds through the INFL position (i.e., I, head of IP), terminating in the position defined by X-bar theory (e.g., as assumed in Chomsky, 1984) as the head of the complementizer system (i.e., C head of CP; cf. also Fassi Fehri, 1982, and Chomsky, 1986 a, b). I will assume that the Modern Irish element I have so-far referred to as the "complementizer" is in reality an operator situated at d-structure in the specifier position of the CP system, its relation to the latter being analogous (morphophonologically and structurally) to that of a genitive pronominal within the nominal system.

The subject argument, as generally assumed in recent work, occupies the specifier position within the INFL system. The subject is said to agree with the head of INFL, thereby satisfying the visibility requirement, even where neither the INFL nor the verb exhibits overt person and number marking. The verb acquires its tense inflection, and therefore subject-agreement, as a function of its movement into, and adjunction to, the head of INFL. In Irish, except where incorporation takes place, only tense and mode are marked in the V+I complex resulting

from verb raising.

The s-structure of an Irish tensed clause, under the above assumptions, is as depicted in (26) below:



The lowest trace (t) is that of the verb in its original d-structure position; the intermediate trace (t') is that of the verb together with its inflection (I, head of IP), acquired through movement to INFL. In its final s-structure position, the head of CP by assumption, the inflected verb (V+I) precedes the subject. This movement of the verb is presumably required by case theory, since case is regularly assigned rightward in Irish—and in other VSO languages, as well (cf. Sproat, 1985, and references cited there, for relevant discussion and argumentation). The position designated “COMP” is the specifier position of CP, to which the Irish relativizing “complementizers” (e.g., *aL*, *aN*) are assigned.

Assuming the s-structure (26), we can say with relative confidence why it is that the object argument permits both direct and indirect relativization, in cases where “COMP” represents the relevant complementizer element.

First, direct relativization is possible because no barrier intervenes between the object position and the relevant complementizer in (26), under the prevailing view that IP and VP are not barriers (cf., for example, Chomsky, 1986b, where IP is simply not a barrier inherently, and VP barrierhood is circumvented by the possibility of VP-adjunction

in the course of movement).

And second, indirect relativization is possible because the resumptive pronoun appearing in that construction is free in its governing category. Although the resumptive pronoun is referentially linked to the head of the relative clause, and therefore to the relevant complementizer, the latter is in CP, while the resumptive is in IP. The IP is the governing category of the object argument, since it is the IP which satisfies the defining criteria of that structural domain:

- (27) The governing category GC of A is the minimal category: (i) which contains A , the governor of A , and a subject; and (ii) in which there is a possible indexing compatible with the Binding Theory (i.e., such that an anaphor is bound in GC and a pronoun is free in GC). (Modified from Chomsky, 1986a)

Where the object corresponds to A in (27), its governing category is clearly IP, assuming that its governor is the trace of V and that the NP in specifier position of IP is a subject, as is surely the case. Furthermore, if the subject and the object are differentially indexed, then requirement (ii) of (27) is also met, since the object is free in GC under that condition. On the other hand, if the object were coindexed with “COMP”, as would be the case if it were a resumptive pronoun, it would still be free in its GC, since “COMP” is external to that domain. The resumptive would not, therefore, violate condition B of the Binding Theory (i.e., the condition requiring that a pronoun be free in its governing category; cf. Chomsky, 1981).

The situation is somewhat more complicated in the case of the subject. There is, of course, no mystery as to the reason why direct relativization is possible—no barriers separate the subject from “COMP”. The question is rather this: Why is indirect relativization impossible?

If we take IP to be the governing category of the subject, then indirect relativization ought to be possible; and IP is a candidate for the GC, since the requirements of (27) are all met there. Coindexing with “COMP”—which we assume to be the mechanism which expresses the referential

dependence of a resumptive pronoun on the head of the relative clause—would not violate the Binding Theory, since “COMP” is external to IP.

All of this assumes that the Binding Theory is what is at work here. This may be incorrect, of course, since the binder at issue, i.e., “COMP”, is not in an argument position—it is an A-bar binder and is therefore irrelevant to the Binding Theory as generally understood, regardless how “close” it is to the bound argument. I will persist, however, in this possibly misguided line of thought and assume that the Binding Theory, and the notion governing category, are implicated in some way. If so, then IP cannot be the governing category of the subject, not in the relevant sense, at least.

The structure set out at (26) above, supposing that to be the correct structure for Irish tensed clauses, reveals another candidate for the office of GC for the subject, namely, CP. Government of the subject is, in fact, ambiguous in this structure, since both *t'* and V+I stand in the relation of governor. The relations involved are not unlike those in English clauses of the type represented by (28) below:

(28) The women like their children.

Here, the NP *their*, in the specifier position of the object NP, is governed both by the verb *like* and by the noun *children*, though perhaps only “improperly”. In this English case, the governor relevant to the Binding Theory (at least insofar as condition B is concerned) is the noun, not the verb. If this observation were extended straightforwardly to the Irish case, then *t'*, not V+I, would be the relevant governor, making IP, not CP, the governing category. This would give the wrong result, as we have seen.

But the Irish structure at issue here is not directly comparable to the English one. There is an essential difference. In (26) the contending governors of the subject are *one and the same element*, i.e., the inflected verb (V+I) and its trace (*t'*). Moreover, the subject is coindexed with these governors, by virtue of the agreement relation inherent in the INFL projection. This is a special circumstance, we suggest, and we propose

that the governor of the subject—the *proper* governor, since it has lexical content—consists in the elements of the chain formed by verb movement from I (the head of IP) to C (the head of CP). Since, according to (27), the governing category of *A* must contain its governor, if *A* is the subject, then it follows that its governing category must be CP (cf. Borer, 1984, for the intellectual origins of this aspect of the analysis being entertained here).

Now let us make the following further assumption: When CP is a governing category (by virtue of verb-movement), the Binding Theory applies within it in the *ordinary* manner, without regard for the usual distinction between A-bar and A-binding. In this conception of the matter, we depart from Aoun (1981), while accepting what we take to be the essential spirit of that work—i.e., the idea that the conditions of the Binding Theory constrain both sorts of binding. Our position differs in that we suppose that the A/A-bar distinction is simply obliterated in the case of verb-movement into the head of CP.

With these assumptions, we can now explain the impossibility of indirect relativization of subjacent subjects in Irish. A subject resumptive pronoun in the upper NP position in (27) would, if coindexed with “COMP”, violate condition B of the Binding Theory (cf. Borer, 1984, for an analogous account for Hebrew).

The above scenario accounts for the facts as I understand them. However, certain aspects of the account are questionable. It is not certain, for example, that there is an explanation for the behavior of the object under relativization. Although both options (direct and indirect relativization) are *possible* under our account, it is not clear why both should be utilized, particularly in view of the fact that other similar languages (e.g., Welsh; cf. Harlow, 1981) exhibit just a single variant—that corresponding to Irish direct relativization. Moreover, it is not clear why the reasoning employed in relation to the subject should not apply equally well to the object.

The governor of the subject, by hypothesis, is defined as the chain formed by the verb in its upward migration through INFL and into the

head of CP; and, as a consequence, the latter category is the GC of the subject. By the same reasoning, however, CP is also the GC of the *object*. And if this is so, then only direct relativization should be possible for that argument, just as it is the only possibility for the subject. To be sure, the fact that the subject is coindexed with the inflected verb (and is thus in a special relationship with it) might possibly justify distinguishing the two GCs in the manner suggested above. But it is by no means obvious that this should be so, and we must give consideration to the alternative according to which the subject and object share the identical governing category, i.e., CP.

Under this alternative conception of the relevant GCs, we are left with the problem of explaining the fact that the object argument may be relativized indirectly and, therefore, be represented by a resumptive pronoun.

In this connection, it is difficult to resist the temptation to relate this phenomenon to another well-known fact of Irish—namely, the idiosyncrasy of that language that object pronouns regularly (though not obligatorily) extrapose leftward from their basic VP-internal position, giving, for example, (29a) as a preferred variant of (29b):

- (29) a. Chonaic sé anuraidh í.
 'He saw her last year.'
 b. Chonaic sé í anuraidh.

I suggest that direct relativization applies to an object in its d-structure position, i.e., the position in which it is immediate sister to the verb (or to its trace, as in ((29b) above). This is obligatory, since the GC of the object is the CP, and indirect relativization would result in a violation of condition B of the Binding Theory, just as would indirect relativization of a subject.

A postposed object, on the other hand, might conceivably permit indirect relativization. This possibility would relate the behavior of objects under relativization to another property of Irish which is equally worthy of note. It is reasonable to assume that postposed objects are

adjuncts (perhaps to the VP node), rather than immediate sisters to the verb. We would further propose that adjuncts, not being properly contained in the VP, do not have a governing category in the same sense as do arguments—they do not require lexical government (the notion "lexical government" being correlated in part with appearance in an argument position).

It is evident that the governing category for the subject extends to CP, since it is this category that contains the lexical governor and thereby conforms to (27). The CP is also the governing category of the d-structure object, by the same reasoning. On the other hand, if lexical government is not required by an adjunct, the trace of the verb will qualify alone as its relevant governor, and its governing category will then be IP, since, with respect to the adjunct, that is the minimal category within which all requirements of (27) are met. And if this is so, we can account for the fact that objects in Irish allow indirect relativization—the resumptive pronoun, an adjunct, is not bound in its governing category.

On this view of the matter, Irish behaves as expected with respect to relativization; the observed surface forms are exactly as expected. The sole language specific property being the extraposition, i.e., adjunction, of pronominal objects.⁴

4. Some implications and problems

If obligatory null anaphora in subject position is dependent upon that position being governed, as it evidently is in Irish (and certain other VSO languages), then we must assume that the rarity of obligatory null-subjects in other types of languages is due to the circumstance that the verb does not govern the subject in those languages. In particular, Athabaskan languages could not exhibit obligatory null anaphora in

4. See Sells, 1984, and Déprez and Hale, 1985, for discussion of non-final resumptive pronouns.

subject position, because the subject is not governed—i.e., not *properly* governed.

There are certain conceptual problems with this line of argument. For one thing, it is not clear that verb-initial and verb-final languages differ in relation to the governing category of the subject argument. The functional elements INFL and COMP appear in sentence-final position in many V-final languages, including Navajo and Dogrib, and furthermore, these elements typically combine with the verb to form a single word at surface structure. Assuming, therefore, that the verb raises to INFL and to COMP in Navajo, say, we have no reason to doubt that the subject would be properly governed in that language, as we assume it to be in Irish. The configurations would be the same in the two cases, differing only in the left-right positioning of the head—left in Irish, right in Navajo. Of course, this last factor may, in fact, be relevant—D-incorporation may require adjacency as well as government. If so, the linguistic type represented by Navajo or Dogrib would be expected to lack obligatory null-anaphora for subjects—i.e., to lack subject D-incorporation—since the dual requirement of government and adjacency is not met there.

While the adjacency factor might indeed be relevant to this question, an interesting alternative explanation is suggested by some recent work of Speas, who proposes that raising to adjunction cannot be string vacuous (Speas, 1990). In head-final languages, accordingly, verbal inflection would have to be by lowering, not raising, in which case the verb would not move to a position from which it would properly govern the subject—incorporation from that position would, therefore, be impossible. In head-initial languages, verb raising with adjunction to INFL would not be string-vacuous, since it would cross the subject. By hypothesis, then, verb raising is possible in Irish, resulting in the evident reformation of the governing category of the subject in that language.

I must point out that any explanation of the distribution of obligatory null-anaphora must confront the fact that there are (apparent, if not real) counterexamples to the general observation that verb-initial languages exhibit subject null-anaphora more readily than do verb-final languages.

One such counterexample is the SOV Chibchan language Rama (Craig, 1988). In that language, bound subject pronouns occur in mutually exclusive alternation with free pronoun subjects, suggesting incorporation of essentially the Irish type. Textually, the bound pronominals in Rama are used primarily for arguments which correspond to “old information” (C. Craig, p.c.). It is not unreasonable to speculate that the alternation between bound and free pronominal elements is controlled by principles of discourse, and the bound pronominals might, therefore, be positioned in the verb word at the PF level of representation, rather than in the derivation of s-structure where the government requirement for incorporation must, by hypothesis, be satisfied. This idea will, however, have to contend with the fact that Rama dependent pronominals are fully integrated into the verb word, where, for example, they follow the prefixed, possibly incorporated, relational preverb elements (Craig, 1988; Craig and Hale, 1988).

There is a second problem for the incorporation theory of obligatory null-anaphora. If the government and adjacency relations resulting from verb raising permit D-incorporation in verb-initial structures, why is noun incorporation not allowed from subject position? So far as I know, noun incorporation from subject position is generally excluded, regardless of word-order type (Baker, 1988; Mithun, 1984). The solution to this problem might come from a consideration of the fact that pronominals and nouns come from distinct category types. The incorporation of functional category heads (like D, assuming pronominals to represent that category) may well be governed by principles distinct from those governing the incorporating lexical heads (like N). One possibility which has suggested itself is that relativized minimality (cf. Rizzi, 1987; Baker and Hale, 1989) is at work here. Incorporation of a subject noun would involve crossing a barrier determined by the trace of the verb of the clause. Under the appropriate notion of relativized minimality, the verb, a lexical head, would project a barrier for a noun, also lexical, but not for a pronominal, since, by hypothesis, this is a functional head D. But certain details remain to be worked out, since the status of the inter-

mediate trace at the head of the I-projection (i.e., t' in (26), $t(I, V)$ in (20)) is not at all clear—this trace is presumably the relevant “closer governor”. Does this count as lexical or functional? If lexical only, then the suggested conception of minimality will correctly block N-incorporation while allowing D-incorporation. But if it (also) counts as functional, then D-incorporation will be blocked as well.

Assuming that the questions just raised will receive answers which do not contradict the basic theme of this essay, the distribution of obligatory null-anaphora, in association with person-number inflection, can be explained under the view that the phenomenon broadly termed “agreement” must be seen as representing two distinct relations in grammar: (1) agreement proper and (2) pronoun incorporation. It is the second which corresponds to obligatory null-anaphora, and its scarcity in subject position is due to general constraints on incorporation—subjects are generally excluded from incorporation. That D-incorporation occurs at all is partly a function of verb raising, which puts the subject into a domain which is (by hypothesis) properly governed. In verb-initial languages, verb raising also effects an adjacency relation, which may also be required for D-incorporation from subject position.

References

- Abney, S. (1987) *The English Noun Phrase in its Sentential Aspect*, MIT Doctoral Dissertation.
- Anderson, S. (1982) “Where’s Morphology?” *Linguistic Inquiry* 13. 571-612.
- Aoun, J. (1981) *On the Formal Nature of Anaphoric Relations*, Doctoral Dissertation, M.I.T., Cambridge, Massachusetts.
- Armstrong, J. (1977) *The Syntax of Verbal Noun in Modern Irish Prose (1600-1650)* Harvard University Doctoral Dissertation.
- Baker, M. (1988) *Incorporation: a Theory of Grammatical Function Changing*. The University of Chicago Press.

- _____, and K. Hale (1989) “Relativized Minimality and Pronoun Incorporation.” McGill University and MIT ms.
- Borer, h. (1984) “Restrictive Relatives in Modern Hebrew,” *Natural Language and Linguistic Theory* 2, 219-260.
- Chomsky, N. (1981) *Lectures on Government and Binding*. Dordrecht: Foris.
- _____, (1986a) *Knowledge of Language*. New York: Praeger.
- _____, (1986b) *Barriers*. Cambridge, Massachusetts: MIT Press.
- Chung, S. (1983) “The ECP and Government in Chamorro,” *Natural Language and Linguistic Theory* 1, 207-44.
- Craig, C.G. (1988) *A Grammar of Rama*. University of Oregon ms.
- _____, and K. Hale. (1988) “Relational Preverbs in Some Languages of the Americas: Typological and Historical Perspectives.” *Language* 64:312-344.
- Deprez, V., and K. Hale (1985) “Resumptive Pronouns in Irish.” In P. Jeffries and W.J. Mahon (eds.) *Proceedings of the Harvard Celtic Colloquium* 5:38-48.
- Fassi Fehri, A. (1982) *Linguistic Arabe: Forme et Interprétation*. Publications de la Faculté des Lettres et Sciences Humaines, Université Mohammed V, Rabat, Morocco.
- Fukui, N (1986) *A Theory of Category Projections and its Applications*, MIT Doctoral Dissertation
- Gerdts, D., and K. Michelson, eds. (1989) *Theoretical Perspectives on Native American Languages*. State University of New York Press.
- Hale, K., and S.J. Keyser. (1989) “On the Syntactic Character of Thematic Structure,” (to appear).
- Harlow, S. (1981) “Government and Relativization in Celtic,” in F. Heny, ed., *Binding and Filtering*, M.I.T. Press. pp. 213-254.
- Luján, M., and K. Hale (in preparation) “On the Theory of Lexical Projections.”
- McCloskey, J. (1979) *Transformational Syntax and Model Theoretic Semantics: A Case Study in Modern Irish*, Dordrecht: Reidel.
- _____, and K. Hale (1984) “On the Syntax of Person-Number Inflection

- in Modern Irish," *Natural Language and Linguistic Theory* 1.487-533.
- Mithun, M. (1984) "The Evolution of Noun Incorporation." *Language* 60: 845-895.
- Postal, P. (1966) "On So-called Pronouns in English," in Denneen, F. (ed.) *Nineteenth Monograph on Languages and Linguistics*, Georgetown University Press.
- Pranka, P. (1983) *Syntax and Word Formation*, MIT Doctoral Dissertation.
- Rizzi, L. (1987) "Relativized Minimality." Université de Genève, ms.
- Rothstein, S. (1983) *The Syntactic Forms of Predication*. Cambridge, Massachusetts: MIT Doctoral Dissertation.
- Saxon, L. (1986) *The Syntax of Pronouns in Dorgib (Athapaskan): Some Theoretical Consequences*, UCSD Doctoral Dissertation.
- _____. (1989) "Agreement in Dogrib: Inflection or Cliticization?," in Gerdts and Michelson, eds. pp. 149-162.
- Sells, P. (1984) *Syntax and Semantics of Resumptive Pronouns*, University of Massachusetts Dissertation.
- Speas, M. (1986) *Adjunctions and Projections in Syntax*. Cambridge, Massachusetts: MIT doctoral Dissertation.
- _____. (1990) "Inflectional Morphology and the Mirror Principle." University of Massachusetts-Amherst, ms.
- Sproat, R. (1985) "Welsh Syntax and VSO Structure," *Natural Language and Linguistic Theory* 3.173-216.
- Stump, G. (1984) "Agreement vs. Incorporation in Breton," *Natural Language and Linguistic Theory* 2.289-348.
- Van Valin, R. (1987) "Word Order and Verb Agreement in Yaté," *Davis Working Papers in Linguistics* 2.115-118.