The Structural Determination of Case and Agreement

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We analyze Case in terms of independent constraints on syntactic structures—namely, the Projection Principle (inherent Case), the ECP (marked structural Case), and the theory of extended projections (the nominative, a Caseless nominal projection). The resulting theory accounts for (1) the government constraint on Case assignment, (2) all major Case systems (accusative, ergative, active, three-way, and split), (3) Case alternations (passive, antipассив, and ECM), and (4) the Case of nominal possessors. Structural Case may correlate with pronominal agreement because the former can, and the latter must, involve antecedent government by a functional head. However, neither phenomenon implies the other.

Keywords: Case systems, Case alternations, pronominal agreement, antecedent government

Chomsky (1981) introduced the term structural Case for abstract Case that is predictably assigned, under government at S-Structure, by heads of certain syntactic categories. Stowell (1981) further proposed an adjacency requirement. Initially, structural Case assigners were identified as heads of \([\neg N]\) categories: V, P, or finite I (Chomsky 1980, 1981, 1986b). In more recent work (Chomsky 1991, 1993), the relevant categories have been taken to be members of the Agr family instead. Also, in addition to government, Case assignment is now taken to require the head-specifier relation. Which Case is assigned (nominative, accusative, etc.) is determined by the syntactic category of the assigning head, following conventions that may vary across languages (see, e.g., Bok-Bennema 1984, Levin and Massam 1985, Bobaljik 1992, Campana 1992, and Murasugi 1992, for different parametric accounts of accusative and ergative Case systems).

The basic idea that has remained constant is that the ability of a head to assign structural Case is determined by its syntactic category. In this article we propose a different theory, where

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the category is not even relevant to this issue. What matters instead are the syntactic relations in the government domain of the head. These relations determine whether the head stands in a syntactic relation that we refer to as Case binding to any argument. The universal prediction of this theory is that any head, regardless of its category, will assign a marked structural Case—accusative, ergative, or oblique—to any argument that it Case-binds. Otherwise, no marked structural Case can be assigned. Case binding also constrains the unmarked structural Case—the nominative—which we analyze as Caseless. For a nominative argument, the constraint is that it must not be Case-bound.

Unlike the category, the structural relations in the government domain of a head can be altered by syntactic processes. By deriving or destroying Case-binding relations, these processes can therefore bestow or remove the capacity to assign structural Case. This accounts for Case alternations—another hallmark of structural, as opposed to inherent, Case. For instance, in an accusative language the transitive verb assigns the structural accusative Case to its object in an active sentence, but loses that ability in the related passive. The reason is that passive morphology destroys the Case-binding relation that, in a nominative-accusative sentence, characteristically holds between the verb and its object. An active sentence with the ergative-nominative array resembles a passive to the extent that the verb also fails to Case-bind its object and so cannot assign structural Case. The addition of antipassive morphology—syntactically, a nominal head adjoined to the verb (Baker 1988)—crucially establishes the requisite Case-binding relation and thereby enables the verb to assign a structural oblique Case to its object.

In generalizing the notion of “marked structural Case” from the direct Cases (accusative and ergative) to obliques of the type represented by antipassive objects, we depart from the tradition. We are motivated here by the similarities in the characteristic behavior of these Cases—to wit, the predictability of their assignment and the ability to alternate with other structural Cases. In the theory we propose, both characteristics follow from the fact that all marked structural Cases, direct as well as oblique, are predictably assigned under government and Case binding. This makes them sensitive to syntactic processes, which may alter these structural relations.

The details of the Case-binding configuration determine which Case is assigned. For the direct Cases—ergative and accusative—the relevant conventions are universal. For example, in all languages the ergative Case is assigned if the Case binder is I(nfl), and the accusative Case is assigned if the Case binder is a verb with an adjoined D. Historically, such a verb may result from reanalysis of an antipassive verb, which contains an adjoined N, or of a verb with an incorporated pronominal object. Universally, then, direct Cases have Case binders that either are functional themselves or contain functional heads—specifically, I or D. In contrast, a purely lexical Case binder (e.g., antipassive verb) results in a structural oblique Case, as on the object of an antipassive verb. Language-specific conventions determine which oblique Case is assigned.

This characteristic difference, between direct Cases and structural obliques, has implications for pronominal agreement. We analyze pronominal agreement as a syntactic relation between an argument chain and a functional head that governs and binds some position in that chain (cf.
Chomsky 1991, 1993).\footnote{Pronominal agreement necessarily includes person features. The proposed analysis need not extend to adjectival or participial agreement, which does not include those features.} The required binding relation—c-command and coindexation—is compatible with Case binding. So by virtue of being licensed in situ by Case binders that are or contain functional heads, ergative and accusative arguments may agree with those heads. Nominative arguments, though Caseless and never Case-bound, may also control agreement. This is possible, for example, if a nominative subject raises to [Spec, IP], since the foot of the resulting chain is governed by I, and the head, by C(omp). Therefore, a nominative subject may agree with either of these functional heads. In contrast, structural obliques, with their purely lexical Case binders, are generally too far away from any functional head to control pronominal agreement.

The central tenet of this theory is that structural Case assignment is determined by Case-binding relations. Universally, nominative arguments must not be Case-bound, whereas arguments in marked structural Cases must be. For the latter, the details of the Case-binding configuration determine which Case is assigned, according to conventions that for the direct Cases are also universal. Crosslinguistic variation in Case-binding relations gives rise to different direct Case systems. In this article we analyze the five principal systems that are summarized in table (1), as well as the possibility of splits, that is, of several Case arrays coexisting in the same language.

<table>
<thead>
<tr>
<th>Case system</th>
<th>Agt-Pat-V</th>
<th>Agt-V</th>
<th>Pat-V</th>
<th>Languages to be discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accusative</td>
<td>NOM-ACC</td>
<td>NOM</td>
<td>NOM</td>
<td>English, Japanese, etc.</td>
</tr>
<tr>
<td>Accusative active</td>
<td>NOM-ACC</td>
<td>NOM</td>
<td>ACC</td>
<td>Acehnese, Eastern Pomo</td>
</tr>
<tr>
<td>Ergative</td>
<td>ERG-NOM</td>
<td>NOM</td>
<td>NOM</td>
<td>Dyirbal, Samoan, etc.</td>
</tr>
<tr>
<td>Ergative active</td>
<td>ERG-NOM</td>
<td>ERG</td>
<td>NOM</td>
<td>Basque, Georgian</td>
</tr>
<tr>
<td>Three-way</td>
<td>ERG-ACC</td>
<td>NOM</td>
<td>NOM</td>
<td>Nez Perce, Pitta-Pitta, etc.</td>
</tr>
</tbody>
</table>

In sections 1–3 we make the above theoretical ideas formally precise and propose an initial definition of the Case-binding relation. This definition is sufficient to account for the ergative Case system, including the well-known dichotomy between "syntactic" and "morphological" ergativity (section 4), the ergative active system (section 5), and the passive construction (section 6). The final, more general definition of Case binding is given in section 7. This preserves the results obtained in the preceding sections and further enables us to account for the antipassive construction (section 8), two types of accusative languages (section 9), accusative active languages (section 10), three-way languages (section 11), the split system of the type found in Austronesian (section 12), and the assignment of structural Case to nominal possessors (section 13). In section 14 we offer some final remarks.

1 Licensing Conditions for Nominal Arguments

Our theory relies crucially on the notion that Case is a functional head; to be precise, it is the nominal counterpart of C. The parallel is shown in (2a–b), in which the extended projections

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from the lexical categories V and N are depicted (see Abney 1987, Grimshaw 1991). Case, we maintain, represents the maximal extension of the nominal projection, whereas C represents the maximal extension of the verbal projection. Thus, a Case-marked nominal is KP, just as a fully extended verbal projection is CP.

(2) a. CP
   \[ \cdots \]
   \[ C' \]
   \[ IP \]
   \[ C \]
   \[ IP \]
   \[ I' \]
   \[ VP \]
   \[ I \]

b. KP
   \[ \cdots \]
   \[ K' \]
   \[ DP \]
   \[ K \]
   \[ DP \]
   \[ D' \]
   \[ NP \]
   \[ D \]

If Case is a syntactic head, then it is expected that it will exhibit canonical headlike behavior, given the appropriate morphosyntactic condition. The appropriate condition obtains where Case is realized as an adposition (or “case particle,” as it is often termed). Thus, in the head-final languages Miskitu and Shokleng (accusative and ergative, respectively), overt K, a particle, is final in the Case-marked nominal, as expected.

(3) a. Miskitu (Misumalpan: Nicaragua)
   Waitna ba sula ba ra kaik-an.
   [man the] [deer the ACC] see-PST.3
   ‘The man saw the deer.’

b. Shokleng (Gê: Central Brazil)²
   Ti tō e kuyan te kupe wā.
   [he ERG] [his body the] wash PRG
   ‘He is washing his body.’

And, also according to expectation, these elements are initial in Case-marked nominals in the head-initial languages Khasi (accusative) and Samoan (ergative).

(4) a. Khasi (Mon-Khmer: Assam, India)³
   Ka la yo’ii ya ’u khlāa.
   she PST see [ACC the tiger]
   ‘She saw the tiger.’

² Data from Urban 1985.
³ Data from Rabel 1961.
b. *Samoa*an (Austronesian: Samoa)\(^4\)

\[\text{'olo'o uli e le teine le ta'avale.}\]

\[\text{PRG drive [\textit{erg} the girl] [the car]}\]

'The girl is driving the car.'

The conception of Case as the nominal counterpart of the verbal functional head \(C\) receives further support from crosslinguistic parallels between ‘"Case drop"' (\(K\) drop) and ‘"Comp drop"' (\(C\) drop). Lamontagne and Travis (1987) observe that the possibility of nonovert realization of the accusative Case is subject to an adjacency condition, to which the established functional head \(C\) is also subject. Thus, in Japanese both the complementizer \(te\) and the accusative Case particle \(o\) can be nonovert, but only when the constituents they head are adjacent to the governing verb—if the constituent is scrambled to a nonadjacent position, \(C\) or \(K\) must be overt. These observations are exemplified in (5).

(5) *Japanese*\(^5\)

a. i. Mary-ga John-ni [Koobe-ni iku (\(te\))] yuuteta (koto).

\[\text{Mary-\text{TOP} John-\text{DAT} [Koobe-\text{DAT} go (\textit{that})] said (fact)}}\]

'Mary told John that she was going to Koobe.'


b. i. John-ga dare-(\(o\)) nagutta no?

\[\text{John-\text{TOP} who-(\textit{acc}) hit \(Q\)}\]

'Who did John hit?'

ii. Dare-*(\(o\)) John-ga nagutta no?

Following Saito (1984), Lamontagne and Travis attribute the adjacency requirement on ‘"C drop,"’ illustrated in (5a), to the Empty Category Principle (ECP; Chomsky 1986a).

(6) *The Empty Category Principle* (ECP)

A nonpronominal empty category must be \(\theta\)-governed or antecedent-governed.

A nonovert \(C\) is empty, and therefore subject to the ECP (see Kayne 1981, Stowell 1981). Being in a nonthematic position, it can only satisfy this principle through antecedent government, and so must be c-commanded by an antecedent governor, the verb. Assuming binary branching (Hoji 1982, Kayne 1983), the c-command requirement can be met if the CP projection of the empty \(C\) is in the complement position, adjacent to the verb (as in (5ai)), but not if it is scrambled to some higher position (as in (5a(ii))). By treating Case as a functional head \(K\), structurally parallel to \(C\), Lamontagne and Travis extend this account to the adjacency requirement on ‘"K drop,"’ exemplified in (5b).

We take the patterns exemplified in (3)–(5) to reflect the syntax of Case in the most transparent manner. With that in mind, we propose that a nominal in a marked Case (accusative, ergative, or oblique) is a KP, whereas a nominal in the unmarked Case (nominative) is \(K\)-

\(^4\) Data from Chung 1976.

\(^5\) Data from Saito 1983, 1984.
less, a bare DP or NP. This is consistent with the distribution of overt Ks in (3) and (4). The distribution of K-less nominals is constrained by a filter that requires them to be "visible to a K-equivalent"; to be precise, it requires c-command and government by K or its verbal counterpart, C. We refer to this constraint as the K Filter and take it to be part of the theory of extended projection (cf. Grimshaw 1991). The marked Case categories, headed by K, embrace two distinct types that we equate with marked structural Case and inherent Case.7 Marked structural Cases are underlyingly empty Ks. Like all empty heads, these Ks must be antecedent-governed in order to satisfy the ECP. At S-Structure, the antecedent governor of an empty K licenses its morphological spell-out, which can be accusative, ergative, or oblique. The phenomenon of "K drop," illustrated in (5b), arises if the S-Structure spell-out is optional. For any K that remains empty, the ECP then continues to require antecedent government, prohibiting scrambling. Finally, inherent Cases are underlyingly filled Ks. These Ks are selected by the governing heads, just as the preposition on is selected by the governing verb depend. The relevant licensing condition is therefore the Projection Principle, concerned with ensuring that all selectional requirements are met. The table in (7) summarizes the basic elements of the Case theory we propose.

<table>
<thead>
<tr>
<th></th>
<th>Unmarked Case</th>
<th>Marked structural Case</th>
<th>Inherent Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>K present?</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>K at D-Structure</td>
<td>——</td>
<td>empty</td>
<td>filled</td>
</tr>
<tr>
<td>Licensing condition</td>
<td>K Filter</td>
<td>ECP</td>
<td>Projection Principle</td>
</tr>
</tbody>
</table>

Within this theory, the traditional notion of "Case assignment" can be analyzed as follows. A head "assigns Case" to an argument, if the structural relation between the two satisfies the relevant licensing condition. Accordingly, a nominative argument is assigned Case by the functional head, C or K, which enables it to satisfy the K Filter. Marked structural Case is assigned by the head that antecedent-governs the corresponding underlyingly empty K. And inherent Case is assigned by the head that selects the corresponding underlyingly filled K. On this view, the familiar government requirement on Case assignment need not be stipulated, because it follows from the independently motivated licensing conditions.

Other characteristics of these three types of Case can also be derived from general syntactic principles. As an instance of selection, inherent Case assignment must take place at D-Structure, and cannot take place in exceptional Case-marking (ECM) configurations, where selection is impossible. From the theory of extended projection developed by Grimshaw (1991) it further

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6 This embodies the traditional idea that nominative arguments are caseless (see Jakobson 1936, Andrews 1982). It appears that nominatives are DPs, if the language has the category D (as in English), and NPs, if the category D is missing (as in Warlpiri; see Bittner and Hale 1995, to appear).

7 We focus here on nominal arguments. Case-marked modifiers (e.g., Polish nozem ‘knife-plural’ in kroć chleb nozem ‘cut bread with a knife’) are analyzed as adjunct KPs that are licensed in the same way as adjunct CPs, PPs, and so on.
follows that only lexical heads (i.e., V, P, N, or A) can assign inherent Case, since only they can select fully extended complements (here, KP).

In contrast, a marked structural Case is an underlyingly empty K subject to the ECP. This requires it to be antecedent-governed in the sense defined in (8b)—a generalization of the canonical antecedent government relation (8a) (see Chomsky 1981).

(8) Definitions
   a. \( \alpha \) canonically antecedent-governs \( \beta \), iff \( \alpha \) governs and binds \( \beta \).
   b. \( \alpha \) antecedent-governs \( \beta \), iff \( \alpha \) governs and either binds or Case-binds \( \beta \).

At S-Structure the empty K is realized by an overt Case marker provided that it has an overt DP. The choice of the Case marker is determined by the antecedent governor of the empty K—a dependency parallel to that by which the agreement features of a bound pronoun are determined by its antecedent. The realization conventions for the direct Cases, ergative and accusative, are given in (9). Both conventions consist of two parts: a universal core component, concerning the assignment of these Cases by I and V; and the parametric option of extending the class of possible assigners to a related category, D or P, respectively. These parameters account for the language-specific options of extending ergative from transitive subjects to nominal possessors and of extending accusative from objects of verbs to objects of prepositions.

(9) 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.

If the Case binder does not meet the universal conditions in (9a–b), then the empty K that it antecedent-governs is spelled out as some language-specific oblique Case. For example, in Warlpiri and Inuit the following language-specific conventions are then applicable (Bittner and Hale, to appear, Bittner 1994a):

(10) Oblique Case realizations (Warlpiri)
   If \( \alpha \) Case-binds an overt empty-headed KP \( \beta \) and does not meet the conditions of (9a–b), then the empty K of \( \beta \) is realized as DAT.

(11) Oblique Case realizations (Inuit)
   If \( \alpha \) Case-binds an overt empty-headed KP \( \beta \) and does not meet the conditions of (9a–b), then the empty K of \( \beta \) is realized as
   a. INS, if \( \alpha \) is lexical and is c-commanded by \( \beta \);
   b. DAT, if \( \alpha \) is V and is not c-commanded by \( \beta \);
   c. ABL, if \( \alpha \) is N and is not c-commanded by \( \beta \).

Finally, nominative arguments are K-less nominals subject to the K Filter (12). Intuitively, this principle requires them 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, 1986b).
(12) **K Filter**

An argument chain headed by a K-less nominal (DP or NP) contains a position that is c-commanded and governed by K or C, and does not contain any Case-bound position.

Empirically, the K Filter accounts both for the propensity of nominative arguments to raise to [Spec, IP], a position c-commanded and governed by C, and for the possibility of alternative licensing mechanisms.8

Clearly, the success or failure of this theory hinges on the all-important relation of Case binding; almost all of the predictions about structural Case depend on universal principles that crucially refer to this relation. These principles include the ECP (6), the Case Realization Conventions (9), and the K Filter (12). In (6) and (9) the reference to Case binding is indirect, implied in the reference to the relation of antecedent government defined in (8b). The intuitive idea behind Case binding is that the ability to assign marked structural Case is automatically present in any head whose government domain contains evidence of “‘competition for Case.’” In general, a head will Case-bind (i.e., assign marked structural Case to) an argument that it locally c-commands, if it also governs some Case competitor for that argument (cf. Marantz’s (1991) notion “‘dependent Case’”). Although Case competitors are regularly K-less nominal elements, they admit of some variability. As expected, the Case competitor for an argument may be a coargument DP or NP; but it may also be an adjoined head, D or N, functioning as a pseudo coargument. The formal definitions pertaining to these two types of Case competitors are given in sections 3 and 7, respectively. But first, we clarify our assumptions concerning two auxiliary relations: “‘internal subject’” and “‘government.’”

2 Internal Subjects and Government

We assume a version of the VP-internal subject hypothesis (see, among others, Koopman and Sportiche 1985, 1991, Kitagawa 1986, Fukui and Speas 1986), subsuming that hypothesis under the general theory of predication developed by Williams (1980). A subject is defined in virtue of its relation to a predicate. For us, as for Williams, a predicate is the maximal projection of a lexical head (AP, NP, PP, or VP). Thus, the secondary predicate _drunk_ in (13) is a maximal projection (AP) predicated of _John_. The predication relation is possible because the subject _John_ c-commands the predicate and is coindexed with it.

(13) _John_i gave the lecture [ _AP drunk_i].

However, our principal concern here is primary predication, of the type illustrated by (14a–b).

(14) a. _John_ made [ _VP them_i [ _VP write to each other_i]].

b. _They_i have [ _VP ti [ _VP written to each other_i]].

The primary predicates *write to each other* in (14a) and *written to each other* in (14b) are also maximal projections (VPs) related to their subjects under c-command and coindexation. However, in primary predication, the subject forms a constituent with its predicate at the D-Structure level, as indicated by the bracketing in (14a–b). The ECM construction (14a) exemplifies the situation in which the S-Structure and D-Structure positions of an embedded subject (*them*) coincide, being Case-bound by the main verb. In (14b) the D-Structure subject position is also within a constituent containing the predicate. In this case, however, it is represented by a trace (*t*), since the subject is not Case-bound by I and is therefore forced to raise to [Spec, IP] for reasons of Case.

In general, we propose that in primary predication, the subject is the *distinguished adjunct* to the predicate at D-Structure; that is, it is that adjunct which is coindexed with the predicate, as required by the predication theory (cf. Koopman and Sportiche 1985, Sportiche 1988). We extend this to cover, of course, not only the situation in which the predicate is a VP, as in (14) and (15a), but also that in which the predicate is an NP, as in (15b). Accordingly, in (15a) and (15b) the subject XP is coindexed with its primary predicate, VP and NP, respectively.

\[(15)\text{ a. } \begin{array}{l}
\text{VP} \\
\ldots \text{VP} \\
\text{XP}\_i \quad \text{VP}\_i \quad \ldots \\
\text{VP} \\
\text{N}\_i \quad \text{NP}_i \\
\ldots \text{VP} \\
\ldots \text{N} \\
\ldots \text{V} \\
\ldots \text{V} \\
\ldots \text{N} \\
\ldots \text{N}
\end{array} \quad \begin{array}{l}
\text{b. } \begin{array}{l}
\text{NP} \\
\ldots \text{NP} \\
\text{XP}\_i \quad \text{NP}_i \\
\ldots \text{NP} \\
\ldots \text{V} \\
\ldots \text{V} \\
\ldots \text{N} \\
\ldots \text{N}
\end{array}
\end{array} \]

In addition to unifying the theory of secondary and primary predication, this conception of the subject relation makes it possible to reconcile the evidence for the VP-internal subject hypothesis with the seemingly conflicting evidence that the subject is the external argument of the verb (see Williams 1980, 1981). In its distinguished adjunct position, the subject is dominated by the highest segment of the VP, and so is not excluded by this maximal projection. In that sense, it is indeed internal to the VP. But since not all segments of the VP dominate the distinguished adjunct position, the subject is not included in the VP either.\(^9\) This accounts for its behavior as the external argument in contrast to any internal arguments generated in the complement position (primary object) or the specifier position (secondary object) of the verb. Finally, unlike ordinary

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\(^9\) The technical terms *include* and *exclude* are used here as defined by Chomsky (1986a). That is, in an adjunction structure of the form \(\ldots \alpha \ldots [\text{XP} \beta [\text{XP} \ldots \gamma \ldots]]\), the complex XP projection, consisting of two segments, *includes* \(\gamma\) (since both segments dominate \(\gamma\)), *excludes* \(\alpha\) (since neither segment dominates \(\alpha\)), and neither includes nor excludes \(\beta\) (since one segment dominates \(\beta\) and one does not).
adjuncts, the distinguished adjunct position occupied by the subject at D-Structure is clearly an A-position, since it may function as the antecedent of a reflexive or reciprocal element (as in (14a–b); see also Bittner 1994a for evidence from Inuit).

We will frequently make use of the term small clause. In the tradition that is now generally accepted in the linguistic literature, this is a technical term for us, and it refers precisely to predicational structures of the type depicted in (15), and only these. This conception of underlying clause structure also motivates the following formalization of Chomsky’s (1981) notion of an A-position, intuitively characterized as a position of the right kind to be occupied at D-Structure by an argument of a verb or other lexical head.

(16) Definition

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

According to this formalization, [Spec, IP] is not an A-position. It is an Ā-position. Though unconventional, this view is supported by crosslinguistic evidence that raising of nonsubjects to [Spec, IP] behaves like movement to an Ā-position (e.g., Diesing 1990, Guilfoyle, Hung, and Travis 1992, Bittner 1994a). When a subject raises to [Spec, IP], the Ā-status of its derived position is obscured by the proximity of the trace. As the distinguished adjunct to the verb, the trace is in an A-position and is responsible for the apparent A-properties of the subject (e.g., the ability to license reflexive elements, which the in situ subject in (14a) shares with the raised subject in (14b)).

The government relation serves to illustrate the special status of the subject, the external argument, in contrast to the internal arguments of a lexical head. Since selection takes place under government, only internal arguments can be selected. In particular, only they may be assigned inherent Case. Furthermore, as Baker (1988) has shown in detail, incorporation must obey the Head Movement Constraint (Travis 1984), a corollary of the ECP, requiring that the host of an incorporated head govern the trace of that head. This is the situation that holds clearly in (17a), a prototypical instance of object incorporation in which a noun (N_1) incorporates into a verb out of the complement of the latter. By contrast, (17b) is impossible. The subject of a verb, although it is an argument thereof, cannot incorporate into it. This follows straightforwardly if, as we maintain, the subject is an adjunct and therefore not governed by the head of its predicate.

The government relation that we assume here is essentially that of Chomsky (1986a).

(18) Definition

α governs β, iff
a. α m-commands β;
b. there is no barrier between α and β.

The associated definitions in (19) are standard, for the most part, except for the inclusion of special provisions permitting exceptional government under a condition that we refer to as transparency (cf. Chomsky 1986a:8, Baker 1988:56–57).
(17) a. VP
   \[\ldots\text{XP}_i\text{VP}_i\]\n   \[\ldots\text{V'}\]
   \[t_j\text{V}_j\text{NP}\]
   \[t_j\text{V}_j\text{N}\]

(18) *VP
   \[\ldots\text{NP}_i\text{VP}_i\]
   \[\ldots\text{V'}\]
   \[t_j\text{V}_j\text{N}\]
   \[t_j\text{V}_j\text{N}\]

(19) Definitions
   a. \(\alpha m\text{-commands } \beta\), iff \(\alpha\) does not include \(\beta\), and every maximal projection that includes \(\alpha\) also includes \(\beta\).
   b. \(\alpha c\text{-commands } \beta\), iff \(\alpha\) excludes \(\beta\), every projection that includes \(\alpha\) also includes \(\beta\), and at most one projection segment dominates \(\alpha\) but not \(\beta\).
   c. A barrier between \(\alpha\) and \(\beta\) is an \(\text{XP}, \gamma\), with the \(X^0\) head, \(\gamma^0\), such that
      i. \(\gamma\) excludes \(\alpha\), includes \(\beta\), and is not an extended projection of \(\beta\);
      ii. \(\gamma^0\) c-commands \(\beta\) and neither \(\alpha\) nor any adjunct of \(\alpha\) binds \(\gamma^0\).

In (20a) the head \(X\) governs \(ZP\). This is an effect of incorporation (of \(Y\) into \(X\)), since this process has resulted in a configuration to which (19cii) applies, removing \(YP\) from the class of barriers. Since an adjunct of \(X\) binds (i.e., c-commands and is coindexed with) the head of \(YP\), this intervening maximal projection is transparent for government, permitting \(X\) to govern \(ZP\). A similar situation obtains in (20b), where \(X\) likewise governs \(ZP\). Here again, clause (19cii) is implicated; in this case, however, it is \(X\) itself that binds the head of \(YP\), rendering this maximal projection transparent for government.

(20) a. \(X'\text{YP}\text{X}\)\n   \[\ldots\text{Y'}Y_n\text{X}\]
   \[\ldots\text{ZP}\]

b. \(X'\text{YP}\text{X}_n\)
   \[\ldots\text{Y'}Y_n\text{ZP}\]
In general, transparency to government results from syntactic processes that create 'discontinuous heads,' either through incorporation or through binding. The phenomenon of transparency will play an important role at several points in subsequent sections.

3 Case Binding Due to Competition from K-less Coarguments

We now proceed to make precise the essential components of the Case-binding relation. This is a fundamental notion in this theory, since nominative arguments must not be Case-bound, lest they violate the K Filter, whereas every marked structural Case originates as an empty K that must be Case-bound, in order to satisfy the ECP. The Case-binding relation crucially requires three elements in a single government domain: a head, an argument, and a K-less nominal element that activates the head by functioning as a Case competitor for that argument.

Intuitively, the principal domain in which nominal elements compete for structural Case is a small clause. In keeping with this intuition, structural Case-assigning potential is restricted to heads that delimit such a domain, in accordance with one or the other of the two provisions of (21).

(21) Definition
A small clause is delimited by its lexical head, from below, and by any governing functional head, from above.

A head that delimits a small clause in this sense will Case-bind an argument just in case both of the conditions embodied in (22) are also met.¹⁰

(22) Definition
Let α be a head that delimits a small clause, and let β be an argument. Then α Case-binds β, and β's head, iff

a. α locally c-commands β;
b. α governs a Case competitor for β.

Condition (22a) ensures that Case binding, like other syntactic binding relations, involves c-command. The other standard requirement, coindexation, is replaced by a set of structural requirements that play the same role of unambiguously identifying the possible binders and bound elements in any syntactic structure. One of these additional requirements makes Case binding subject to Relativized Minimality, since it demands local c-command, as defined in (23) (cf. Rizzi 1990).

(23) Definition
Let α be a head that delimits a small clause, and let β be an argument. Then α locally c-commands β, iff:

a. α c-commands β, and
b. no other argument, or head that delimits a small clause, both c-commands β and is c-commanded by α.

¹⁰ Throughout the article the term argument is to be understood in the standard syntactic sense—that is, it is a phrase in an A-position (defined as in (16)).
The second requirement, (22b), makes explicit the sense in which Case binding, a two-place relation between a head and an argument, crucially involves a third element, the Case competitor. A head will Case-bind an argument, and thereby assign it some marked structural Case, only if it governs a Case competitor for that argument.

In general, a Case competitor for an argument is a K-less nominal. Since the precise definition depends on whether the Case competitor is a maximal projection (DP or NP) or a head (D or N), we discuss these two alternatives in separate sections. We begin with the intuitively expected situation, in which the Case competitor is a K-less coargument, DP or NP. In that situation, the structural relation “Case competitor” can be defined as in (24). The auxiliary relation “coargument” is defined in (25), where “A-projection” is the relation that holds between a lexical head and any of its arguments (i.e., its complement, specifier, or distinguished adjunct).

(24) Definition (partial)
\[\gamma \text{ is a Case competitor for an argument } \beta, \text{ if } \gamma \text{ is a K-less nominal that is in a chain with a coargument of } \beta.\]

(25) Definition
Let \(\beta\) and \(\gamma\) be arguments. Then \(\gamma\) is a coargument of \(\beta\), iff (a) and (b) hold:

a. locality: some head that governs or A-projects \(\gamma\) also governs or A-projects \(\beta\);

b. independence: \(\gamma\) excludes \(\beta\) and is not in a chain with \(\beta\).

The conception of a Case competitor as a K-less coargument accounts for a substantial portion of the crosslinguistic Case patterns to be discussed in this article. Thus, it makes it possible to derive both major types of ergative Case systems, “syntactic” and “morphological” (section 4). The ergative-based active Case system of the type represented by Basque also receives a natural account (section 5). Further, we propose a new analysis of the passive that, in addition to explaining its characteristic properties, sheds light on the passive-ergative reanalysis (section 6).

4 Two Types of Ergative Languages

In an ergative language, the unique argument of a monadic verb is in the unmarked, nominative Case, as is the patient argument of a transitive agent-patient verb. The agent argument is in a marked, ergative Case and is identified as the subject by standard diagnostic tests (control, licensing of reflexive arguments, etc.; see Anderson 1976).

In the present theory, the transitive ERG-NOM array arises when two conditions are met: the verb fails to Case-bind the object; and the VP-internal subject is Case-bound by the functional head I, a universal source of the structural ergative Case. This functional head is activated by a Case competitor for the subject—to wit, the nominative object DP that in an ergative sentence is governed by I. The requisite government relation can be established in different ways. One possibility is that the nominative object DP may raise to [Spec, IP], a position governed by I. Alternatively, the VP may be rendered transparent to government from I, for example, by V-to-I movement (see Baker 1988, and the definition of barrier in (19)). Either mechanism will activate I to Case-bind the subject in a transitive sentence, but neither will if the verb is monadic. Having
no Case competitor, the unique argument of a monadic verb cannot be Case-bound, and so cannot be assigned any marked structural Case.

We thus predict two types of ergative languages, to wit, raising ergative and transparent ergative. This theoretical division corresponds roughly to the traditional distinction between syntactic and morphological ergativity (see Dixon 1979, Plank 1979). We also account for the absence of rigid SIVO order in ergative languages of either type (Mahajan 1994, Richard Kayne, personal communication)—a striking gap in view of the popularity of this order in languages with accusative Case systems. In this theory, the gap follows because Case binding, like other binding relations, requires c-command. So in an ergative sentence, I must Case-bind the subject while the latter is still in its underlying VP-internal position. On the assumption that unmotivated movement is excluded (Chomsky 1991), the subject will therefore not raise to [Spec, IP] at S-Structure, and so the order SIVO cannot be derived.

In the following discussion of particular ergative languages, Dyirbal and Inuit represent the raising type, and Samoan and Warlpiri, the transparent type.  

4.1 Dyirbal and Inuit: “Syntactic Ergativity” Due to Raising

The Dyirbal sentence (26) exemplifies the classical intransitive structure that lacks a Case competitor for its single argument (NFUT abbreviates “nonfuture”).

(26)  Dyirbal (Pama-Nyungan: Queensland, Australia)

Payi yara pani-nyu.

CL(NOM) man(NOM) come-NFUT

‘The man is coming.’

The structural representation of this sentence is (27a) or (27b), depending on whether the verb pani- ‘come’ is unergative or unaccusative.

Consider first the unergative structure (27a). This structure contains a single small clause—to wit, the VP—and this is delimited by V from below, and by I from above. The Case-binding relations are therefore determined by the structural relations in the government domains of these two heads. For each head, the government domain—intuitively, the “field of vision” and “sphere of influence”—is enclosed in dashed lines, for clarity. The verb does not Case-bind anything in its domain since it does not c-command any argument. And although I locally c-commands the trace, \( t_i \), in the subject position of the verb, it does not Case-bind this argument either, for lack of a visible Case competitor. The raised nominative DP \( i \) in [Spec, IP] meets some of the relevant requirements, being a K-less nominal that is governed by I. But it is not a coargument of the

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12 The thematic role labels have been added for the sake of readability; they have no theoretical significance. For reasons discussed in Hale and Keyser 1992, 1993, and Bittner 1994a, b, we consider ‘θ-role assignment’ to be an epiphenomenon resulting from the interaction of syntactic structure and compositional semantic rules. The relation of ‘θ-government’ in the ECP (6) is to be understood in purely syntactic terms: \( α \ θ\)-governs \( β \), iff \( α \) governs and \( A \)-projects \( β \) (i.e., \( α \) is a lexical head, and \( β \) an internal argument of \( α \); see Chomsky 1986a:13–14).
trace, since it forms a chain with it and therefore fails to meet the independence requirement (25b). Intuitively, these two nominal elements are not coarguments, but two pieces of a single argument, and so they do not compete for Case. Thus, there are no Case-bound positions in this unergative structure. This circumstance simultaneously enables the subject to satisfy the K Filter (12), if it is K-less (that is, nominative) and raises to [Spec, IP], and rules out any marked structural Case, since the underlyingly empty K of the latter would violate the ECP (6). In (27a) the chain headed by the nominative DP₁, satisfies the K Filter, because DP₁ is c-commanded and governed by C, and neither DP₁ nor its trace, ti, is Case-bound.¹³

Similarly, the unique argument in the unaccusative structure (27b) must also be nominative; for here, too, there is no Case competition and therefore no Case-bound position.

By contrast, transitive clauses of the type represented by (28), and analyzed in (29), crucially differ in that they contain two nominal arguments, one of which can function as a Case competitor for the other.

(28) Dyirbal (Pama-Nyungan: Queensland, Australia)
Payi parrkan pangkul yara-ngku jurrka-nyu.
CL(NOM) wallaby(NOM) CL(ERG) man-ERG spear-NFUT
‘The man is spearing the wallaby.’

¹³ In (26) C is nonovert, but we assume that it is still present in the extended projection of the verb.
The government domain of the verb in the transitive structure (29a) is the same as in the unaccusative structure (27b). In both structures the verb fails to Case-bind its object, because it does not govern any Case competitor for it. The subject, the only likely candidate for that role, is invisible to the verb, since it is not governed by it (see section 2). Therefore, the argument that originates in the object position must be nominative, and must be raised to [Spec, IP] to satisfy the K Filter.

However, the consequences of this raising are quite different for the transitive structure (29a) than for the unaccusative (27b). In (29a) the raised object not only is governed by I but also qualifies as a Case competitor for the subject. This is so because it is a K-less nominal (DP_j) and has a trace (t_j) that is a coargument of the subject. As a visible Case competitor for the subject, the raised object activates I, which locally c-commands the subject, to Case-bind that argument. The subject therefore cannot be nominative. If it were, then it would violate the K Filter—to wit, the requirement that no position in a chain headed by a bare DP may be Case-bound. By the same token, however, the subject can be a KP headed by an empty K, as in (29a), since that K is governed and Case-bound by I, satisfying the antecedent government requirement of the ECP. And since the antecedent governor is I, the underlyingly empty K is realized at S-Structure as ergative, as in (29b), in accordance with the universal conventions of (9).

In this theory, then, universal principles determine which arguments will be nominative, and which will be in some marked structural Case. The distribution of these two nominal categories,
bare DP and empty-headed KP, follows from the K Filter and the ECP, respectively. For the marked KP category, the proposed realization conventions further determine which Case will be assigned, and typically do so, as in (29), without relying on any parametric settings.

S-Structure representations like (29b), following Case insertion, will henceforth be abbreviated as in (30), where the entire KP is represented by the Case name.

(30)

```
(30)  
      CP   
     /  \
    /    \
   IP   C  
  /   /   \
DP_j I'  
/     /   \
VP   I  
 /   /   \
ERG_i VP_1
/       /  \
V'      V
```

In the present theory, pronominal agreement is a relation between an argument chain (i.e., a chain footed in an A-position) and a functional head that canonically antecedent-governs (i.e., governs and binds) some position in that chain. In most languages, the position at issue is the head of the argument chain (head agreement), but it may also be the foot (foot agreement). In the latter case, there may be the appearance of "specifier-head" agreement with I, if the argument at issue has raised from the VP-adjoined subject position to [Spec, IP] (see Chomsky 1991, 1993). Either type of agreement is independent of structural Case. In particular, we predict that structural Case may be preserved while agreement is lost.

This prediction is borne out in Inuit, a raising ergative language with head agreement. In finite clauses, exemplified in (31a–b), direct arguments agree with antecedent-governing functional heads—the nominative with C, and the ergative with I. Thus, when the two agreements are morphologically distinguishable, as in the dependent transitive clause in (31b), I-agreement, with the VP-internal ergative subject, is closer to the verb than C-agreement, with the nominative object in [Spec, IP].

14 This holds regardless of the order of the actual nominal arguments in the clause, which may be scrambled at PF. The gloss DPST in (31) abbreviates "dependent past."
In infinitival clauses, in Inuit as in English, there is no I-agreement; thus, in the transitive infinitive (32b) the ergative subject fails to agree. The nominative agreement in C, with the intransitive subject in (32a) and transitive object in (32b), is still present. The loss of agreement notwithstanding, the ergative Case is still assigned to the VP-internal subject of the infinitive in (32b), just as it was in the related finite clause in (31b). Such independence is expected given the structure in (30), because the ergative Case is assigned by any I, under government and Case binding, and these syntactic relations are not affected by the presence or absence of agreement.

Furthermore, structural obliques in Inuit show that structural Case can be assigned even to arguments that never control agreement. The obliques at issue, exemplified by instrumental in (33a) and dative in (33b), are identified as structural by the predictability of their assignment and their ability to alternate with other structural Cases (here, with nominative).

Thus, (33) illustrates a productive alternation. Most triadic verbs in Inuit have a plain form (nassit- in (33a)) that occurs with the ERG$_1$-NOM$_j$-INS$_k$ array, and a form augmented with the applicative
suffix -ut, resulting in a shift to the ERGj-DATj-NOMk array (as in (33b)). Both sentences are given with the pragmatically neutral order of Inuit, ERG-NOM-OBL-V, which we assume to be derived at PF, by the fronting of the ergative subject. The S-Structure representations of these sentences, which account for the thematic relations as well as Case assignment and agreement, are depicted in (34a–b) (cf. Larson’s (1988) analysis for English).

The two structures yield identical thematic relations, if we assume the crosslinguistic semantics of Bittner (1994b) and analyze the applicative -ut as a “pro-verb” bound by the higher verb. Syntactically, this element forms a “discontinuous head” with the verb. Semantically, it is interpreted as a variable of the same logical type as the verb (i.e., ⟨e, ⟨e, ⟨e,t⟩⟩⟩) in (34b)) and gets its value from that verb by variable binding. Assuming the compositional rules of the semantic theory at issue, this binding relation is sufficient to preserve the thematic relations between (34a) and (34b), because the underlying hierarchy of the arguments is kept constant (Patientk < Goalj < Agenti).15

The same binding relation also has implications for structural Case assignment. By rendering the VP projection of the bound applicative verb transparent, it expands the government domain (34) a.

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15 Recall footnote 12 on the epiphenomenal nature of “8-role assignment.” Also, the structures in (34a–b) correctly predict different scope relations (see Bittner 1994a,b, for relevant semantic discussion of Inuit and English).
of the higher verb (‘send’) as indicated in (34b) (see section 2). Since only the higher verb has a distinguished adjunct (ERG_i), there is only one small clause (section 2). This small clause is delimited by the verb ‘send’ from below and by I from above. The functional head I Case-binds the VP-adjoined subject, because it locally c-commands this argument and governs a Case competitor for it—to wit, the raised nominative object (DP_k) in [Spec, IP]. Crucially, the trace (t_k) of this object is close enough to the subject to qualify as a coargument, being governed by a head (the verb ‘send’) that A-projects the subject. Thus, I assigns the ergative Case in the usual manner. As for the verb ‘send’, this locally c-commands the higher object (DAT_j) and governs a Case competitor for it, the trace t_k. The latter qualifies as a K-less nominal on the standard assumption that traces inherit the category of their original content (here, DP_k). So the verb ‘send’ Case-binds the higher object and assigns it the structural dative Case, in accordance with the Inuit-specific oblique conventions of (11), repeated here.
(11) *Oblique Case realizations* (Inuit)

If $\alpha$ Case-binds an overt empty-headed KP $\beta$ and does not meet the conditions of (9a–b), then the empty K of $\beta$ is realized as

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

Finally, the chain headed by the nominative object, DP$_k$, satisfies the K Filter. This is because DP$_k$ itself is c-commanded and governed by C, and its trace, $t_k$, is not Case-bound, since its local c-commander (the applicative verb) fails to delimit a small clause.

The structure in (34a) is simpler, involving no applicative verb. Here, too, there is only one small clause, delimited by the verb ‘send’ from below and by I from above. Each head Case-binds the argument that it locally c-commands: the lower object and the subject, respectively. Since neither head locally c-commands [Spec, VP], the higher object is not Case-bound and therefore must be licensed in the nominative Case by raising to [Spec, IP]. The entire chain is visible to I and both the raised nominative (DP$_r$) and its trace ($t_r$) qualify as Case competitors for the subject; from the verb, only the trace is visible, serving as a Case competitor for the lower object. Thus, I continues to assign the ergative Case, whereas the verb ‘send’ now assigns the instrumental Case, still in accordance with the Inuit-specific conventions of (11).

In both structures the functional heads, C and I, agree with the arguments that they antecedent-govern, the nominative in [Spec, IP] and the VP-adjoined ergative, respectively. But since antecedent government implies Relativized Minimality (Rizzi 1990)—that is, requires local c-command—no functional head can antecedent-govern the oblique objects in (34a–b). Therefore, although these arguments are also assigned structural Case, under government and Case binding, they cannot control agreement.

4.2 *Samoan and Warlpiri: ‘Morphological Ergativity’ Due to Transparency*

In raising ergative languages, such as Dyirbal and Inuit, the ergative Case is assigned by I to the transitive subject because the nominative object, a bare DP, raises to [Spec, IP] to satisfy the K Filter. But in fact, the assignment of the ergative Case is orthogonal to raising. It is logically independent, since it involves Case binding by I, which does not entail DP raising. The conditions for assigning this Case can also be met if all of the relevant nominals remain in their original D-Structure positions. This holds, for example, in the Samoan ergative construction (35a), whose S-Structure form is depicted in (36a).

(35) *Samoan* (Austronesian: Samoa)$^{16}$

a. Sa sasa e le teine le maile.

\[ \text{PST hit [ERG the girl] [the dog]} \]

‘The girl hit the dog.’

$^{16}$ Data from Mosel and Hovdhaugen 1992.
b. Sa sola le teine.
PST run.away [the girl]
'The girl ran away.'

(36) a.

In Samoan the verb raises to I, rendering the VP transparent to government, and the resulting inflected verb raises further to C. In the transitive (36a), therefore, the trace of the inflected verb,
has in its purview both the subject, which it locally c-commands, and the nominative object, DP_j. Seeing Case competition, the trace t_i* Case-binds the subject. It follows that the subject cannot be nominative—that is, a bare DP—since it would violate the K Filter. But it can be an empty-headed KP, inasmuch as its empty K will satisfy the ECP. Since a trace inherits the category of its original content, the trace t_i* is of the category I and therefore assigns the ergative Case. The nominative object, DP_j, is also licensed in its underlying position, for it, too, satisfies the relevant licensing principle, the K Filter. As required, DP_j in (36a) is c-commanded and governed by C, which governs the whole clause as a consequence of V-to-I-to-C movement; and it is not Case-bound, since the locally c-commanding head, the verbal trace t_i, does not govern any other nominal element. Similarly, the absence of Case competition in the intransitive sentence (35b), with the structure (36b), entails that the unique argument of the verb must be nominative, a bare DP.

Given our assumptions about government (section 2), head movement is not the only mechanism that renders maximal projections transparent to government. More generally, transparency is induced by syntactic binding relations (i.e., c-command and coindexation) between the heads involved. The requisite binding relation can be established by head movement, as in (36), or it may be base-generated to make the structure interpretable, as in the complex triadic structure (34b) of Inuit. The latter circumstance, we maintain, gives rise to transparency in Warlpiri. The result is the well-known mixed system of this language, combining an ergative pattern of Case marking on the nouns with an accusative pattern of pronominal agreement in the auxiliary.

(37) Warlpiri (Pama-Nyungan: Central Australia)
      you-ERG PRS-2SG-1SG me(NOM) see-NPST
      ‘You see me.’
   b. Nyuntu ka-npa parnka-mi.
      you(NOM) PRS-2SG run-NPST
      ‘You are running.’
   c. Ngaju ka-rna parnka-mi.
      me(NOM) PRS-1SG run-NPST
      ‘I am running.’

Underlying these patterns are the S-Structure representations (38a) and (38b) of the transitive sentence (37a) and the intransitive sentence (37b), respectively (see p. 24).

With respect to the government and Case-binding relations, the Warlpiri structures (38a) and (38b) are indistinguishable from (36a) and (36b), respectively, in Samoan—hence the shared ergative pattern of Case marking in both languages. In Warlpiri the I-to-C movement gives rise to a cluster of elements that includes tense and agreement and has been called the “auxiliary” (Aux) in the literature on the language (see Hale 1973, 1982, Nash 1986, Simpson 1991). The

\[ t_i^* \]

The object DP_j qualifies as a Case competitor for the subject under definition (24). It exemplifies the circumstance in which a coargument is in a trivial chain, that is, one whose head and foot coincide.
verb does not move to I, but is instead bound in situ by I. In Bittner and Hale, to appear, we argue on semantic grounds that the binding relation between I and the verb universally holds at LF. What distinguishes Warlpiri, and other languages of this transparent ergative type, is that I
binds the verb already at S-Structure. As a consequence, the VP is transparent at S-Structure, allowing all the arguments of the verb to be licensed in situ.

Intuitively, the combination of head movement (I-to-C) and head binding (of V by I) in Warlpiri creates a discontinuous head. We refer to the special relation thus established, between C, the trace of I, and V, as a transparency chain and represent it informally by x-superscripts in the structural diagrams of (38). It is this relation, we maintain, that gives rise to the accusative agreement pattern illustrated in (37a–c), where subjects are treated as a natural class, distinct from the class of objects.\(^\text{18}\)

In Warlpiri, as in Inuit, pronominal agreement is a relation between an argument chain and a functional head, C or I, which canonically antecedent-governs the head of that chain. In Inuit this results in an ergative agreement pattern, which treats nominatives as a natural class, opposed to the ergative. This is due to the raising of nominative arguments to [Spec, IP], where they are antecedent-governed by C (see section 4.1). In Warlpiri, on the other hand, all of the arguments of a clause are licensed in situ, by virtue of transparency. Consequently, the VP-internal subject is consistently antecedent-governed by I (more precisely, by its trace, \(t_i\)). Therefore, I consistently agrees with the subject, as in (38a–b), whether that is ergative or nominative.

The relationship between C and agreement in Warlpiri cannot be the direct one seen for Inuit, because the required relation of antecedent government implies relativized minimality. Precisely because the arguments of the Warlpiri clause are in situ, C cannot antecedent-govern any of them, since the trace of I, another functional head, is always a more local potential antecedent governor. Although the required relation cannot be satisfied by C itself, it can be satisfied by the transparency chain headed by C. The most prominent object, controlling object agreement, can be properly identified in relation to that chain. It is the argument that is governed and locally c-commanded by the foot of the transparency chain. In terms of Case itself, the most prominent object is not a homogeneous class, since it is dative if there is one (as in the triadic (39), whose structure is shown in (40) on p. 26), otherwise nominative (as in the dyadic (37a), whose structure is shown in (38a)).\(^\text{19}\)

\[
(39) \quad \text{Warlpiri (Pama-Nyungan: Central Australia)} \\
\quad \text{Nyuntulu-rlu ka-npa-ju maliki-jarra ngaju-ku yi-nyi.} \\
\quad \text{you-ERG PRS-2SG-1SG dog-DU.NOM me-DAT give.to-NPST} \\
\quad \text{‘You are giving me two dogs.’}
\]

\(^{18}\) The fact that C, the trace of I, and the verb jointly form a discontinuous head at S-Structure also has many other consequences throughout the syntax and semantics of Warlpiri. See Bittner and Hale, to appear, for detailed evidence and discussion.

\(^{19}\) In the triadic structure (40), all of the Cases are structural and are assigned as in Inuit (34a), except that the complement KP is realized in the dative Case, as required by the oblique convention (10) of Warlpiri. Beginning with (40), government domains are indicated for Case-binding heads only.
In general, transparent and raising ergative languages differ in regard to the transparency of the VP. This in turn determines whether the nominative argument can satisfy the K Filter in situ (as in Samoan and Warlpiri) or must raise to [Spec, IP] (as in Dyirbal and Inuit). Consequently, these two language types can be distinguished by phenomena that are sensitive to these characteristic differences at the (abstract) syntactic level of S-Structure. Pronominal agreement exemplifies a phenomenon of this kind. Others include structural Case assignment, binding, and obviation, as well as semantic scope relations (see Bittner and Hale, to appear).20 Because of its raising to [Spec, IP], the nominative often functions as the prominent argument in ergative languages of the raising type. Since [Spec, IP] is an A-position, this mostly holds for A-dependencies, that is, relativization, questions, topicalization, and so on.21 In languages of the transparent type, on the other hand, all the arguments of the verb are licensed in situ, and therefore the prominent argument is generally the subject. Thus, transparent ergative languages tend to pattern with the familiar accusative type.

5 Ergative Active Languages: Basque and Georgian

In an active system, the agent argument of a transitive agent-patient verb (e.g., ‘hit’) is Case-marked like the unique argument of an unergative verb (e.g., ‘work’), which is also an agent semantically. The patient argument of the transitive verb, on the other hand, is Case-marked like the unique argument of an unaccusative verb (e.g., ‘fall’), semantically likewise a patient. Thus,

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20 The evidence provided by surface word order and word boundaries is difficult to interpret, because of the possibility of late scrambling and incorporation at PF (which, for example, obscure the key S-Structure relations in Inuit).

21 For example, only nominatives are accessible to relativization in Dyirbal and Inuit, and to topic chaining in Dyirbal (see Dixon 1972 and Levin 1983, on Dyirbal; and Woodbury 1975 and Bittner 1994a, on Inuit).
“agents” form a natural class, distinct from the “patients” (see Sapir 1917, Van Valin 1990, Mithun 1991).

Active systems are generally closely related to either the canonical ergative or the canonical accusative type. Thus, an ergative active system deviates from the classical ergative type only in that the ergative Case is extended from the subject of a transitive verb to the subject of an unergative. The following sentences illustrate the ergative active system of Basque. In this language, unergatives regularly take the form of light verb constructions, exemplified by hitz egin ‘speak’ in (41b) (Levin 1983, Laka 1993).

(41) Basque
a. Miren-ek ni jo n-au. (transitive)
Miren-ERGi me(NOM)j hit 1SGj-have.3SGj
‘Miren hit me.’
b. Miren-ek hitz egin du. (unergative)
Miren-ERGi word done have.3SGj
‘Miren spoke.’
c. Miren erori da. (unaccusative)
Miren(NOM)j fallen 3SGj,be
‘Miren fell.’

The similarities in agreement suggest that the transitive (41a) and the unaccusative (41c) may be analyzed as in Warlpiri, a transparent ergative language. For the unergative light verb construction (41b), Uribe-Etxebarria (1989) shows that the nominal component (hitz ‘word’) is not incorporated into the verb. Laka (1993) further argues that it is a bare NP, citing evidence from several phenomena that distinguish it from the full DP object of the transitive sentence (41a). Given these structural claims, the present theory immediately derives the extension of the ergative Case from the transitive (41a) to the unergative (41b). This follows, because the replacement of a DP with an NP does not affect the Case-binding relations, as the reader can verify by inspecting the structures in (42a) and (42b) on p. 28. Crucially, either category can serve as a Case competitor for the subject and thereby activate the trace (ti) of I to Case-bind this argument.

These conclusions hold regardless of the semantic functor-argument relations in the unergative (42b), since the coargument relation (25), which is relevant for Case competition, is syntactic. In (42b) the NP hitz ‘word’ satisfies the locality requirement (25a), because it is governed by a head (the light verb egin ‘done’) that A-projects the subject. Since the independence requirement (25b) is also met, this NP qualifies as a (syntactic) coargument of the subject, and so it is a Case competitor for it, as required.

In the theory of lexical argument structure developed by Hale and Keyser (1992, 1993), light verb constructions (like hitz egin ‘word do’) universally represent the argument structure of unergative verbs in the lexicon. In most languages this structure is lost as a result of noun incorporation prior to the syntactic level of D-Structure (resulting, e.g., in the English verb speak). The ergative active system of Basque arises because this language preserves unergative light verb constructions in the syntax, a circumstance that gives rise to the assignment of the
(42) a. structural ergative Case to the subject. The crucial S-Structure relations may be obscured by subsequent incorporation at PF. The result then is an ergative active system of the type found in Georgian (in the past tense, perfective aspect), where the light verb syntactic structure of the unergative (43b) is not overt. Holisky (1984) describes a similar system in Tsova-Tush.
THE STRUCTURAL DETERMINATION OF CASE AND AGREEMENT

(43) **Georgian** (South Caucasian: Georgia)\(^ {22} \)

- a. Vano-m gamozarda dzma.  
  Vano-ERG\(_1\) 3SG\(_1\).raised.3SG\(_1\) brother(NOM)\(_j\)  
  ‘Vano raised his brother.’

- b. Bavšv-ma itira.  
  child-ERG\(_j\) cried.3SG\(_i\)  
  ‘The child cried.’

- c. Rezo gamoizarda.  
  Rezo(NOM)\(_j\) grow.3SG\(_j\)  
  ‘Rezo grew up.’

6 Passive

The active-passive alternation is found in languages with every kind of Case system. The following sentences illustrate this alternation in Inuit (ergative), Dutch (accusative), and Nez Perce (three-way):

(44) **Inuit** (Eskimo-Aleut: West Greenland)

  Juuna-ERG\(_i\) seals\(_j\) shoot-IND-[+ tr]-3SG\(_i\).3PL\(_j\)  
  ‘Juuna shot the seals.’

- b. Puisit (Juuna-mit) aallaa-ni-qar-p-u-t.  
  seals\(_j\) (Juuna-ABL) shoot-PASS-be-IND-[- tr]-3PL\(_j\)  
  ‘The seals were shot (by Juuna).’

(45) **Dutch**\(^ {23} \)

- a. De kinderen eten de kaas.  
  [the children], ate.3PL\(_j\) [the cheese]  
  ‘The children ate the cheese.’

- b. De kaas werd (door de kinderen) gegeten.  
  [the cheese], became.3SG\(_j\) (by the children) eat.PASS  
  ‘The cheese was eaten (by the children).’

(46) **Nez Perce** (Penutian: Oregon)\(^ {24} \)

  man-ERG\(_i\) 3i-PL\(_j\)-shoot-PRF elk-ACC\(_j\)  
  ‘The man shot (several) elk.’

- b. Mét’u ’óykalo síw-yi’n hi-w-s-fix.  
  but all(NOM)\(_j\) paint-PASS 3j-be-ASP-PL\(_j\)  
  ‘But they, are all painted.’

---

\(^{22}\) Data from Harris 1982; glosses supplemented with grammatical information from Harris 1981.

\(^{23}\) Data from Perlmutter 1978.

\(^{24}\) Data from Rude 1986.
In general, a passive is like a raising ergative sentence to the extent that the verb does not assign structural Case to the object, and the latter must raise to satisfy the K Filter. In a passive, however, the object does not move directly to [Spec, IP], though in an opaque language it may eventually move to this A-position. Crucially, the object first moves to a higher A-position, where it acquires the properties of a derived subject. Within the present framework of assumptions (section 2), this forces us to assume the presence of a higher lexical head, which we identify with the passive morpheme on the verb. Being lexical, the passive phrase can have a subject, that is, an adjunct licensed by predication. So by adjoining to the passive phrase and making its index available for predication, the underlying object can become a derived subject, as in (47a–b).

In (47a), the structure proposed for Inuit, the passive head is nominal—to be precise, gerundive. Semantically, this head selects a proposition, that is, a small clause. Once the object has raised, the structure therefore contains two subjects, one derived and one underlying. Only the derived matrix subject can be controlled, but either one can antecede subject-oriented reflexive and proximate elements. The underlying subject gets structural Case from the passive noun. The requisite Case-binding relation is established by the A-movement of the object and by verb-to-passive incorporation. The former movement enables the passive noun to satisfy the requirement

\[ (47) \text{a. Inuit} \]

![Diagram of Inuit structure](image)

25 See Bittner 1994a for data and discussion. Biclausal passive structures may also explain similar binding facts in the passive of Hindi (Mohanan 1990), a language with a split Case system, and similar obviation facts in the passive of the accusative language Seri (Farrell, Marlett, and Perlmutter 1991).
that it delimit a small clause; the latter renders the VP transparent, enabling the passive noun to see a Case competitor for the subject—to wit, the trace \((t_i)\) of the object. The underlying subject is therefore licensed as an empty-headed KP, since its empty K satisfies the ECP.

The S-Structure realization of this K is contingent on the overtness of the complement DP. If the DP is overt, then the empty K is realized as a language-specific oblique, since its Case binder is purely lexical (N) and so cannot assign any direct Case. By the oblique conventions (11) of Inuit, the appropriate realization in (47a) is ablative. However, the DP complement of the empty K may also be the silent indefinite category, Arb. In that case the empty K is not filled, and so the entire subject KP that expresses the agent remains silent. Nevertheless, it is still syntactically present, as evidenced, for example, by its continued ability to license reflexive and proximate elements.

We turn now to (47b), the structure that we propose for passive phrases in Dutch and Nez Perce. Here the passive head (which in Dutch and Nez Perce appears to be adjectival) semantically selects an unsaturated property (i.e., an indexed VP) and itself saturates that property in lieu of syntactic predication (see Jaeggli 1986). If the passive head is adjectival, then it may syntactically enter into the usual adjectival agreement relation with its own derived subject, the nominative DP, as in Polish (48b).

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26 In the present framework of assumptions (sections 2–3), the VP in (47a) is in an A-position, since it is a complement of a lexical head, N (definition (16)). But it does not block local c-command of its subject by the passive N, because it does not exclude this adjoined argument and therefore does not c-command it (see definitions (19b) and (23)).

27 This follows from the universal realization conventions (9) for the direct Cases, ergative and accusative.
(48) **Polish**

   Mark\(\text{NOM}\), shoot-PRT\(3\text{SG.Mi}\) female.bear-ACC
   ‘Mark shot the female bear.’

b. Niedźwiedzic-a zost-a zastrzelo-na (przez Marka).
   female.bear\(\text{NOM}\), become-PRT\(3\text{SG.Fj}\) shoot-PASS\(3\text{SG.Fj}\) (by Mark)
   ‘The female bear was shot (by Mark).’

The indexed VP in (47b) need not have an adjoined subject because its verb incorporates into the passive head. This, we maintain, is an alternative mechanism to satisfy the Extended Projection Principle (EPP; Chomsky 1986a), which intuitively requires that all clauses have subjects and which we formalize as follows:

(49) **Extended Projection Principle (EPP)**

A VP, or its head, must be canonically antecedent-governed (at S-Structure).

Normally, the EPP is satisfied through the predication relation, in which the adjoined subject governs and binds—that is, c-commands and is coindexed with—the VP (as in the saturated passive (47a)). However, (49) is formulated to reflect the fact that a VP may satisfy the EPP indirectly through complex predicate formation, a process that involves canonical antecedent government of its \(X^0\) head. This option is exemplified by the unsaturated passive (47b), where the complex predicate is formed by incorporation, and by the triadic structure (34b), where the complex predicate is formed by head binding.

Because the VP in (47b) has no adjoined subject, the structure does not contain any Case-bound position. The passive head, therefore, cannot assign any structural Case. It may, however, still be possible for the agent argument of the verb to be expressed by a prepositional phrase, as in Dutch. This possibility arises if the passive head in (47b) fills the agent argument slot with a free variable, so that this thematic role may be transmitted to a PP specifier by the semantic mechanism of variable binding. Otherwise, no expression of the agent, beyond the passive head itself, will be possible—a circumstance that holds in Nez Perce (Rude 1986).

This analysis has implications for passives based on intransitive verbs. The structural oblique in (47a) is assigned under government and Case binding and therefore crucially relies on Case competition. If the verb is intransitive, as in (50a), then this structural Case cannot be licensed, since its underlyingly empty K would violate the ECP. In other words, the lexical passive head behaves like the functional head I: it may assign marked structural Case if it sees two arguments or more, but not if it sees only one.

(50) a. **Inuit** (Eskimo Aleut: West Greenland)

   Ippassaq (*inusuttu-nit) qitin-ni-qar-p-u-q.
   yesterday (*young.people-PL.ABL) dance-PASS-be-IND-[−tr]-3SG
   ‘There was some dancing (*by the young people) yesterday.’

---

28 Since this agreement is not pronominal—that is, it does not involve person features—it does not require any functional head. Also, the structural relation of canonical antecedent government need not hold.
b. Dutch
Er wordt (door de jongens) gefloten.
there became (by the young men) whistled
'There was some whistling (by the young men).'

In contrast, the option of selecting an agent PP (or KP) in Dutch depends on the availability of the relevant meaning for the lexical passive head. It therefore is still available if the VP complement of that head is intransitive, as in (50b).

The presence or absence of a verbal auxiliary also receives a natural account. The theory of extended projection developed by Grimshaw (1991) restricts functional heads to taking predictable complements, with which they form 'extended projections.' Thus, C can combine only with IP, and I, with VP. It follows that the phrase projected by a nonverbal passive head (e.g., N or A) will require an auxiliary (raising) verb—a prediction borne out by all the languages discussed so far. However, the present theory continues to derive the characteristic passive behavior as long as the passive head is of any lexical category. If the category is V, the result is a so-called morphological passive. This type is represented by (51b) in the accusative language Gilbertese, whose basic order is V(OS(OBL)) (Keenan 1985).

(51) Gilbertese (Austronesian: Gilbert Island)
a. E kamate-a te naeta te moa.
   3SGi kill-3SGj [the snake]i [the chicken]j
   'The chicken killed the snake.'
b. E kamate-aki te naeta (iroun te moa).
   3SGj kill-PASS [the snake]i (by the chicken)
   'The snake was killed (by the chicken).'

Finally, this theory sheds light on the well-known fact that ergative constructions often arise through reanalysis of the passive (e.g., Hale 1970, Chung 1976, Dixon 1979). Assuming the structure in (47a), where the passive head selects a full small clause, this reanalysis is predicted to happen if the lexical passive head is reanalyzed as the functional head I—that is, as part of the extended projection of the verb. Since this reanalysis does not affect government or Case-binding relations, the I would continue to antecedent-govern the underlyingly empty K of the agent KP. The empty K, however, would now be realized as a direct Case, the ergative, in accordance with the universal conventions of (9). Also, the agent KP would now be able to control pronominal agreement, since it would be canonically antecedent-governed by a functional head, I, instead of a lexical passive head. The same shift would also make it necessary to reanalyze the subject position of the passive head as [Spec, IP]. Since that is an A-position, the raising of the nominative object would then no longer result in any derived subject properties.

In sections 4–6 we have shown that the conception of a 'Case competitor' as a coargument DP or NP accounts for a variety of constructions where the verb does not assign any structural Case to the object. Clearly, however, there are also well-known constructions where the verb can assign structural Case. To explain this possibility, we extend the relation 'Case competitor' to
other K-less nominals—specifically, to certain instances of adjoined nominal heads, D or N, which can be thought of as "pseudo coarguments." We now turn to formalize this notion (section 7) and then show how it accounts for the antipassive construction (section 8), a variety of direct Case systems involving the accusative Case (sections 9–12), and Case assignment to nominal possessors (section 13).

7 Case-Binding Due to Competition from K-less Pseudo Coarguments

We begin by stating the full definition of the relation "Case competitor," completing the partial definition given in (24).

(52) Definition

\( \gamma \) is a Case competitor for an argument \( \beta \), iff \( \gamma \) is a K-less nominal that is in a chain with a coargument, or a pseudo coargument, of \( \beta \).

The full definition refers to the syntactic coargument relation, already defined in (25), and also to the syntactically similar pseudo coargument relation, defined in (53).

(53) Definition

Let \( \delta \) be an argument; \( \delta \), a head that delimits a small clause; and \( \gamma \), a head adjoined to \( \delta \). Then \( \gamma \) is a pseudo coargument of \( \beta \), iff (a) and (b) hold:

a. locality: \( \delta \) governs \( \beta \), and \( \gamma \) c-commands \( \beta \);

b. independence: \( \gamma \) is not in a chain with the \( X^0 \) head of \( \beta \), and \( \beta \) is not in a chain with the subject of the small clause delimited by \( \delta \).

The latter relation is illustrated in (54). In (54a) the V-adjoined head Z is a pseudo coargument of the complement YP of the verb, but fails to meet the locality requirement (53a) in relation to any other argument, for example, the subject XP₁.

(54) a.  
   \[ \text{VP} \rightarrow \text{XP₁} \rightarrow \text{VP₁} \rightarrow \text{V'} \rightarrow \text{YP} \rightarrow \text{V} \rightarrow \text{Z} \]

b.  
   \[ \text{VP} \rightarrow \text{XP₁} \rightarrow \text{VP₁} \rightarrow \text{V'} \rightarrow \text{V} \rightarrow \text{Z} \rightarrow \text{YP} \rightarrow \text{tᵢ} \]

Even if the host verb incorporates into I, as in (54b), the V-adjoined Z is still too far from the subject to qualify as a pseudo coargument for it. The extra I segment created by the incorpora-
tion makes it impossible for Z to c-command any position outside of the host I (see definition (19b)). Intuitively, the V-adjoined Z in (54b) is too deeply embedded in the morphology to participate in any syntactic process, be it the licensing of a trace or the assignment of structural Case.

The intuitive concern of the independence requirement (53b) (as it is for (25b)) is whether there are enough nominal arguments to warrant the assignment of any marked structural Case. If there is only one argument—even one distributed over a discontinuous chain—then the unmarked Case, the nominative, should be sufficient. The independence requirement fails to be met, for instance, in (55a). The V-adjoined head Z does not qualify as a pseudo coargument of the trace $t_i$ in the object position, because of the chain relation between that position and the VP-adjoined subject, $XP_i$.

(55) a. VP

```
  VP
 /     \       b. V'
|       |
NP1     V
         /   \
      V'   XP1
        / \   /
   t_i  Z
```

In (55b) the incorporated noun, $N_i$, is sufficiently independent to qualify as a pseudo coargument of the NP-adjoined subject, $XP_i$. But it does not qualify in relation to the NP itself, because of the chain relation between $N_i$ and its trace, $t_i$, the $X^0$ head of the NP.

8 Antipassive

The antipassive is common in ergative languages, both transparent (e.g., Chukchee (56)) and raising (e.g., Inuit (57)). It is rare but also possible in languages where the transitive verb assigns the accusative Case to its object (e.g., the three-way language Pitta-Pitta (58)). Descriptively speaking, the antipassive construction involves affixing a transitive verb with a morpheme, as in the (b) sentences in (56)–(58), where the morpheme is glossed $APASS$. Semantically, this may introduce atelic aspect (as in (57b)) or irrealis mood (as in (58b)), or it may freeze the scope of the object (as in Inuit; see Bittner 1987, 1994a,b). Syntactically, the antipassive sentence is intransitive and has a characteristic Case array: the subject appears in the nominative Case; the object is optional and, when present, appears in a language-specific oblique (e.g., dative in Chukchee and Pitta-Pitta, instrumental in Inuit; also see Heath 1976, Silverstein 1976, Dixon 1979).
(56) **Chukchee** (Paleosiberian: Northeastern Siberia)\(^{29}\)

   Yemron-ERG\(_i\) search-PRS-3SG\(_i\).3SG\(_j\) son(NOM)\(_j\)
   ‘Yemron is searching for his son.’

b. Yemron ine-lqarir-ʔarkən (akka-ɡtə).
   Yemron(NOM)\(_i\) APASS-search-PRS.3SG\(_i\) (son-DAT)
   ‘Yemron is searching (for his son).’

(57) **Inuit** (Eskimo-Aleut: West Greenland)

   Juuna-ERG\(_i\) Anna\(_j\) kiss-IND-[+ tr]-3SG\(_i\).3SG\(_j\)
   ‘Juuna kissed Anna.’

b. Juuna (Anna-mik) kunis-si-v-u-q.
   Juuna(NOM)\(_i\) (Anna-INS) kiss-APASS-IND-[− tr]-3SG\(_i\)
   ‘Juuna kisses/is kissing (Anna).’

(58) **Pitta-Pitta** (Pama-Nyungan: Central Australia)\(^{30}\)

   I-ERG eat-PRS this(ACC) meat-ACC
   ‘I am eating this meat.’

   I(NOM) eat-APASS-PRS (meat-DAT)
   ‘I would eat meat.’

These characteristic properties can be explained if we analyze the antipassive affix as a nominal head that is adjoined to the verb at D-Structure, as in (59a) (cf. Baker 1988). In that position it qualifies as a pseudo coargument of the object, enabling the verb to Case-bind the latter and assign it structural Case. Since the underlyingly empty K of structural Case remains empty if its DP is nonover (here, Arb), the entire object KP may remain silent. It therefore appears to be optional, like the structurally Case-marked agent of the (saturated) passive (47a). Another point of similarity is that the antipassive object is also Case-bound by a head that does not contain any functional category. As a consequence, its empty K cannot be overtly realized as any direct Case (by the universal conventions of (9)) but only as a language-specific oblique (e.g., instrumental in (57b), by the Inuit-specific conventions (11)). For the same reason, this oblique object cannot control pronominal agreement.

The antipassive subject is necessarily nominative, because it cannot be Case-bound by I—its only potential Case assigner—for lack of a Case competitor. Even in a transparent language, the object KP cannot play this role, since it is not K-less; and the V-joined antipassive noun is too far away to qualify as a pseudo coargument of the subject (see section 7).

\(^{29}\) Data from Comrie 1979.

\(^{30}\) Data from Blake 1987.
If the antipassive noun could adjoin to an unaccusative verb, then, in the absence of an expletive subject, it would have no effect on structural Case assignment. The predicted structure is shown in (59b). Here, the underlying object of the verb has raised to the subject position, in order to satisfy the EPP. By establishing a chain relation between the two A-positions of the host verb, this movement blocks the pseudo coargument relation between the V-adjointed antipassive noun and the trace, $t_i$, since the independence requirement is not met. There is therefore no Case-bound position in (59b), and so the unique argument of the verb can only be nominative, a bare DP, as shown.

The structure (59b) represents, for example, the Inuit sentence (60b). This sentence contains the antipassive suffix -si, whose use with transitive verbs has been illustrated in (57b). This suffix can also combine with unaccusative verbs (e.g., piqqiq- ‘healthy’, ajur- ‘bad’, ajurnar- ‘impossible’, pui- ‘float’). On that use, it introduces inchoative aspect and has no effect on structural Case assignment (compare (60b) with (60a)).

(60) Inuit (Eskimo-Aleut: West Greenland)
   a. Miiqqat piqqip-p-u-t.
      children healthy-IND-[−tr]-3PL
      ‘The children are healthy.’
   b. Miiqqat piqqis-si-pp-u-t.
      children healthy-APASS-IND-[−tr]-3PL
      ‘The children are getting well.’

Suppose now that the subject position of the unaccusative verb in (59b) could alternatively be filled by an expletive subject. The EPP could then be satisfied while the object remained in situ. In fact, the resulting S-Structure form would be like the dyadic (59a), except that the subject would be expletive rather than thematic—a difference with no bearing on Case-binding relations.
We would therefore expect also to find unaccusative antipassives of the type represented by (61). These, however, appear to be ungrammatical in all languages (see Baker 1988).31

(61) **Inuit** (Eskimo-Aleut: West Greenland)

*Imma-mi qilalukka-nik pui-si-v-u-q.

sea-LOC whale-PL.INS float-APASS-IND-[−tr]-3SG

(‘There floated whales on the surface of the sea.’)

What, then, rules out the configuration of (59a) with an unaccusative verb and an expletive subject? The answer, we suggest, is that expletives cannot be licensed in this configuration. In general, we propose that expletives are licensed through syntactic predication, like thematic subjects. Having no content, however, they depend on the VP to supply a syntactic index. The VP, in turn, will have such an index only if its verb does. Normally, the predication index is provided by the external argument of the verb (see Williams 1980), but an external argument, of course, is precisely what an unaccusative verb does not have. The only mechanism by which such a verb can acquire an index is by hosting an adjoined [+N] head that canonically antecedent-governs some other category. The requisite antecedent government relation can be established by syntactic noun incorporation (resulting in a V-adjoined N_i) or pronominal agreement (with a V-adjoined D_i). By appropriating the index of the adjoined [+N] head, the host verb can then share it with its VP, licensing a syntactic predication relation in the usual manner. The subject will have to be expletive (i.e., devoid of semantic content), since any other subject will be filtered out by the semantics (see the discussion of semantic filters in Bittner 1994a,b).

Under these assumptions, we correctly rule out antipassives of the type represented by (61), because the configuration of (59a) with an unaccusative verb and an expletive subject is impossible. Although the verb hosts an adjoined [+N] head—to wit, the antipassive N—this head has no (syntactically relevant) index because the required relation of canonical antecedent government cannot be established. Specifically, it cannot be established either by head movement, because the antipassive N is base-generated in the V-adjoined position, or by pronominal agreement, since N is not a functional category. Having thus no predication index, the verb cannot license any subject, not even one that is expletive.

This theory further explains why unaccusative verbs, though universally excluded from antipassives like (61), in many languages allow syntactic noun incorporation (see Baker 1988). Since a noun that incorporates in the syntax antecedent-governs its trace, it has a syntactic index that the unaccusative host verb may appropriate to license an expletive subject. That, in turn, will make it possible to satisfy the EPP, while the unique semantic argument of the verb remains in situ.

Finally, we correctly predict that antipassive obliques may also be licensed in ECM configurations, as in the Inuit sentence (62b).

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31 Based on a pilot study with one consultant, Bittner (1988) (also cited in Bok-Bennema 1991) cites (61) as well formed. In subsequent research with six other consultants, antipassive sentences of this type were systematically rejected as clearly ungrammatical.
(62) **Inuit** (Eskimo-Aleut: West Greenland)

a. Miiraq (ini-mi-ni) sinip-p-u-q.
   child(NOM) (room-3SG.PROX-LOC) sleep-IND-[−tr]-3SG
   ‘The child is sleeping (in his room).’

b. Juuna miiqqa-mik (ini-mi-ni) sini-tsit-si-v-u-q.
   Juuna(NOM) child-INS (room-3SG.PROX-LOC) sleep-cause-APASS-IND-[−tr]-3SG
   ‘Juuna made the child sleep in his room.’

The antipassive oblique (*miiqqa-mik*) in (62b) is clearly a subject (i.e., a distinguished adjunct). This is shown by its ability to antecede the subject-oriented proximate element (possessor agreement) -mi on a par with the nominative subjects of (62b) and (62a). The structure of the relevant portion of the ECM antipassive (62b) is depicted in (63).\(^\text{32}\)

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\(^{32}\) This structure is simplified in ways that preserve the Case-binding relations, since these are the principal concern of this article. The simplified structure (63), however, wrongly predicts that the antipassive oblique in (62) will be dative rather than instrumental (by the oblique conventions (11) of Inuit). See Bittner 1994a for a solution to this problem, as well as evidence that the Inuit antipassive is not an accusative construction (contra Bok-Bennema 1991).
Here the causative morpheme (-\textit{tsit}) is a verb that projects a small clause. The oblique argument is the subject of the lower verb (\textit{sinig} - ‘sleep’). This correctly predicts that the antipassive oblique in (63) can antecede subject-oriented reflexive and proximate elements. In contrast, the antipassive oblique in the simpler structure (59a) is a pure object that lacks this ability. However, (63) and (59a) do not differ in regard to the key government and Case-binding relations. As a consequence, both give rise to the same, \textit{NOM-OBL}, structural Case array.

9 Two Types of Accusative Languages

In the accusative languages of Wellesley Island in Australia (Lardil, Kayardild, Yangkaal, etc.), the historical origin of the accusative construction has been shown to be reanalysis of an antipassive (Klokeid 1978, McConvell 1981). We propose that this type of reanalysis may resemble passive-ergative reanalysis (section 6) in its basic mechanism. That is, the crucial step may be the reanalysis of a lexical head—to wit, the passive or antipassive morpheme—as a functional category.

The determination of that category is constrained, in part, by the well-formedness conditions on extended projections (Grimshaw 1991). Thus, in passive-ergative reanalysis, the passive head can only be reanalyzed as I, since no other functional category can extend a VP. However, the well-formedness conditions at issue fail to constrain the functional category that can result from antipassive-accusative reanalysis. Since the antipassive noun is adjoined to the verb, its structural position alone rules it out as a candidate for a functional extension of the VP. However, the language learner will presumably still look for an analysis that matches the surface facts of the observed Case array. Thus, both types of reanalysis can be expected to result in a functional category that preserves the original Case-binding relations.

Under these assumptions, the V-adjointed antipassive N can only be reanalyzed as D, for that is the only functional category that qualifies as a K-less nominal and therefore as a Case competitor for the object. This reanalysis, of N as D, would turn the canonical antipassive (59a) into the accusative construction (64a). If the antipassive has been extended to unaccusatives, as in (59b), then that would further yield (64b).

\begin{itemize}
  \item [(64) a.]
  \begin{center}
    \begin{tikzpicture}[level distance=1.5cm, sibling distance=1.5cm, every node/.style={minimum size=1cm}]
      \node {VP} [grow=right] child {node {DP\textsubscript{1}}
        child {node {Agent}}
      } child {node {VP\textsubscript{1}}
        child {node {V\textsuperscript{'}
          child {node {ACC\textsuperscript{Patient}}
            child {node {V}}
          child {node {D}}
          }
        }
      }
    
    \end{tikzpicture}
  \end{center}

  \item [(b.)]
  \begin{center}
    \begin{tikzpicture}[level distance=1.5cm, sibling distance=1.5cm, every node/.style={minimum size=1cm}]
      \node {VP} [grow=right] child {node {DP\textsubscript{1}}
        child {node {Patient}}
      } child {node {VP\textsubscript{1}}
        child {node {V\textsuperscript{'}
          child {node {t\textsubscript{1}}
            child {node {V}}
          child {node {D}}
          }
        }
      }
    
    \end{tikzpicture}
  \end{center}
\end{itemize}
The driving force for such reanalysis may be the preference of the language learner for the direct Cases, ergative and accusative, over structural obliques. The direct Cases are realized according to the universal conventions of (9), repeated here, which presumably do not have to be learned. Thus, in the structure of (64a) the universal convention (9b) determines that the object KP, when overt, will be accusative.

(9) Direct Case realizations
If \( \alpha \) Case-binds an overt empty-headed KP, then the empty K is realized as
a. ERG, if \( \alpha \) is I (or D);
b. ACC, if \( \alpha \) is V (or P) and has an adjoined D.

In contrast, in the otherwise similar antipassive structure (59a), the object KP is realized according to language-specific conventions for structural obliques (e.g., (10) in Warlpiri, (11) in Inuit). Since language-specific conventions have to be learned, and since the antipassive implicates these, its acquisition is presumably more difficult.

The accusative structure (64a) may also develop through reanalysis of pronominal object incorporation as pronominal agreement. The former phenomenon involves syntactic head movement, of D out of the object and into V, as in Hebrew (65b) (D is italicized). Since this movement leaves a trace, the object position cannot be filled by any morphologically independent accusative pronoun. The latter, therefore, can only appear if D-incorporation has not taken place, as in (65a) (see McCloskey and Hale 1984).

(65) Hebrew (Semitic: Israel)

a. Ani ra’i-ti  
   \[ I(\text{NOM})_i \text{ see-PST.1SG}_i \text{ ACC-you} \]
   ‘I saw you.’

b. Ani ra’i-ti-xa  
   \[ I(\text{NOM})_i \text{ see-PST.1SG}_i-\text{you}_i (\text{ACC-you}_i) \]
   ‘I saw you.’

In contrast, pronominal agreement with an accusative object requires an underlying D adjunct on the verb. By functioning as a Case competitor, the V-joined D enables the verb to Case-bind the object. The latter, therefore, is a KP with an underlingly empty K. Furthermore, if the V-joined D is coindexed with the object, it will agree with it, since the requisite canonical antecedent government relation (i.e., government and binding) will hold. The pronominal agreement features of the V-joined D will then license the silent pronominal DP, pro, as an ‘‘extended

33 There is at least anecdotal evidence for such a preference. For instance, one of the authors has a brother who was born after his parents emigrated from Poland to England. The parents continued to speak only Polish at home. As expected, he speaks English natively, and Polish fluently but with imperfect grammar. Specifically, he appears to use only the direct accusative Case for the object. This is true even in the presence of negation, where native speakers of Polish require the genitive Case—a structural oblique that this language learner has not yet acquired.

34 We thank Yael Sharvit for the data in (65).
head” of the object KP (see Chomsky 1981, Grimshaw 1991). Since the X₀ head K will then remain empty at S-Structure (by the realization conventions in (9)), the entire object KP will be silent—like the trace in (65b). The KP differs, however, because it may also be overtly realized, in the accusative Case as in (64a), if its DP is overt. The resulting characteristic agreement pattern is exemplified by the following sentences in the accusative languages Miskitu and Ónavas Pima (the base-generated V-adjoined D is italicized):

(66) a. *Miskitu* (Misumalpan: Nicaragua)
    Yang (man ra) mai = kaik-i sna.
    I(NOM)i (you ACC)j 2SGj = see-PROX be.1SGi
    ‘I see you.’

b. *Ónavas Pima* (Uto-Aztecan: Mexico)
    . . . ko-n ’aan (müm) m-nüid.
    . . . CNJ-1SGj I(NOM)i (you-ACC)j 2SGj-see.IMPREF
    . . . I see you.’

Since accusative object agreement is located in a functional head (D) that is base-generated in the V-adjoined position, it must appear directly on the verb, as in (66a–b), with no intervening functional categories. In this respect, it contrasts both with the incorporated object in (65b) and with nominative object agreement in ergative languages.

(67) a. *Inuit* (Eskimo-Aleut: West Greenland)
    Juuna-p (miqqat) taku-mm-a-git . . .
    Juuna-ERGi (children.NOM)j see-DPST-3SGi-3PLj . . .
    ‘When Juuna saw them/the children, . . .’

b. *Warlpiri* (Pama-Nyungan: Central Australia)
    Ngajulu-rlu ka-rna-ngku (nyuntu) nya-nyi.
    I-ERGi PRS-1SGi-2SGj (you.NOM)j see-NPST
    ‘I see you.’

The ergative construction crucially differs in that the verb does not contain any adjoined D. As a consequence, the object is nominative (since it is not Case-bound) and can only agree with C (see section 4). The requisite relation of canonical antecedent government is satisfied either by C itself (in a raising language, like Inuit) or by the transparency chain headed by this functional head (in a transparent language, like Warlpiri). Being in C, the nominative object agreement is predicted to be most peripheral (as it in fact is in (67a–b)). Specifically, it must be farther from the verb, or the stem of the auxiliary, than any I-agreement with the VP-internal ergative subject.

Like the nominative object of an ergative sentence, the nominative subject of an accusative sentence must satisfy the K Filter. Accordingly, it must be c-commanded and governed by C. This requirement can be met by raising to [Spec, IP], as in the ergative (30) or the accusative (68a), or it can be met in situ by virtue of transparency, as in the ergative (36a) and (38a) or in the accusative (68b). The existence of two types of accusative languages—raising and transparent—is thus predicted, as a theoretical possibility, and it arguably corresponds to actually attested variation, English being a clear example of an accusative language of the raising type
(68a) **Raising** _NOM-ACC_  

(68b) **Transparent** _NOM-ACC_

(68a), and Japanese and Yiddish having been argued to represent the transparent type (68b) (see Kitagawa 1986, Diesing 1990). In accusative languages of the raising type, the nominative DP in [Spec, IP] heads an argument chain whose foot is in the VP-adjoined subject position. It therefore should be able to agree with either of the local functional heads, C (head agreement) or I (foot agreement). In accusative languages of the transparent type, on the other hand, the nominative subject is licensed in situ and therefore can only agree with I (head agreement; recall the case of in situ subjects in Warlpiri, in section 4.2).

We thus predict the following canonical hierarchy of pronominal agreement:

(69) **Canonical Agreement Hierarchy**

\[
V-D \text{ (ACC agreement)} < I \text{ (ERG or NOM subject agreement)} < C \text{ (NOM agreement)}
\]

As illustrated throughout this article, the actually attested pronominal agreement morphemes generally occur in positions consistent with this hierarchy.\(^{35}\) This provides strong support for the present theory of structural Case and pronominal agreement.

The present theory further predicts that the parallels between antipassive and accusative sentences should extend beyond the simple structures of (59) and (64). Thus, parallel to antipassive ECM constructions of the type represented by (62b) (with the structure shown in (63)), we correctly

\(^{35}\) The theory allows certain exceptions. See, for example, the analysis of agreement in Lakhota in section 10.
predict the existence of the corresponding accusative type (70) (whose structure is (71)).

(70) John made Bill visit Mary.

With obvious substitutions, the analysis of the causative construction in (71) will generalize to sentences where a higher verb forms a discontinuous predicate with the head of a PP complement (e.g., load with with in (72a), give with to in (72b)).

(72) a. John loaded, the wagon with, hay.
    b. John gave, the book to, Mary.

Combined with the appropriate parameter setting in the realization convention (9b), this analysis will then account for the existence of languages where adpositions assign the structural accusative Case and agree with their objects, as in Hopi.

36 See Hoffman 1991 for a similar syntactic proposal, and Bittner 1994b for a compositional semantics.
(73) *Hopi* (Uto-Aztecan: Arizona)

\[ \text{Ni’ siiva-t Po’kaya-t ’a-w maqa.} \]

\[ I(\text{NOM}) \text{money-ACC Po’kaya-ACC } 3SG \text{-to, give, } \]

‘I gave the money to Po’kaya.’

10 Accusative Active Languages: Acehnese and Eastern Pomo

The theory of expletives proposed in section 8 predicts that an unaccusative verb with a V-adjoined D may license an expletive subject. This follows because expletives are licensed by predication, like other subjects, and the V-adjoined D may provide a predication index if it canonically antecedent-governs the object. Under these circumstances, the theory predicts the representations (74a–c) of the VP at S-Structure.

(74) a. Transitive

\[
\begin{aligned}
\text{VP} & \\
\text{DP}_j & \\
\text{Agent} & \\
\text{V}' & \\
\text{ACC}_{(j)} & \\
\text{Patient} & \\
\text{V} & \\
\text{D}_{(j)} & \\
\end{aligned}
\]

b. Unaccusative

\[
\begin{aligned}
\text{VP} & \\
\text{DP}_j & \\
\text{expletive} & \\
\text{V}' & \\
\text{ACC}_{(j)} & \\
\text{Patient} & \\
\text{V} & \\
\text{D}_{(j)} & \\
\end{aligned}
\]

c. Unergative

\[
\begin{aligned}
\text{VP} & \\
\text{DP}_j & \\
\text{Agent} & \\
\text{V}' & \\
\text{V} & \\
\text{V} & \\
\text{(D)} & \\
\end{aligned}
\]

\[37\text{ Data from Jeanne 1978.}\]
Since Case binding is not sensitive to the distinction between thematic and expletive subjects (see definition (22)), it does not distinguish the unaccusative structure (74b) from the transitive (74a). The structural accusative Case, therefore, is assigned to the object, the patient argument, in (74b) as it is in (74a). The agent, on the other hand, occupies the VP-adjoined subject position in the transitive (74a) as well as the unergative structure (74c). In this position it cannot be Case-bound, for lack of a Case competitor, and so must be nominative. We thus predict an accusative active system, where agents form a natural class (nominative), opposed to the patients (accusative).  

The predicted structures are in fact attested, for example, in Acehnese (75) and Eastern Pomo (76). In Acehnese V-adjoined Ds are overtly realized as object agreement suffixes on the verb (e.g., -geuh in (75a–b)). These suffixes contrast with subject agreement prefixes that (together with mood and aspectual prefixes) appear to be in I (e.g., na-lôn- ‘IND-1SG’ in (75a), ka-geu- ‘INCH-3SG’ in (75c)). In Eastern Pomo, on the other hand, the syntactic relation of canonical antecedent government does not give rise to morphological agreement. Though it is less direct, there is still a morphological reflex of the V-adjoined D, in the form of the accusative Case suffix on the object (-al in (76a–b)).

(75) Acehnese (isolate in Austronesian: Northern Sumatra)

a. Gopnyan na-lôn-timbak’-geuh. (transitive)  
   him(ACC) IND-1SGj-shoot-3SGj  
   ‘I shot him.’

b. Gopnyan rhët(-geuh). (unaccusative)  
   him(ACC)j fall(-3SGj)  
   ‘He fell.’

c. Gopnyan ka-geu-jak u-keude. (unergative)  
   he(NOM), INCH-3SGj-go to-town  
   ‘He went to town.’

(76) Eastern Pomo (Hokan: California)

a. Míip míip-al sáaka. (transitive)  
   he(NOM) him-ACC killed  
   ‘He killed him.’

b. Míip-al xáa baakuíma. (unaccusative)  
   him-ACC in.the.water fell  
   ‘He fell in the water (accidentally).’

c. Míip káluhuya. (unergative)  
   he(NOM) went.home  
   ‘He went home.’

Regardless of the morphology, the shared syntactic structures (74a–c) of Acehnese and Eastern Pomo are predicted to give rise to characteristic syntactic behavior. Thus, for example,

38 See the original description in Sapir 1917, as well as the survey articles by Van Valin (1990) and Mithun (1991).

39 Data from Durie 1985, 1987. In the glosses, IND abbreviates indicative mood, and INCH, inchoative aspect.
nominative subjects and unaccusative objects should differ with respect to control; for it follows from the universal constraints on controlled PRO that it may function as a subject, but not as an object. The following control paradigm in Acehnese, where infinitival complements are uninflected, bears out this prediction:

(77) Acehnese (isolate in Austronesian: Northern Sumatra)

a. Gopnyan geu-tém [__ (*geu-)taguen bu]. (transitive)
   he(NOM) 3SGi-want [PRO 3SGi-cook rice]
   ‘He wants to cook rice.’

b. *Gopnyan geu-tém [__ rhêt]. (unaccusative)
   he(NOM) 3SGi-want [PRO fall]
   (‘He wants to fall.’)

c. Gopnyan geu-tém [__ (*geu-)jak]. (unergative)
   he(NOM) 3SGi-want [PRO (*3SGi-)go]
   ‘He wants to go.’

In Eastern Pomo the proposed structures receive support from the obviation system, as the sentences in (78)–(79) illustrate. The sentences in (78), containing only unergative verbs, exemplify the canonical obviation pattern (cf. (31)–(32) in Inuit, and see Jacobsen 1967, Hale 1969a, 1989, Jeanne 1978, Haiman and Munro 1983, Finer 1985).

(78) Eastern Pomo (Hokan: California)

a. Háa kailuhu-y, siimáa — mérqakiihi.
   [I(NOM) went.home-PROX] pro(NOM) went.to.bed
   ‘I went home, and then I went to bed.’

b. Háa kailuhu-qan, míip mérqakiihi.
   [I(NOM) went.home-OBV] he(NOM) went.to.bed
   ‘I went home, and then he went to bed.’

That is, the head C of the subordinate clause takes one form (proximate -y) if the subject of that clause is coreferential with the matrix subject, as in (78a), but a different form (obviative -qan) if coreference does not obtain, as in (78b).

Combining these crosslinguistic generalizations about subject obviation with the present analysis of Eastern Pomo clause structure, we also explain the following, seemingly deviant pattern:

(79) Eastern Pomo (Hokan: California)

a. Háa xáa qákki-qan, __ wi qaálál táála.
   [I(NOM) took.a.bath-OBV] ex ACC sick became
   ‘I took a bath, so I got sick.’

41 Data from McLendon 1978:8. McLendon does not gloss the item siimáa or explain its function. The glosses reflect the present analysis.
42 Data from McLendon 1978:8, with our analysis.
b. Mūp-al kʰí kóx-qan ₋ₗ ₋ₗ muutúk-iyy ₋ₗ ₋ₗ muudála.

[[him-ACC he; shot-OBV] exj pro(ACC)j curled.up-PROX] exj pro(ACC)j died

‘He; shot him; and hej curled up, and hej died.’

In (79a) both verbs are monadic, and their thematic arguments are coreferential, just as in (78a). Nevertheless, the subordinate clause in (79a) is marked obviative. Although this clause is unergative, the matrix (second) clause is unaccusative. So the syntactic subject of the subordinate clause, which is its thematic argument (háa ‘I(NOM);’), is not coreferential with the expletive pro (glossed ‘exj’) functioning as the matrix subject.

For the same reason, in (79b) the most deeply embedded, transitive clause is marked obviative with respect to the next higher, unaccusative clause. But that clause, in turn, is marked proximate with respect to the matrix clause, which is likewise unaccusative and has a coreferential thematic object (the accusative proj). Crucially, in both of these unaccusative clauses, the object is canonically antecedent-governed by, and therefore coindexed with, the V-adjoined D. Furthermore, the index of D is appropriated by the host unaccusative verb to license an expletive subject by predication, as in (74b). Thus, the coreference of the thematic objects in the two unaccusative clauses in (79b) results in the coindexation of the associated expletive subjects, which in turn licenses the proximate morphology. In Eastern Pomo, then, the proximate morphology requires that the subjects at issue both be coindexed and have the same status with respect to the expletive/nonexpletive distinction; the obviative morphology is used otherwise.

In the present theory, structural Case and pronominal agreement are independent phenomena. The former is determined by government and Case-binding relations, the latter by canonical antecedent government—that is, government and (standard) binding. A language may therefore have an accusative active pattern of pronominal agreement without the accusative active system of structural Case. This is possible, for example, if the language is of the transparent accusative type and has foot agreement (see section 4.1). In agreement of that type, a functional head, or a transparency chain headed by a functional head, canonically antecedent-governs the foot of an argument chain, as in (80a–c). In these structures the relevant transparency chains are informally indicated by x-superscripts (cf. Warlpiri, in section 4.2).

This type is arguably represented by Lakhota. As illustrated in (81), this language has an accusative active system of first and second person agreement. However, it does not exhibit the characteristic syntactic behavior associated, via the structures of (74a–c), with an accusative active Case system. Crucially, the unique argument of an unaccusative verb can be controlled, as in (82a). In this regard, it behaves unlike its counterpart in the Acehnese sentence (77b), and like the subject of the unergative verb in (82b).

---

43 McLendon reports that when the thematic arguments of two unaccusative clauses are not coreferential, the subordinate clause is marked obviative. We thank Christopher Manning for reminding us of this fact and thereby providing the initial stimulus for our theory of expletive subjects.
(80) a. Transitive

\[
\begin{array}{c}
\text{I'} \\
\text{VP} \\
\text{DP}_i \\
\text{Agent} \\
\text{V'} \\
\text{ACC}_j \\
\text{Patient} \\
\text{V} \\
\text{D}_j \\
\end{array}
\]

b. Unaccusative

\[
\begin{array}{c}
\text{I'} \\
\text{VP} \\
\text{DP}_j \\
\text{Patient} \\
\text{V'} \\
\text{t}_j \\
\text{V} \\
\text{D}_j \\
\end{array}
\]

c. Unergative

\[
\begin{array}{c}
\text{I'} \\
\text{VP} \\
\text{DP}_i \\
\text{Agent} \\
\text{V'} \\
\text{V} \\
\text{D} \\
\end{array}
\]

(81) Lakhota (Siouan: South Dakota, Montana, Manitoba)

a. i. Hokšila ki _ a-ni-phe. (transitive patient agreement)

[boy the](NOM) pro(ACC) PVB-2SG-hit

‘The boy hit you.’

44 The data in (81) and (82) are from Williamson 1984, except for the unaccusative (81b). The latter is from Boas and Deloria 1939, or Buechel 1970, as cited in Foley and Van Valin 1984. The glosses reflect the present analysis.
ii.  

\[
\text{hokšíla ki a-ya-phe. (transitive agent agreement)}
\]

\[
\text{pro(NOM)}_i \quad [\text{boy the}](\text{ACC})_j \quad \text{PVB-2SG}_j \text{-hit}
\]

\`You hit the boy.'

b.  

\[
\text{ni-khuže. (unaccusative patient agreement)}
\]

\[
\text{pro(NOM)}_j \quad 2SG_j \text{-sick}
\]

\`You are sick.'

c.  

\[
\text{ya-cheye. (unergative agent agreement)}
\]

\[
\text{pro(NOM)}_i \quad 2SG_i \text{-cry}
\]

\`You cried.'

(82) Lakhota (Siouan: South Dakota, Montana, Manitoba)

a.  

\[
\text{a-ma-ya-phe. (transitive agent agreement)}
\]

\[
\text{pro(NOM)}_j \quad [\text{boy the}](\text{ACC})_j \quad \text{PVB-1SG}_j \text{-2SG}_i \text{-hit}
\]

\`You hit me.'

b.  

\[
\text{ni-khuže. (unaccusative patient agreement)}
\]

\[
\text{pro(NOM)}_j \quad 2SG_j \text{-sick}
\]

\`You are sick.'

c.  

\[
\text{ya-cheye. (unergative agent agreement)}
\]

\[
\text{pro(NOM)}_i \quad 2SG_i \text{-cry}
\]

\`You cried.'

Under the structural analysis in (80a–c), the control facts, of course, are as expected. The
 paternal agreement” (-\text{Ni} in (81a–b)) is with the V-adjoined D—that is, with the functional head
 that canonically antecedent-governs the object of the transitive (80a), or the foot of the chain
 headed by the derived subject of the unaccusative (80b). The “agent agreement” (-ya in (81aii,c))
 is with the transparency chain headed by I. This functional head canonically antecedent-governs
 the VP-adjoined subject of the transitive (80a) and the unergative (80c). Morphologically, agent
 agreement is realized on the verb, the foot of the transparency chain. This realization is presumably
 licensed by the presence of a functional head, D, in the verb (cf. transparent ergative languages,
 where this realization is impossible). Being realized on the verb, agent agreement in Lakhota may
 cooccur with patient agreement in D, as in (83).

(83) Lakhota (Siouan: South Dakota, Montana, Manitoba)\textsuperscript{45}

\[
a-\text{ma-ya-phe. (transitive agent agreement)}
\]

\[
\text{pro(NOM)}_j \quad \text{pro(ACC)}_j \quad \text{PVB-1SG}_j \text{-2SG}_i \text{-hit}
\]

\`You hit me.'

The analysis of Lakhota as a transparent accusative language, with foot agreement in the
 first and second person, is compatible with the fact that third person plural agreement does not
 exhibit the active pattern. Only the transitive object triggers agreement on the verb (-wicha- in
 (84a)); the underlying object of an unaccusative does not (see (84b)). Third person agreement
 conforms to the canonical hierarchy of (69).

\textsuperscript{45}This example is constructed based on the data in Williamson 1984, specifically, her examples (81a,a’) and the
 full agreement paradigm that she gives on page 107.
(84) **Lakhota** (Siouan: South Dakota, Montana, Manitoba)

a. Hokšila ki šůka ki a-wicha-pha pi. (transitive)
   [boys the](NOM)j [dogs the](ACC)j AFF-3PLj-hit PLj
   ‘The boys hit the dogs.’

b. Wichaša ki ḥuh ḥuža pi. (unaccusative)
   [men the some](NOM)j sick PLj
   ‘Some of the men are sick.’

c. Wija eya cheya pi. (unergative)
   [women some](NOM)i cry PLi
   ‘Some women cried.’

We conclude that Lakhota does not falsify our theory of accusative active languages, since it instantiates a different syntactic type—to wit, the transparent accusative type with foot agreement. Far from presenting a problem, it supports our fundamental claim that structural Case and pronominal agreement are independent phenomena.

11 **Three-Way Languages**

In some recent theories of structural Case, the ergative is identified either with the nominative (Bobaljik 1992, Chomsky 1993) or with the accusative (Murasugi 1992, Campana 1992). The three-way system (Sapir 1917, Comrie 1981) represented by Antekerrepenhe (85) and Nez Perce (86) is unexpected on either view. In this system, intransitive subjects are in the nominative Case, but transitive sentences exhibit the doubly marked ERG-ACC array.

(85) **Antekerrepenhe** (Arandic: Central Australia)

a. Arengke-le aye-nhe ke-ke.
   dog-ERG me-ACC bite-PST
   ‘The dog bit me.’

b. Apwerte-le athe arengke-nhe we-ke.
   stones-INS I(ERG) dog-ACC pelt-PST
   ‘I pelted the dog with stones.’

c. Arengke nterre-ke.
   dog(NOM) run-PST
   ‘The dog ran.’

(86) **Nez Perce** (Penutian: Oregon)

a. Wewúkiye-ne péé'-wi-yé háama-nm.
   elk-ACCj 3i,3j-shoot-PRF man-ERGi
   ‘The man shot an elk.’

---

46 Data from Williamson 1984, 1987. The glosses reflect the present analysis.
47 Data from field notes of Hale (Dajarra, Qld., 1960) and from field notes and draft grammar of Gavan Breen (early 1970s).
48 Data from Rude 1985.
b. Hi-páayn-a háma.
   \[3_i\text{-arrive-PRF man(NOM)}_1\]
   ‘The man arrived.’

In the present theory, the VP-adjoined subject is assigned the ergative Case by I, in the presence of a visible Case competitor. Since the assignment of this Case in three-way languages is contingent on the presence of an object—as in languages of the ergative or ergative active type—this Case competitor must somehow be supplied by the object. The accusative KP itself cannot fulfill that function, since it is not K-less; and the V-adjoined D that enables the verb to assign the accusative Case is too far from the subject to play that role either (see definitions (52)–(53)). We are thus led to conclude that the object of an ERG-ACC construction must have a complex NP shell structure, as in (87a).

(87) a. \textit{Transparent ERG-ACC}  

b. \textit{Unaccusative}

We assume that the head noun of the NP shell has the morphological property that it is an affix that must attach to a head of the category D. It therefore must incorporate into the V-adjoined D no later than the morphophonological level of PF. In fact, it incorporates earlier, at S-Structure, in order to license its complement (ACC). Normally, incorporation into an adjoined head is ruled out by the ECP, because the incorporated element fails to c-command its trace (see definition
(19b)). In (87a), however, the trace $t_j$ of the incorporated noun $N_j$ is "rescued" by the host $D_j$. Since the latter is a functional head, it can participate in pronominal agreement, a syntactic relation that here involves canonical antecedent government of the complement $(\text{ACC}_j)$ of $t_j$. If this agreement relation, which is independent of the incorporation process, happens to involve the same index, the host head $D_j$ will also antecedent-govern the trace $t_j$, enabling the latter to satisfy the ECP. Since the trace and its antecedent governor are of different categories (N vs. D), incorporation of this type may still be ruled out in many languages, explaining the relative rarity of three-way languages. But since it is not prohibited by any universal constraints (e.g., the ECP), there should also be languages that do allow it.

Once the noun has incorporated into the V-adjointed $D$, leaving a trace, $t_j$, in the original position, the host verb governs the complement of $t_j$. In (87a) it also Case-binds that complement, since all of the relevant requirements are met. The verb is the nearest head that delimits a small clause and c-commands the complement of $t_j$; therefore, it locally c-commands that complement. Moreover, the verb governs a Case competitor—namely, the V-adjointed $D$. Since the complement of $t_j$ is Case-bound, it must be an underlyingly empty-headed KP. At S-Structure, its empty K satisfies the ECP and, in accordance with the universal conventions of (9), is realized as the accusative Case.

The next higher A-position in (87a) is the NP complement of the verb (i.e., the NP shell). Since it is a K-less nominal argument, this NP must satisfy the K Filter. As required, the NP is c-commanded and governed by C, in virtue of transparency, and is not Case-bound, for lack of a Case competitor. Crucially, neither of the nearby K-less nominal heads qualifies as a pseudo coargument of this NP: the V-adjointed $D$ is not independent enough (because it antecedent-governs the $X^0$ head of the NP), whereas the D-adjointed $N$ is too far away (being too deeply embedded to c-command the NP).

The highest A-position in (87a) is the VP-adjointed subject. This, of course, is governed by the trace ($t_i$) of I. It is also Case-bound by that trace, since transparency enables the trace to govern a Case competitor—the NP complement of the verb. Therefore, the subject must be an underlyingly empty-headed KP, and its empty K must be realized as $\text{ERG}$ at S-Structure, by the universal conventions of (9).

In the unaccusative (87b) the verb underlyingly has only an object, and this has the same NP shell structure as is found in (87a). The head noun of the NP shell incorporates into the V-adjointed $D$, also as in (87a) and for the same reasons. However, in order to satisfy the EPP, the underlying complement of the incorporated noun must become a derived subject of the verb. In (87b) it accomplishes this by raising and entering into a predication relation with the VP. The resulting chain eliminates all Case competition in the unaccusative clause. Specifically, the NP complement of the verb is not a coargument of the derived subject (DP$_j$), since it dominates its trace ($t_j$) and thus fails the independence requirement (see definition (25)). Also as a consequence of the same chain relation, the V-adjointed $D$ is not independent enough to qualify as a pseudo coargument of the trace $t_j$ at the foot of the chain (see definition (53)). Thus, the unique argument of the unaccusative verb must be nominative, a bare DP, since that category can satisfy the K Filter, whereas an empty-headed KP would violate the ECP.
This theory makes two predictions about three-way languages. First, if canonical antecedent government by functional heads is morphologically realized as pronominal agreement, then accusative object agreement (in V-joined D) will be adjacent to the verb, whereas ergative subject agreement (in I) will be more peripheral. Three-way languages with subject and object agreement that have been described in the literature bear out this prediction, as the following sentences attest:

(88) a. **Kham** (Tibeto-Burman)\(^{49}\)
   No-e nga-lay cyu:-na-ke-o.
   he-**ERGi** me-**ACCj** watch-1SG\(_j\)-PST-3SG\(_i\)
   ‘He watched me.’

b. **Nez Perce** (Penutian: Oregon)\(^{50}\)
   Háama-nm hi-néec-’wi-ye wewúkiye-ne.
   man-**ERGi** 3i-PLj-shoot-PRF elk-**ACCj**
   ‘The man shot (several) elk.’

Second, in unaccusative sentences the canonical antecedent government relation between the V-joined D and the object of the incorporated noun should enable the verb to license an expletive subject (see sections 8–9). In the resulting structure, the government and Case-binding relations will then be the same as in the transitive (87a), since neither of these syntactic relations distinguishes between expletive and thematic subjects. Thus, it should be possible for the accusative Case to be extended to the unique argument of an unaccusative verb, as it is in languages of the accusative active type. This prediction is borne out by impersonal passives of the type represented by (89c), in Nepali. Here the passive morpheme (-i) must be a verb, since there is no verbal auxiliary (see section 6). The three-way system of Nepali is illustrated in (89a–b).

(89) **Nepali** (Indo-Aryan: Nepal)\(^{51}\)
      he-**ERGi** me-**ACCj** hit-3SG.PST
      ‘He hit me.’
   b. Tx’ kut’-i-is.
      you(NOM) hit-PASS-2SG.PST
      ‘You were hit.’
   c. Tx’-lai kut’-i-io.
      you-**ACC** hit-PASS-3SG.PST
      ‘Somebody hit you.’ (lit. ‘It was hit you.’)

Finally, this theory is consistent with historical evidence. Rude (1991) argues that the transitive erg-acc array in Sahaptian, the language family of Nez Perce, developed through reanalysis of the cislocative construction exemplified in (90a). Here, the verb is augmented with a cislocative suffix (glossed **CSL**) meaning roughly ‘hither’.

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\(^{49}\) Data from Watters 1973.

\(^{50}\) Data from Rude 1986.

\(^{51}\) Data from Bandhu 1973.
(90) Sahaptin (Sahaptian: Columbia River)\textsuperscript{52}

a. \(\text{Aw i-q'ínun-im-a wínš.}\)
   \(\text{now 3-look-CSL-PST man(NOM)}\)
   ‘Now the man looked this way.’

b. \(\text{Aw = naš xwisaa-tim i-twána-m-aš.}\)
   \(\text{now = me(ACC) old.man-ERG 3-follow-CSL-IMPRF}\)
   ‘Now the old man is following me.’

c. \(\text{Aw = naš i-q'ínun-a wínš-nim.}\)
   \(\text{now = me(ACC) 3-look-PST man-ERG}\)
   ‘Now the man looked at me.’

The cislocative morpheme can be plausibly analyzed as a preposition incorporated out of a PP complement of the verb (see Baker 1988). If that complement were reanalyzed as another lexical \([-V]\) category (i.e., NP), the resulting structure would be (87a), and that, in turn, would yield the \(\text{ERG-ACC}\) Case array of (90b) and (90c).

12 The Split System of Austronesian

A central tenet of the present theory is that direct Case assignment is determined, independently for each sentence, by the interaction of the S-Structure representation with universal syntactic principles (to wit, the ECP, the K Filter, and the universal component of the realization conventions). This view is consistent with the well-known fact that many languages have split Case systems, manifesting more than one of the three basic Case arrays (\(\text{NOM-ACC}, \text{ERG-NOM}, \text{and ERG-ACC}\)) in transitive clauses (see Dixon 1979 for a typological survey). For example, all three arrays cooccur in Austronesian languages, represented by the Malagasy sentences in (91). In this language the Cases assigned are typically revealed not in morphological Case marking but in verb morphology and word order.

(91) Malagasy (West Austronesian: Madagascar)\textsuperscript{53}

a. \(\text{N-an-asa ny lamba (amin' ny savony) Rasoa.}\)
   \(\text{ASP-D-wash the clothes (with the soap) Rasoa}\)
   \(\text{ACC}_j \ \text{PP}_k \ \text{NOM}_i\)
   ‘Rasoa washed the clothes (with the soap).’

b. \(\text{No-sasa-n Rasoa (amin’ ny savony) ny lamba.}\)
   \(\text{ASP-wash-INF. Rasoa (with the soap) the clothes}\)
   \(\text{ERG}_i \ \text{PP}_k \ \text{NOM}_j\)
   ‘Rasoa washed the clothes (with the soap).’

\textsuperscript{52} Data from Rude 1991.

\textsuperscript{53} Data from Keenan 1985. In (91b–c) the ergative subject forms a phonological unit with the verb, traditionally written \(\text{nosasan-dRasoa and nanasan-dRasoa},\) respectively. Our English translations reflect the grammatical relations in these Malagasy sentences, but not necessarily their aspectual and pragmatic features (Charles Randriamasimanana, personal communication).
c. N-an-asa-n Rasoa ny lamba ny savony.
   ASP-D-wash-INFL Rasoa the clothes the soap
   ERG<sub>i</sub> ACC<sub>j</sub> NOM<sub>k</sub>
   'Rasoa washed the clothes with the soap.'

Guilfoyle, Hung, and Travis (1992) argue that verb morphology in Austronesian languages determines the assignment of structural Case and thereby the order of the nominal arguments. The S-Structure forms they propose are as shown in (92), with a few modifications to conform to the account presented here.<sup>54</sup> First, the structures in (92) reflect our assumption, justified in the preceding sections, that the subject originates as the distinguished adjunct of the VP, not as its specifier. In Malagasy this assumption is consistent with the fact that the location of the VP-internal subject does not conform to the head-initial parameter setting of this language. If the VP-internal subject were in [Spec, VP], then we would predict the order in (91c) to be

(92) a. Raising NOM-ACC

```
CP
   /      \
  C   IP
     /   \1
    I   DP1
      / \t1
     VP \
        / \[V'\]
       /   \[V\]
      /     \[ACC\]
     D     V

'wash'
```

b. Raising ERG-NOM

```
CP
   /      \
  C   IP
     /   \1
    I   DP1
      / \t1
     VP \
        / \[V'\]
       /   \[V\]
      /     \[ERG\]
     V     VP

'wash'
```

<sup>54</sup> Bell (1976, 1983) develops a similar analysis for Cebuano (Austronesian: Philippines) in the Relational Grammar framework.
c. Raising ERG-ACC

V-ACC-ERG-NOM, contrary to fact. Second, this modification leaves the [Spec, VP] position open for the secondary object (nominative) to originate there in (91c), as depicted in (92c), whereas Guilfoyle, Hung, and Travis generate this argument as a sister of the primary object (accusative) within V'. For us, sister relations are biunique. Third, concerning the prefix an- on the verb in (91a,c), we not only assume that it is a V-adjoined head, as do Guilfoyle, Hung, and Travis, but further claim that this head is of the category D, as in (92a,c). Finally, we identify the Case of the VP-internal subject, in (91b–c), as ergative rather than genitive.

From the point of view of the analysis proposed by Guilfoyle, Hung, and Travis, all of these modifications are minor, leaving the essential predictions unaffected. But combined with the present theory of structural Case, the modifications allow us to simplify this analysis in one important respect. Guilfoyle, Hung, and Travis propose idiosyncratic rules of structural Case assignment that they claim to be specific to the small class of Austronesian languages they discuss. According to one of these rules, for instance, the prefix an- in Malagasy, which we analyze as a V-adjoined D, assigns the accusative Case. In the present theory, on the other hand, these language-specific rules can be dispensed with. Given the S-Structure forms in (92a–c), which Guilfoyle, Hung, and Travis
motivate on independent grounds, the Case arrays follow entirely from the universal principles already established, obviating the need for any language-specific stipulations.

Thus, in each structure the nominative argument (bare DP) originates in a position that is not Case-bound and satisfies the K Filter by raising to [Spec, IP]. Since Malagasy is head-initial throughout, this specifier position is rightmost in the clause, giving rise to the renowned VOS order of this language. In (92a) and (92c), where the verb contains an adjoined D, it Case-binds its (primary) object and assigns the accusative Case in the usual manner;55 and in (92b) and (92c), where the raised nominative argument is a primary or secondary object, it is this raised nominal that enables I to Case-bind the VP-internal subject and assign it the ergative Case. The raising \textsc{erg-acc} pattern of (92c) furnishes additional illustration of the general point already made in previous sections to the effect that a particular pattern of Case marking may be derived in more than one way. Here, the Case competitor enabling I to assign ergative Case to the subject is not an NP complement of the verb, as in (87a), but a bare DP, the secondary object \textit{ny savony} 'the soap', raised to [Spec, IP] in order to satisfy the K Filter.

This analysis departs from tradition in assigning the label ‘ergative’ to the agent in Malagasy sentences of the type represented by (91b–c). These are normally said to be passive constructions. The present proposal is supported by the ‘double passive,’ exemplified in (93b), and by the ‘passive-based’ imperative, exemplified in (94b).

(93) \textit{Malagasy} (West Austronesian: Madagascar)56

\begin{itemize}
  \item a. \textit{Te = h-am-ono — ny omby Rabe.}

  \hspace{1cm} \textit{want =} \textit{[IP \textsc{fut-d-kill} \textit{PRO}_i \textit{[the cow]}_j \textit{Rabe}_i \textit{ACC NOM}}

  \hspace{1cm} \textit{‘Rabe wants to kill the cow.’}

  \item b. \textit{Tia-n \textit{dRabe ho-vono-ina — — ny omby.}}

  \hspace{1cm} \textit{want-infl \textit{Rabe}_i \textit{[IP \textsc{fut-kill-infl} \textit{PRO}_i \textit{t}_j \textit{[the cow]}_j \textit{ERG NOM}}

  \hspace{1cm} \textit{‘Rabe wants to kill the cow.’}
\end{itemize}

(94) \textit{Malagasy} (West Austronesian: Madagascar)57

\begin{itemize}
  \item a. \textit{M-am-onóa azy.}

  \hspace{1cm} \textit{infl-d-kill \textit{him(ACC)}}

  \hspace{1cm} \textit{‘Kill him.’}
\end{itemize}

55 An anonymous reviewer for \textit{LI} informs us that many transitive verbs assign accusative Case in the absence of the prefix \textit{an-} (e.g., \textit{mihinana} ‘eat’, \textit{mividy} ‘buy’). We assume that for these verbs, V-adjointed D is not overt. Also, some intransitive verbs have this prefix, but do not assign accusative Case (e.g., \textit{mandeha} ‘go’). This is not surprising, for the unique argument of an intransitive has no Case competitor (cf. the unaccusative structure (64b)).

56 Data from Keenan 1975, 1980. Keenan’s discussion of (93b) implies that the nominative \textit{ny omby} ‘the cow’ is raised into [Spec, IP] of the matrix, but otherwise analyzes this construction as a ‘double passive.’ See Bittner 1994a for a discussion of a similar control construction in Inuit, an uncontroversially ergative language.

57 Keenan (1975) correctly points out that Maori makes use of ‘passive-based’ imperatives of the type represented by Malagasy (94b). Therefore, our analysis implies that Hohepa (1967) may have been correct in attributing an ergative construction to Maori—if so, Hale (1969b) was wrong in arguing against this idea.
b. Vonoy izy.
   INFL.kill he(NOM)
   ‘Kill him.’

The logical relations in (93b) are the same as in the corresponding ‘active’ sentence (93a), and both sentences involve control of a nonover argument, the agent of the complement clause, represented by PRO. Similarly, the logical relations in (94b) are the same as in the ‘active’ imperative (94a); in both, the nonover second person addressee corresponds to the agent argument. That is, the agent in Malagasy sentences of the type represented by (91b–c) exhibits the syntactic behavior that is typical of ergative subjects, and is not otherwise attested for oblique agents of undiscussed passives. We feel justified, therefore, in analyzing these agent phrases as ergative rather than oblique.

This analysis is also supported by the morphological evidence from the related language Kapampangan, which has both Case marking and agreement.

(95) Kapampangan (Austronesian: Philippines)58
   a. Sumulat ya ng poesia ing lalaki.
      D-write 3SGi [ACC + D poem]j [D boy]i
      ‘The boy will write a poem.’
   b. I-sulat na + ya(=ne) ing poesia n-ing lalaki.
      FUT-write 3SGi + 3SGj [D poem]j [ERG-D boy]i
      ‘The boy will write a poem.’

In (95a) the infix -um- is the D adjunct that enables the verb to assign the accusative Case, visible in the form of the particle ng, which we analyze as a complex head formed by D-to-K movement. The subject is nominative, a bare DP, assuming the particle ing to be a pure determiner. Agreement morphology is associated with this argument alone. In (95b) the subject is in the ergative Case, and the object is nominative, functioning as a Case competitor for the subject. Both arguments are associated with agreement morphology, in the expected order, with the ergative agreement closest to the verb.

The agreement facts show that (95b) is an ergative construction, not a passive, though that is what it is usually termed (see, e.g., Keenan 1985). The oblique argument of the passive construction cannot control agreement (see section 6), whereas agreement with an ergative subject is very common. Furthermore, the prefixal morphology involved in these Kapampangan forms is involved in the marking of tense, as shown in (96). This is expected on the present analysis, which identifies these elements with 1.

(96) Kapampangan (Austronesian: Philippines)
   a. I-sulat me ing sulat.
      FUT-write 2SGi + 3SGj [D letter]i
      ‘You will write a letter.’

58 The Kapampangan sentences in (95) and (96) are from Keenan 1985. The glosses reflect the present analysis.
b. Su-sulat me ing sulat.

PRS-write 2SG₁ + 3SG₁ [D letter]₁

‘You are writing a letter.’

c. S-in-ulat me ing sulat.

PST-write 2SG₁ + 3SG₁ [D letter]₁

‘You wrote a letter.’

13 Nominal Possessors

Many languages that employ the ergative Case use it both for the subject of a transitive VP and for the subject of a possessed NP, that is, the possessor. This holds not only for classical ergative languages, like Inuit, but also for languages with three-way or split Case systems, exemplified by Nez Perce and Malagasy, respectively.

(97) a. Inuit (Eskimo-Aleut: West Greenland)

Juuna-ŋqimm-i-nit

[[Juuna-ERG₁ tₙ] dogₙ-3SG₁,PL]-ABL

‘from Juuna’s dogs’

b. Nez Perce (Penutian: Oregon)

‘icwéew’lcix-nim nusnuu-th-pkin’ix

[[monster-ERG tₙ] noseₙ-SG]-ABL

‘from the monster’s nose’

c. Malagasy (West Austronesian: Madagascar)

ny entan’ dRakoto

the thingsₙ [Rakoto tₙ]

ERG

‘Rakoto’s things’

In our analysis, we do not take this coincidence in Case marking to indicate a special kinship between the lexical categories N and V, as is sometimes done. We do, however, recognize a parallel, and we attempt to express it. We locate the parallelism in the extended projections of the nominal and verbal categories (see Grimshaw 1991). The Case binder responsible for assigning ergative Case is a parallel functional head in the two systems of extended projection—I in the verbal system, D in the nominal system. For example, the manner in which Case is assigned in the Inuit possessive DP construction can be seen in structure (98), corresponding to (97a). In general, the functional head D takes as its complement an NP. In a possessive construction, as here, this will be a nominal small clause, as indicated; and the possessor will be the subject of that small clause. The latter will be delimited by its own head, from below, and by the governing functional head, D, from above. If the head of the nominal small clause incorporates into D, as we assume it does in possessive nominals of the type represented by (97a–c), then it will function as...
as a Case competitor, enabling D to Case-bind the possessor. The incorporated N activates the host D, because it qualifies as a pseudo coargument of the possessor. In the relevant respects (see definition (53)), the structural relation between the incorporated N and the possessor is like that between a V-adjoined D and the object (cf. also the ECM construction (71a)). Without incorporation, there would be no Case competitor in (98), since the most likely alternative, the NP complement itself, fails to qualify as a coargument of the possessor (see definition (25)).

Being Case-bound, the possessor argument in (98) is licensed as an empty-headed KP, since its empty K satisfies the ECP. The realization of this K depends on the setting of the relevant parameter in the otherwise universal conventions (9) for direct Case realizations. In languages where the ergative Case is extended from transitive subjects to possessors, as in (97a–c), it is assigned not only by the verbal functional head I, but also by the structurally parallel nominal head, D. Common as this parameter setting is, it is not obligatory. That is, it is also possible for the ergative Case to be assigned only by I, leaving D to assign some language-specific structural oblique. The latter parameter setting is exemplified by Hindi, where I still assigns the ergative Case, as in (99a–b), but the structural Case assigned by D is genitive, as in (99c). The structure of the bracketed nominal infinitive is shown in (100).

(99) Hindi$^{61}$
  a. raam-ne kuttoN-ko khariid-aa hai.
     Ram-ERG dogs-ACC buy-PRF.SG.M be.PRS.3SG
     ‘Ram has bought the dogs.’

$^{61}$ We thank Veneeta Dayal for the data in (99a) and (99b), and for checking (99c), cited by Mohanan (1990).
b. raam-ne kele khariid-e haiN.
Ram-ERG bananas(M)_i buy-PRF.PL.MM be.PRS.3PLi
‘Ram has bought the bananas.’

c. raam-ke baiTh-ne-par maaN-ne us-ko khaanaa diy-aa.
[Ram-GENi sit.down-INF.SG]-LOC mother-ERG him-ACC food(M)_i give-PRF.SG.Mj
‘When Ram sat down, mother gave him food.’

14 Some Final Remarks
The distinctive feature of the Case theory developed here consists in the idea that the ability to assign marked structural Case is determined by the syntactic relations in the government domain of a head regardless of its syntactic category. Universally, marked structural Case is assigned under a type of antecedent government, which requires government and a structural relation we have called Case binding. Nominative Case is absence of marked Case, restricted to arguments that are not Case-bound and stand in the appropriate structural relation to a Case-like head.

Case assignment, as viewed here, is fundamentally a structural matter. Moreover, we believe its behavior to be determined by structural factors that exist in grammar quite independently of Case itself. Although our analysis makes reference to technical definitions of some complexity, most of these are fundamentally the same as definitions already established in the linguistic literature. For example, the licensing of nominative, K-less arguments involves entirely conventional notions, c-command and government, that have nothing in particular to do with Case; and the licensing of nominals in morphologically marked Cases—the category KP, headed by empty
K at D-Structure—likewise involves a standard notion, that of antecedent government, and a universal principle, the ECP, whose domain of applicability extends far beyond marked structural Case. In general, a nominal argument will be in a marked structural Case only if it is Case-bound, since only then will its empty K be able to satisfy the antecedent government requirement of the ECP. If the argument is not Case-bound, then it will be licensed in the nominative, K-less form, if it meets the provisions of the K Filter. It is the Case-binding relation whose proper determination involves moderate complexity, and it is this relation that has occupied a large measure of our attention.

Case binding is a structural relation between a nominal argument and a head that locally c-commands it. This is not all there is to it, of course. In order for a head to Case-bind an argument, it must do so within a certain structural domain whose limits are identified by two features. First, the Case-binding head must delimit a small clause, a lexical projection (from V or N, say) that contains a subject. Second, it must govern another nominal element, distinct from the argument it Case-binds. This second nominal is what we have referred to as the Case competitor. It is itself K-less, and it must be sufficiently close to the nominal argument it competes with, and yet independent enough to qualify as a syntactic coargument (if it is DP or NP) or as a pseudo coargument (if it is D or N).

To be sure, this theory is more complex than the idea that structural Case is assigned by predictable syntactic categories (e.g., [−N] categories, as in Chomsky 1980, 1981; or Agr categories, as in Chomsky 1991, 1993). However, there are some advantages to our strictly relational view of structural Case assignment. First, parameterization is limited to the morphological realization of marked structural Case categories and is not involved in the issue of whether or not structural Case is assigned. Second, for the direct Cases, accusative and ergative, even the realization conventions are essentially universal. Third, many other Case categories, heretofore thought to be “quirky” or idiosyncratic, are assimilated to the category of marked structural Case, being predictably assigned under government and Case binding and differing only with regard to their morphological realization. To the extent that this is true, it greatly reduces the burden on the language learner.

In the present theory, structural Case and agreement are mutually independent phenomena. Nevertheless, we predict a nontrivial correlation between pronominal agreement and the direct Cases (nominative, accusative, ergative). This follows, because pronominal agreement necessarily involves canonical antecedent government (i.e., government and the conventional binding relation) between a functional head and a nominal argument. Unlike structural obliques, nominal arguments in the direct Cases are always governed by functional heads.

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