

**ERGATIVITY:  
TOWARDS A THEORY OF A HETEROGENEOUS CLASS**

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Abstract

The theory of Case and agreement presented in Bittner and Hale 1996 reduces the traditional distinction between syntactic and morphological ergativity to a structural difference — namely, opacity or transparency of VP to government from C. This hypothesis is tested against detailed evidence from Inuit (opaque) and Warlpiri (transparent). The complex Case and agreement systems of both languages are fully accounted for, and it is shown that the proposed structures further explain other structure-sensitive phenomena (minimal scope options, obviation, and A'-control). In each area, the differences with respect to transparency have predictable consequences, and the similarities follow from universal syntactic principles.

*Keywords:* Case, agreement, A'-binding, scope, Inuit, Warlpiri.

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**1. Syntactic and morphological ergativity.**

An examination of virtually any collection of ergative languages reveals rather quickly that they do not belong to a homogeneous class. For example, the distinction between “syntactically” and “morphologically” ergative languages has been recognized at least since Dixon’s (1972) classic study of the Australian language Dyirbal. Descriptively speaking, a language with ergative case or agreement morphology is syntactically ergative if it also has other nominative-oriented phenomena—that is, phenomena that distinguish the nominative relation (i.e., intransitive subject and transitive object) from the ergative (i.e., transitive subject), ranking the nominative higher in prominence.

In Dyirbal nominative-oriented phenomena include relativization and topic chaining. In relativization the nominative-orientation manifests itself as the constraint that the gap must correspond to the nominative argument. Thus, in the intransitive relative of (1a) the gap corresponds to the subject, whereas in the transitive relative of (1b) it corresponds to the object.<sup>1</sup> In other words, only the nominative argument is accessible to relativization (see the accessibility hierarchy in Keenan and Comrie 1977).

(1) *Dyirbal* (Dixon 1972)

- a.  $\eta$ uma yabu- $\eta$ gu \_ banaga- $\eta$ u-rru bura-n  
father [mother-ERG<sub>i</sub> [ $ec_i$  return-REL-ERG]] see-NFUT  
'Mother, who was returning, saw father.'
- b. balan dyugumbil \_ jaja- $\eta$ gu burra- $\eta$ u nyina-nyu  
[CL woman<sub>i</sub> [ $ec_i$  child-ERG watch-REL]] sit-NFUT  
'The woman the child is watching is sitting down.'

The Dyirbal sentences of (2) illustrate the nominative-orientation of topic chaining. A topic chain is a sequence of clauses where the "topic" of each non-initial clause is non-overt and anaphorically linked to the "topic" of the preceding clause. In Dyirbal only the nominative argument is prominent enough to serve as the "topic".

(2) *Dyirbal* (Dixon 1972)

- a.  $\eta$ uma yabu- $\eta$ gu bura-n \_ banaga-nyu  
father<sub>i</sub> mother-ERG see-NFUT [ $ec_i$  return-NFUT]  
'Mother saw father<sub>i</sub> and he<sub>i</sub> returned.'
- b.  $\eta$ uma yabu- $\eta$ gu bura-n \_ jaja- $\eta$ gu  $\eta$ amba-n  
father<sub>i</sub> mother-ERG see-NFUT [ $ec_i$  child-ERG hear-NFUT]  
'Mother saw father<sub>i</sub> and the child heard him<sub>i</sub>.'

Because of nominative-oriented phenomena, the transitive nominative in syntactically ergative languages is more prominent than the transitive object in languages of more familiar types. Early theories of syntactic ergativity (e.g., Hale 1970, Dixon 1972, Marantz 1981, 1984) explained this by analyzing the transitive nominative as the subject, like the intransitive nominative. This analysis, however, is refuted by subject-oriented phenomena, which identify the ergative as the subject. For example, universal constraints ensure that only subjects can be controlled (Chomsky 1981). In

Dyirbal the controlled argument of a transitive clause is the ergative (as in (3b)), not the nominative. Control, therefore, identifies the ergative as the subject.

(3) *Dyirbal* (Dixon 1994)

- a. yara-ηgu mija wamba-n  
man-ERG house build-NFUT  
'The man built the house.'
- b. yara-ηgu \_ mija wamba-n ηuyma-n  
man-ERG [PRO house build-NFUT] do.properly-NFUT  
'The man built the house properly.'

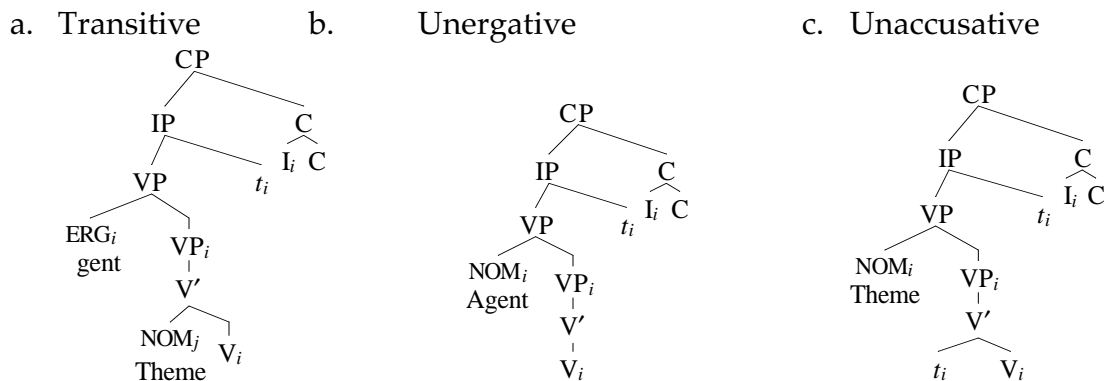
Thus, a syntactically ergative language exhibits dual behavior. In addition to subject-oriented phenomena (such as control), which identify the conventional subject relation, it has syntactic phenomena that are nominative-oriented (e.g., in Dyirbal, relativization and topic chaining). These identify the nominative as another syntactically significant relation and rank that relation above the ergative in prominence.<sup>2</sup> In contrast, in a language of the morphologically ergative type the only nominative-oriented phenomenon is the ergative pattern of Case or agreement morphology. Syntactically, the subject outranks the object, like in the familiar accusative type.

These typological characteristics receive a natural account within the theory of Case and agreement presented in Bittner and Hale 1996. In that theory subject properties are associated with the VP-internal subject position (see Koopman and Sportiche 1985, 1991, amongst others). The subject is adjoined to the VP, and it is coindexed with it to satisfy the requirements of the predication theory (Williams 1980). Since the subject is thus distinguished by the predication relation from other adjuncts, it is referred to as the *distinguished adjunct*. The VP-adjoined subject position must be

filled at S-Structure, to satisfy the requirements of the Extended Projection Principle (EPP), and it is the highest A-position. It is this position which is accessible to control.

In a morphologically ergative language both arguments of a transitive verb are licensed in situ at S-Structure (as in (4a)). This is possible because the entire clause is transparent to government. The transparency is induced by  $X^\circ$  movement (Baker 1988) or other syntactic processes that establish  $X^\circ$  binding relations (see section 2). Being generated in the highest A-position (distinguished adjunct of VP), the ergative subject outranks the nominative object also at the level of S-Structure, since both arguments are licensed in situ. The intransitive nominative is as prominent as the transitive ergative, because it either originates in the VP-adjoined subject position (as in the unergative (4b)) or raises to that position to satisfy the EPP (as in the unaccusative (4c)).

(4) “Morphological” ergativity

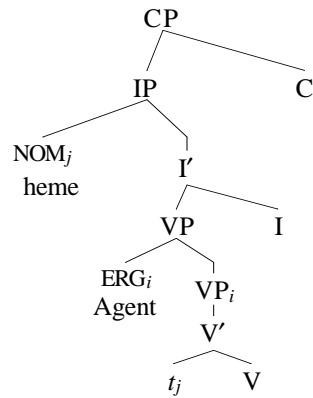


In contrast, in a syntactically ergative language the VP is opaque to government at S-Structure. The nominative argument (i.e., the object of the transitive (5a) and the subject of the intransitive (5b–c)) must therefore raise to [SPEC, IP] to satisfy a filter that requires it to be governed by C or K (*K Filter*, see section 2). Since no argument ever originates there, [SPEC, IP] is classified as an A'-position; thus, raising to [SPEC, IP] is an instance of A'-movement.<sup>3</sup> It is this A'-raising which gives rise to nominative-oriented phenomena. Such phenomena involve A'-dependencies (like relativization and topic chaining in Dyirbal) or other dependencies sensitive to hierarchical relations that

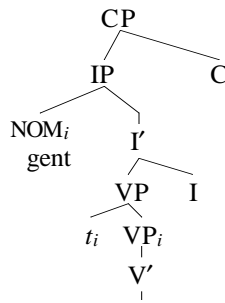
hold at S-Structure. Consequently, they rank the nominative argument in [SPEC, IP] as more prominent than the VP-adjoined ergative subject.

(5) “Syntactic” ergativity

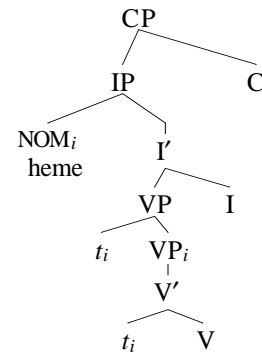
a. Transitive



b. Unergative



c. Unaccusative



In this article, we apply this theory to two ergative languages, West Greenlandic Inuit and the Central Australian Pama-Nyungan language Warlpiri, which we maintain represent the syntactic and morphological types respectively. Initial evidence that Inuit is syntactically ergative comes from relativization, which is nominative-oriented as in Dyirbal:

(6) *Inuit*

- a. arna-p            \_    ani-sima-su-p            angut taku-v-a-a.  
 [woman-ERG<sub>i</sub> [ec<sub>i</sub> go.out-PRF-REL[-tr]-ERG]] man see-IND-[+tr]-3SG.3SG  
 ‘The woman who had gone out saw the man.’
- b. arna-t            \_    miiqqa-p isiginnaa-ga-i            mirsur-p-u-t  
 [woman-PL<sub>j</sub> [ec<sub>j</sub> child-ERG<sub>i</sub> watch-REL[+tr]-3SG<sub>i</sub>.PL]] sew-IND[-tr]-3PL  
 ‘The women the child is watching are sewing.’

We show that the theory explains this fact (section 3) as well as other phenomena where Inuit and Warlpiri diverge from one another. These phenomena include structural Case assignment (section 3), minimal scope options (section 4), pronominal agreement

(section 5), obviation (section 6), and control (section 7). Throughout the discussion we presuppose the theory of Case and agreement presented in Bittner and Hale 1996. The basic ideas of that theory are briefly reviewed in the following section.

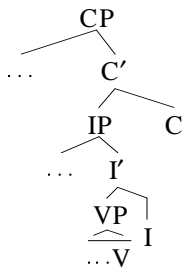
## 2. Structural determination of Case and agreement.

In this theory the ability of an  $X^\circ$  head to assign structural Case, or to enter into pronominal agreement relations, is determined by the *configuration* of the government domain of that head (not the *category* of the head, as in Chomsky 1980ff). The principles involved in this structural determination are discussed in the following two subsections.

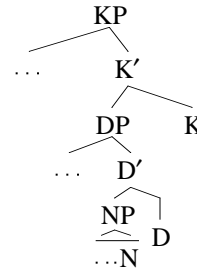
### 2.1. Structural Case

Syntactically, Case is a functional head—to be precise, it is the nominal counterpart of the verbal category C. Thus, the functional category Case, abbreviated K, forms the uppermost projection in the extended projection of the lexical category N, paralleling the structural position of the functional category C in the extended projection of the lexical category V (cf. Grimshaw 1991). The determiner (D) heads the intermediate projection in the nominal system, just as I heads the intermediate projection in the verbal system. The parallel verbal and nominal systems are depicted in (7a–b).

(7) a.



b.





Nominals in morphologically marked Cases are KPs, whereas nominals in the nominative Case are K-less.<sup>4</sup> A K-less nominal must be c-commanded and governed by a “K-equivalent”—that is, either C or K—to satisfy the *K Filter* (see (18)). This explains why the nominative normally lacks any Case morphology, and why it tends to raise to [SPEC, IP]. In that position it is “assigned Case”—that is, the governing K-equivalent (C) enables it to satisfy the K Filter. The overt Case categories, headed by K, embrace two distinct types corresponding to the traditional categories of morphologically marked structural Case and inherent Case (Chomsky 1986b). They must likewise be licensed. Marked structural Cases are Ks that originate empty. They must therefore be antecedent-governed at S-Structure, to satisfy the Empty Category Principle (ECP, Chomsky 1981, 1986a). For each empty K, the antecedent-governor (“Case assigner”) determines its overt realization as accusative, ergative, or oblique. Inherent Cases, on the other hand, are underlyingly filled Ks that are selected (“assigned”) by governing  $X^\circ$  heads. These heads must be lexical because KP, a fully extended projection, can only be selected by a lexical category (Grimshaw 1991). Furthermore, as an instance of selection, inherent Case assignment must take place at D-Structure, in order to satisfy the Projection Principle, and it is impossible in Exceptional Case Marking (ECM) configurations. The table in (8) below summarizes the basic elements of the theory.

(8)

	<i>Unmarked Case</i>	<i>Marked structural Case</i>	<i>Inherent Case</i>
<i>K present?</i>	no	yes	yes
<i>K at D-Structure</i>	---	empty	filled
<i>Licensing condition</i>	K Filter	ECP	Projection Principle

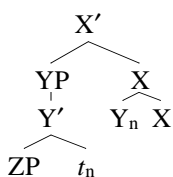
The antecedent-government requirement of the ECP is met under the following conditions (cf. Chomsky 1986a):

(9) DEFINITION:

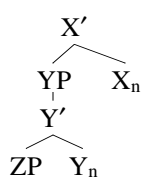
$\alpha$  antecedent-governs  $\beta$ , iff  $\alpha$  governs and either binds or Case-binds  $\beta$ .

The government relation assumed here is essentially standard (Chomsky 1986a, Baker 1988). Thus, in incorporation structures of the type schematically represented in (10a), the maximal projection (YP) of the incorporated head ( $Y_n$ ) is transparent to government from the host head (X). More generally, maximal projections are rendered transparent by syntactic processes that derive “discontinuous heads.” Head movement is one example of such a process; another is head binding (i.e., c-command and coindexation), schematically represented in (10b). The government domain of X is the same in both structures of (10).

(10) a.



b.

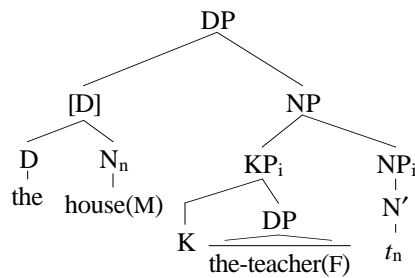


In (11b), which represents the possessed nominal of (11a) at S-Structure, there are two empty  $X^\circ$  heads: the trace ( $t_n$ ) of an incorporated noun ( $N_n$ ), and the empty K of the NP-adjoined subject (cf. Ritter 1991). The trace satisfies the antecedent-government requirement of the ECP in virtue of being governed and bound by the incorporated head, like the trace in (10a). The empty K, on the other hand, satisfies it in virtue of being governed and *Case-bound* by D.<sup>5</sup>

(11) *Hebrew* (Ritter 1991)

- a. ha-bayit      shel ha-mora  
 the-house(M) GEN the-teacher(F)  
 ‘the (female) teacher’s house’

b.



The Case-binding relation holds under the conditions set out in (12):

(12) DEFINITION:

Let  $\alpha$  be an  $X^\circ$  head that delimits a small clause and let  $\beta$  be an argument.

Then  $\alpha$  *Case-binds*  $\beta$  (and the  $X^\circ$  head of  $\beta$ ), iff (a) and (b) hold:

- a.  $\alpha$  locally c-commands  $\beta$   
 b.  $\alpha$  governs a Case competitor for  $\beta$ .

In (11b) these conditions are met by D in relation to the subject  $KP_i$  and its empty K. First of all, D delimits a small clause. Its NP complement is a small clause—that is, an adjunction structure of the form  $[_{XP} YP_i XP_i]$ , where X is lexical (N, V, A, or P), and Y, functional (D, K, I, or C). This small clause is delimited by its  $X^\circ$  head ( $t_n$ ) from below and by D, a governing functional head, from above. Secondly, the NP-adjoined subject  $KP_i$  qualifies as a (syntactic) argument since it occupies an A-position, according to (13):

(13) DEFINITION:

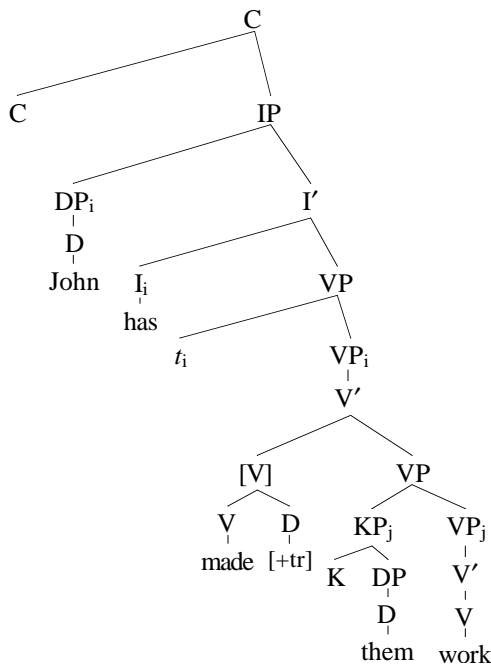
An *A-position* is the position of a complement, specifier, or distinguished adjunct, of a lexical head.

Thus, D will Case-bind the empty K of the subject  $KP_i$  if the conditions in (12a–b) hold. Clearly, D c-commands the subject (Reinhart 1976). The c-command relation is local, as required by (12a), since no other argument, or head that delimits a small clause, intervenes between D and the subject. Condition (12b) is also met, since D governs the incorporated noun ( $N_n$ ) and this qualifies as a Case competitor for the subject. A Case competitor for an argument is a K-less nominal (i.e., N, NP, D, or DP) that is both close enough and yet independent. In (11b), the incorporated noun ( $N_n$ ) meets both of these requirements in relation to the subject ( $KP_i$ ). The empty K of the subject is therefore Case-bound by the governing D and thereby satisfies the antecedent government requirement of the ECP.

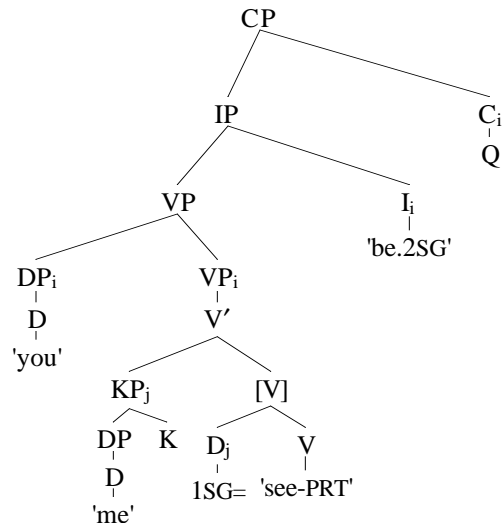
In the ECM construction (14a), which is represented at S-Structure by (15a), the transitive matrix verb contains a (covert) transitivity marker D that is base-generated in the V-adjoined position. This adjoined nominal head qualifies as a Case competitor for the embedded subject  $KP_j$ , because it bears the same structural relation to it as the incorporated noun,  $N_{iv}$ , does to the subject  $KP_i$  in (11b). Thus, the matrix verb in (15a) Case-binds the empty K of the subject  $KP_j$ , enabling that K to satisfy the ECP.

- |         |  |                    |
|---------|--|--------------------|
| (14) a. | John has made them work.   | ECM in English     |
| b.      | man yang ra ai=kaik-i sma ki?<br>you me ACC 1SG=see-PRT be.2SG Q<br>'Do you see me?' | NOM-ACC in Miskitu |

(15) a.



b.



Unlike inherent Case, then, marked structural Case can be assigned in Exceptional Case Marking configurations. In fact, there is nothing exceptional about this. In the canonical nominative-accusative construction, represented by the Miskitu sentence (14b), the underlyingly empty K of the object KP is also licensed in virtue of Case competition from a V-adjoined D (here realized as object agreement). The S-Structure representation of this sentence is depicted in (15b) (see Bittner and Hale 1995b).

Since the empty Ks in (11b), (15a), and (15b), satisfy the ECP and have overt DP complements, they are realized as overt Case markers. For the direct Cases (accusative and ergative) the realization conventions have a universal core. In (15a) and (15b) this core predicts that both empty Ks will be realized as accusative Case.

(16) *Direct Case Realizations*

If  $\alpha$  Case-binds an overt empty-headed KP  $\beta$ , then the empty K of  $\beta$  is realized as:

- a. ERG, if  $\alpha$  is I (or D);
- b. ACC, if  $\alpha$  is V (or P) and has an adjoined D.

The parenthesized material represents parametric options. For example, in addition to being assigned by I, ergative Case may also be assigned by D, the nominal counterpart of I (see (7)). In such a language the empty K in (11b) would be realized as ergative Case (as in (24) in Inuit). Otherwise, its realization is predicted to be oblique (e.g., genitive, as in Hindi and Hebrew). Oblique realizations are determined by language-specific conventions exemplified by (17), for Warlpiri, and (17'), for Inuit: <sup>6</sup>

(17) *Oblique Case Realizations (Warlpiri)*

If  $\alpha$  Case-binds an overt empty-headed KP  $\beta$  and does not meet the conditions of (16a–b), then the empty K of  $\beta$  is realized as DAT.

(17') *Oblique Case Realizations (Inuit)*

If  $\alpha$  Case-binds an overt empty-headed KP  $\beta$  and does not meet the conditions of (16a–b), then the empty K of  $\beta$  is realized as:

- a. INS, if  $\alpha$  is lexical and  $\beta$  is a complement;
- b. DAT, if  $\alpha$  is V and  $\beta$  is not a complement;
- c. ABL, if  $\alpha$  is N and  $\beta$  is not a complement.

The above principles determine the distribution of marked structural Cases—that is, underlyingly empty Ks. The K-less nominative must satisfy the K Filter (18), which requires it to be “assigned Case”, by being appropriately related to K or C, and rules out “double Case assignment” (cf. the Case Filter of Chomsky 1980, 1981, 1986a). <sup>7</sup>

(18) *K Filter*

Let  $\alpha$  be a K-less nominal (DP or NP) with a non-empty  $X^{\circ}$  head and let  $\alpha$  head an argument chain  $\beta$ .<sup>8</sup> Then (a)  $\alpha$  is c-commanded and governed by K or C, and (b)  $\beta$  does not contain any Case-bound position.

In English the nominative subject satisfies the K Filter by raising to [SPEC, IP] (as in (15a)). In Miskitu, on the other hand, it satisfies it in situ (as in (15b)). In this language the VP-adjoined subject position is governed by C, because C binds I at S-Structure rendering IP transparent (cf. (10b)). We will sometimes refer to nominative arguments as “bare” DPs (in Inuit) or “bare” NPs (in Warlpiri).<sup>9</sup>

## 2.2. *Pronominal agreement.*

Syntactically, pronominal agreement is a relation between an argument and a local functional head. More accurately, it is a relation between an argument chain and a functional head that *canonically* antecedent-governs a designated position in that chain. Canonical antecedent-government is defined as in Chomsky 1981:

(19) DEFINITION:

$\alpha$  *canonically antecedent-governs*  $\beta$ , iff  $\alpha$  governs and binds  $\beta$ .

The designated position for agreement is either the head of the argument chain (giving *head agreement*, as in Miskitu, Inuit, and Warlpiri) or the foot (giving *foot agreement*, as in English). The latter option may give rise to the appearance of “specifier-head” agreement with I (cf. Chomsky 1991, 1993), if the argument involved has raised from the VP-adjoined subject position to [SPEC, IP] (as in (15a)). In either type of agreement system, an accusative object may agree with its Case competitor, the V-adjoined D, since (the trivial argument chain whose head and foot coincide with) the object is governed and c-commanded by this functional head. It follows that accusative object agreement (with the V-adjoined D) must be adjacent to the verb, whereas nominative subject agreement (with I or C) may be more peripheral (as in (15b)).

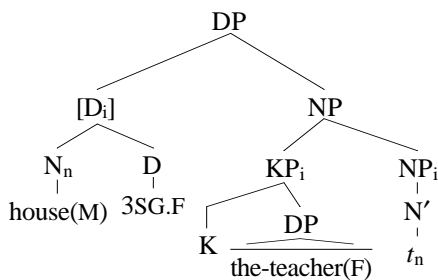
While structural Case may cooccur with pronominal agreement, neither phenomenon implies the other. For example, in Hebrew possessed nominals optionally allow agreement (as in (20a), the agreeing counterpart of (11a)). This option arises

because the NP-adjoined subject—that is, the possessor—may be coindexed at S-Structure with the governing D (as in (20b)). This enables D to both agree with this argument and assign marked structural Case to it. Agreement is possible, because D is a functional head that governs and binds the NP-adjoined subject. On the other hand, the ability of D to assign marked structural Case (in (20b) as well as (11b)) is due to the independent fact that it also Case-binds the subject. It therefore Case-binds its underlyingly empty K, enabling that K to satisfy the ECP and determining its overt realization (here, genitive) at S-Structure.

(20) *Hebrew* (cf. Ritter 1991)

- a. beyt-a        shel ha-mora  
     house-3SG.F GEN the-teacher(F)  
     ‘the (female) teacher’s house’

b.



Thus, structural Case assignment does not entail pronominal agreement. Conversely, an agreeing functional head need not participate in the assignment of any structural Case. That is, it is possible for such a head to be neither a Case binder (cf. the main D in (20b)) nor a Case competitor (cf. the V-adjoined D in (15b)). For example, in (15a) I agrees with the trace of the subject. However, since the subject is nominative, a bare DP, it owes its ability to satisfy the K Filter to C, not to I. In general, then, structural Case and pronominal agreement are independent phenomena.



### 3. Ergativity and transparency.

This theory makes a general prediction about ergative Case systems. An ergative system arises when the transitive verb fails to Case-bind its object, because it does not govern any Case competitor for this argument, while I Case-binds the VP-adjoined subject (cf. Bok-Bennema and Groos 1984). Thus, the object is nominative and the subject, ergative.

Within these limits, however, there is room for variation. In particular, the nominative object may satisfy the K Filter either by raising to [SPEC, IP] (like the nominative in English (15a)) or in situ (like the nominative in Miskitu (15b)). The object will be licensed in its underlying position within VP, if the clause is sufficiently transparent at S-Structure for C to govern that position. We therefore predict two types of ergative languages, “raising” and “transparent”, which we equate with the traditional typological categories of “syntactic” and “morphological” ergativity.

#### 3.1. *Syntactic ergativity due to raising.*

Inuit, we maintain, exemplifies the syntactically ergative type. That is, C does not govern into VP at S-Structure. More precisely, Inuit verbal clauses of the type exemplified in (21) have S-Structure representations depicted in (22) (cf. (5)):

(21) *Inuit*

a. arna-t        mirsur-p-u-t

woman-PL    sew-IND-[-tr]-3PL

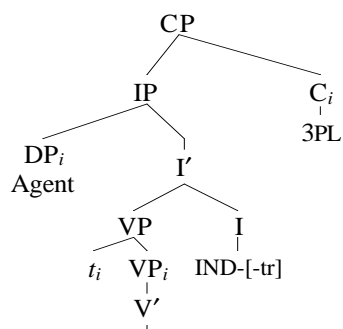
‘The women are sewing.’

b. Juuna-p     miiqqa-t    paar(i-v)-a-i

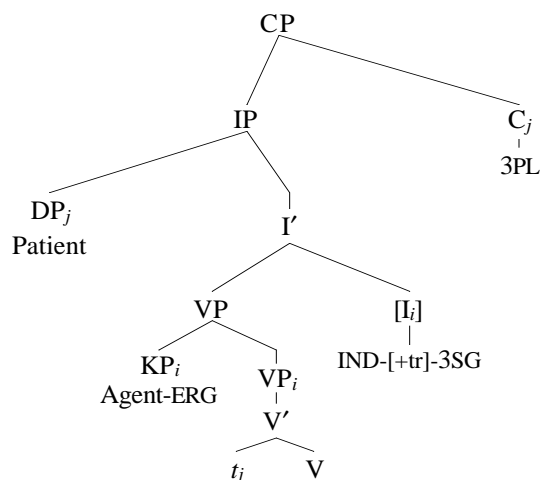
Juuna-ERG    child-PL    look.after-IND-[+tr]-3SG.3PL

‘Juuna is looking after the children.’

(22) a. Intransitive clause



b. Transitive clause



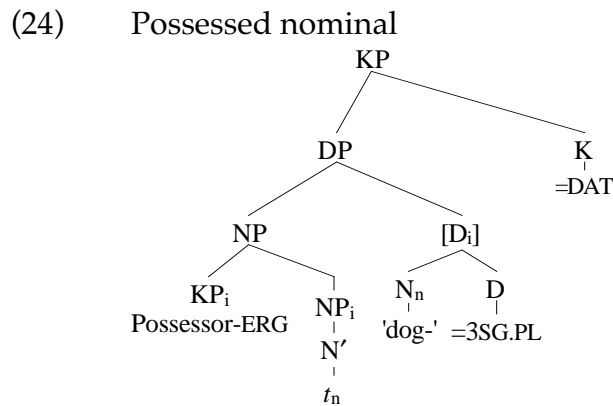
The intransitive (22a) contains a single argument chain. This consists of  $DP_i$  in [SPEC, IP] and its trace,  $t_i$ , in the VP-adjoined subject position. Neither position is Case-bound, because there is no independent nominal element to serve as a Case competitor. Since the head of the chain,  $DP_i$ , is also c-commanded and governed by C, the K Filter is satisfied. In the transitive (22b) it is the object chain, headed by  $DP_j$ , which is constrained by this principle. Here, too, the requirements of the K Filter are met:  $DP_j$  is c-commanded and governed by C, and no position in the chain is Case-bound. Neither  $DP_j$  itself nor its trace  $t_j$  is Case-bound, because they are locally c-commanded by C and V, respectively, and neither of these heads governs the VP-adjoined subject, the only candidate for a Case competitor in the clause. So in both structures of (22) the nominative argument satisfies the K Filter by raising to [SPEC, IP].

In the transitive (22b) the raised nominative object in [SPEC, IP] qualifies as a Case competitor for the VP-adjoined subject. In addition to that, it is governed by I, which locally c-commands the subject. Since I also delimits a small clause (i.e., VP), it Case-binds the subject. It follows that the subject cannot be nominative, on the pain of violating the K Filter. Instead, it is assigned a marked structural Case. That is to say, it is a KP headed by an underlyingly empty K. At S-Structure the empty K satisfies the

ECP, in virtue of being governed and Case-bound by I, and is realized as ergative Case, in conformity with the universal core of convention (16a).

In Inuit the parameter contained in this convention is set so that ergative Case is also assigned by D, the nominal counterpart of I. In possessed nominals, therefore, the possessor is likewise ergative (as in (23); cf. (20) in Hebrew).

- (23) *Inuit*  
 Juuna-p qimmi-i-nut  
 Juuna-ERG<sub>i</sub> dog-3SG<sub>i</sub>.PL-DAT  
 ‘for Juuna’s dogs’



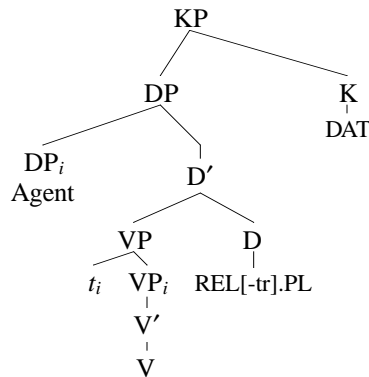
We can now explain why relativization in Inuit is nominative-oriented—that is, why the gap must correspond to the nominative argument (as it does in (6) and (25)). In Inuit relative clauses are internally headed (IHRCs, see (82) for evidence from binding). That is, they are nominalizations of verbal clauses (compare (26a) with (22a), and (26b) with (22b); see also Andrews 1975, Keenan 1985, Williamson 1987, and Culy 1990, amongst others). The same may hold in certain other syntactically ergative languages where only the nominative argument is accessible to relativization (e.g., Dyirbal).

(25) *Inuit*

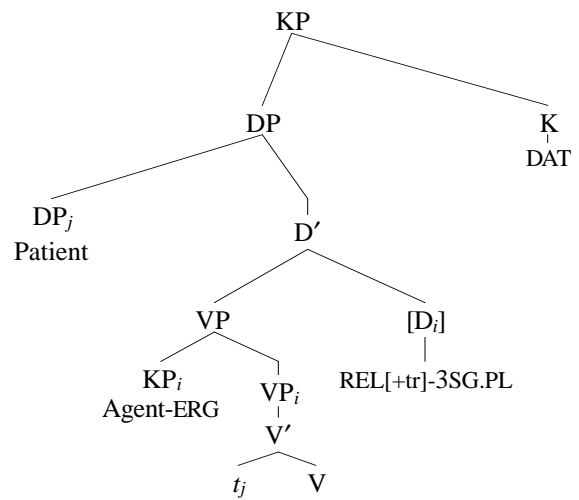
a. arna-nut                      mirsur-tu-nut  
 woman-PL.DAT<sub>i</sub> [*ec*<sub>i</sub> sew-REL[-tr]-PL.DAT]  
 ‘for the women who are sewing’

b. miiqqa-nut            Juuna-p    paari-sa-i-nut  
 child-PL.DAT<sub>j</sub> [*ec*<sub>j</sub> Juuna-ERG<sub>i</sub> look.after-REL[+tr]-3SG<sub>i</sub>.PL-DAT]  
 ‘for the children that Juuna is looking after’

(26) a. Intransitive IHRC



b. Transitive IHRC



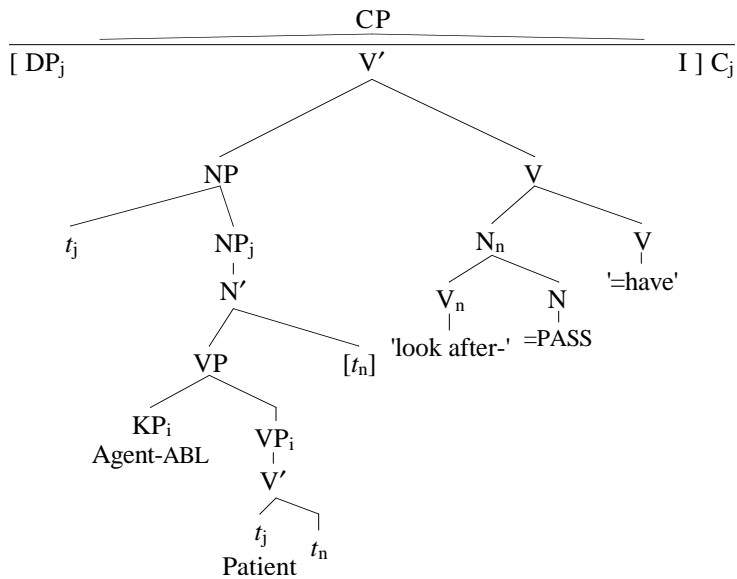
In verbal and nominalized clauses alike the nominative argument satisfies the K Filter by raising to a position that is c-commanded and governed by a K-equivalent (C in (22), K in (26)).<sup>10</sup> In that position the nominative object functions as a Case competitor for the subject, enabling I or D to Case-bind the subject and assign it ergative Case.

This theory predicts that syntactic ergativity should be compatible with the passive construction as well as the antipassive. In fact, Inuit has both, as (27a) and (27b) attest. The associated S-Structure representations are depicted in (28a) and (28b), respectively.

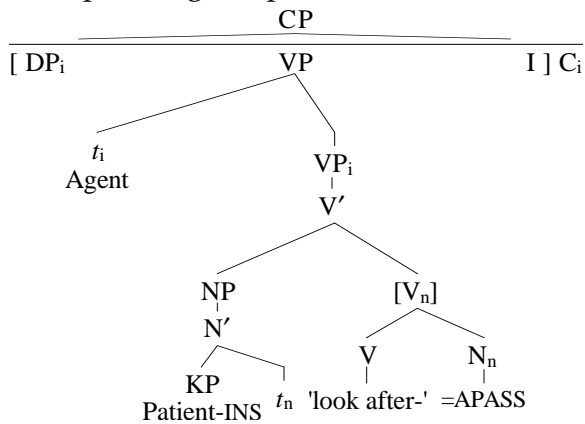
(27) *Inuit*

- a. miiqqa-t Juuna-mit paari-ni-qar-p-u-t  
 child-PL Juuna-ABL look.after-PASS-have-IND-[-tr]-3PL  
 'The children are looked after by Juuna.'
- b. Juuna miiqqa-nik paari-*nnip*-p-u-q  
 Juuna child-PL.INS look.after-APASS-IND-[-tr]-3SG  
 'Juuna is looking after the children.'

(28) a. Passive



b. Incorporating antipassive



In the passive (28a) the VP is the complement of the passive morpheme—syntactically, an independent noun—which in turn heads the complement of the verbal auxiliary. The verb incorporates into the passive noun, rendering the VP transparent to government. The resulting complex ( $N_n$ ) then incorporates into the auxiliary, enabling the passive NP to satisfy the K Filter. The object of the verb is not Case-bound, since the locally c-commanding head ( $t_n$ ) does not govern any Case competitor for it. It must therefore be nominative ( $DP_j$ ) and must raise to [SPEC, IP]. But first, it becomes a derived subject, by adjoining to the passive NP and entering into a predication relation with it. The trace ( $t_j$ ) of the object functions as a Case competitor for the VP-adjoined subject ( $KP_i$ ), enabling the trace ( $[t_n]$ ) of the passive noun to Case-bind this subject. This argument is therefore assigned ablative Case (in conformity with (17'c)).

The antipassive of Inuit differs from the canonical antipassive discussed in Bittner and Hale 1996 in one important respect. In Inuit the antipassive noun (*-nni(C)* 'APASS') incorporates into the verb in the syntax, as in (28b), instead of being base-generated in the V-adjoined position (cf. Baker 1988, Bittner 1994a). In simple cases, exemplified in (28b), the incorporating antipassive of Inuit yields the same Case array as the canonical antipassive. Specifically, the incorporated antipassive noun serves as a Case competitor for the stranded object, enabling the verb to Case-bind this argument and assign oblique Case to it. In Inuit the appropriate oblique is instrumental, by convention (17'a). Also, the VP-adjoined subject is not Case-bound, since the VP in Inuit is opaque and therefore prevents I from governing any Case competitor within V' (e.g., the antipassive NP in (28b)). Thus, the subject must be nominative and must raise to [SPEC, IP].

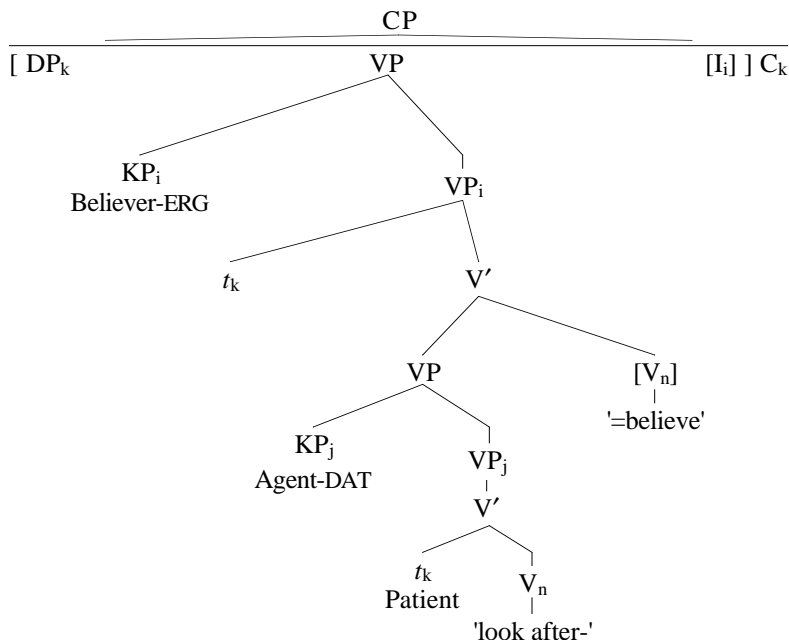
The evidence that the Inuit antipassive involves  $X^\circ$  movement comes from the antipassives of more complex sentences—for example, the ECM construction (29a), which is represented at S-Structure by (29b) (Bittner 1994a). This structure contains two Case-binding heads, I and the matrix V (*-suri* 'believe'), and these assign ergative and dative Case, respectively (in conformity with (16a) and (17'b)).

(29) *Inuit*

- a. Anna-p miiqqa-t Juuna-mut paari-sur(i-v)-a-i  
Anna-ERG child-PL Juuna-DAT look.after-believe-IND-[+tr]-3SG.3PL

‘Anna believes the children to be looked after by Juuna.’

b.



Corresponding to (29a), there are two possible antipassives—namely, (30a) and (30b). In (30a) the antipassive noun incorporates from the underlying object position. In the long-distance antipassive (30b) the object first adjoins to matrix V'. The lower segment of V' is then restructured as V<sup>o</sup> (as in (31), cf. Larson 1988), licensing incorporation.

(30) *Inuit*

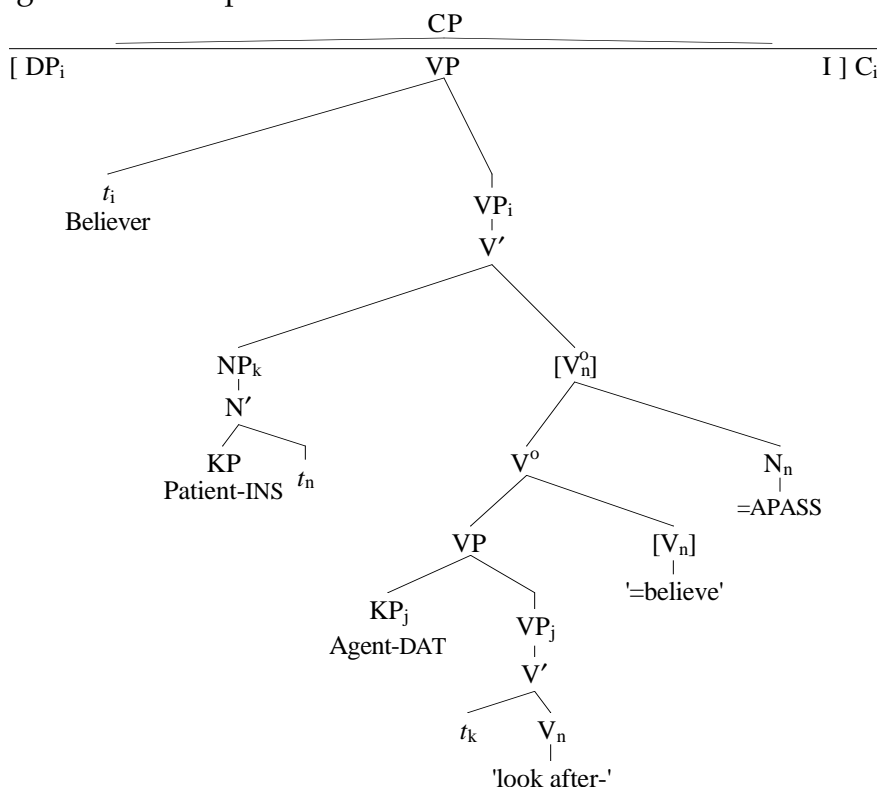
- a. Anna-p Juuna miiqqa-nik paari-*nnis*-sur(i-v)-a-a  
Anna-ERG Juuna child-PL.INS look.after-APASS-believe-IND-[+tr]-3SG.3SG

‘Anna believes Juuna to be looking after the children.’

- b. Anna miiqqa-nik Juuna-mut paari-suri-*nnip*-p-u-q  
Anna child-PL.INS Juuna-DAT look.after-believe-APASS-IND-[-tr]-3SG

‘Anna believes that Juuna is looking after the children.’

(31) Long-distance antipassive



The Case array in the long-distance antipassive (30b) follows from the structure in (31) and the principles already discussed. The Case array in the matrix VP is NOM-INS, because restructuring assimilates this portion of (31) to the simple antipassive (28b). The embedded VP, on the other hand, is indistinguishable (from the point of view of government and Case binding relations) from the embedded VP in the ECM structure (29b). Thus, the subject of this VP is assigned dative Case by the matrix verb (*-sur(i)* 'believe') in (31) as it is in (29b).<sup>11</sup> In contrast, base-generation of the antipassive noun in the V-adjoined position would not yield this blend of antipassive and ECM arrays. Thus, the Inuit antipassive must involve syntactic movement of the antipassive noun.

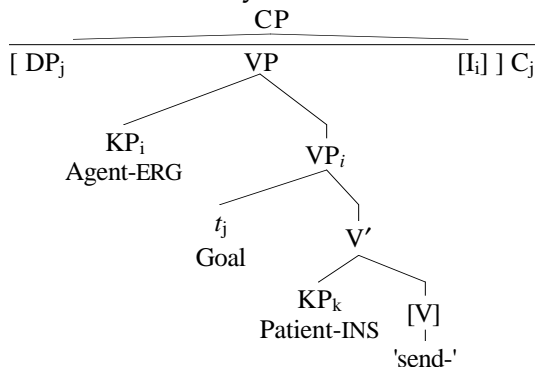
At several points in sections 5 through 7 we discuss evidence from triadic verbs. In Inuit, these occur either with the ERG-NOM-INS array and no affix on the verb (as in (32a)), or with the ERG-DAT-NOM array and the applicative suffix *-ut* (as in (32b)). The respective S-Structure representations are depicted in (33a) and (33b).



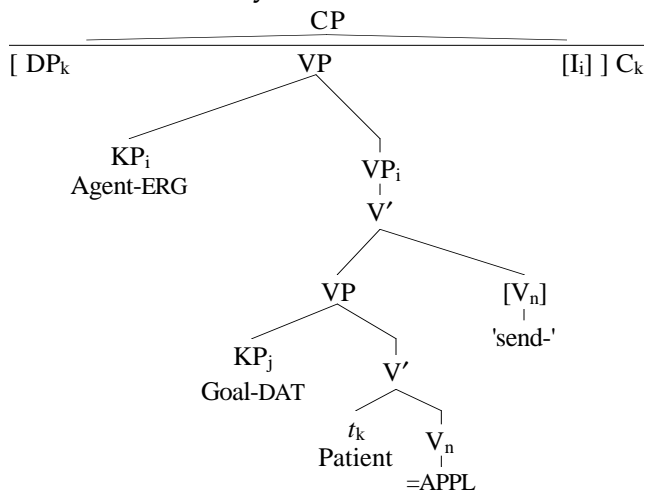
(32) *Inuit*

- a. Juuna-p    Kaali atuakka-nik    nassip-p-a-a  
 Juuna-ERG    Kaali    book-PL.INS    send-IND-[+tr]-3SG.3SG  
 ‘Juuna sent Kaali the books.’
- b. Juuna-p    atuakka-t    Kaali-mut    nassi-up-p-a-i  
 Juuna-ERG    book-PL    Kaali-DAT    send-APPL-IND-[+tr]-3SG.3PL  
 ‘Juuna sent the books to Kaali.’

(33) a. ERG-NOM-INS array



b. ERG-DAT-NOM array



In both structures, all the three arguments receive structural Case. The VP-adjoined subject is Case-bound by I, and thus assigned ergative Case. Also in both structures, the triadic verb (*nassit*- ‘send’) Case-binds the argument that it locally c-commands—that is, the patient in (33a), and the goal in (33b). To this argument, the verb assigns

instrumental Case in (33a), and dative Case in (33b), in accordance with the Inuit-specific conventions of (17'). The remaining argument is not Case-bound, since it is not *locally* c-commanded by any head that delimits a small clause. Hence it is nominative, a bare DP, and is licensed by raising to [SPEC, IP].

In Inuit scrambling is permitted in verbal clauses but not in nominal categories.<sup>12</sup> Thus, the proposed S-Structure representations determine the surface order in possessed nominals and IHRCs, whereas the order in verbal clauses varies. Out of context, the pragmatically neutral order is SO(OBL)V. In connected discourse the predicted S-Structure order, OS(OBL)V, is also common. We assume that surface order and word boundaries may be affected by reordering and linearization processes at PF and are therefore not solely determined by the syntactic representation at S-Structure.<sup>13</sup>

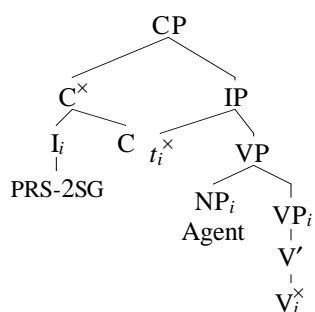
### 3.2. *Morphological ergativity due to transparency.*

Warlpiri, we maintain, differs from Inuit in relation to transparency. It represents the transparent ergative type—that is, C governs into VP at S-Structure. Thus, while the surface Case marking is the same in the two languages, the syntactic representations at S-Structure are in fact different.

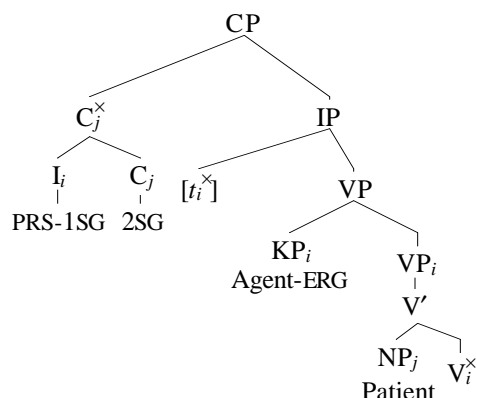
#### (34) *Warlpiri*

- a. nyuntu ka-npa parnka-mi.  
you PRS-2SG run-NPST  
‘You are running.’
- b. ngajulu-rlu ka-rna-ngku nyuntu nya-nyi.  
me-ERG PRS-1SG-2SG you see-NPST  
‘I see you.’

(35) a. Intransitive clause



b. Transitive clause



In the intransitive (35a), the single argument is not Case-bound, like in Inuit. However, by contrast with Inuit, Warlpiri does not require the intransitive subject to raise to [SPEC, IP]. The same is true of the transitive object in (35b). The two bare NP arguments are licensed in situ—that is to say, they satisfy the K Filter without raising “closer” to C.

If this is so, and we will present evidence that it is indeed so, then these S-Structure representations must be transparent to government from C. Two processes, both of which derive discontinuous heads, are responsible for this feature of Warlpiri. First, IP is rendered transparent to government from C by syntactic incorporation of I into C. This movement gives rise to the cluster of elements (C and I, including agreement) which have been called the “auxiliary” in the literature on the language (cf., Hale 1973, 1982, Nash 1986, Simpson 1991).

Second, VP is transparent to government from I because its V is bound by I. This binding relation can be semantically motivated within the theory of temporal anaphora developed by Kamp and Reyle (1993). In that theory, the Warlpiri sentences of (34) would be assigned the following Discourse Representation Structures (DRSs):

(36) a.  $[x_i, e_i, \tau_i]$

$$[x_i = u \wedge \text{run}(e_i, x_i) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i]$$

b.  $[x_i, x_j, e_i, \tau_i]$

$$[x_i = i \wedge x_j = u \wedge \text{see}(e_i, x_i, x_j) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i]$$

The DRS (36a) represents the truth conditions of the intransitive (34a). This DRS is true, if there is an individual  $x_i$ , an event  $e_i$ , and a (contextually restricted) time period  $\tau_i$ , such that  $x_i$  is the addressee,  $e_i$  is an event of  $x_i$  running that does not precede the speech event ( $e_0$ ),  $\tau_i$  overlaps with the time of the speech event, and the time of  $e_i$  is included in  $\tau_i$ . Similarly, the DRS (36b), representing the transitive (34b), is true, if there is a non-past event of the speaker seeing the addressee during some time period that overlaps with the speech time.

These DRSs can be obtained from the syntax as follows. The nominal arguments, as well as V and I, each introduce a variable (“discourse referent”) of the relevant logical type—individual, event, and time period, respectively—along with a condition on that variable. Furthermore, temporal anaphora between V and I constrains the event introduced by V to be temporally located within the time period introduced by I (i.e., “ $T(e_i) \subseteq \tau_i$ ”). Universally, this anaphoric link must be visible at LF. In Warlpiri, however, it is visible already in the syntax—that is, I binds V at S-Structure. The same is true, we maintain, in other morphologically ergative languages where V does not syntactically raise to I.

In languages of the type represented by Warlpiri, then, C, the trace of I, and V, jointly form a discontinuous head. The entire clause, therefore, is transparent to government from C. In (35) and other structural diagrams for Warlpiri, the components of this discontinuous head are indicated by  $\times$ -superscripts. Because of transparency, the subject ( $NP_i$ ) of the intransitive (35a) is governed in its D-Structure position by C, as is the object ( $NP_j$ ) of the transitive (35b). Since neither of these nominative arguments is Case-bound, both satisfy the K Filter. Thus, transparency, not raising, is the essential feature of Warlpiri ergativity. In contrast, the ergative subject of the transitive (35b) is Case-bound by the trace ( $t_i$ ) of I, with the bare NP object functioning as the Case competitor. Here again, transparency is relevant, since the trace of I has the bare NP object in its purview automatically, without the benefit of raising.

As we will see, the syntactic binding relation between I and V has consequences throughout the grammar of Warlpiri. It manifests itself in a particularly direct and dramatic manner in secondary predication, as the following paradigm illustrates:

(37) *Warlpiri*

- a. ngarrka-ngku ka                    tiraki ka-nyu        *wiri-ngki*  
 man-ERG<sub>i</sub>    PRS.3SG<sub>i</sub>.3SG<sub>j</sub> car<sub>j</sub>drive-NPST<sub>i</sub> *big*-ERG<sub>i</sub>  
 ‘The man, who is big, is driving the car.’
- b. ngarrka-ngku ka                    tiraki ka-nyu        *wiri*  
 man-ERG<sub>i</sub>    PRS.3SG<sub>i</sub>.3SG<sub>j</sub>car<sub>j</sub> drive-NPST<sub>i</sub> *big*<sub>j</sub>  
 ‘The man is driving the car, which is big.’

(38) *Warlpiri*

- a. ngarrka-ngku ka                    tiraki ka-nyu        *kilji-ngki*  
 man-ERG<sub>i</sub>PRS.3SG<sub>i</sub>.3SG<sub>j</sub>        car<sub>j</sub> drive-NPST<sub>i</sub> *fast*-ERG<sub>i</sub>  
 ‘The man is driving the car fast.’
- b. ngarrka ka        wangka-mi *kilji*  
 man<sub>i</sub>    PRS.3SG<sub>i</sub> speak-NPST<sub>i</sub> *fast*<sub>i</sub>  
 ‘The man is speaking fast.’

(39) *Warlpiri*

- a. *jalangu(-rlu)* ka-lu-jana puluku turnuma-ni yapa-ngku  
*today(-ERG)*<sub>i</sub>    PRS-3PL<sub>i</sub>-3PL<sub>j</sub> bullock<sub>j</sub> muster-NPST<sub>i</sub> person-ERG<sub>i</sub>  
 ‘The people are mustering the cattle today.’
- b. *jalangu*=∅-rna ya-nu-rnu        ngaju  
*today*<sub>i</sub>=PST-1SG<sub>i</sub> go-PST<sub>i</sub>-HITHER me(NOM)<sub>i</sub>  
 ‘I came today.’

In Warlpiri secondary predicates agree in Case with coindexed nominal arguments (as *wiri* ‘big’ in (37)). Secondary predication is very productive and includes expressions of manner as well as temporal modification. Surprisingly, in view of their semantics, these agree in Case with the subject. The agreement is obligatory for manner predicates (e.g., *kilji* ‘fast’, in (38)), and it is optional for temporal predicates (e.g., *jalangu* ‘today’ in (39)).

On their salient readings, the Warlpiri sentences of (37–39) are represented by the DRSs in (37’–39’). In each DRS the secondary predicate contributes a condition on the coindexed variable of the appropriate semantic type. Thus, since *wiri* ‘big’ modifies properties of individuals, it constrains the value of the individual variable introduced by the coindexed nominal argument (i.e., by the subject in (37’a), the object in (37’b)). In contrast, the manner predicate *kilji* ‘fast’ modifies properties of events (Davidson 1967), while the temporal predicate *jalangu* ‘today’ denotes a time period—to be precise, it denotes the day that includes the utterance time (Kamp and Reyle 1993). Hence, the former constrains the value of the event variable introduced by the verb ( $e_i$  in (38’)), while the latter has the same value as the time variable introduced by I ( $\tau_i$  in (39’)):

(37’) a.  $[x_{ir} x_{jr} e_{ir} \tau_i]$

$[\text{the.man}(x_i) \wedge \text{the.car}(x_j) \wedge \text{drive}(e_{ir} x_{ir} x_j) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i$   
 $\wedge \text{big}(\text{man})(x_i)]$

b.  $[x_{ir} x_{jr} e_{ir} \tau_i]$

$[\text{the.man}(x_i) \wedge \text{the.car}(x_j) \wedge \text{drive}(e_{ir} x_{ir} x_j) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i$   
 $\wedge \text{big}(\text{car})(x_j)]$

- (38') a.  $[x_{i'} x_{j'} e_{i'} \tau_i]$   
 $[\text{the.man}(x_i) \wedge \text{the.car}(x_j) \wedge \text{drive}(e_{i'} x_{i'} x_j) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i$   
 $\wedge \text{fast}(\lambda e [\exists xy \text{drive}(e, x, y)])(e_i)]$
- b.  $[x_{i'} e_{i'} \tau_i]$   
 $[\text{the.man}(x_i) \wedge \text{speak}(e_{i'} x_i) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i$   
 $\wedge \text{fast}(\lambda e [\exists x \text{speak}(e, x)])(e_i)]$
- (39') a.  $[x_{i'} x_{j'} e_{i'} \tau_i]$   
 $[\text{the.people}(x_i) \wedge \text{the.bullocks}(x_j) \wedge \text{muster}(e_{i'} x_{i'} x_j) \wedge \neg e_i < e_0 \wedge \tau_i \circ T(e_0) \wedge T(e_i) \subseteq \tau_i$   
 $\wedge \tau_i = \text{today}]$
- b.  $[x_{i'} e_{i'} \tau_i]$   
 $[x_i = i \wedge \text{come.hither}(e_{i'} x_i) \wedge e_i < e_0 \wedge T(e_i) \subseteq \tau_i$   
 $\wedge \tau_i = \text{today}]$

For manner and temporal predicates, the morphological Case agreement with the subject reflects syntactic, not semantic, relations. By hypothesis, I binds V in Warlpiri. Furthermore, the overt agreement between I and the subject (e.g., *-lu* '3PL' in (39a)) shows that I also binds the subject at S-Structure (see sections 2.2 and 5). The variables introduced by I, V, and the subject, are therefore all coindexed, differing only in the logical type. Hence, the semantically motivated coindexation of manner predicates with V (in (38')), and of temporal predicates with I (in (39')), entails syntactic coindexation with the subject. At PF, this syntactic coindexation relation is reflected by morphological agreement in Case between the subject and these secondary predicates.

The binding relation between I and V in Warlpiri also has implications for Case array and antipassive N placement in incorporating antipassives. In Warlpiri, these are constructions where verbs that otherwise take the ERG-NOM array (e.g., *paka-rni* 'chop' of (40)) are combined with certain nominal preverbs, with the result that the object is assigned dative Case. We subsume here the so-called "conative" construction of (41a),

analyzing the dative registration marker (*jinta* ‘APASS<sub>C</sub>’) as an antipassive preverb.<sup>14</sup> This preverb is unusual, being always suffixed onto the auxiliary. The more common distribution pattern is represented by the preverb *wapal(pa)* ‘APASS<sub>V</sub>’. This either occurs immediately before the verb (as in (41b)) or is at most separated from it by a monosyllabic auxiliary, with the entire preverb=auxiliary=verb complex forming a single phonological word (as in (41c)). All of these antipassives share the S-Structure representation depicted in (42).

(40) *Warlpiri*

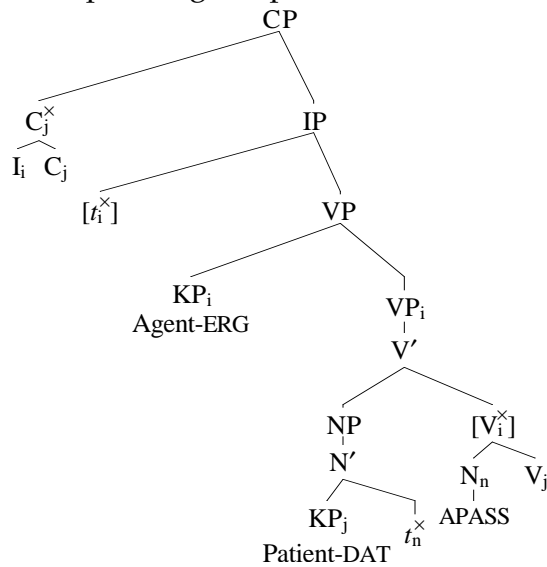
- a. ngajulu-rlu ka-rna-∅ watiya paka-rni  
 me-ERG PRS-1SG-3SG tree chop-NPST  
 ‘I am chopping the tree down.’
- b. ngajulu-rlu ka-rna-∅ jurlarda paka-rni  
 me-ERG PRS-1SG-3SG honey chop-NPST  
 ‘I am chopping out the honey.’

(41) *Warlpiri*

- a. ngajulu-rlu ka-rna-rla-*jinta* watiya-ku paka-rni  
 me-ERG PRS-1SG-3SG-APASS<sub>C</sub> tree-DAT chop-NPST  
 ‘I am chopping at the tree.’
- b. ngajulu-rlu ka-rna-rla jurlarda-ku *wapal*-paka-rni  
 me-ERG PRS-1SG-3SG honey-DAT APASS<sub>V</sub>-chop-NPST  
 ‘I am chopping for honey.’
- c. *wapalpa*=∅-rla=paka-rnu nyanungu-rlu jurlarda-ku  
 APASS<sub>V</sub>=PST.3SG-3SG=chop-PST he-ERG honey-DAT  
 ‘He chopped for honey.’



(42) Incorporating antipassive



From the point of view of the stranded oblique (KP<sub>j</sub>), the antipassive structure (42) in Warlpiri is indistinguishable from (28b) in Inuit, except, of course, that the oblique is dative (by convention (17) for Warlpiri) instead of instrumental (cf. (17'a) for Inuit). In contrast to Inuit, however, the VP in Warlpiri is transparent. As a consequence, the NP shell in the object position, a Case competitor for the subject, is visible to the trace (*t<sub>i</sub>*) of I. This trace, therefore, Case-binds the subject, licensing its ergative Case.

Transparency itself is due to the fact that C, the trace of I, and V, jointly form a discontinuous head. We assume that an element (here, antipassive N<sub>n</sub>) that incorporates into such a head may be realized at PF on any overt component of that head as long as the morphological requirements of that element are met. The S-Structure representation (42) then predicts that the antipassive preverb may be realized in the auxiliary (i.e., in the [I C] complex) or on the verb, depending on the morphological requirements of the preverb. Morphologically, dative registration markers in Warlpiri, which include *jinta* in (41a), are suffixed onto object agreement. Since this is in C (see section 5, and Bittner and Hale 1996), their surface realization—that is, the output of the PF component—is restricted accordingly. Other preverbs (e.g., *wapal(pa)*) are morphologically prefixed onto the verb (as in (41b)). However, when the resulting complex is sentence initial and

the auxiliary, in the second position, is monosyllabic, the auxiliary may be “infix” between the preverb and the verb (as in (41c)).

Warlpiri preverbs preserve the argument-structure of the verb. That is to say, at S-Structure, the same A-positions of the verb are filled whether or not the preverb is present. The S-Structure representation (42), associated with antipassive preverbs, clearly satisfies this constraint (cf. (35b)). So do the structures in (44), which we assign to the sentences of (43), containing an argument-introducing preverb (*yaarlpa* ‘onto’).

(43) *Warlpiri*

a. watiya  $\emptyset$ -ju      *yaarlpa-wanti-ja ngaju-ku*

tree      PST.3SG-1SG    onto-fall-PST me-DAT

‘The tree fell on top of me.’

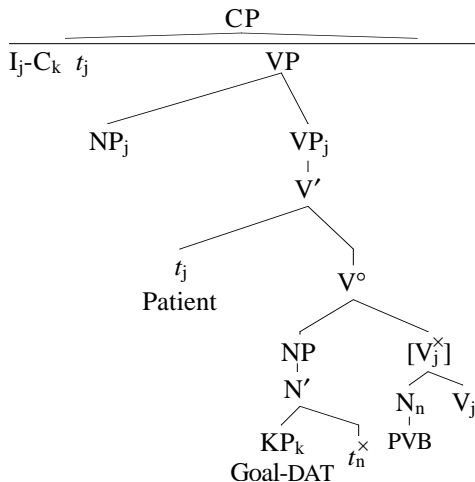
b. Jakamarra-rlu  $\emptyset$ -ju      watiya *yaarlpa-paka-rnu ngaju-ku*

J.-ERG              PST.3SG-1SG tree      onto-chop-PST      me-DAT

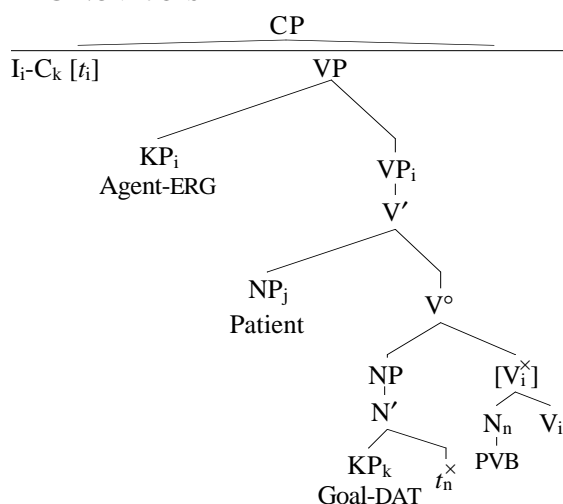
‘Jakamarra chopped the tree down onto me.’

(44) Argument-introducing preverb

a. Unaccusative verb



b. ERG-NOM verb



An argument-introducing preverb adds a dative object (here, *ngaju-ku* ‘me-DAT’) to the existing array. This possibility arises because the internal argument (NP<sub>j</sub>) of the verb (*paka-* ‘chop’) is adjoined to V’ at D-Structure, and is “promoted” at S-Structure to a full complement (i.e., sister of V° and daughter of V’) by means of restructuring of the lower segment of V’ as V° (cf. similar restructuring in Inuit (31)). This restructuring also “demotes” the NP headed by the trace of the preverb—the preverb itself having incorporated into the verb—from a complement to a V-adjoined NP. Intuitively, this NP loses its status as a syntactic argument, becoming part of the verb instead. For unaccusative and diadic verbs, the resulting S-Structure representations are depicted in (44a) and (44b), respectively. In neither structure can the demoted NP act as a Case competitor for any argument, since phrasal Case competitors are necessarily coarguments. Also, the incorporated preverb is too deeply embedded to function as a Case competitor for any argument other than its own stranded object (KP<sub>k</sub>). The latter, therefore, is assigned dative Case by the verb (cf. (42)), while the Case array associated with the arguments of the verb is preserved (compare, e.g., (44b) with the diadic (35b)).

In Warlpiri, the ERG-DAT array is not restricted to combinations of diadic ERG-NOM verbs with antipassive preverbs. Similarly, the NOM-DAT array is not an exclusive property of combinations of monadic verbs with argument-introducing preverbs.

These arrays are also selected by certain diadic verbs that need not contain any overt preverb (e.g., *warri-rni* ‘ERG look for DAT’ in (45a), *wangka-mi* ‘NOM speak to DAT’ in (45b)):

(45) *Warlpiri*

- a. ngajulu-rlu ka-rna-rla jurlarda-ku warri-rni  
 me-ERG PRS-1SG-3SG honey-DAT look.for-NPST  
 ‘I am looking for honey.’
- b. ngarrka ka-rla wangka-mi kurdu-ku  
 man(NOM) PRS.3SG-3SG speak-NPST child-DAT  
 ‘The man is speaking to the child.’

Since arguments of such diadic verbs exhibit the same syntactic behavior as arguments of corresponding preverb-verb combinations, we assume parallel syntactic representation at S-Structure—that is, (42) for (45a), and the unergative structure corresponding to (44a) (i.e., with non-branching V') for (45b). In other words, we associate possibly non-overt antipassive or argument-introducing preverbs also with diadic verbs of the type represented in (45a) and (45b), respectively.

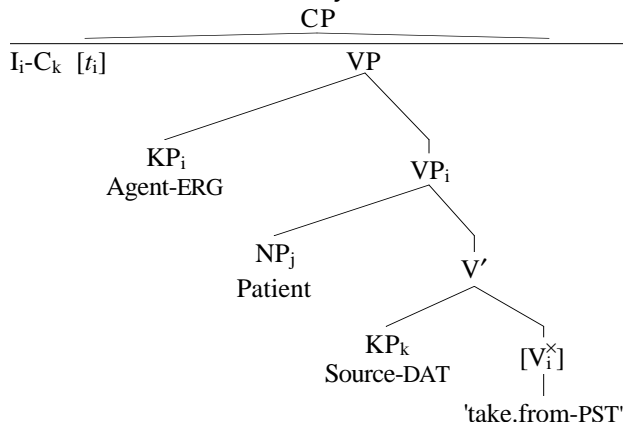
In contrast, as we will see in section 6, diadic ERG-NOM verbs with argument-introducing preverbs (e.g., *yaarlpa-paka-* ‘onto-chop’ in (43b)) have different syntactic properties than basic triadic verbs (e.g., *punta-* ‘take from’ in (46)), although these, too, take the ERG-NOM-DAT array. The structure of a clause with a basic triadic verb is depicted in (47). The Case-binding relations in this Warlpiri structure are the same as in the simple triadic structure (33a) of Inuit. In Warlpiri, however, the nominative object in [SPEC, VP] is licensed in situ, in virtue of transparency. Also, the oblique complement of the verb is dative (by convention (17) for Warlpiri) instead of instrumental (cf. convention (17'a) for Inuit).

(46) *Warlpiri*

ngajulu-rlu ka-rna-ngku nyuntu-ku karli-jarra punta-rni  
me-ERG PRS-1SG-2SG you-DAT boomerang-DU take.from-NPST

‘I am taking two boomerangs from you.’

(47) Basic ERG-NOM-DAT array



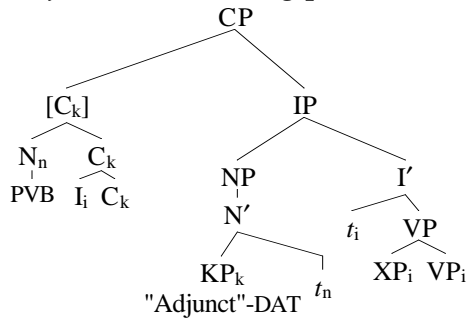
The third class of Warlpiri preverbs that will be relevant here introduce so-called “adjunct datives” (Nash 1980, Hale 1981)—that is, dative arguments that behave like dative objects in some respects (e.g., agreement, see section 5), but not in others (e.g., obviation and control, see sections 6 and 7). The preverb *ngayi* ‘benefactive’, which in (48) co-occurs with the antipassive preverb *wapal(pa)*, exemplifies this class.<sup>15</sup> The structure associated with adjunct-introducing preverbs is shown in (49).

(48) *Warlpiri*

kurdu-ngku ka-ju-rla yarla-ku ngayi-wapal-pangi-rni ngaju-ku  
child-ERG PRS.3SG-1SG-DD yam-DAT BEN-APASS<sub>v</sub>-dig-NPST me-DAT

‘The child is digging for yams for me.’

(49) Adjunct-introducing preverb



An adjunct-introducing preverb heads an NP that is base-generated in [SPEC, IP]. Being thus in an A'-position that is not linked to any A-position within VP, this NP is not a coargument of any argument of the verb, and hence, not a Case competitor either. It therefore has no effect on the Case array of the verb. In particular, it cannot license ergative Case on the VP-adjoined subject (XP<sub>i</sub>). In this respect, the NP that is base-generated in [SPEC, IP] in (49) contrasts with a nominative object (e.g., DP<sub>j</sub> in (22b)) that is raised to [SPEC, IP] from an A-position within VP.

The adjunct dative itself—that is, the stranded object (KP<sub>k</sub>) of the preverb—also lacks certain properties of canonical objects. As we will see in sections 6 and 7, this, too, follows from the A'-status of [SPEC, IP]. The uniqueness of this position further accounts for the fact that a Warlpiri clause can only contain one adjunct dative (see Simpson 1991, who refers to these datives as “external objects”). By incorporating into C, the preverb becomes a Case competitor for the stranded object (KP<sub>k</sub>), enabling C to Case-bind this argument. This accounts for the dative Case of this object. Here again, transparency plays a role since it implies that C governs, and thus delimits, the VP small clause.

Though syntactically incorporated into C, adjunct-introducing preverbs can be realized at PF on V (as the benefactive *ngayi* in (48)) since C forms a discontinuous head with V. In fact, they must be so realized, because they have the same morphological requirements as antipassive preverbs of the type represented by *wapal(pa)* 'APASS<sub>V</sub>'.

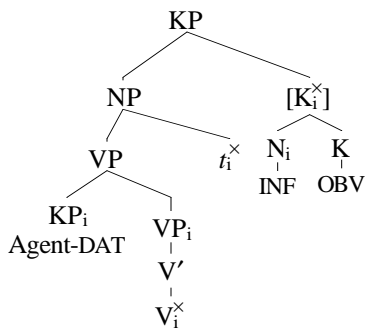
The assignment of Case to the arguments of the verb is determined by the structural relations within the VP. For example, the VP-internal structure of (48), an incorporating antipassive with an adjunct-introducing preverb, is the same as in (42), without that preverb. It therefore gives rise to the same verbal Case array, ERG-DAT.

Like Inuit, Warlpiri has nominalized clauses that are structurally parallel to clauses with finite verbs. Warlpiri nominalizations are represented by the obviative infinitives of (50), to which we assign the structures in (51).

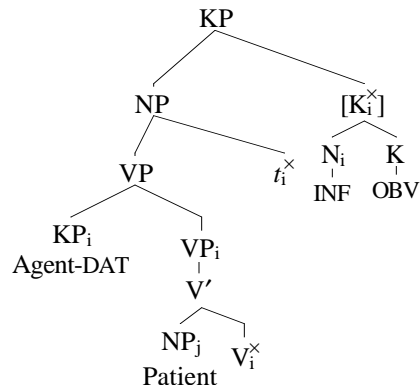
(50) *Warlpiri*

- a. ngajukupirdangka-rlu lpa karli jarnti-rnu  
 my.brother-ERG PST.3SG.3SG boomerang trim-PST  
 [ngaju-ku jardanguna-nja-rlarni]  
 [me-DAT sleep-INF-OBV]  
 ‘My brother was trimming a boomerang, while I was sleeping.’
- b. ngaju lpa-rna jardanguna-ja  
 me(NOM) PST-1SG sleep-PST  
 [ngajukupirdangka-ku karli jarnti-rninja-rlarni]  
 [my.brother-DAT boomerang trim-INF-OBV]  
 ‘I was sleeping, while my brother was trimming a boomerang.’

(51) a. Intransitive infinitive



b. Transitive infinitive



These nominalized structures relate to verbal clauses in Warlpiri in the same manner as IHRC structures relate to verbal clauses in Inuit—that is, the relation of (51) to (35) is like that of (26) to (22). In Warlpiri, though, the nominalizing infinitive morphology (glossed ‘INF’) must be of the lexical category N, since the language lacks the functional category D altogether (ftn. 9). The infinitive N incorporates into the obviative K (cf. the incorporation of the finite I into C in (35)), and thereby qualifies as a Case competitor for the VP-adjoined subject. The host obviative K therefore Case-binds the subject, whether or not the verb has any other arguments. Thus, the subject of an obviative infinitive is consistently assigned dative Case, in accordance with convention (17) of Warlpiri (cf. possessed nominals in Hebrew (11b) and Inuit (24)).

In Warlpiri, as in Inuit, the proposed S-Structure representations underdetermine surface linear order and word-boundaries, since the latter may be affected by reordering and linearization processes in the PF component. Universally, however, the S-Structure fully determines structural Case assignment (this section), minimal scope options (section 4), pronominal agreement (section 5), and binding relations (including obviation and control, see sections 6 and 7, respectively). Thus, in spite of their abstractness, the proposed structures can be submitted to empirical test, since each of them implies a number of empirical commitments.

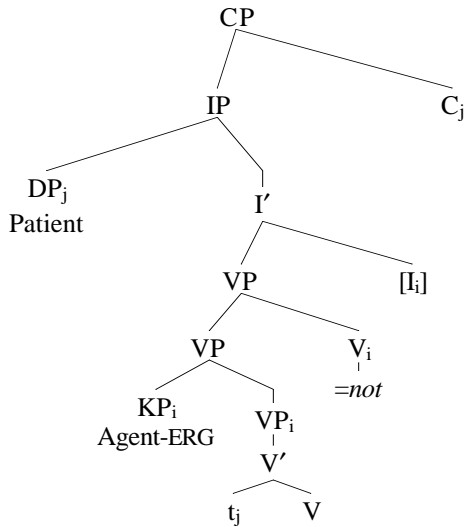
#### **4. Consequences for minimal scope options.**

Barring complications that need not concern us here, the narrowest scope an operator can take is its c-command domain at S-Structure.<sup>16</sup> Quantified nominal arguments (including indefinites) may also be able to take wider scope, due to the possibility of Quantifier Raising at LF (May 1977). In contrast, other operators (negation, modals, adverbial modifiers, etc) have no wider scope options; their scope is fully determined by their S-Structure position (Ladusaw 1979).

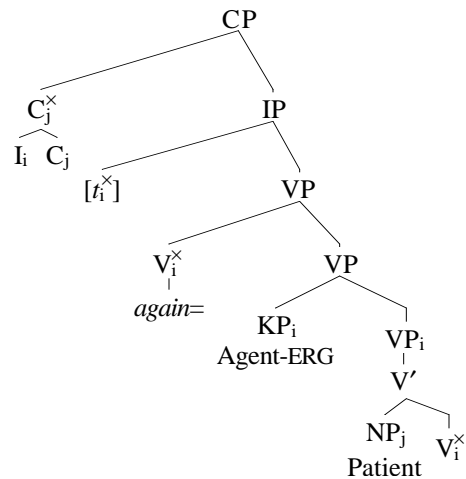


At S-Structure, the ergative subject is licensed in situ. It therefore should have the option of taking narrow scope relative to VP-level operators (e.g., *-nngi(C)* ‘not’, in Inuit (52a), or *yarda* ‘again’, in Warlpiri (52b)).

(52) a. Inuit



b. Warlpiri



Wide scope readings should also be available since the ergative subject can be moved out of VP at LF, by Quantifier Raising. In other words, relative to VP-level operators, the ergative subject should have the same scope options as the accusative object, because both arguments are assigned Case in their underlying VP-internal positions.

We thus predict, in agreement with the intuitions of native consultants, that the Inuit sentence (53) and the Warlpiri sentence (54) will have two readings each, with the truth conditions represented by the DRSs in (53') and (54'), respectively.<sup>17</sup>

(53) *Inuit*

ullumi *atuartu-p ataatsi-p* Juuna uqaluqatigi-*nngi-la-a*  
 today *student-ERG one-ERG* Juuna talk.to-*not-IND-3SG.3SG*

(a) ‘No student talked to Juuna today.’

(b) ‘One student did not talk to Juuna today.’

(53') a.  $[x_j, \tau_i]$

$[x_j = j \wedge \tau_i = \text{today} \wedge \text{not}([x_{i'}, e_i][\text{student}(x_i) \wedge \text{talk.to}(e_{i'}, x_{i'}, x_j) \wedge T(e_i) \subseteq \tau_i])]$

b.  $[x_{i'}, x_j, \tau_i]$

$[\text{student}(x_i) \wedge x_j = j \wedge \tau_i = \text{today} \wedge \text{not}([e_i][\text{talk.to}(e_{i'}, x_{i'}, x_j) \wedge T(e_i) \subseteq \tau_i])]$

(54) *Warlpiri*

*kurdu jinta-ngku ka Japayardi yarda-pi-nyi*

*child one-ERG PRS.3SG.3SG Japayardi again-hit-NPST*

(a) 'Again, some child is hitting Japayardi.'

(b) 'There is some child who is again hitting Japayardi.'

(54') a.  $[x_j, \tau_i]$

$[x_j = j \wedge \tau_i \circ T(e_0) \wedge \text{again}(\lambda e_i[[x_i][\text{child}(x_i) \wedge \text{hit}(e_{i'}, x_{i'}, x_j) \wedge T(e_i) \subseteq \tau_i]])(e_0)]$

b.  $[x_{i'}, x_j, \tau_i]$

$[\text{child}(x_i) \wedge x_j = j \wedge \tau_i \circ T(e_0) \wedge \text{again}(\lambda e_i[[\text{hit}(e_{i'}, x_{i'}, x_j) \wedge T(e_i) \subseteq \tau_i]])(e_0)]$

On its narrow scope reading (53'a), which all consultants accept, the Inuit sentence is true if today (i.e., the day of utterance) does not temporally include any event of any student talking to Juuna. Most consultants also accept the wide scope reading (53'b)—that is, they also judge this sentence true if there is a student such that today does not include any event of that student talking to Juuna. In Warlpiri, the scope of the preverb *yarda* 'again' is a property of events. This property is asserted to hold of some event which overlaps with the speech event ( $e_0$ ), and it is presupposed to hold of some prior event. Thus, on its narrow scope reading (54'a), the Warlpiri sentence asserts that some child is hitting Japayardi at the time of utterance, and presupposes that some (possibly different) child has hit him before. On the wide scope reading (54'b), there is a particular child who is asserted to be hitting Japayardi now and presupposed to have hit him before.

In Warlpiri, nominative arguments are also licensed within the VP at S-Structure. They therefore have the same scope options as ergative subjects, as the following sentences attest:

(55) *Warlpiri*

*kurdu jinta ka yarda-yula-mi*  
*child one PRS.3SG again-cry-NPST*

- (a) ‘Again, some child is crying.’  
 (b) ‘There is some child who is again crying.’

(55’) a.  $[\tau_i]$

$[\tau_i \circ T(e_0) \wedge \text{again}(\lambda e_i[[x_i][\text{child}(x_i) \wedge \text{cry}(e_i, x_i) \wedge T(e_i) \subseteq \tau_i]])(e_0)]$

b.  $[x_{i'} \tau_i]$

$[\text{child}(x_i) \wedge \tau_i \circ T(e_0) \wedge \text{again}(\lambda e_i[[\text{cry}(e_i, x_i) \wedge T(e_i) \subseteq \tau_i]])(e_0)]$

(56) *Warlpiri*

*Japayardi-rli ka kurdu jinta yarda-pi-nyi*  
*Japayardi-ERG PRS.3SG.3SG child one again-hit-NPST*

- (a) ‘Again, Japayardi is hitting some child.’  
 (b) ‘There is some child that Japayardi is again hitting.’

(56’) a.  $[x_j \tau_i]$

$[x_j = j \wedge \tau_i \circ T(e_0) \wedge \text{again}(\lambda e_i[[x_i][\text{child}(x_i) \wedge \text{hit}(e_i, x_j, x_i) \wedge T(e_i) \subseteq \tau_i]])(e_0)]$

b.  $[x_{i'} x_j \tau_i]$

$[\text{child}(x_i) \wedge x_j = j \wedge \tau_i \circ T(e_0) \wedge \text{again}(\lambda e_i[[\text{hit}(e_i, x_j, x_i) \wedge T(e_i) \subseteq \tau_i]])(e_0)]$

In Inuit, on the other hand, nominative arguments are licensed by raising to [SPEC, IP]. Relative to VP-level operators, they therefore only have wide scope readings:

(57) *Inuit*  
 ullumi *miiraq ataasiq qia-nngi-la-q.*  
 today *child one cry-not-IND-3SG*  
 ‘One child did not cry today.’

(57')  $[x_i \tau_i]$   
 $[child(x_i) \wedge \tau_i = \text{today} \wedge not([e_i][cry(e_i, x_i) \wedge T(e_i) \subseteq \tau_i])]$

(58) *Inuit*  
 ullumi *Juuna-p atuartuq ataasiq uqaluqatigi-nngi-la-a*  
 today *Juuna-ERG student one talk.to-not-IND-3SG.3SG*  
 ‘There is one student that Juuna did not talk to today.’

(58')  $[x_i, x_j, \tau_i]$   
 $[student(x_i) \wedge x_j = j \wedge \tau_i = \text{today} \wedge not([e_i][talk.to(e_i, x_j, x_i) \wedge T(e_i) \subseteq \tau_i])]$

Raising to [SPEC, IP] thus restricts the scope options for nominative arguments in Inuit in the same way as it does for nominative subjects in English.<sup>18</sup>

## 5. Consequences for agreement.

Depending on transitivity, both Inuit and Warlpiri show one or two agreement markers in the inflected verb, or in the auxiliary, as in (59) and (60). As expected for ergative languages, and in contrast to languages of the accusative type (e.g., (14b) in Miskitu), transitive subject agreement is closer to the verb, or auxiliary base, than object agreement (see the Canonical Agreement Hierarchy in Bittner and Hale 1996).

(59) *Inuit*

- a. angut        qungujup-p-u-*q*.  
man(NOM) smile-IND-[-tr]-3SG  
'The man smiled.'
- b. (uanga)    qungujup-p-u-*nga*.  
(me.NOM) smile-IND-[-tr]-1SG  
'I smiled.'
- c. anguti-p (uanga)    urnip-p-a-a-*nga*  
man-ERG (me.NOM) approach-IND-[+tr]-3SG-1SG  
'The man approached me.'

(60) *Warlpiri*

- a. ngarrka-jarra ka-*pala* parnka-mi.  
man-DU(NOM) PRS-2DU run-NPST  
'The two men are running'
- b. kurdukurdu ka-*lu* parnka-mi.  
children(NOM) PRS-3PL run-NPST  
'The (several) children are running.'
- c. ngarrka-jarra-rlu ka-*pala-jana* kurdukurdu nya-nyi.  
man-DU-ERG PRS-2DU-3PL children(NOM) see-NPST  
'The two men see the children.'

At this point, the similarities cease. Inuit has an ergative agreement pattern, in that it treats nominative arguments (subjects and objects) as a natural class. This can be seen most clearly in infinitival clauses like those bracketed in (61):

(61) *Inuit*

- a. qunguju-llu-*nga* miiqqa-kka urnip-p-a-kka.  
[smile-INF-1SG] child-1SG.PL approach-IND-[+tr]-1SG.3PL  
'Smiling, I approached my children.'
- b. miiqqa-ma taku-llu-*nga* qungujup-p-u-t.  
[child-1SG.PL.ERG see-INF-1SG] smile-IND-[-tr]-3PL  
'Seeing me, my children smiled.'

Here, only the nominative argument agrees with the infinitival verb. Also, in the first and second person, the form of the agreement is the same whether that argument is a subject (as in (61a)) or an object (as in (61b)). In finite clauses in the indicative mood the two agreements usually form a portmanteau morpheme (as in the indicative main clause of (61a)). However, in absence of morphophonological fusion, the outermost agreement marker is always construed with the nominative argument, while the innermost marker in transitives is construed with the ergative argument (as in the indicative (59c), and the dependent past tense clauses of (62)):

(62) *Inuit*

- a. Juuna isir-a-*mi* miiqqat urnip-p-a-i  
[Juuna enter-DPST-3SG.PROX] children approach-IND-[+tr]-3SG.3PL  
'When Juuna<sub>i</sub> came in, he<sub>i</sub> approached the children.'
- b. Juuna-p miiqqat taku-ga-*mi-git* qungujup-u-q  
[Juuna-ERG children see-DPST-3SG.PROX-3PL] smile-IND-[-tr]-3SG  
'When Juuna<sub>i</sub> saw the children, he<sub>i</sub> smiled.'

The Inuit pattern contrasts with Warlpiri in two respects. First, Warlpiri agreement morphology is "pseudo-accusative". While the relative hierarchy of subject and object agreement is as expected for an ergative language, the morphology of agreement treats subjects as a natural class (cf. Jelinek 1984). As illustrated in (60), intransitive and

transitive subjects are represented by identical agreement morphology, distinct from that construed with transitive objects. Second, the two agreement positions in Warlpiri cannot be consistently correlated with Case categories. Rather, the correlation is with grammatical function. The innermost agreement marker is construed with the subject, whether ergative or nominative, while the outermost is construed with the “most prominent object”—dative, if there is one (as in (63)), nominative otherwise (as in (60c)):

(63) *Warlpiri*

nyuntulu-rlu ka-*npa-ju* maliki-jarra ngaju-ku yi-nyi.

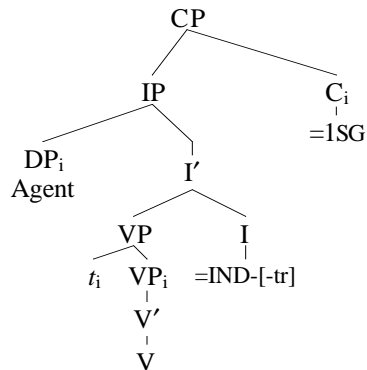
you-ERG PRS-2SG-1SG dog-DU me-DAT give-NPST

‘You are giving me two dogs.’

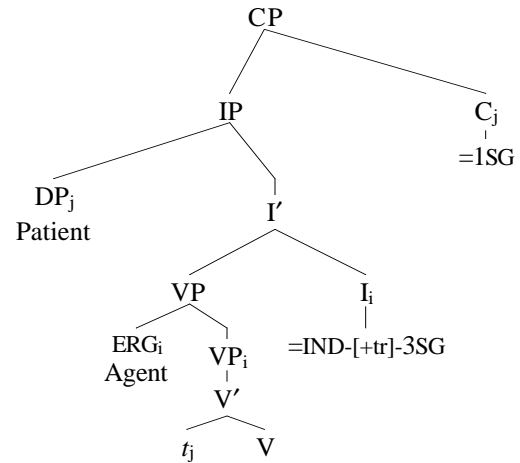
In the present theory pronominal agreement is a syntactic relation between a functional head and an argument chain that the head canonically antecedent-governs—i.e., governs and binds—at S-Structure (see section 2.2). Thus, Inuit and Warlpiri can show at most two such relations in simple clauses, since these contain two functional heads, I and C. Furthermore, both languages have head agreement—that is, the antecedent government requirement must be met in relation to the head of the argument chain. From this, and the proposed S-Structures, the details of the Inuit and Warlpiri agreement systems follow.

The ergative agreement pattern of Inuit is due to the raising of nominative arguments to [SPEC, IP], a position that is governed and c-commanded by C, and hence can be canonically antecedent-governed by this functional head. In transitive clauses the ergative argument is licensed at S-Structure in situ—i.e., in the VP-adjoined subject position. Here, it can be canonically antecedent-governed by I, accounting for the second (innermost) agreement position. These aspects of Inuit agreement are illustrated in the structures presented in (64a) and (64b), which correspond to the finite indicative clauses of (59b) and (59c), respectively:

(64) a. Monadic clause (I)



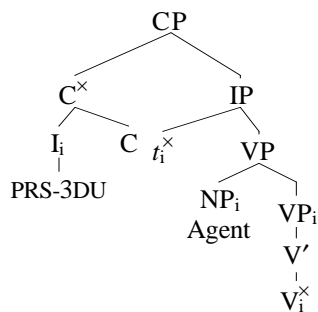
b. Diadic clause (I)



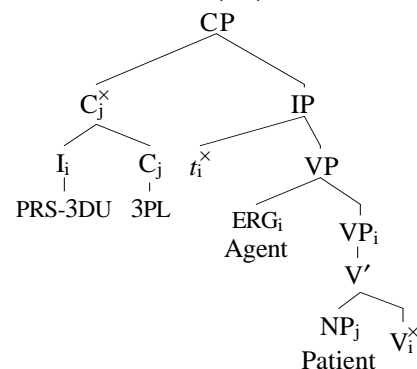
Inuit infinitives are like English infinitives—that is, I is not associated with agreement. In Inuit, however, C is supplied with agreement morphology, like it is in finite clauses. Thus, the nominative argument, raised to [SPEC, IP] and therefore canonically antecedent-governed by C, agrees with the latter at S-Structure (as in (61)).

By virtue of the transparency which characterizes Warlpiri, all the arguments of the verb are licensed in situ at S-Structure. Consequently, the requisite relation of canonical antecedent government consistently holds between I (more precisely, its trace) and the VP-adjoined subject. Therefore, I consistently agrees with the subject whether that is nominative (as in the monadic (60a), whose structure is depicted in (65a)) or ergative (as in the diadic (60c), whose structure is (65b)):

(65) a. Monadic clause (W)



b. Diadic clause (W)

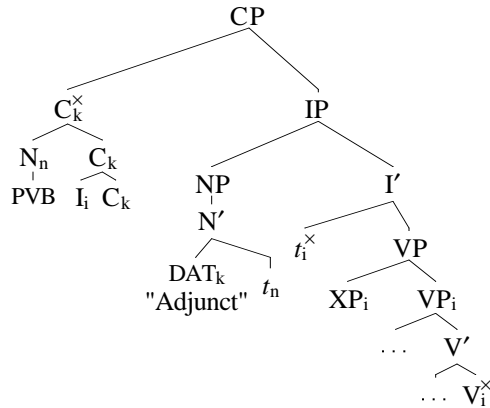




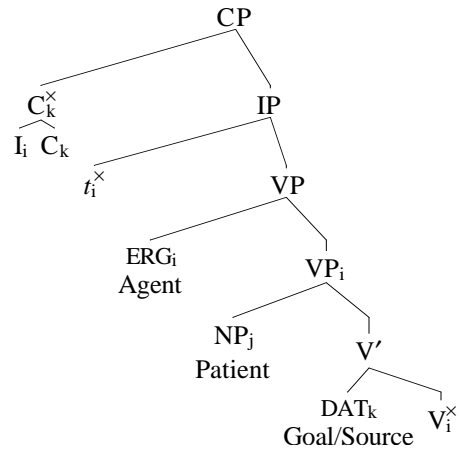
In Warlpiri the relation between C and agreement cannot be as direct as in Inuit, because the required relation of canonical antecedent government implies *local c-command* in the sense of relativized minimality (Rizzi 1990). That is, there must not be any intervening element that could potentially participate in pronominal agreement. Precisely because all the arguments of the verb in Warlpiri are still in situ at S-Structure, as in (65b), none of them is locally c-commanded by C because the trace of I is a more local functional head.

However, the requirement of local c-command can be satisfied, for an internal argument of the verb, from the *low edge* (i.e., V) of the discontinuous head consisting of C, the trace of I, and V. The most prominent object in Warlpiri—that is, the argument that controls object agreement in C—can be identified in relation to this discontinuous head. It is the argument that is canonically antecedent-governed by the high edge, C, if the requirement of local c-command can be satisfied from that edge (e.g., the adjunct dative in (48), whose structural configuration is repeated in (66a)). Otherwise, it is the argument that is governed and bound by C, while the requirement of local c-command is met from the low edge of the discontinuous head. That is to say, local c-command is satisfied either from V (as in the diadic (65b), and the triadic (66b) corresponding to (63)) or from the trace ( $t_n$ ) of the incorporated preverb (as in (67a) and (67b), corresponding to the sentences of (43b) and (41)).<sup>19</sup> In terms of Case itself, the most prominent object in Warlpiri is not a natural class, since it is the highest dative object if there is one (as in (66)–(67)); otherwise nominative (as in (65b)).

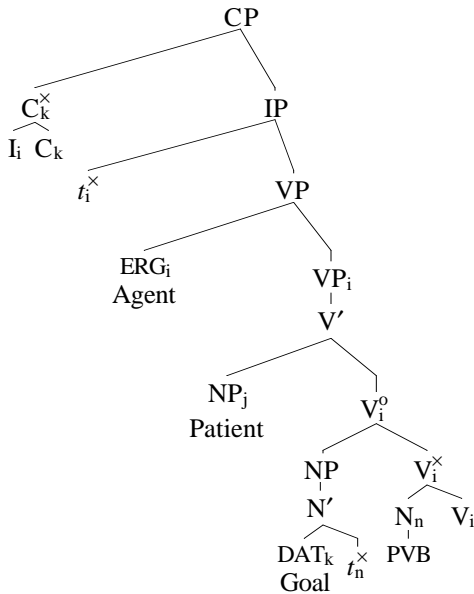
(66) a. Adjunct-introducing preverb (W)



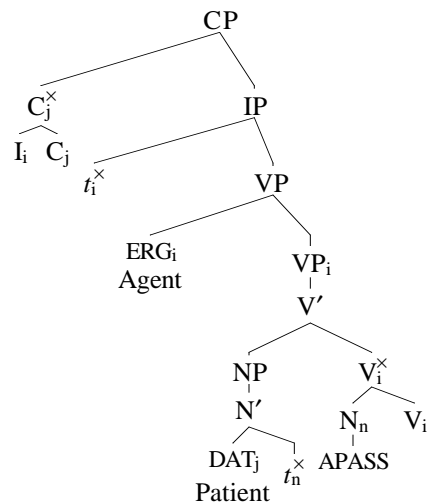
b. Triadic clause (W)



(67) a. Argument-introducing preverb (W)



b. Incorporating antipassive (W)



The agreement pattern found with triadic verbs in Warlpiri—where the dative object always controls agreement, while the nominative never does—is not attested in Inuit. In that language, as the reader will recall, triadic verbs occur in two case arrays, ERG-NOM-INS and ERG-NOM-DAT, illustrated in (32), and (68) below. The corresponding structures are repeated in (69).

(68) *Inuit*

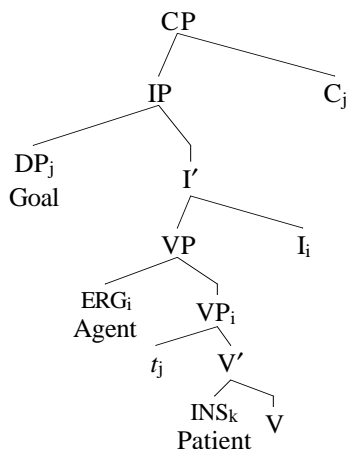
a. anguti-p (uanga) qimmi-nik marlun-nik tuni-v-a-a-nga  
 man-ERG (me.NOM) dog-PL.INStwo-INS give-IND-[+tr]-3SG-1SG

‘The man gave me two dogs.’

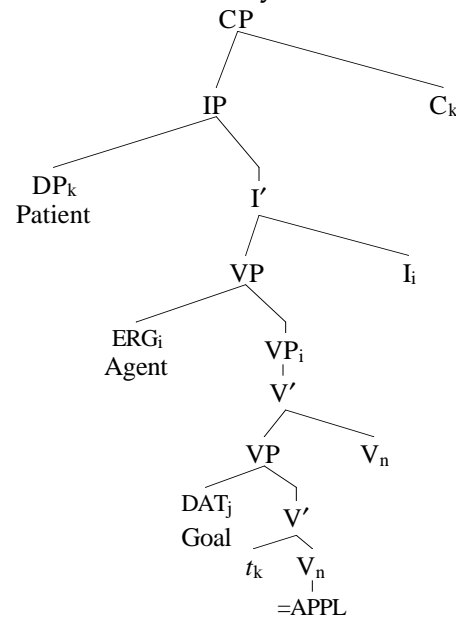
b. anguti-p qimmi-t marluk uan-nut tunni-up-p-a-i  
 man-ERG dog-PL(NOM) two(NOM) me-DAT give-APPL-IND-[+tr]-3SG.3PL

‘The man gave two dogs to me.’

(69) a. ERG-NOM-INS array (I)



b. ERG-NOM-DAT array (I)



In Inuit, as expected, the requirement of canonical antecedent-government is satisfied directly, by each functional head in the extended projection of the verb, in relation to the head of the appropriate argument chain. Thus, C agrees with the nominative object, which raises to [SPEC, IP], while I agrees with the ergative subject, which remains in its underlying VP-adjoined position.

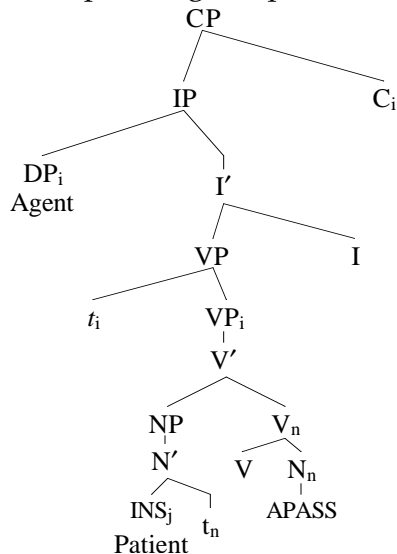
Warlpiri and Inuit also diverge from one another with respect to agreement in incorporating antipassives. As already discussed, the antipassive of Warlpiri (e.g.,

(70a)) exhibits the agreement pattern of a diadic clause (cf., (60c)). In contrast, the antipassive (70b) of Inuit patterns with the monadic (59a), not the diadic (59c):

- (70) a. ngarrka-jarra-rlu ka-pala-jana kurdukurdu-ku wapal-nya-ni *Warlpiri*  
 man-DU-ERG PRS-3DU-3PL children-DAT APASS<sub>V</sub>-look-NPST  
 ‘The two men are looking for the children.’
- b. angut uan-nik ujar-lir-p-u-q *Inuit*  
 man me-INS seek-APASS-IND-[-tr]-3SG  
 ‘The man is looking for me.’

The structure of the Inuit antipassive is repeated in (71). In this structure C agrees with the nominative subject, since this raises to [SPEC, IP]. The opacity of the VP, on the other hand, blocks antecedent government of any argument within V' by either C or I. Neither the NP shell nor the stranded oblique object (INS<sub>j</sub>) can therefore participate in pronominal agreement.

(71) Incorporating antipassive (I)



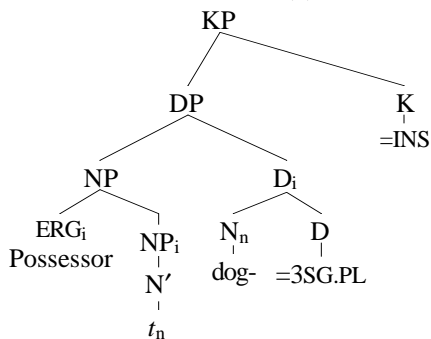
In Inuit, but not in Warlpiri, the functional category D occurs as an extended projection of N. In possessed nominals D agrees with the argument that it canonically

antecedent-governs—here, the possessor—like the functional heads, I and C, of the verbal system (cf. (11) in Hebrew).<sup>20</sup>

(72) *Inuit*

anguti-p (uanga) Juuna-p qimmi-*i*-nik tuni-v-a-a-nga  
 man-ERG (me.NOM) [Juuna-ERG dog-3SG.PL-INS] give-IND-[+tr]-3SG-1SG  
 ‘The man gave me some of Juuna’s dogs.’

(73) Possessed nominal (I)



In summary, the pronominal agreement facts of Inuit and Warlpiri are predictable. They can be derived in full by applying the universal theory of agreement presented in Bittner and Hale 1996 to the language-specific S-Structure representations that have been independently motivated in sections 3 and 4.

## 6. Consequences for obviation.

Both Inuit and Warlpiri have obviation systems, and in both, proximate or obviative marking can be morphologically fused with agreement (a cross-linguistically common pattern, see Haiman and Munro 1983). Specifically, object agreement in both languages may be proximate or obviative. Obviative agreement is amply illustrated in the foregoing sections. Proximate (reflexive or reciprocal) object agreement in Warlpiri is exemplified in (74).

(74) *Warlpiri*

ngarrka-jarra-rlu ka-pala-*nyanu* \_ panti-rni  
man-DU-ERG PRS-3DU-PROX<sub>i</sub> ec<sub>i</sub> spear-NPST  
'The two men<sub>i</sub> spear themselves<sub>i</sub>/each other<sub>i</sub>.'

In Inuit proximate object agreement cannot occur in non-embedded clauses. Thus, the Inuit sentence (75a), which represents the same type as the Warlpiri sentence (74), is ungrammatical. The only way to express this meaning is by recourse to a detransitivized clause in which the anaphoric object appears in a dative phrase, as in (75b) (see Bittner 1994a for an analysis of this construction).

(75) *Inuit*

- a.\* Juuna-p \_ tatigi-g-a-a-ni  
Juuna-ERG ec<sub>i</sub> trust-IND-[+tr]-3SG-3SG.PROX<sub>i</sub>  
(‘Juuna has confidence in himself.’)
- b. Juuna immi-nut tatigi-v-u-q  
Juuna self-DAT trust-IND-[-tr]-3SG  
'Juuna has confidence in himself.'

Proximate object agreement in Inuit can only appear in dependent clauses, as in (76), where it is bound from the matrix clause. Even when the object of the dependent clause is an empty category, as in (76b), the Warlpiri-style local binding relation is impossible in Inuit.

(76) *Inuit*

- a. Juuna-p      Kaali    tatigi-mm-a-ni                      \_    tuqqissima-v-u-q  
[Juuna-ERG    Kaali<sub>j</sub>    trust-DPST-3SG-3SG.PROX<sub>j</sub>]    ec<sub>j</sub>    stay.calm-IND-[-tr]-3SG  
'Because Juuna trusted Kaali<sub>j</sub>, he<sub>j</sub> stayed calm.'
- b. Juuna-p      \_    tatigi-mm-a-ni                      Kaali    tuqqissima-v-u-q  
[Juuna-ERG    ec    trust-DPST-3SG-3SG.PROX]    Kaali    stay.calm-IND-[-tr]-3SG  
'Because Juuna trusted him<sub>j</sub>, Kaali<sub>j</sub> stayed calm.'
- (NOT: 'Because Juuna<sub>i</sub> had confidence in himself<sub>i</sub>, Kaali stayed calm.')

We follow *Finer 1985* in analyzing obviation as an A'-binding relation.<sup>21</sup> Generalizing *Finer's* theory, we locate switch-reference morphology in functional heads. In *Inuit* this locus can be any functional head that canonically antecedent-governs some argument—that is, an agreeing C, I, or D. In *Warlpiri* switch-reference morphology appears in C or K. Switch-reference morphology enters into a simple binary opposition: *proximate* (bound) versus *obviative* (free in the binding domain). At S-Structure a (possibly discontinuous) head that is marked as proximate must satisfy the Proximate Binding Condition (77). Intuitively, this condition requires an anaphoric link to a subject. Formally, it demands binding by an accessible “subject path”—an extended construct defined in (78).<sup>22</sup>

(77) *Proximate Binding Condition*

The maximal head containing a proximate X<sup>o</sup> is bound by an accessible subject path.

(78) DEFINITION:

A *subject path* is a maximal sequence of nodes  $(\alpha_1, \dots, \alpha_n)$  such that (a)–(c) hold:

- a. *Initiator*:  $\alpha_1$  is a subject (i.e., a distinguished adjunct).
- b. *Continuity*:  $\alpha_j$  ( $1 < j \leq n$ ) immediately dominates  $\alpha_{j-1}$ .
- c. *Cut-off*: Let  $SC[\alpha_1]$  be the minimal small clause containing  $\alpha_1$ , and let  $[\alpha_j]^\circ$  be the  $X^\circ$  head of  $\alpha_j$  ( $1 < j \leq n$ ). Then (i) and (ii) hold:
  - i. if  $[\alpha_j]^\circ$  is not part of any discontinuous head, then  $[\alpha_j]^\circ$  delimits  $SC[\alpha_1]$  and does not delimit any other small clause;
  - ii. if  $[\alpha_j]^\circ$  is part of a discontinuous head  $\gamma$ , then some head in  $\gamma$  delimits  $SC[\alpha_1]$  and no head in  $\gamma$  delimits any other small clause.

In other words, we formalize Finer's idea, that switch-reference is an instance of A'-binding, along the lines of Barss 1986. For us, as for Barss, binding is a relation that may involve extended constructs. Specifically, proximate binding is a relation between subject paths and heads, including discontinuous heads formed by syntactic  $X^\circ$  movement or  $X^\circ$  binding (see sections 3 and 5).

The notion of accessibility assumed in (77) is standard, defined as in (79a) (Chomsky 1981). To generalize the familiar binding relation to extended constructs, we generalize the component relations *c-command* and *coindexed with*, as in (79b,c):

(79) DEFINITIONS:

- a.  $\alpha_i$  is *accessible to*  $\beta_j$ , iff  $\alpha_i$  c-commands  $\beta_j$  and no *i-within-i* violation results if  $i = j$ .
- b. A path  $\pi$  *c-commands* a (discontinuous) head  $\beta$ , iff some node along  $\pi$  c-commands (the low edge of)  $\beta$  and shares no extended projection with  $\beta$ .
- c. A path  $\pi$  is *coindexed with* a (discontinuous) head  $\beta$ , iff the foot of  $\pi$  is coindexed with (the high edge of)  $\beta$ .

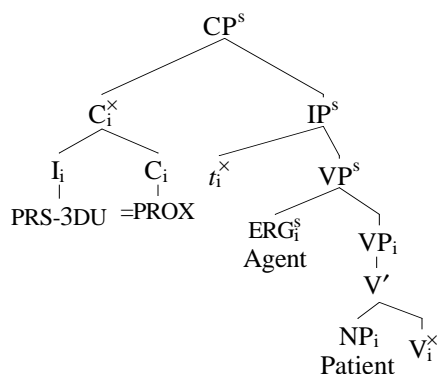


This generalization of Finer 1985 preserves the results of that theory for subject obviation involving simple  $X^{\circ}$  heads—that is, the type of obviation system that Finer considered. The generalized version also applies to languages where obviation may involve discontinuous heads, as it often does in Warlpiri and Inuit.

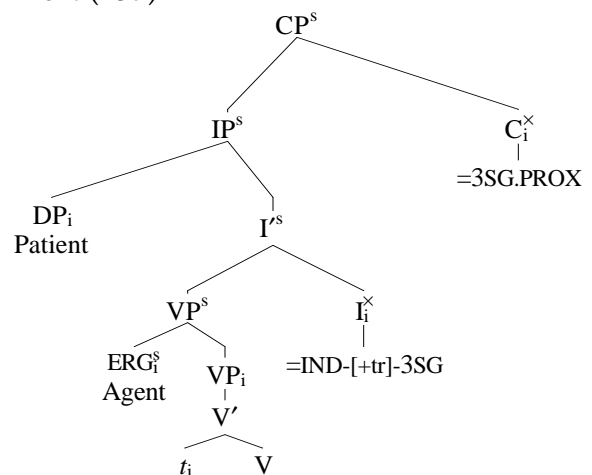
Thus, for example, the S-Structure representation of the well-formed Warlpiri sentence (74) is shown in (80a). Here the proximate object agreement *nyanu* is located in C (see section 5). Since the proximate C forms a discontinuous head with the trace of I, and V (as indicated by the  $\times$ -superscript notation), this discontinuous head must satisfy the Proximate Binding Condition (77). The VP-adjoined subject ( $ERG_i$ ) initiates an accessible subject path (set off in (80a) by s-superscripts). This subject path binds the discontinuous proximate head, because both the c-command and the coindexation requirements are met, in accordance with the definitions in (79). In particular, the required c-command relation holds, because the subject ( $ERG_i$ ) c-commands the low edge of the discontinuous head ( $V_i$ ), and these two nodes have no extended projections in common (see Grimshaw 1991).

(80) Proximate objects

a. Warlpiri (74)



b. \* Inuit (75a)

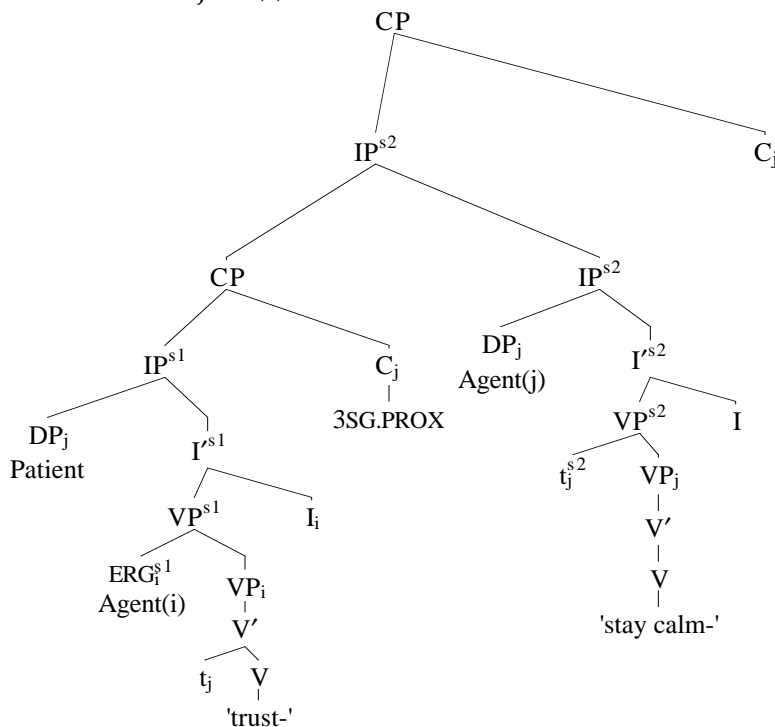


The ungrammatical Inuit sentence (75a) is represented at S-Structure by (80b), which violates the Proximate Binding Condition. Due to the agreement relations in

Inuit (see section 5), and the coindexation of the proximate C with the path initiated by the ergative subject (s-superscripts), the proximate C binds I and thus forms a discontinuous head with it. Crucially, however, this discontinuous head does not extend to V at S-Structure (although C, I, and V, form a phonological word, due to linearization at PF). As a consequence, the c-command requirement cannot be met in relation to this subject path. The only node along the path that c-commands I (the low edge of the discontinuous head) is VP, and this is not independent in the required sense, since I and VP share an extended projection (indeed, four—I', IP, C' and CP).

Similarly, in adjunction structures of the type represented by (76) in Inuit the proximate C cannot be bound by the subject path of its own adjunct clause (indicated in (81) by s1-superscripts). The only accessible subject path that can bind it is the one initiated by the subject of the matrix clause (s2-superscripts):

(81) Proximate object (I)



While a proximate object itself cannot be anaphorically linked to the subject of its clause in Inuit, a proximate possessor of the object can be. This is shown by the verbal

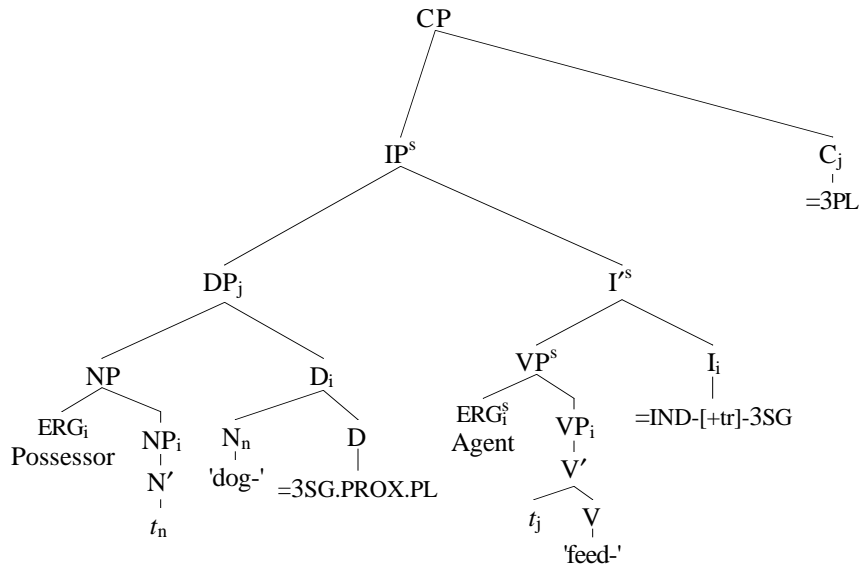
clause (82a) and the IHRC of (82b). The associated S-Structure representations are closely parallel, as indicated in (83a) and (83b) (see section 3.1).<sup>23</sup>

(82) *Inuit*

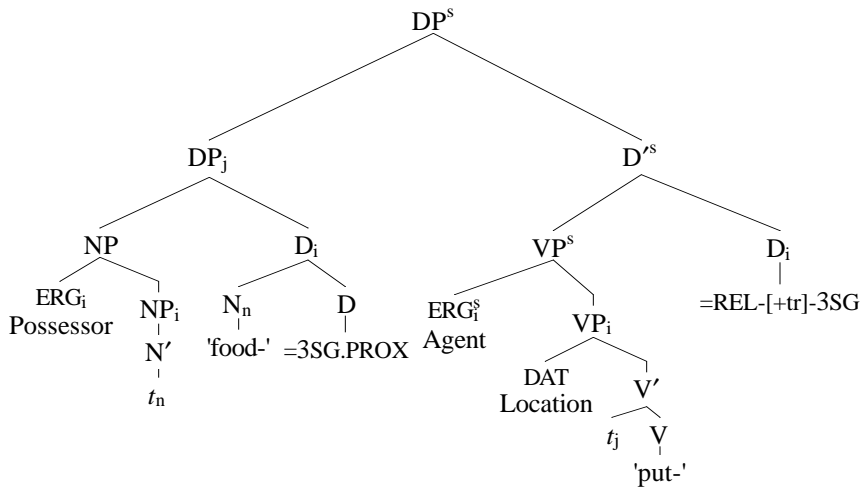
- a. Juuna-p    \_    qimmi-ni            nirisip-p-a-i  
 Juuna-ERG<sub>i</sub> [*ec*<sub>i</sub> dog-3SG.PROX<sub>i</sub>.PL] feed-IND-[+tr]-3SG.3PL  
 'Juuna<sub>i</sub> fed his<sub>i</sub> (lit. self<sub>i</sub>'s) dogs.'
- b.    \_    nirisa-ni            Makka-p            sani-mi-nut            ili-sima-sa-a  
 [[*ec*<sub>i</sub> food-3SG.PROX<sub>i</sub>] Makkaq-ERG<sub>i</sub> side-3SG.PROX<sub>i</sub>-DAT put-PRF-REL[+tr]-3SG]  
 qimmir-suu-p aallarup-p-a-a  
 dog-big-ERG<sub>j</sub> run.off.with-IND-[+tr]-3SG.3SG  
 'A big dog<sub>j</sub> run off with her<sub>i</sub> (lit. self<sub>i</sub>'s) food that Makkaq<sub>i</sub> had put by her<sub>i</sub> side.'

(83) Proximate possessors (I)

a.



b.



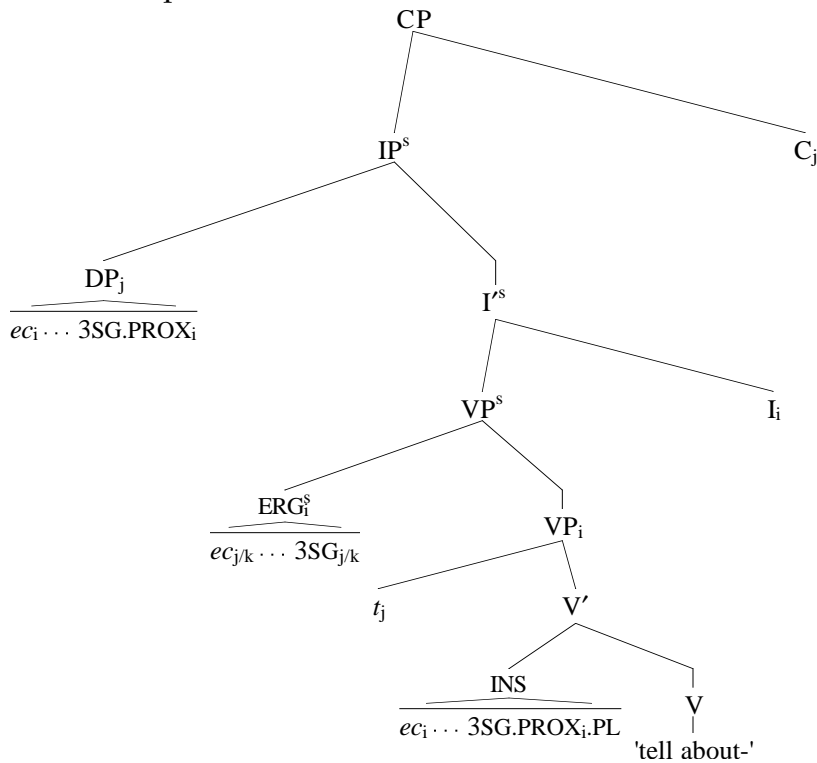
In both structures the (non-overt) possessor of the object  $DP_j$  controls proximate agreement in  $D$ . The proximate  $D$ , in turn, is bound by the subject path initiated by the  $VP$ -adjoined subject (s-superscripts). The c-command requirement is met, in virtue of the node that immediately dominates  $VP$  in this subject path ( $I'$  in (83a),  $D'$  in (83b)). This node c-commands the proximate  $D$  and is independent, as required, since it has no extended projection in common with the proximate  $D$ .

Since binding relations are determined at S-Structure, they are not affected by scrambling in the PF component. Thus, the anaphoric links in (84a) are preserved in the scrambled (84b), since both sentences share the S-Structure representation depicted in (85) (see sections 3.1 and 5). Of the three arguments of the verb, only the  $VP$ -adjoined subject ( $ERG_i$ ) initiates a subject path (s-superscripts). Since this path is not accessible to the subject's own  $D$ , this  $D$  must be obviative (*-ata*), even if it is coindexed with some argument of the verb. The path initiated by the  $VP$ -adjoined subject is also the only possible antecedent for the proximate  $D$ s of the two objects (*-ni* of the raised nominative as well as *-mi* of the in situ instrumental). Thus the (non-overt) possessor of both objects is anaphorically linked to the  $VP$ -adjoined subject.

(84) *Inuit*

- a. *irni-ni anguta-ata qimmi-mi-nik uqaluttuup-p-a-a*  
 son-3SG.PROX father-3SG.ERG dog-3SG.PROX.PL-INS tell.about-IND-[+tr]-3SG.3SG  
 '[His<sub>j/k</sub> father]<sub>i</sub> told [his<sub>i</sub> son]<sub>j</sub> about [his<sub>i</sub> dogs].'
- b. *anguta-ata irni-ni qimmi-mi-nik uqaluttuup-p-a-a*  
 father-3SG.ERG son-3SG.PROX dog-3SG.PROX.PL-INS tell.about-IND-[+tr]-3SG.3SG  
 '[His<sub>j/k</sub> father]<sub>i</sub> told [his<sub>i</sub> son]<sub>j</sub> about [his<sub>i</sub> dogs].'

(85) Proximate possessors (I)



The anaphoric link between the VP-adjoined subject and the proximate possessor of the nominative argument may span an intervening negation (as in (86a)). In contrast, it is blocked by passive morphology (resulting in ungrammaticality in (86b)).

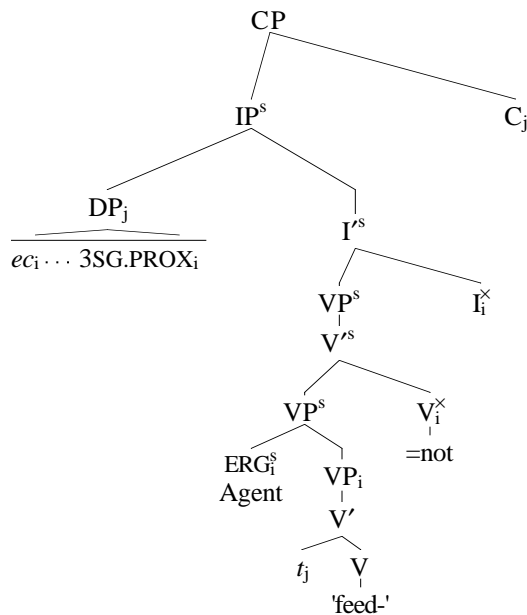
(86) *Inuit*

- a. \_ qimmi-*ni*            Juuna-p    nirisi-*nngi-la-i*  
 [ $ec_i$  dog-3SG.PROX $_i$ .PL] Juuna-ERG feed-*not*-IND-3SG.3PL  
 ‘Juuna $_i$  did not feed his $_i$  dogs.’
- b.\* \_ qimmi-*ni*            Juuna-mit nirisin-*ni-qar-p-u-t*  
 [ $ec_i$  dog-3SG.PROX $_i$ .PL] Juuna-ABL feed-PASS-have-IND-[tr]-3PL  
 (‘His $_i$  dogs were fed by Juuna $_i$ .’)

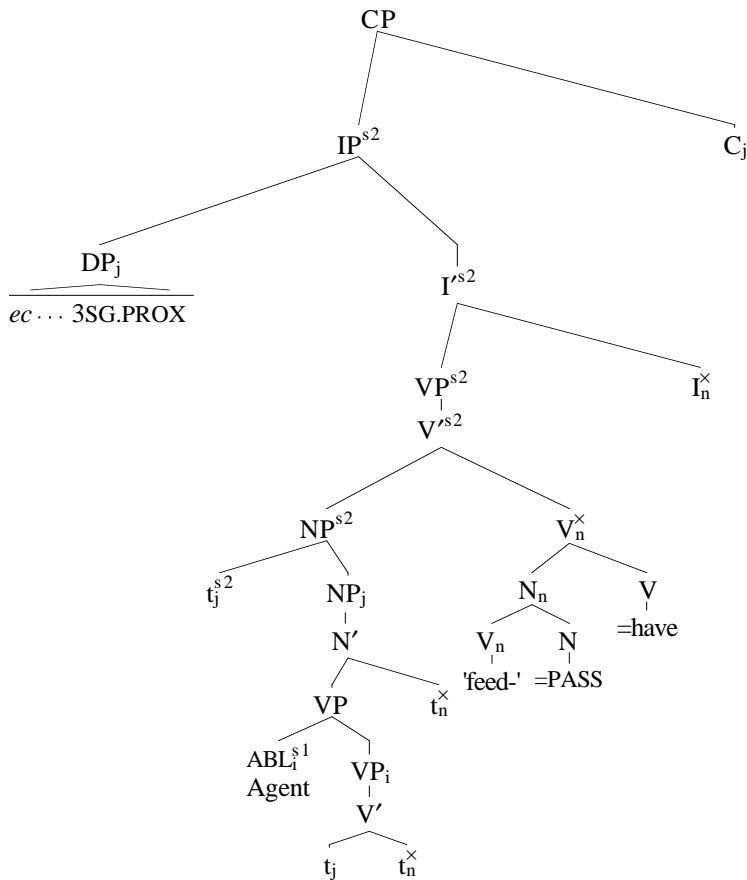
While both negation and passive are represented by independent heads in the syntax (V and N, respectively), the passive head, but not the negation, has its own adjoined subject. The respective S-Structure representations are depicted in (87a) and (87b) (repeated from (52a) and (28a)):

(87) Proximate possessor of NOM (I)

a.



b. \*



At S-Structure, I must bind the negation verb, as in (87a). Otherwise, I would fail to antecedent-govern the VP-adjoined subject ( $ERG_i$ ), whose underlyingly empty K would then violate the ECP. Since the binding relation between I and the negation verb renders the VP headed by the latter transparent, I governs the VP complement of that verb, and thus delimits the minimal small clause containing the subject. The path initiated by that subject extends therefore up to IP (as indicated by the *s*-superscripts in (87a))—like in the affirmative structure (83). Transparent subject-less heads of the type represented by negation have therefore no effect on binding relations in Inuit.<sup>24</sup>

In the passive structure (87b) the underlying VP-adjoined subject ( $ABL_i$ ) likewise initiates a subject path (*s1*-superscript). This path, however, cannot include any higher node. Even the immediately dominating node (VP) is ruled out, because its head (lower  $t_n$ ) forms part of a discontinuous head that also includes the trace of the passive noun

(upper  $t_n$ ), and that in turn delimits its own small clause (to wit, the passive NP, see definition (78c)). As a consequence, the path initiated by the underlying subject fails to c-command the proximate D of the raised nominative argument. The trace ( $t_j$ ) in the NP-adjoined subject position, where the nominative argument acquires its derived subject properties, initiates another subject path (s2-superscripts). While this path meets the c-command requirement, it is not accessible. Thus, the passive structure (87b) violates the Proximate Binding Condition, since the proximate D fails to be bound.

Since the Inuit passive contains two subjects, both can antecede proximate functional heads, if the requirements concerning c-command and accessibility can be met. Thus, for example, the triadic passive in (88) is ambiguous:

(88) *Inuit*

Kaali angu-*mi-nit*                      qimmi-*mi-nik*  
 K.     father-SG.3SG.PROX-ABL dog-PL.3SG.PROX-INS  
 uqaluttuun-ni-qar-p-u-q  
 tell.about-PASS-have-IND[-tr]-3SG  
 ‘Kaali<sub>j</sub> was told by [his<sub>j</sub> father]<sub>i</sub> about [his<sub>i/j</sub> dogs].’

The structure of this sentence is (87b) modulo the internal structure of the embedded VP (see (85)) and the location of proximate Ds. The proximate D of the underlying subject (ABL) is unambiguously linked to the derived nominative subject. The ambiguity arises, because the oblique object (INS, in the complement position of the verb) contains a proximate D that can be linked either to the underlying (ablative) subject or to the derived (nominative) subject.

As in other switch-reference systems, arguments construed with proximate heads may be overt in Inuit, provided that the relevant conditions of the A-binding system (i.e., the Binding Theory; see Chomsky 1981, and related work) are not incidentally violated. Thus, as we already saw in (76a), a proximate C (-*ni*) may canonically

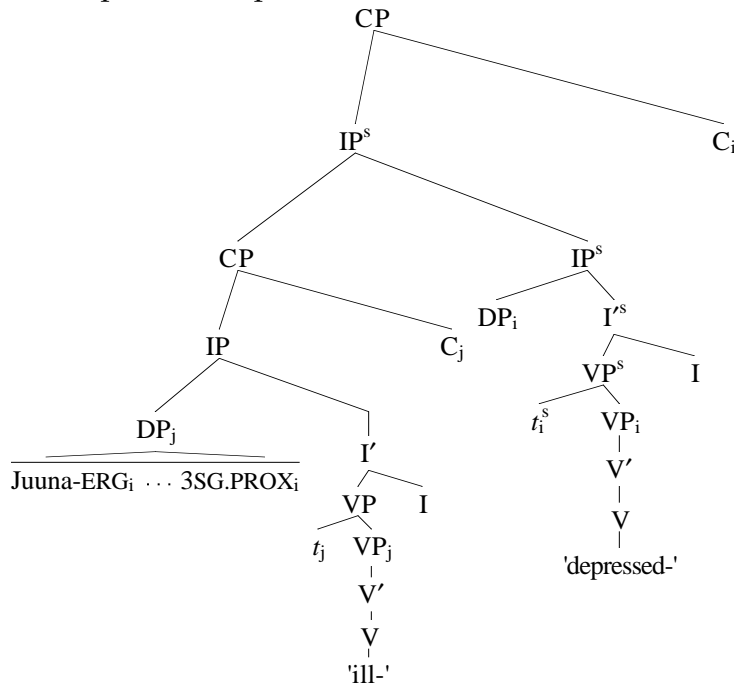


antecedent-govern an overt nominative object (*Kaali*, see the structure in (81)). The sentence in (89) illustrates the same point for ergative possessors. The subject of the adjunct clause is headed by a proximate D (*-ni*) that canonically antecedent-governs an overt ergative possessor (*Juuna-p*). The proximate D—and hence the possessor—is coindexed with the matrix subject ( $ec_i$ ), to satisfy the Proximate Binding Condition. Condition C of the Binding Theory is not violated here, because (89) is represented at S-Structure by (90). In this structure the matrix subject ( $t_i$ ) does not A-bind the coindexed possessor ( $ERG_i$ ), because it does not c-command it.

(89) *Inuit*

*Juuna-p*      *ataata-ni*      *napparsima-mm-at* \_    *nikallunga-v-u-q*  
 [[*Juuna-ERG<sub>i</sub>* *father-3SG.PROX<sub>i</sub>*] *ill-DPST-3SG*]       $ec_i$  *depressed-IND-[-tr]-3SG*  
 ‘Because *Juuna<sub>i</sub>*’s father is ill, he<sub>i</sub> is depressed.’

(90) Overt proximate possessor (I)



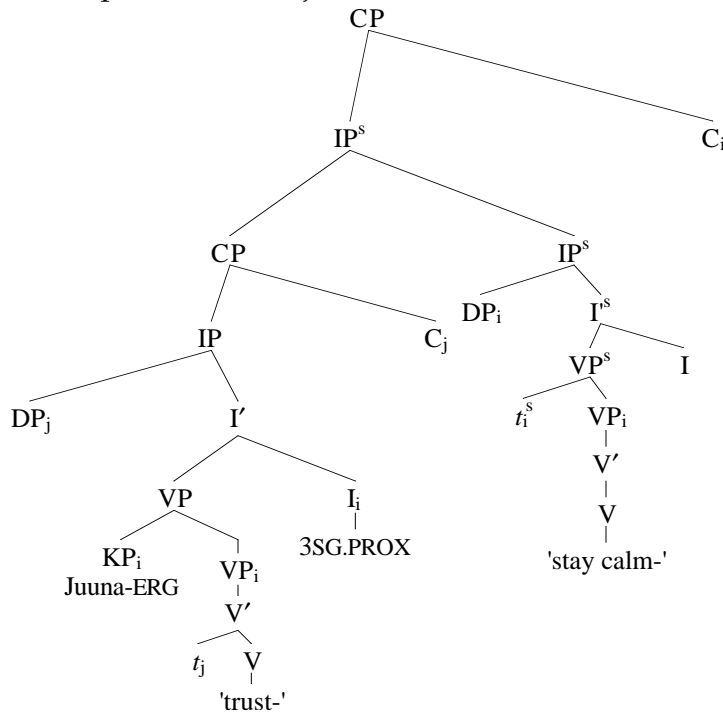
Sentence (91) is parallel to (76b), except that the proximate agreement (*-mi*) is located in the dependent I. As a consequence, it is construed with the ergative subject

of the dependent clause, rather than with the nominative object (see section 5). The structural configuration assigned to (91) is set out in (92). Here again, the argument construed with the proximate head can be overt, since the Binding Theory is not violated. The main clause subject ( $t_i$ ) does not bind the subject of the dependent clause ( $ERG_j$ ), although the subject path initiated by the former must bind the proximate I construed with the latter. All of this is part and parcel of the theory of subject obviation presented in Finer 1985.

(91) *Inuit*

*Juuna-p*    *Kaali* *tatigi-ga-mi-uk*                    *\_*    *tuqqissima-v-u-q*  
 [*Juuna-ERG<sub>i</sub>* *Kaali* *trust-DPST-3SG.PROX<sub>i</sub>-3SG*] *ec<sub>i</sub>* *stay.calm-IND-[-tr]-3SG*  
 ‘Because *Juuna<sub>i</sub>* trusted *Kaali*, he<sub>i</sub> stayed calm.’

(92) Overt proximate subject (I)



The sentences of (93a–c) illustrate essentially the same point for Warlpiri, but with reference to Condition B of the Binding Theory (see Laughren 1989, 1991, Simpson

1991). They involve incorporated preverbs of the adjunct-introducing or argument-introducing variety (the benefactive *ngayi* in (93a) exemplifies the former type; *yaarlpa* ‘onto’ in (93b) and the non-overt preverb of (93c), the latter; see section 3.2). For the stranded dative object of either type of preverb, construal with proximate object agreement in C (*-nyanu*) is compatible with overt representation by a pronominal object (*nyanungu-ku*). The sentences of (93a) and (93b) are represented at S-Structure by (94a) and (94b), respectively. The structure of (93c) is parallel to (94b), except that V’ does not branch (see sections 3.2 and 5):

(93) *Warlpiri*

a. ngarrka-ngku ka-nyanu (ngayi-)luwa-rni kuyu nyanungu-ku  
 man-ERG PRS.3SG-PROX<sub>i</sub> (BEN-)shoot-NPST meat he-DAT<sub>i</sub>

‘The man is shooting game for himself.’

b. ngarrka-ngku ka-nyanu yaarlpa-paka-rni watiya nyanungu-ku  
 man-ERG PRS.3SG-PROX<sub>i</sub> onto-chop-NPST tree he-DAT<sub>i</sub>

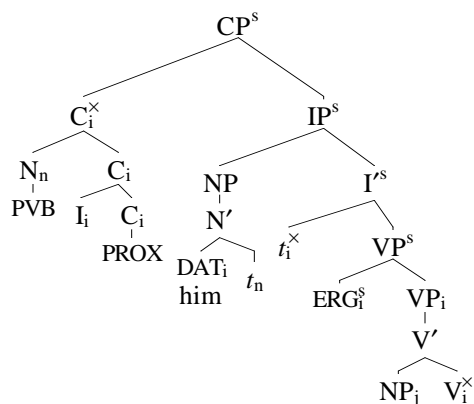
‘The man is chopping a tree onto himself.’

c. ngarrka ka-nyanu \_-wangka-mi nyanungu-ku  
 man PRS.3SG-PROX<sub>i</sub> PVB-speak-NPST he-DAT<sub>i</sub>

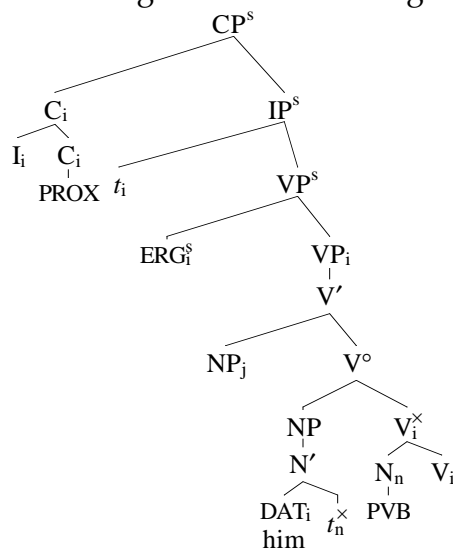
‘The man is speaking to himself.’

(94) Overt proximate arguments (W)

a. DAT of adjunct-introducing PVB



b. DAT of argument-introducing PVB



In Warlpiri structures of this type the overt pronominal object is contained within an NP that occupies a non-argument position (that is, a position other than an A-position). Thus, the NP of an adjunct-introducing preverb is base-generated in an A'-position, [SPEC, IP] (as in (94a)). Similarly, the NP of an argument-introducing preverb is demoted, from an argument of the verb (complement of V) to a modifier (adjunct of V), by V'-to-V<sup>o</sup> restructuring at S-Structure (resulting in (94b)). As a non-argument, this NP defines the binding domain for the pronominal object, like the non-argument PP does in *John<sub>i</sub> saw a snake near him<sub>i</sub>*.<sup>25</sup> Being free in this binding domain, the pronominal object can therefore be bound by the VP-adjoined subject without violating Condition B of the Binding Theory. Indeed, it must be so bound, since it controls proximate object agreement in C. The discontinuous proximate head containing C (×-superscripts in (94a–b)) must therefore be bound by the path initiated by the VP-adjoined subject (s-superscripts), in order to satisfy the Proximate Binding Condition.

In contrast, in sentences of the type represented in (95) proximate object agreement in C cannot be construed with an overt pronominal object.

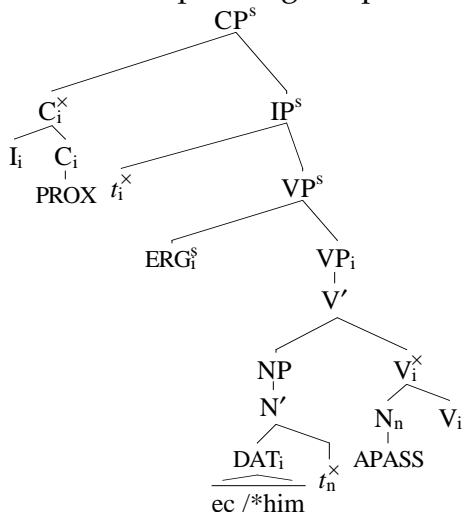
(95) *Warlpiri*

- a. ngarrka-ngku ka-nyanu paka-rni (\*nyanungu)  
 man-ERG PRS.3SG-PROX<sub>i</sub> hit-NPST (\*he.NOM<sub>i</sub>)  
 'The man is hitting himself.'
- b. ngarrka-ngku ka-nyanu-rla paka-rni (\*nyanungu-ku)  
 man-ERG PRS.3SG-PROX<sub>i</sub>-APASS<sub>C</sub> hit-NPST (\*he-DAT<sub>i</sub>)  
 'The man is striking at himself.'
- c. ngarrka-ngku ka-nyanu yi-nyi kuyu (\*nyanungu-ku)  
 man-ERG PRS.3SG-PROX<sub>i</sub> give-NPST meat (\*he-DAT<sub>i</sub>)  
 'The man is giving meat to himself.'

The S-Structure representation of the diadic (95a) is (80a). The incorporating antipassive (95b) and the triadic (95c) are represented at S-Structure by (96a) and (96b), respectively (see sections 3.2 and 5):

(96) \* Overt proximate arguments (W)

a. DAT of incorporating antipassive



b. DAT of triadic verb



In these structures there is either no preverb at all (as in the diadic (80a) and the triadic (96b)), or else the pronoun is contained within an NP that occupies an internal A-position of the verb (as in the antipassive (96a), where the NP is in the complement

position). In either case, the binding domain of the pronoun is the VP small clause. In the antipassive (96a), this is because the trace of the incorporated preverb forms a discontinuous head with the verb, resulting in the extension of the binding domain from the NP headed by the former to the VP headed by the latter (Baker 1988). In this larger binding domain the pronoun is A-bound by the VP-adjoined subject ( $ERG_i$ ), and thus violates Condition B of the Binding Theory.

## 7. Consequences for control.

In the preceding section we saw that Inuit and Warlpiri share the system of subject obviation so amply documented in the literature on switch-reference. That is, proximate heads must satisfy the Proximate Binding Condition at S-Structure. Both languages also have a system of “A'-control” that involves subject control morphology (cf. Hale 1989). This morphology marks heads that must satisfy the following condition:

### (97) *Subject Control Condition*

A subject-controlled  $X^\circ$  is bound by an accessible subject path in the first finite CP.

The Subject Control Condition is similar to the Proximate Binding Condition, but it is more restrictive in two respects. First, it requires the binding relation to be local (which proximate binding in Inuit need not be, see (88) as well as ftn. 23 and Bittner 1994a). Second, the bound element must be the actual functional head that contains the control morphology. Any discontinuous head relations are irrelevant.

In Inuit as well as in Warlpiri subject-control morphology occurs in non-agreeing functional heads that govern and locally c-command a subject.<sup>26</sup> In Inuit, these heads include the infinitive I (*-llu* in (61)) and the gerundive D (*-nir* in (98a)). In Warlpiri, on the other hand, where infinitives are nominal and D does not exist, control morphology

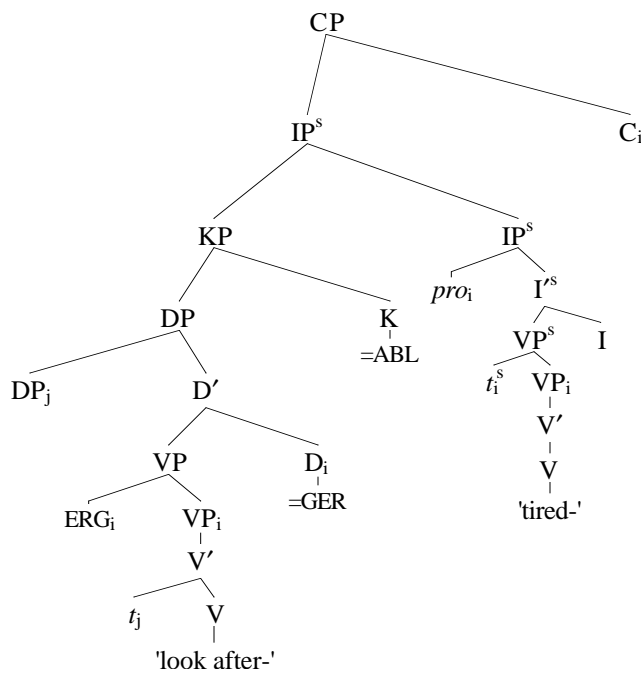
is in K (-*karra* in (98b)). Each controlled head canonically antecedent-governs the local subject (as in the structures of (99), corresponding to (98)).

(98) a. Juuna-p miiqqat paari-nir-mit \_ qasu-v-u-q *Inuit*  
 [Juuna-ERG<sub>i</sub> child-PL look.after-GER<sub>i</sub>-ABL] *ec*<sub>i</sub> tired-IND-[-tr]-3SG  
 ‘Because Juuna<sub>i</sub> has been looking after the children, he<sub>i</sub> is tired.’  
 (cf. in English ‘Juuna is tired from looking after the children’)

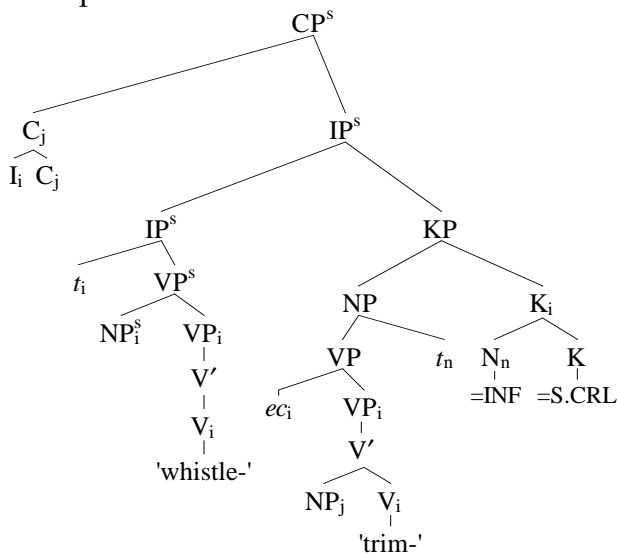
b. ngarrka ka wirnpirli-mi [ \_ karli jarnti-rninja-karra] *Warlpiri*  
 man<sub>i</sub> PRS.3SG whistle-NPST [*ec*<sub>i</sub> boomerang trim-INF-S.CRL<sub>i</sub>]  
 ‘The man is whistling, while trimming a boomerang.’

(99) Subject control

a. Inuit



b. Warlpiri



Both structures are well-formed, because the subject-controlled  $X^\circ$  head (D of the gerund in Inuit (99a), K of the infinitive in Warlpiri (99b)) is bound by the path initiated by the matrix subject (s-superscripts). Since the  $X^\circ$  head itself must be bound, this is the only accessible subject path. In this respect, subject control in both languages patterns like obviation in Inuit and contrasts with obviation in Warlpiri. That is, the Subject Control Condition cannot be satisfied locally, within the maximal projection of the controlled functional head, for the same reason that the Proximate Binding Condition cannot be in Inuit (cf. the ill-formed (80b)). In contrast, proximate binding can be satisfied locally in Warlpiri (as in (80a)), because the binding requirement can be met by the discontinuous head that in addition to C (the carrier of the proximate morphology) crucially also includes V.

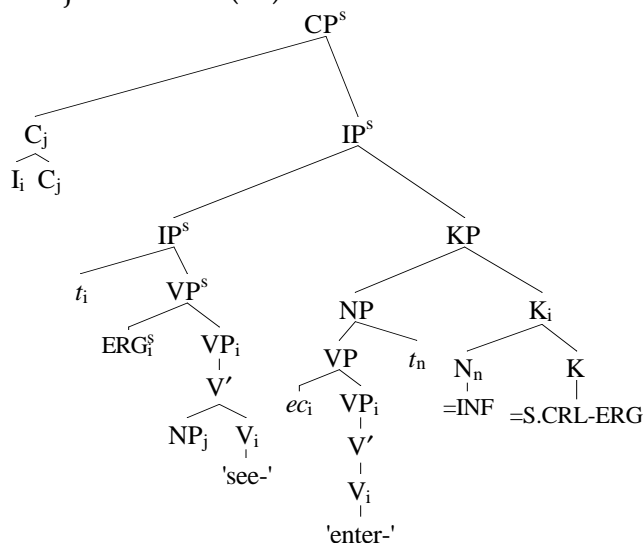
However, even within the area of control, the two languages diverge. Control morphology in Warlpiri, but not in Inuit, distinguishes the situation in which the controller is a subject path, (as in (98b) and (100a) below), from that in which the controller is an object path (as in (100b)). The associated S-Structure representations are depicted in (101a) and (101b).



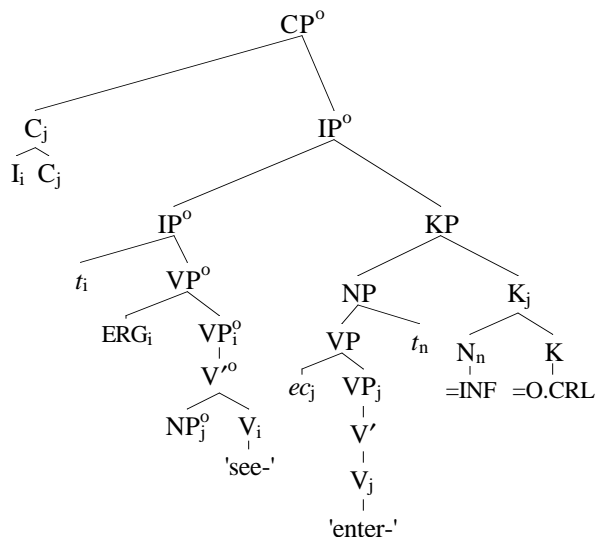
(100) *Warlpiri*

- a. *ngarrka-ngku* \_                    *karnta*   *nya-ngu* \_   *yuka-nja-karra-rlu*  
*man-ERG<sub>i</sub>*            PST.3SG.3SG   *woman*   *see-PST*   [*ec<sub>i</sub>* *enter-INF-S.CRL-ERG<sub>i</sub>*]  
 ‘The man<sub>i</sub> saw the woman, when he<sub>i</sub> entered.’
- b. *ngarrka-ngku* \_                    *karnta*   *nya-ngu* \_   *yuka-nja-kurra*  
*man-ERG*            PST.3SG.3SG   *woman<sub>j</sub>*   *see-PST*   [*ec<sub>j</sub>* *enter-INF-O.CRL<sub>j</sub>*]  
 ‘The man saw the woman<sub>j</sub>, when she<sub>j</sub> entered.’

(101) a. Subject control (W)



b. Object control (W)



In (101a) the subject-controlled K of the infinitival adjunct satisfies the Subject Control Condition, in virtue of being bound by the subject path initiated by the matrix subject (s-superscripts). In (101b), on the other hand, the corresponding K is object-controlled, since it contains the suffix *-kurra*, glossed ‘O.CRL’. It therefore must be locally bound by an object path, in order to satisfy the binding condition stated in (102):

(102) *Object Control Condition*

An object-controlled  $X^\circ$  is bound by an accessible object path in the first finite CP.

The object path in (101b), initiated by the matrix object ( $NP_j$ ) and indicated by means of o-superscripts, conforms to the definition set out in (103). This is identical to the definition of a subject path (78), except for obvious substitutions in clause (a), concerned with the initiator of the path. Since the object path in (101b) is accessible to the object-proximate K and binds it, the Object Control Condition is satisfied.

(103) DEFINITION:

An *object path* is a maximal sequence of nodes ( $\alpha_1, \dots, \alpha_n$ ) such that (a)–(c) hold:

- a. *Initiator*:  $\alpha_1$  is an object (i.e., complement or specifier of a lexical head).
- b. *Continuity*:  $\alpha_j$  ( $1 < j \leq n$ ) immediately dominates  $\alpha_{j-1}$ .
- c. *Cut-off*: Let  $SC[\alpha_1]$  be a minimal small clause containing  $\alpha_1$ , and let  $[\alpha_j]^\circ$  be the  $X^\circ$  head of  $\alpha_j$  ( $1 < j \leq n$ ). Then (i) and (ii) hold:
  - i. if  $[\alpha_j]^\circ$  is not part of any discontinuous head, then  $[\alpha_j]^\circ$  delimits  $SC[\alpha_1]$  and does not delimit any other small clause;
  - ii. if  $[\alpha_j]^\circ$  is part of a discontinuous head  $\gamma$ , then some head in  $\gamma$  delimits  $SC[\alpha_1]$  and no head in  $\gamma$  delimits any other small clause.

As expected under this analysis, in triadic clauses both the dative argument (complement of V) and the nominative argument (in [SPEC, VP]) qualify as objects for

the purposes of object control (see the triadic structure (96b)). That is, each may initiate an object path that binds an object-controlled K, as the sentences of (104) attest:

(104) *Warlpiri*

- a. karnta-ngku ka-ju miyi ngajulu-ku yi-nyi  
 woman-ERG PRS.3SG-1SG food me-DAT<sub>k</sub> give-NPST

[ \_ karli jarnti-rninja-kurra(-ku)]

[ec<sub>k</sub> boomerang trim-INF-O.CRL(-DAT)<sub>k</sub>]

‘The woman is giving food to me, while I am trimming a boomerang.’

- b. karnta-ngku ka-ju marlu ngajulu-ku jiilyngarri-rni  
 woman-ERG PRS.3SG-1SG kangaroo<sub>j</sub> me-DAT indicate-NPST

\_ marna nga-rninja-kurra

[ec<sub>j</sub> grass eat-INF-O.CRL<sub>j</sub>]

‘The woman is pointing out a kangaroo<sub>j</sub> to me, while it<sub>j</sub> is eating grass.’

Also as expected, the controlling object path may originate with the dative object licensed by an antipassive or argument-introducing preverb (exemplified, respectively, by *jinta* ‘APASS<sub>C</sub>’ in (105a) and *yaarlpa* ‘onto’ in (105b); see the structures in (96a) and (94b)):

(105) *Warlpiri*

- a. ngarrka-ngku ka-rla-jinta marlu-ku luwa-rni  
man-ERG<sub>i</sub> PRS.3SG-3SG-APASS<sub>C</sub> kangaroo-DAT<sub>j</sub> shoot-PST  
– parnka-nja-kurra(-ku)  
[ec<sub>j</sub> run-INF-O.CRL(-DAT)<sub>j</sub>]

‘The man is shooting at the kangaroo<sub>v</sub> while it<sub>j</sub> is running.’

- b. ngarrka-ngku Ø-ju watiya ngajulu-ku<sub>k</sub> yaarlpa-paka-rnu  
man-ERG<sub>i</sub> PST.3SG-1SG tree me-DAT<sub>k</sub> onto-chop-PST  
– yama-ngka nguna-nja-kurra(-ku)  
[ec<sub>j</sub> shade-LOC lie-INF-O.CRL(-DAT)<sub>j</sub>]

‘The man chopped the tree down onto me, while I was sleeping in the shade.’

In contrast, the dative object licensed by an adjunct-introducing preverb cannot license object-control morphology in an infinitival adjunct, in spite of the fact that it controls object agreement in the main clause. Thus, for example, the sentences of (106) are ungrammatical even under the structural analysis in (107), where the infinitive is adjoined at the VP-level.

(106) *Warlpiri*

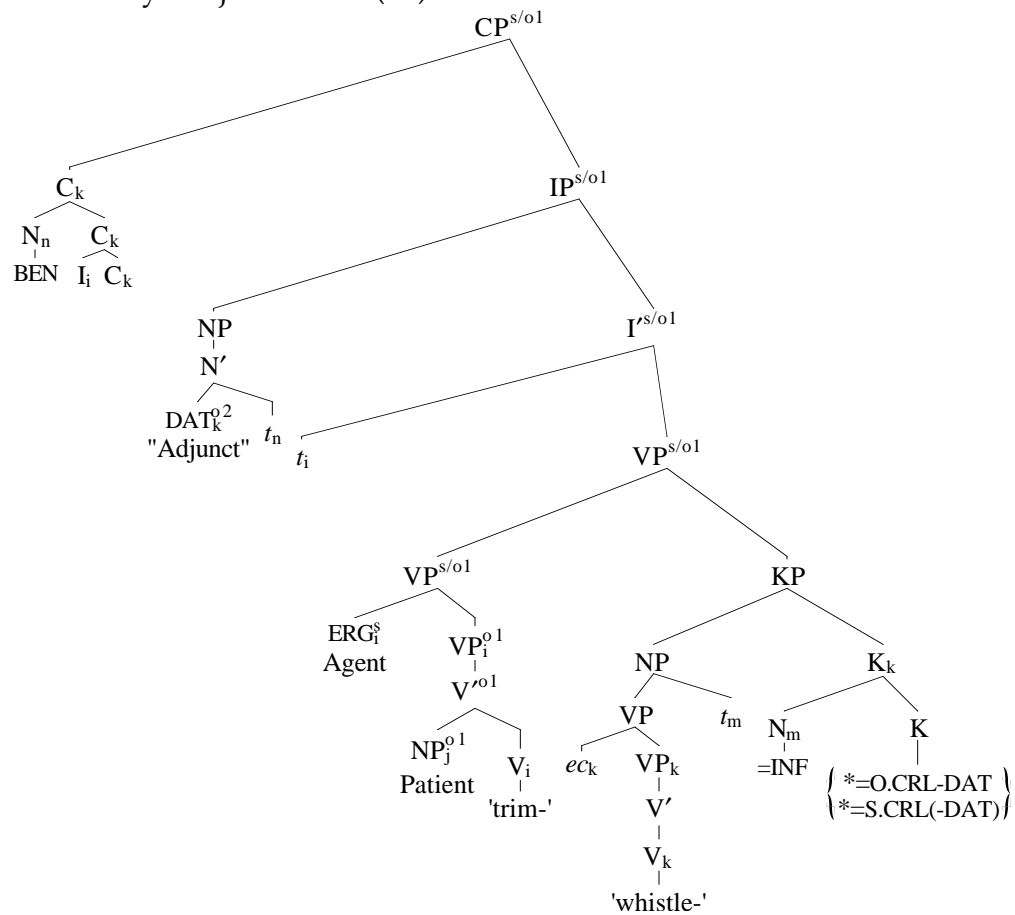
a.\* ngarrka-ngku lpa-ju karli ngayi-jarntu-rnu ngaju-ku  
 man-ERG PST.3SG-1SG boomerang BEN-trim-PST me-DAT<sub>k</sub>  
 – wirnpirli-nja-kurra-ku  
 [*ec*<sub>k</sub> whistle-INF-O.CRL-DAT<sub>k</sub>]

(‘The man was trimming a boomerang for me, while I was whistling.’)

b.\* ngarrka-ngku lpa-ju karli ngayi-jarntu-rnu ngaju-ku  
 man-ERG PST.3SG-1SG boomerang BEN-trim-PST me-DAT<sub>k</sub>  
 – wirnpirli-nja-karra(-ku)  
 [*ec*<sub>k</sub> whistle-INF-S.CRL(-DAT)<sub>k</sub>]

(‘The man was trimming a boomerang for me, while I was whistling.’)

(107) \* Control by “adjunct DAT” (W)



If the K of the infinitival adjunct contains both object-control morphology (*-kurra*) and dative Case morphology (*-ku*) (as it does in (106a)), the structure violates the Object Control Condition. The only accessible object path (o1-superscripts) is initiated by the nominative object (NP<sub>i</sub>) of the main verb, but Case conflict eliminates this path as a possible binder. The stranded dative object of the incorporated benefactive preverb also initiates an object path (o2-superscripts). However, since this object is not contained in any small clause, the path it initiates is trivial, consisting just of the object itself (see definition (103)). This object path, therefore, fails to c-command the object-controlled K.

The ungrammaticality persists if the object-control suffix (*-kurra*) in the infinitive is replaced with the suffix of subject-control (*-karra*; as in (106b)). The resulting structure violates the Subject Control Condition, since the only accessible subject path (s-superscripts) originates with the VP-adjoined ergative subject and so is ruled out by Case conflict (that is, by the absence of ergative Case on the infinitive). The NP headed by the trace of the benefactive preverb does not qualify as a subject, since [SPEC, IP] is not a distinguished adjunct.

Thus, when the subject of the infinitival adjunct is anaphoric to an “adjunct dative” in the main clause, the K of the infinitive must be obviative (as in (108a), and (108b) on the anaphoric reading). In other words, the infinitival adjunct is marked in the same way as it is in the absence of any anaphoric link between its subject and any argument of the main verb (e.g., in (108b) on the non-anaphoric reading, as well as in (108c)).

(108) *Warlpiri*

a. ngarrka-ngku lpa-ju karli ngayi-jarntu-rnu ngaju-ku  
 man-ERG PST.3SG-1SG boomerang BEN-trim-PST me-DAT<sub>k</sub>

– wirnpirli-nja-rlarni-ki

[ec<sub>k</sub> whistle-INF-OBV-DAT<sub>k</sub>]

‘The man was trimming a boomerang for me, while I was whistling.’

b. ngarrka-ngku lpa-ju karli ngayi-jarntu-rnu ngaju-ku  
 man-ERG PST.3SG-1SG boomerang BEN-trim-PST me-DAT<sub>k</sub>

– wirnpirli-nja-rlarni

[ec<sub>k/n</sub> whistle-INF-OBV<sub>k/n</sub>]

‘The man<sub>i</sub> was trimming a boomerang for me, while I/he\*<sub>i</sub> was whistling.’

c. ngarrka-ngku lpa-ju karli ngayi-jarntu-rnu ngaju-ku  
 man-ERG PST.3SG-1SG boomerang BEN-trim-PST me-DAT<sub>k</sub>

kurdu-ku wirnpirli-nja-rlarni

[child-DAT<sub>n</sub> whistle-INF-OBV<sub>n</sub>]

‘The man was trimming a boomerang for me, while the child was whistling.’

The present theory thus explains the chameleon-like nature of the “object relation” in Warlpiri. Specifically, it correctly predicts which argument will count as an “object” or “the most prominent object” in the context of different phenomena—object agreement (section 5), construal of an overt pronominal object with proximate agreement (section 6), and object control (this section).

## 8. Conclusion

According to the theory presented here, ergativity is fundamentally a matter of the syntactic relations that hold at S-Structure. Universally, the ERG-NOM array is determined when a transitive verb does not govern any Case competitor for the object

and therefore fails to Case-bind this argument, while I Case-binds the VP-adjoined subject. What makes ergative languages a heterogeneous class is the circumstance that this general description is compatible with a number of different structures.

In particular, it is compatible with the situation in which the nominative object satisfies the K Filter in situ, because C, I, and V, jointly form a discontinuous head and thus render the entire clause transparent to government from C. This situation characterizes languages of the morphologically ergative type represented by Warlpiri. Alternatively, if C does not govern into VP, then the need to satisfy the K Filter will force the nominative object to raise to [SPEC, IP]. This A'-raising distinguishes the syntactically ergative type represented by Dyirbal and Inuit.

These syntactic characteristics in turn account for the differences, between morphological and syntactic ergativity, with respect to phenomena that are sensitive to S-Structure relations. Universally, these phenomena include structural Case assignment, pronominal agreement, minimal scope options, and syntactic binding relations (which subsume obviation and control).

#### ACKNOWLEDGEMENTS

For helpful comments which led to substantial revisions, we thank Veneeta Dayal, Mary Laughren, Kumiko Murasugi, and two anonymous reviewers for the *Linguistic Inquiry*. The Warlpiri and Inuit data discussed in this paper were obtained over a number of years of field work by Hale and Bittner, respectively, who are indebted to a large number of consultants, including Sam Japangardi Johnson, Darby Jampijinpa, and the late Dinny Japaljarri Anderson (Warlpiri), and Kassaaluk Qaavigaq, Aqqaluk Abelsen, and the late Karen Recinella (Inuit). Portions of this material were presented, between 1992 and 1994, at the MIT Ergativity Seminar, the Rutgers Workshop on Theoretical Issues in Ergative Languages, and at colloquia and invited talks at McGill, UC Irvine,



and the University of Pennsylvania. We thank our audiences at all of these places for stimulating discussions. This research was supported by National Science Foundation companion grants to MIT (BNS-9108331) and Rutgers University (BNS-9108381).

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<sup>1</sup> The gloss 'NFUT' abbreviates 'non-future'.

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<sup>2</sup> This characterization is based on Inuit (this article), Dyrbal (Dixon 1972), and the cross-linguistic evidence in Dixon 1994.

<sup>3</sup> In accusative languages of the type represented by English the appearance that raising to [SPEC, IP] instantiates A-movement is due to the proximity of the trace in the VP-adjoined subject position, which is an A-position. Raising of a non-subject to [SPEC, IP] universally behaves as A'-movement (see, e.g., Diesing 1990, on Yiddish; Guilfoyle, Hung, and Travis 1992, on Malagasy; Bittner 1994a, on Inuit). Further evidence that [SPEC, IP] is an A'-position is provided by adjunct-introducing preverbs in Warlpiri (see sections 3.2, 6, and 7 below).

<sup>4</sup> This, of course, is the traditional idea that the nominative is Case-less (e.g., Jakobson 1936, Andrews 1982).

<sup>5</sup> In structural diagrams, we often omit X'-daughters of non-branching XP's (e.g., D' and K' in (11b)). Also, in this section and section 3 below, heads in Case-binding configurations (e.g., D in (11b)) are indicated by bracketing.

<sup>6</sup> The conventions for Inuit are stated in a form that is general enough to account for incorporating antipassives discussed in section 3.1 (cf. Bittner and Hale 1996).

<sup>7</sup> The formulation of the K Filter given here preserves the results of Bittner and Hale 1996. It also accounts for two well-known descriptive generalizations. First, an NP whose head N has incorporated does not need Case (Baker 1988). Second, the empty category PRO, which we analyze as an empty-headed DP, does not need Case either (Chomsky 1981). Thus, in English PRO may occur in infinitives, where overt nominative subjects are excluded. We analyze English infinitives as incompletely extended verbal projections (i.e., bare IP or VP, cf. Chomsky 1986a), which lack the C-projection. In languages where infinitives are fully extended CPs (as in Inuit, see section 5) or KPs (as in Warlpiri, see section 3.2) overt nominative arguments are licensed in the same manner as in finite CP clauses.

<sup>8</sup> An *argument chain* is a chain footed in an A-position.

<sup>9</sup> For reasons discussed in Bittner and Hale 1995a, we assume that Warlpiri lacks the category D.

<sup>10</sup> If the IHRC is itself nominative (i.e., K-less), the nominative argument in [SPEC, DP] is

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c-commanded and governed by whatever K-equivalent enables the entire IHRC to satisfy the K Filter.

<sup>11</sup> See Bittner 1994a for further evidence, from scope relations and proximate binding, supporting this analysis.

<sup>12</sup> The same asymmetry is found, e.g., in Imbabura Quechua (Hermon 1984) and Hungarian (Horvath 1986).

<sup>13</sup> In particular, we assume that an overt Case suffix will attach at PF to every D that it governs. The surface forms of the IHRCs in (25) are therefore compatible with the structural representations in (26), since the dative Case suffix will attach both to the D of its DP complement and to the D of the raised nominative argument in [SPEC, DP].

<sup>14</sup> The dative registration marker, *jinta ~ rla*, has also other uses (e.g., *rla* 'DD', in (48), signals the presence of two datives in the clause). Our analysis of this item as an antipassive preverb is not intended to extend to those uses.

<sup>15</sup> The dative registration marker *-rla* 'DD' signals the presence of two datives (see fn. 14).

<sup>16</sup> See Montague 1973, Huang 1982, Kamp and Reyle 1993, Bittner 1994a,b, amongst others, for different accounts of this descriptive generalization. Bittner 1994a also offers a semantic account of certain exceptions (e.g., the narrow scope option for the subject of a raising verb) that is compatible with the syntactic assumptions of this article and does not involve downward movement at LF (contrary to May 1977).

<sup>17</sup> Since names do not participate in scope interactions, we assume, following Kamp and Reyle 1993, that they are interpreted as if they were raised out of the scope of any operators at LF. It is not relevant here whether the mechanism responsible for this effect is syntactic (e.g., Quantifier Raising) or semantic (e.g., storage).

<sup>18</sup> See Bittner 1994a for further discussion of scope relations in Inuit.

<sup>19</sup> See also (70a) below, with the antipassive preverb *wapal(pa)*.

<sup>20</sup> We thus account for the parallels between Inuit transitive clauses and possessed nominals with respect to Case and agreement without reducing either structural type to the other. This is in contrast to a



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long “nominalist” tradition according to which both structures are basically nominal (Thalbitzer 1911, Schultz-Lorentzen 1945, Hammerich 1951, Johns 1987, 1992), as well as to the “sentential” tradition according to which they are both clausal (Mey 1969, Rischel 1971, Kalmar 1979).

<sup>21</sup> See also Jeanne 1978 for an analysis of obviation as binding.

<sup>22</sup> Clause (c) of (78) is stated in two parts for clarity, but of course it represents a single generalization. In intuitive terms, the generalization is that a subject path extends upward as long as the initiating subject remains “visible” and no other subject is encountered. The subclauses (i) and (ii) of (78c) fall together if the notion of a discontinuous head is generalized to simple  $X^{\circ}$  heads in the standard way—that is, if a simple  $X^{\circ}$  head is treated as a “trivially discontinuous head”, whose high edge and low edge coincide.

<sup>23</sup> In Inuit proximate binding need not be local. Thus, (82b) can also mean ‘A big dog<sub>j</sub> run off with its<sub>j</sub> food that Makkaq<sub>i</sub> had put down by her<sub>i</sub>/its<sub>j</sub> side.’ In the S-Structure representation (83b) dative Case of the location argument in [SPEC, VP] is inherent—that is, it is an underlyingly filled K selected, under government, by the verb *ili-* ‘put’, which alternatively selects locative Case in this position. The perfective morphology *-sima* is ignored because it has no effect on binding relations. It belongs to the same class of neutral heads as negation *-nngi(C)*, discussed below.

<sup>24</sup> In Inuit neutral heads of this type include also tense and aspect morphology (e.g., the perfective *-sima* in (82b)), as well as modals (e.g., *-tariaqar* ‘must’), and equivalents of raising verbs (e.g., *-gunar* ‘seem’).

<sup>25</sup> See also Hestivk 1991 on subject-less binding domains.

<sup>26</sup> Recall that in A-control the controlled position is also required to be a subject (Chomsky 1981, and section 1 of this article).