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EMPTY CATEGORIES, CASE, AND CONFIGURATIONALITY*

0. INTRODUCTION

Ken Hale's work on Australian and Native American languages has served to extend the data base of mainstream theoretical linguistics, and has made it necessary for a theory concerned with language universals to confront data from these typologically interesting languages.[1] In a series of papers (1980, 1981, 1982, 1983) Hale has drawn attention to the problem of non-configurationality in Warlpiri; in the latest of these, 'Warlpiri and the Grammar of Non-configurational Languages', his purpose is to define a configurationality parameter from which the cluster of properties seen in non-configurational languages would follow. I take issue here with Hale on the source of non-configurationality, and propose a different typological parameter, based on a re-analysis of Warlpiri data given in Hale's publications, and some observations on other non-configurational languages.[2] An interesting result of this analysis is an explanation of the 'ergative splits' frequently seen in non-configurational languages.

The properties common to non-configurational languages that Hale seeks to account for include the following: (1) "free" word order; (2) syntactically discontinuous expressions; and (3) "null anaphora". In the following Warlpiri sentence, any word order is possible, with the provision that the AUX clitic sequence occur in the second position.[3]

(1)   Ngarrka-ngku ka   wawirri   panti-rni.
         man-ERG   AUX kangaroo spear-NONPAST

         The man is spearing the kangaroo.   (Hale, 1983, p. 6)

Thus, 'free' word order. Furthermore, non-adjacent nominals may corres-
pond to a single verbal argument, resulting in discontinuous expressions:

(2)   Wawirri kapi-rna panti-rni   yalumpu.
         kangaroo AUX   spear-NONPAST that

         I will spear that kangaroo.   (Hale, 1983, p. 6)

(This example is as given by Hale; the clitic **-rna** marks first person singular
subject.) **Wawirri** and **yalumpu** in (2) comprise a discontinuous expression.
In (3) below, these nominals appear as a single (continuous) constituent,
as can be seen by the fact that they precede AUX; only one word or a single
constituent may occur before AUX.

(3)   Wawirri yalumpu kapi-rna panti-rni.
         kangaroo that   AUX   spear-NONPAST
                                                     (Hale, 1983, p. 6)

By "null anaphora" Hale refers to "the situation in which an argument
(e.g., subject, object) is not represented by an overt nominal expression in
phrase structure". This is exemplified in (4) below:

(4)   a. Ngarrka-ngku ka   panti-rni.
         man-ERG   AUX spear-NONPAST

         The man is spearing him/her/it.

      b. Wawirri ka   panti-rni.
         kangaroo AUX spear-NONPAST

         He/she is spearing the kangaroo.

      c. Panti-rni   ka.
         spear-NONPAST AUX

         He/she is spearing him/her/it.   (Hale, 1983, p. 7)

English exhibits none of these traits: word order marks grammatical
relations; constituents may not be discontinuous; and nominals are not
optional. The primary goal of this paper will be to account for the fact that
nominals are frequently 'absent' in Warlpiri sentences; once this aspect of
Warlpiri syntax is clarified, we will also have an explanation for free word

order and the apparent discontinuous expressions. Within the Government and Binding (GB) framework (Chomsky, 1981, 1982) the Projection Principle precludes 'missing' nominal arguments:

(5)   Projection Principle

The θ-marking properties of each lexical item must be represented categorially at each syntactic level.

Within the GB framework, there are no 'missing' nominals in English sentences; there are empty categories (ECs) that bear the relevant θ-roles. The point is that nominals represented by ECs are recoverable, as in the case of PRO in the following example:

(6)   The man wants [[PRO] to spear the kangaroo].

The anaphoric relation between the subjects of the two clauses makes the reference of PRO in the embedded clause explicit.

Chomsky (1982, pp. 78–88) identifies *pro* as the 'missing' subject in 'pro-drop' languages; *pro* is free in its governing category, and is a non-anaphoric pronominal, with independent (deictic) reference. Hale's claim is that neither PRO nor *pro* need be postulated in the analysis of Warlpiri main clauses; nominals are simply optional. Non-configurationality finds its origins in the nature of the relationship between phrase structure (PS) and lexical structure (LS), that is, in differences in the way the Projection Principle holds in the two language types.

By lexical structure, Hale refers to predicates and their argument arrays. These arrays correspond to variables specified in the dictionary definition of a verb, as suggested in the following "rough" definition of **panti-rni**, "spear":

(7) $\left\{ \begin{array}{l} x \text{ produce indentation or puncture} \\ \text{in the surface of } y, \text{ by point coming} \\ \text{into contact with said surface} \end{array} \right\}$ (Hale, 1983, p. 12.)

The dictionary definition of the verb assigns θ-roles and ultimately case to the LS arguments, so that case arrays are stipulated lexical properties of verbs, and may be any of the following:

(8)   monadic verbs: ABS (DAT)
diadic verbs: ERG ABS or ERG DAT
triadic verbs: ERG ABS DAT

These stipulated case arrays state the cases that any optional nominals may bear, since a "principal function of case-marking in Warlpiri (is) that of

signaling the correct association of constituents in PS to arguments in LS"
(1983, p. 14). This association between PS nominals and LS arguments is
stated as follows:

(9)   Linking Rule:

         Co-index $\bar{N}$ in PS with *arg* in LS, provided the case category of $\bar{N}$
         is identical with that of *arg* (assigning a distinct index to each *arg*
         in LS).   (Hale, 1983, p. 14)

This Linking Rule does not require that LS arguments be uniquely rep-
resented by nominals in Warlpiri sentences; there may be no nominal
corresponding to a particular argument – or more than one. It thus conflicts,
as it stands, with the Projection Principle as given in (5), which was explicitly
designed to exclude the possibility of genuinely 'missing' arguments and
hence to motivate the existence of ECs. Because the structures permitted by
the LR would be excluded by the Projection Principle, Hale proposes to
parametrize the application of the principle, formulating for this purpose
the following proposal:

(10)   The Configurationality Parameter (CP):

         a. In configurational languages, the projection principle holds of
            the pair (LS, PS).

         b. In non-configurational languages, the projection principle
            holds of LS alone.   (Hale, 1983, p. 26)

From Hale's Configurationality Parameter it follows that PRO or *pro* are
unnecessary in the analysis of Warlpiri finite sentences. The θ-marking
properties of verbs (etc.) are represented by argument arrays in LS, but not
necessarily in PS. This is Hale's explanation for 'null anaphora', or more
generally, for the fact that Warlpiri does not require that there be nominals
bearing particular grammatical relations occupying particular positions
in the clause, and thus free word order, syntactically discontinuous expres-
sions, etc.
    Hale's fundamental insight on the nature of non-configurationality in
Warlpiri is that it is unnecessary to postulate ECs in the analysis of Warlpiri
sentences such as those given in (4) above. In the next section, I will show
a) that Hale is correct in this claim, and b) that nonetheless, there is no need to
claim that Warlpiri differs from configurational languages with respect to
the Projection Principle. It seems reasonable to suppose that the Projection
Principle or its equivalent is language universal: across languages, lexical

structure is projected onto phrase structure.[4] Marantz (1978, p. 88) expresses this intuition as follows:

(11)   Grammatical relations must be expressed at surface structure.

A sentence with no surface indications of grammatical relations would be uninterpretable,[5] and without some such addition, Hale's CP threatens to permit languages with uninterpretable surface structures. In this paper, I propose configurationality parameters which are directly compatible with the Projection Principle, and hence with (11), and which nevertheless, like Hale's proposals, permit typological variation in the nature of the connections that may obtain between lexical structure and grammatical relations. These in turn account for the properties of Warlpiri which Hale's CP and Linking Rule were designed to explain.

2. AN ALTERNATIVE ANALYSIS OF WARLPIRI AS A NON-CONFIGURATIONAL LANGUAGE

2.1. *Clitic Pronouns as Verbal Arguments in Warlpiri.* The second position AUX constituent of finite sentences in Warlpiri in the locus of person marking. Consider example (2), repeated here:

(2)   Wawirri kapi-rna panti-rni   yalumpu.
         kangaroo AUX   spear-NONPAST that

         I will spear that kangaroo.   (Hale, 1983, p. 6)

AUX contains the element **kapi** (FUTURE) and the clitic **-rna**, which marks first person singular subject. On Hale's view, AUX is that part of the verbal complex where INFL features are marked; SUBJECT and OBJECT grammatical relations are also marked there, but no case-marking is ascribed to the AUX clitics. Hale's position is that argument positions in LS are "members of the class of linguistic elements to which the terms 'pronoun' and 'anaphor' are appropriately applied" (1983, p. 29). Since LS arguments are not audible, AUX gives information on the number and person (pronominal attributes) of the LS arguments. The LS argument positions are case marked, making it possible for them to be linked to optional nominals via Hale's Linking Rule (9) above.

    The analysis of Warlpiri proposed here differs principally from that of Hale in interpreting AUX not as simply marking grammatical relations, but as a

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[4] See discussion on this point in Farmer (1983).
[5] As will be seen, this principle holds of grammaticality, not of discourse pragmatics.

constituent containing case-marked, fully referential clitic pronouns that serve as verbal arguments.[6] The case-marking of an AUX clitic shows its grammatical relation. In contrast, nominal expressions are claimed not to bear grammatically relevant case marking or to realize grammatical functions. The distinction between pronominal clitics on the one hand and nominal expressions (including independent pronouns) on the other is a major feature of Warlpiri grammar. Pronominal clitics are never bound by a nominal in an argument position, since nominals never occupy argument positions. Clitics may have antecedents outside their governing category, the sentence, as any pronoun may. They are comparable to the 'free' use of pronouns in English, and may be identified as R-expressions.

I argue that the clitic pronouns do not constitute agreement (AGR) with a nominal, since, as will be demonstrated, a clitic may be coindexed with a nominal that does not agree with it in person, number, or case. My claim will be that verbal argument arrays (argument positions) in LS are satisfied always and only in PS in Warlpiri by clitic pronouns, and that nominals are simply optional adjuncts, with non-argumental functions. I will show that while the clitic pronouns carry grammatical case, which reflects their grammatical functions, nominals carry non-grammatical (oblique) case, and are governed by their case particles/postpositions. The Warlpiri verb assigns θ-roles, but does not govern nominals. AUX in Warlpiri does not assign θ-roles, just as INFL in English does not. The AUX constituent in Warlpiri contains tense/aspect INFL and the clitic pronouns that are the verbal arguments. The verb plus the AUX tense/aspect jointly govern clitic pronouns and assign NOMINATIVE/ACCUSATIVE case to them. Within the GB framework, INFL governs the subject; we could assume the same here, since it is the AUX tense/aspect that renders the clause finite. However, both subject and object clitics occur within the AUX constituent in PS; therefore, there is no asymmetry in the marking of subject and object relations, in contrast to a configurational language like English, where objects appear in a VP constituent and subjects do not.

The following examples will show that Warlpiri marks NOMINATIVE/ACCUSATIVE case on the AUX pronominal clitics. By definition, a NOM/ACC case system is present when there is a set of elements that

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[6] The suggestions given here for an alternative view of Warlpiri structure and a definition of configurationality as a typological parameter are directly derivative of Hale's work. All the Warlpiri examples given here are from Hale's published papers; sentential constituents are identified as in those publications except in regard to case marking. It was Hale who originally labeled clitic sequences such as those in Warlpiri 'AUX', thereby drawing attention to the many parallels in function between such sequences and auxiliary verbs (the copula, etc.) in other languages. See discussion in Steele et al. (1981) and in Jelinek (1983a).

distinguish between transitive subjects and objects, and mark intransitive subjects the same as transitive ones.[7]

(12)   ngajulu-rlu ka-rna-ngku   nyuntu-∅ nya-nyi
        I-ERG   PRES-1sgNOM-2sgACC you-ABS see-NONPAST

        I see you.

(13)   nyuntulu-rlu ka-npa-ju   ngaju-∅ nya-nyi
        you-ERG   PRES-2sgNOM-1sgACC me-ABS see-NONPAST

        You see me.

(14)   nyuntu-∅ ka-npa   purla-mi
        you-ABS PRES-2sgNOM shout-NONPAST

        You are shouting; you shout.   (Hale, 1973, p. 328)

The NOM/ACC case clitic pronouns in Warlpiri are as follows (adapted from Hale, 1973, pp. 315–316, and p. 328):

(15)   NOMINATIVE   (16) ACCUSATIVE

-rna	-ju	*1 sg*
-n (pa)	-ngku	*2 sg*
-rlijarra	-jarangku	*1 dual*
-rli	-ngalingku (~-ngali)	*1 & 2 dual*
-n (pa)-pala	-ngku-pala	*2 dual*
-rna-lu	-nganpa	*1 plural*
-rlipa	-ngalpa	*1 & 2 plural*
-nku-lu	-nyarra (~-nyurra)	*2 plural*
ZERO	ZERO	*3 sg*
-pala	-palangu	*3 dual*
-lu	-jana	*3 plural*

The view that the person making clitics in Warlpiri mark NOM/ACC case, as opposed to the ERG/ABS case marking on nominals, is not original here (see Blake, 1977; Dixon, 1979; Mallinson and Blake, 1982). Languages of the Pama-Nyungan family, which covers most of Australia and to which Warlpiri belongs, generally show an ergative 'split' whereby clitic pronouns (and typically, independent pronouns as well) show NOM/ACC case,

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[7] Beginning with example (12), I will record case marking on the AUX clitics according to the analysis proposed in this section. I will follow Hale in identifying phonologically null person markers as ZERO, and phonologically null tense/aspect as ∅. I will record ABSOLUTIVE case marking on nominals also with ∅.

while nominals show ERG/ABS case marking. In a few languages of this family, there are no clitic pronouns, only independent pronouns with NOM/ACC case and nominals with ERG/ABS case. Dyirbal is an example of this variety of ergative split. My point here is that it is not implausible on the face of it to assign NOM/ACC case to the Warlpiri AUX clitics, in view of the case systems present in closely related languages. NOM and ACC are grammatical cases (G-cases) while the cases that appear on nominals are lexical cases (L-cases), including ERG, ABS, and a variety of others (principally locative and directional) to be specified below.

The following examples will show that the NOM/ACC clitic pronouns do not agree in case with the ERG/ABS nominal adjuncts, nor need they agree in person and number:

(17)   Puyukuyuku-puru, kula-lpa-rlipa-nyanu
        fog-WHILE,   NEG-IMPERF-1pl (INC) NOM-REFL
        yapa-∅   nya-ngkarla
        person-ABS see-irrealis

        We (plural inclusive) cannot see one another (as) person (s)
        (i.e., our shapes or figures) when it is foggy. (Hale, 1983, p. 33)

In (17) the third person absolutive nominal **yapa** 'person' is coindexed with the reflexive clitic **-nyanu**, which as an anaphor of **-rlipa** (1pl inclusive NOM) is interpreted as first person plural. Compare also:

(18)   Nya-nyi   ka-rna-ngku   ngarrka-∅-lku
        see-NONPAST PRES-1sgNOM-2sgACC man-ABS-after

        I see you (as) a man now (i.e., as fully grown, or initiated).
        (Hale, 1983, p. 32)

Here the absolutive nominal agrees neither in case nor in person with the clitic pronoun.

There are certain finite sentences in Warlpiri that appear to have neither nominals nor clitics serving as verbal arguments, and thus to be instances of constructions with 'missing' arguments, or in Hale's term, 'null anaphora'. Consider again example (4c) repeated here:

(4)   c. Panti-rni   ka-ZERO-ZERO
          spear-NONPAST PRES-3sgNOM-3sgACC

          He/she is spearing him/her/it.

In the paradigms of the clitic pronouns given in (15) and (16) above, there are precisely two 'gaps'. The NOM and ACC third person singular forms are phonologically zero. But sentences containing such phonologically

null forms are not ambiguous. Even the dual and plural third person NOM and ACC forms are fully realized. So we find examples like the following:

(19)   Panti-rni   ka-lu-jana
        spear-NONPAST   PRES-3plNOM-3plACC

        They are spearing them.

The features of third person singular are fully specified by the absence of phonological material, and there is no question of null anaphora or of an 'empty category' in the sense in which this term is used in GB. We may characterize the situation as follows: one member of both the NOM and ACC clitic paradigms is unambiguously marked by the absence of all the other (phonologically represented) members of the relevant paradigm. Under these circumstances, ZERO realization has precisely the same status as any other realization. Every obligatory feature of the clitic pronoun paradigms has therefore a fixed value in third person singular forms, as in all others.

It should be noted that the ZERO third person singular NOM/ACC arguments in Warlpiri are not the result of 'pro-drop'. In the GB framework, *pro* may have any feature of person, number, gender, etc., that AGR specifies. The absence of phonological material marking third person singular arguments in Warlpiri could not be *pro*, because the features of these arguments are not determined by AGR; they are arguments with fully realized features of number and person, third person singular.

It should be emphasized that this analysis of the clitic pronouns in Warlpiri has consequences of some significance. Since the clitic pronouns constitute the verbal arguments in finite clauses, the fact that arguments are always present, even when in the third person singular they lack phonological realization, makes it impossible for a Warlpiri finite clause to lack some verbal argument. Thus even in a case like (5C), consisting overtly of only the verb and AUX, I posit no missing arguments on any level. There is no *pro* since there are no missing nominals – and no AGR. Hale, of course, did not suppose that Warlpiri permitted *pro* as a realization of some verbal argument. Under his analysis, all the verbal arguments in LS are phonologically null, while at PS some arguments are realized by free nominals and others are actually missing – since the Projection Principle does not apply at that level. Since I am claiming that it is the clitic pronouns alone that realize the arguments of a verb, even at PS, where phonologically null elements are identified with ECs in the GB framework, it was important to establish that in this instance, where arguments are realized by members of a highly constrained paradigm in Warlpiri, phonologically null arguments are not ECs.

Having shown that the clitic pronouns in Warlpiri are not instances of AGR, which licenses the 'dropping' of nominals, let us turn to a brief consideration of similar phenomena in what have been termed 'pro-drop' languages. I suggest that while 'pro-drop' cannot account for the 'missing' nominals in Warlpiri, an analysis in terms of optional nominal adjunction will fit both the Warlpiri data and that of the so-called 'pro-drop' languages. As the following examples from Spanish demonstrate, agreement between the person of the subject, as marked in the verbal suffix, and that of an adjoined nominal need not be present in every instance.[8]

(20)   a. Las mujeres tenemos esperanza.
          DET women   have-3pl hope

          We women have hope.

       b. Las mujeres teneis esperanza.
                      have-2pl

          You women have hope.

       c. Las mujeres tienen esperanza.
                      have-3pl

          Women have hope.

In a Spanish sentence such as:

(21)   Comí el pan.
          I ate the bread.

the subject is the pronominal suffix -í, first person singular; this verbal suffix occurs only in finite clauses, and marks tense also. The object **el pan**, on the other hand, is a nominal properly governed by the verb. Spanish has both clitic and nominal objects, and in constructions like (21), no object clitic is present, in contrast to the situation in Warlpiri, where all verbal arguments are always clitics in AUX. It is of interest that in both the so-called 'pro-drop' languages and in Warlpiri, independent pronouns are used primarily for emphatic contrastive reference; and sentences with an independent pronoun in adjunction to a pronominal affix or clitic are the *marked* constructions:

(22)   Yo sé   lo que pasó,   (no tú).
          I   know it which happened not you

          I know what happened, not you.

(23)   Me   lo dió a mí.
         Me(DAT) it gave to me

         He gave it to *me*.

(24)   ngajulu-rlu wawirri-Ø   kapi-rna-ZERO
         I-ERG   kangaroo-ABS FUT-1sgNOM-3sgACC
         panti-rni   yalumpu-Ø
         spear-NONPAST that-ABS

         I (myself) will spear that kangaroo.

There is no reason to assume that these languages should match English
in requiring an independent lexical subject, which is then dropped, in the
unmarked construction; grammatical relations may be marked in the mor-
phology as well as in the syntax. Because of the specialized function of
independent pronouns as adjuncts in these languages, some verbs, which
for semantic reasons do not permit contrasts in referential emphasis, may
exclude independent pronouns as adjuncts:

(25) a. Llueve.   b. *El llueve.
         It's raining.   It *is raining, (not ...)*.

If we assume that nominal adjunction is present in Spanish, rather than
'pro-drop', there is no motivation for postulating a 'pleonastic' PRO or *pro*
(non-referential, non-phonological) subject in (25b).[9] There is a phonological
subject in (25a); the verbal suffix is a third person singular subject. But
since this subject is non-referential for a verb such as **llover** in Spanish,
an independent pronoun marking an emphatic referential contrast cannot
be adjoined.

In this section, I have concentrated on the implications of the proposal
outlined above for accounting for the 'missing' nominals in Warlpiri
sentences. Since nominals are never verbal arguments, they may be freely
omitted without offending against the Projection Principle. This appears
to be the essential property of languages like Warlpiri, the property that
Hale's Configurationality Parameter was intended to capture. Note that
the other properties that concerned Hale seem also to follow from the
proposal advanced here. Since nominals are not arguments or bi-uniquely

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[9] See Aoun (1981) and Borer (1980) for discussion of 'expletive' or 'pleonastic' PRO in Semitic.
In Jelinek (1983a) I argue that the apparently 'subjectless' constructions in Egyptian Arabic
have subjects that are AUX clitics. There is a paradigmatic gap in Semitic; the 'present tense'
inflection of the copula is phonologically null. Modal predicates and weather verbs are re-
stricted to third person subjects, which are not phonologically realized in the present tense; in
all other tense/aspect constructions subjects are phonologically realized in the inflection of the
copula.

related to arguments, more than one nominal may be adjoined to a single argument, to yield apparently discontinuous expressions, as in (3). And since nominals are mere adjuncts, there is nothing to require that they have a fixed order. The clitic pronouns, on the other hand, do have a fixed order: SUBJECT (i.e. NOM) must appear before OBJECT (i.e. ACC), so that we cannot reverse the order of the clitic pronouns in (13) to yield

(26)   *ngajulu-rlu ka-ngku-rna
        I ERG   PRES-2sgACC-1sgNOM
        nyuntu-Ø nya-nyi
        you-ABS see-NONPAST

Hale (1973) excludes such clitic sequences. I do not interpret this fixed order of the clitics as evidence of configurationality; I suggest that the term 'configurational' be reserved for languages such as English or Spanish, where there is an asymmetry between the marking of subject vs. object grammatical relations.[10]

2.2. *Linking Rules and Case Compatibility.* We turn now to a cosideration of the question of how the clitic verbal arguments and the optional nominal adjuncts in Warlpiri are to be coindexed, how they are to be interpreted as coreferential. Warlpiri nominals are equivalent in function to the NPs in the following English sentence:

(27)   He, the doctor, tells me, the patient, what to do.

Warlpiri nominals are adjuncts to the Verb-AUX complex, which constitutes a complete finite sentence. They are governed by their case particles/ postpositions, forming Case Particle Phrases that are sisters to the Verb-AUX:

(28)

T = Tense/Aspect/Modality
S = Subject Clitic; NOM case
O = Object Clitic; ACC case
CP = Case Particle; (ERG, ABS, DAT, LOCATIVE, etc.)
--- = Optional

[10] In Jelinek (1983b), I claimed that Warlpiri was configurational with respect to the clitic pronouns, because they have a fixed order. I now feel that this is a misuse of the term configurational.

We need to add to (28) the stipulation that any case particle phrase (CPP) may appear in the sentence initial position, whereupon the verb appears after AUX, with no fixed order with respect to any CPPs present. Hale (1973) notes that certain phonologically defined AUX clitic sequences may appear in sentence initial position, and proposes that this is the underlying word order in Warlpiri. This ordering of constituents would not affect the type of structure shown in (28). If the verb + tense, the CPPs, and the clitic sequences making up AUX are all phonological words, then a finite Warlpiri sentence is a string of words having free word order aside from the restrictions on the position of AUX, and having no hierarchical relationships among these words; that is, non-configurational at the word level.

We need a linking rule that differs considerably from Hale's Linking Rule (9) given above. Hale's rule linked elements filling argument positions in two levels of representation, LS argument arrays and PS nominals, which were argumental in function. We will need no rule linking LS and PS, since this connection holds via the Projection Principle.[11] Our rule will link elements on the same level of representation, clitics and nominals, and will depend on a weaker condition than case matching; case compatibility. Hale lists the argument arrays given in (8) above as "stipulated properties" of lexical items. My claim is that the Verb-AUX complex assigns NOM/ACC/DAT case to the verbal arguments, and that the case marking of a nominal shows which verbal argument, if any, it is an adjunct to. I differentiate between G-case and L-case, which are defined as follows:[12]

(29)   Warlpiri Case
    a. G-case appears on clitic pronouns. The G-cases are NOM, ACC, and DAT.
    b. L-case appears on nominals. The primary L-cases are ERG, ABS and DAT; secondary L-cases are LOCATIVE, PERLATIVE, ALLATIVE, ELATIVE, etc.

Secondary L-case cannot be coindexed with a clitic pronoun, since, as I will show, a nominal with a secondary L-case marking is an adsentential adjunct. Primary L-case marks a nominal as an adargumental adjunct,

[11] In Jelinek (1983b) I assumed that there were two linking rules for Warlpiri. However, the first of these was equivalent to the Projection Principle.

[12] Hale (1983) refers to work in preparation by J. Simpson on Warlpiri case, in which a distinction is made between grammatical case vs. *semantic* case. Since I assume that this distinction is not between NOM/ACC/DAT marking on the clitics as opposed to ERG/ABS, etc., marking on nominals, but rather a division within the set of cases that may appear on nominals, I use a different terminology here. *Grammatical* case is the traditional term for case marking on direct verbal arguments. By *lexical* case I mean any case marking that appears on the optional non-argumental nominals.

as giving more information on the referent of a clitic verbal argument. DATIVE is both a G-case and an L-case in Warlpiri; this is not unusual across languages, where 'goals' are sometimes direct and sometimes oblique.

On the analysis advanced here, Warlpiri verbs have the following case arrays in LS, rather than the (ERG/ABS, etc.) arrays given by Hale in (9) above:

(30)   Warlpiri case arrays:

    a. Intransitive: NOM
                      NOM DAT
    b. Transitive: NOM ACC
                    NOM ACC DAT
                    NOM DAT

The situation is in fact simpler than it appears in (30), where transitive verbs are shown as permitting a NOM/DAT case array. Hale identifies only "two or three" transitive verbs that permit this case array, which must be so specified in the lexicon, and a highly marked or derived construction type in which other transitive verbs take an (atypically marked) DAT object. Aside from these exceptional constructions, to be described below, the case arrays given in (30) are clearly not peculiar to Warlpiri, but are typical of (non-ergative) languages. Individual verbs and other lexical items are subcategorized for the G-cases that they assign to their arguments, presumably in accordance with principles that are in part universal and need not concern us here.

The relation between clitic pronoun arguments and nominal adjuncts may now be stated in terms of case compatibility:

(31)   Linking Rule

        A clitic pronoun may be coindexed with a nominal, providing the L-case of the nominal and the G-case of the clitic pronoun are *compatible* (assigning a distinct index to each clitic).

This linking or coindexing rule is not bi-unique, since there may be more than one or no nominal coindexed with a clitic; and some nominals may fail to be coindexed because they bear a secondary L-case that is not compatible with the G-cases marked on the clitics. Compatible cases are as follows:

(32)   Case Compatibility Rule
    a. NOM G-case is compatible with ABS and ERG L-case.
    b. ACC G-case is compatible with ABS and DAT L-case.
    c. DAT G-case is compatible with DAT L-case.

The conditions under which a G-case is compatible with either of the L-cases given in (32a and b) will now be stated in full. I will first summarize them as follows:

(33) a. NOM G-case is compatible with ABS L-case in an intransitive sentence, and with ERG L-case in a transitive sentence. (ERG marked nominals are excluded from intransitive sentences.)[13]

   b. ACC G-case is compatible with ABS L-case in a transitive sentence, and with DAT L-case in a ditransitive sentence (for first and second person clitics).

   c. DAT G-case is compatible with DAT L-case (for third person clitics).

Support for the view that there are two 'linking' processes in Warlpiri may be drawn from the fact that constructions may fail to be consistent by virtue of either. A construction may fail to have the proper linkage between an LS argument array and clitic pronouns, say by having two ACC clitic pronouns; this would be a violation of the Projection Principle. Or it may fail to have proper linkage between clitic pronouns and nominals, say by having an intransitive sentence with a NOM clitic and an ERG nominal; this would be a violation of the Linking Rule (31).

2.3. Further Details of Linking. I need to demonstrate now that the Projection Principle (5), the Linking Rule (31), and the Case Compatibility Rule (32) account for the case marking that appears on clitics and nominals in all finite sentence types in Warlpiri, to substantiate the claim that Warlpiri sentences without nominals have no 'missing' verbal arguments. In particular, we need to look at the relation between DAT G-case and DAT L-case, since first and second (but not third) person DAT L-case nominals are linked to ACC G-case clitics in AUX.

Let us consider first the finite sentence types shown in the following sentence schemata:

(34) a. V_i NOM   (NP-ABS)
   b. V_i NOM DAT (NP-ABS) (NP-DAT)
   c. V_t NOM ACC (NP-ERG) (NP-ABS)
   d. V_t NOM DAT (NP-ERG) (NP-DAT)

---

[13] Again, there are a handful of exceptions which must be specified. Nash (1980, p. 201) lists 4 "morphophonologically complex body function verbs" (*snore, breathe, pant, cough*) in Warlpiri that are intransitive and permit an ERG nominal to be coindexed with the subject. Nash cites Hale to the effect that a likely etymology is that these [incorporated objects] were once true objects syntactically.

Nominals with secondary L-cases (locative, etc.) that are not compatible with G-cases, and thus cannot be linked to clitic pronouns, may also be present. Examples of these constructions are as follows:

(35)   ngaju-∅ ka-rna   wangka-mi
       I-ABS PRES-1sgNOM speak-NONPAST

       I am speaking.   (Hale, 1983, p. 18)

(36)   ngaju-∅ ka-rna-rla   ngarrka-ku wangka-mi
       I-ABS PRES-1sgNOM-3DAT man-DAT   speak-NONPAST

       I am speaking to the man.   (Hale, 1973, p. 333)

(37)   ngajulu-rlu ka-rna-ngku   nyuntu-∅ nya-nyi
       I-ERG   PRES-1sgNOM-2sgACC you-ABS see-NONPAST·

       I see you.   (Hale, 1983, p. 18)

(38)   ngajulu-rlu ka-rna-rla   karli-ki   warri-rni
       I-ERG   PRES-1sgNOM-3DAT boomerang-DAT seek-
                                                          NONPAST

       I am hunting a boomerang.   (Hale, 1973, p. 335)

(**Warri-rni** and **wapal-pangi-rni**, 'dig in search of', are the two examples given by Hale of transitive verbs that take DAT objects. Both involve unachieved goals.) These examples show that the conditions under which a NOM G-case is compatible with an ERG or ABS nominal may be stated simply, with reference to the transitivity of the sentence.

The statement of the conditions under which ACC G-case is compatible with ABS/DAT L-case is more complex, and we will need to look at DATIVE marking in more detail to state these conditions. We will begin with the small class of ditransitive or triadic verbs. These verbs are compatible with optional nominals marking ERG/ABS/DAT L-cases, as follows:

(39)   ngajulu-rlu ka-rna-ngku   karli-∅
       I-ERG   PRES-1sgNOM-2sgACC boomerang-ABS
       yi-nyi   nyuntu-ku
       give-NONPAST you-DAT

       I am giving you a boomerang.

(40)   ngajulu-rlu kapi-rna-rla   karli-∅
         I-ERG   FUT-1sgNOM-3DAT boomerang-ABS

         punta-rni   kurdu-ku
         take-NONPAST child-DAT

         I will take the boomerang away from the child.

                                                    (Hale, 1973, p. 333)

For these triadic verbs, only two arguments appear to be marked in AUX;
we will return to the question of the (apparently) 'missing' argument. What
I want to point to here is the fact that for first and second person, there is no
distinction between ACC and DAT G-case marking, while in the third
person there is a distinctive DAT G-case marker (**-rla**). This third person
G-case DAT marker does not vary with number. Compare the G-case
marking that appears with the transitive verb **nya-nyi**, 'see'.

(41)   ngajulu-rlu ka-rna-ngku   nyuntu-∅
         I-ERG   PRES-1sgNOM-2sgACC you-ABS

         nya-nyi.
         see-NONPAST

         I see you.

(42)   nyuntulu-rlu ka-npa-ju   ngaju-∅
         you-ERG   PRES-2sgNOM-1sgACC me-ABS

         nya-nyi.
         see-NONPAST

         You see me.

(43)   ngalipa-rlu   ka-rlipa-jana
         we(INCL)-ERG PRES-1pl(INC)NOM-3plACC

         wawirri-patu-∅   nya-nyi.
         kangaroo-PAUCAL-ABS see-NONPAST

         We (plural inclusive) see the several kangaroos.

                                                    (Hale, 1973, p. 328)

Comparison of (39) and (41) with (40) shows that the DATIVE marker
-rla .appears only in the third person in AUX. Sentence (39) and other
examples given by Hale of sentences with first and second person 'recipients'
are reminiscent of 'dative movement'. The precedence of a 'first object' over
a 'second object' may be related often to semantic features such as animacy,
definiteness, topicality, etc. Third person less frequently has these features
than do first and second person. In Warlpiri, first and second person are
restricted to serving as *primary* arguments to the verb, NOM and ACC,

while third person may also have DAT G-case. First and second person show only NOM/ACC G-case marking in all sentence types in Warlpiri where third person clitic pronouns have DAT marking, as examples given in Hale (1973) and (1983) show.

Hale describes certain sentence types in which three arguments in LS may be marked in AUX. A verb such as **warri-rni**, 'seek', may have two DAT arguments, one of them a benefactive. If one or both of these DAT arguments is third person, three case marking elements may appear in AUX, as in the following:

(44) ngajulu-rlu ka-rna-ngku-rla
I-ERG   PRES-1sgNOM-2sgACC-3DAT

karli-ki   warri-rni   nyuntu-ku.
boomerang-DAT seek-NONPAST you-DAT

I'm looking for a boomerang for you; I'm hunting you a boome-
rang.   (Hale, 1973, p. 335)

Here the second person DAT L-case nominal corresponds to a second person ACC clitic pronoun, since second person may appear only in one of the two primary G-cases in AUX. But the following sentence type, Hale notes, is excluded:

(45) *ngarrka-ngku lpa-ZERO-ju-ngku
man-ERG   PAST-3sgNOM-1sgACC-2sgACC

nyuntu-ku warru-rnu ngaju-ku
you-DAT   seek-PAST me-DAT

The man was looking for you for me; The man was hunting me
you.   (Hale, 1973, p. 335)

While the following is allowed:

(46) ngajulu-rlu ka-rna-ngku-ZERO
I-ERG   PRES-1sgNOM-2sgACC-3sgACC

karli-∅   yi-nyi   nyuntu-ku
boomerang-ABS give-NONPAST you-DAT

I am giving you a boomerang.   (Hale, 1973, p. 333)

Warlpiri has the following constraint upon clitic sequences in AUX:

(47)   Clitic Sequence Constraint:

A sequence of three clitic pronouns is excluded, unless one of the two object clitics is third person, and therefore (a) DATIVE, or (b) phonologically null.

That is, a sequence of two 'audible' ACC clitics is not permitted, while any object sequence with one or more third person elements is allowed.[14] Two DAT markers are allowed; these are of course third person. In such constructions, the sequence **-rla-rla** does not appear; **-rla-jinta** occurs instead, as follows:

(48)   ngajulu-rlu ka-rna-rla-jinta
         I-ERG   PRES-1sgNOM-3DAT-3DAT

         karli-ki   warri-rni   ngarrka-ku
         boomerang-DAT seek-NONPAST   man-DAT

         I'm looking for a boomerang for the man; I'm hunting the man
         a boomerang.   (Hale, 1973, p. 336)

The constraint given in (47) accounts for the fact that in ditransitive sentences, or sentences with two 'indirect objects' as in the benefactive constructions exemplified above where two optional DAT nominals may appear, no sequences of three AUX elements appear unless one of the objects is third person. Number is never marked in the third person in ditransitive or double DAT constructions; therefore, there are no 'missing' arguments or gaps in the PS argument array in these constructions, and no PRO or *pro*.

We could have assumed that there is a set of DAT clitics that is homophonous with the ACC clitics except in the third person. However, we would have been left with no explanation for the fact that (44) above is allowed, while (45) is excluded. The phenomena of 'advancement' of animate or higher ranked indirect objects or 'dative movement' are so frequently met with across languages that they are of interest for case theory and universal grammar.

We may now complete the sentence schemata list given in (34) as follows:

(49)   Finite sentence types in Warlpiri:

        a. V_i NOM   (NP-ABS)
        b. V_i NOM DAT_3 (NP-ABS) (NP-DAT_3)
            V_i NOM $ACC_{1/2}$ (NP-ABS) (NP-$DAT_{1/2}$)
        c. V_t NOM ACC   (NP-ERG) (NP-ABS)
        d. V_t NOM DAT_3 (NP-ERG) (NP-DAT_3)
            V_t NOM $ACC_{1/2}$ (NP-ERG) (NP-$DAT_{1/2}$
        e. V_t NOM ACC_3 DAT_3 (NP-ERG) (NP-ABS_3) (NP-DAT_3)

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[14] There are certain constraints on permitted number distinctions marked by clitic sequences in AUX in Warlpiri, which need not concern us here (see Hale (1973)).

V_t NOM ACC$_{1/2}$ ACC$_3$ (NP-ERG)(NP-ABS$_3$) (NP-DAT$_{1/2}$

[V_t NOM ACC$_{1/2}$ DAT$_{1/2}$(NP-ERG)(NP-ABS$_3$ (NP-DAT$_3$)]^{15}

f. V_t NOM DAT$_3$ DAT$_3$ (NP-ERG)(NP-DAT$_3$) (NP-DAT$_3$)

V_t NOM ACC$_{1/2}$ DAT$_3$ (NP-ERG)(NP-DAT$_{1/2}$(NP-DAT$_3$)

V_t NOM ACC$_{1/2}$ DAT$_3$ (NP-ERG)(NP-DAT$_3$) (NP-DAT$_{1/2}$

I will conclude this brief survey of finite sentence types in Warlpiri with mention of the highly marked or derived construction type, in which a transitive verb, although it has only two argument positions in LS, has three case marking elements in AUX. Certain transitive verbs such as **panti-rni** 'spear' may appear with a DAT clitic along with the ACC one. Hale identifies this difference in case marking with the following semantic contrast:

(50) a. nyuntulu-rlu Ø-npa-ju   pantu-rnu   ngaju-Ø
      you-ERG   PAST-2sgNOM-1sgACC spear-PAST me-ABS

      You speared me.

   b. nyuntulu-rlu Ø-npa-ju-rla   pantu-rnu
      you-ERG   PAST-2sgNOM-1sgACC-3DAT spear-PAST

      ngaju-ku.
      me-DAT

      You speared at me; you tried to spear me.

                                         (Hale, 1973, p. 336)

These specialized constructions are evidence that the first and second person object clitics are not ambiguous between DAT and ACC case, but are ACC only. In order to convey the semantic contrast present in the derived construction, a 'double' case marking with the DAT clitic appears.

When the object is third person, double case marking is again present. Perhaps since ACC third person is ZERO in the singular, two DAT clitics appear: **-rla-rla** = **-rla-jinta**. This double case marking suggests that we may regard these constructions as involving an extended use of the DAT clitic.

In this section, we have described the phenomena of 'dative movement', or the advancement of first and second person goal arguments with the small class of ditransitive verbs, and the special use of dative marking in the derived 'spear at' constructions. Aside from these construction types, and the exceptional transitive verbs identified by Hale as taking DAT objects (**warri-rni** 'seek', **wapal-pangi-rni** 'dig in search of'), the connection between LS

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[15] Hale informs me that the sentence type shown in brackets here is rejected by Warlpiri speakers. This may follow from the fact that first and second person goals are always "advanced"; therefore, in sentences with triadic verbs. ACC$_{1/2}$ arguments are always interpreted as having the θ-role *recipient*. The clitic sequence constraint given in (47) above needs to be extended so as to specify the exclusion of this sentence type.

argument positions and the case marking on clitic pronouns is quite straight-
forward. Sentences with an intransitive verb have a NOM clitic in AUX,
sentences with a transitive verb have both NOM and ACC clitics, and DAT
marking is optional in both; di-transitive sentences have all three clitic
types. It is the θ-marking properties of the verb that determine both the
G-cases of the clitics, and the L-case of any coindexed nominals. Certain
semantic features of the verb determine its LS argument structure, which is
projected into PS via the G-cases and clitic pronouns. Given the LS argument
array, we know the G-cases of the PS arguments and the L-cases of any
coindexed nominals. The Linking Rule and the Case Compatibility Rule
describe these dependencies.

2.4. *The Functions of Nominals in Warlpiri Sentences.* In the preceding
sections, I have argued that nominals in Warlpiri sentences are not in and of
themselves verbal arguments, but serve other syntactic functions. In this
section, I will comment briefly on these functions.

Constituents of utterances that are neither a verb nor a verbal argument,
nor sentence-defining (INFL or AUX), may be classified as either adsenten-
tial or adargumental. Adsentential constituents in Warlpiri sentences include
those nominals governed by SECONDARY L-case particles; these
constructions are primarily locative and directional in meaning, and have
syntactic functions corresponding to those of prepositional phrases across
languages. Adargumental constituents in Warlpiri include nominals with
ERG, ABS, or DAT L-cases – the PRIMARY L-cases, compatible with
the G-cases. These primary L-case particles are meaningful, just as the
secondary L-case particles are; they serve to identify which clitic the nominal
may be coindexed with, and since these correspondences vary with verb type,
these L-cases reflect θ-roles more specifically than the clitic verbal arguments
do: they specify whether the subject is agent or experiencer, and whether the
object is patient or goal. Compare the following:

(51)   Ngarrka-∅ ka-ZERO-nyanu   nya-nyi
        man-ABS PRES-3sgNOM-REFL see-NONPAST

        He sees himself, (as) a man.

(52)   Ngarrka-ngku ka-ZERO-nyanu   nya-nyi
        man-ERG   PRES-3sgNOM-REFL see-NONPAST

        The man sees himself.   (Hale, 1983, p. 43)

In this minimal pair, the contrast lies in the case marking of the nominal
ngarrka, 'man'. In (51), the nominal has ABS case, and is coindexed with

the ACC reflexive clitic, **nyanu**; in (52), the nominal has ERG case, and is coindexed with the NOM clitic (third person sg ZERO). In (51), the optional nominal gives more information on the 'internal' argument, the object; in (52) the nominal gives more information on the 'external' argument, the subject.

The semantic contrast is an interesting one, as shown in the following pair of sentences, where a second nominal has been added to each, with contrasting L-case marking:

(53)   Kurdu-ngku ka-ZERO-nyanu   ngarrka-∅
         child-ERG   PRES-3sgNOM-REFL man-ABS

         nya-nyi
         see-NONPAST

         He, the child, sees himself, (as) a man.

(54)   Kurdu-∅   ka-ZERO-nyanu   ngarrka-ngku
         child-ABS PRES-3sgNOM-REFL man-ERG

         nya-nyi
         see-NONPAST

         He, the man, sees himself, (as) a child.   (Hale)

Further evidence on the semantic correlates of L-case marking can be seen in the fact that ERG case marking is homophonous with or identical to INSTRUMENTAL case, and as we have seen, BENEFACTIVE and DATIVE are the same.

In the 'double dative' example above (50b) we saw how a change in the case marking of the object clitic from ACC to DAT results in a semantic contrast – from achieved to failed object or goal, a change also marked on the optional nominal. Blake (1977) lists similar phenomena elsewhere in Australia. For example, the subject of a transitive sentence may be coindexed with a nominal that is not marked ERG if the action on the patient is not fully carried out or realized: imperfective aspect, imperatives, irrealis, or negative constructions. Or a nominal may not be marked ERG if the construction is about the *ability* to do something, rather than some actual transitive action. Similar limitations on the distribution of ERGATIVE case marking are present in many languages: Basque, Georgian, Indic, Samoan (Blake, 1977, p. 16). In Alawa hunting narratives, the nominal referring to the animal being sought is DAT until it or its tracks are sighted; after that it is marked objective. Mallinson and Blake (1982) report that as in Warlpiri, ERG case is often coincidental with instrumental case in Australian languages; or ERG may be the same as a locative case. (Compare a pre-

position such as *by*.) They note also that in Eskimo, ERG case coincides with the possessive.

It is of interest that the adsentential and adargumental functions of nominals in Warlpiri parallel the two syntactic functions of adjoined clauses in the language, as identified by Hale (1976). Adjoined clauses in Warlpiri are undifferentiated between these functions and are ambiguous if there is an anaphoric link between referential elements in the main and subordinate clauses.

(55)   ngajulu-rlu Ø-rna-ZERO   yankirri-Ø
        I-ERG   PAST-1sgNOM-3sgACC emu-ABS

        pantu-rnu   kuja-1pa   ngapa-Ø   nga-rnu
        spear-PAST COMP-PAST water-ABS drink-PAST

        I speared the emu which was/while it was drinking water.

                                                        (Hale, 1976, p. 76)

If no anaphoric link between referential elements in the main and adjoined clauses is present, then the adjoined clause must be adsentential (temporal). Adjoined clauses, like nominals, are optional additions to the main clause, but nominals are syntactically integrated into the main clause, like relative clauses. The point is that nominals, like adjoined clauses, serve to add more information either to a verbal argument or to the predicate itself.[16]

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[16] I will not address here the question of PRO in non-finite sentences in Warlpiri, since I lack the necessary information on person marking in infinitival clauses. There are restrictions on word order in infinitival clauses, and this plus the absence of an AUX constituent suggests that their argument structure is quite distinct from that of main clauses. The following examples are from Simpson and Bresnan (1983, pp. 51–53) who discuss control and obviation in Warlpiri:

(i) Ngarrka-ngku ka   purlapa   yunpa-rni,
    man-ERG   PRES corroboree-ABS sing-NPST

    [karli   jarnti-rninja-**karra**-rlu]
    boomerang-ABS trim-INF-COMP-ERG

    The man is singing a corroboree, while trimming a boomerang.
(ii) Kurdu-ngku ka   karnta   nya-nyi, [ngurlu   yurrpa-rninja-**kurra**]
     child-ERG   PRES woman-ABS see-NPST seed-ABS grind-INF-COMP
     The child sees the woman grind mulga seed.

In these examples, **karra** shows that the main clause subject is the controller of the subject of the non-finite clause, while **kurra** shows that the main clause object is the controller of the subject of the non-finite clause. **kurra** in Warlpiri is the ALLATIVE ('to, toward', etc.) case particle. In example (59) below we see **kurra** followed by ERG case in a main clause nominal adjunct. It appears that infinitival clauses in Warlpiri are (complex) nominals that are adjuncts to verbal arguments in AUX in the main clause, and are introduced by a case particle/postposition. **Karra** and **kurra**, like other L-case particles, show which clitic argument (in the main clause) the complex nominal is an adjunct to.

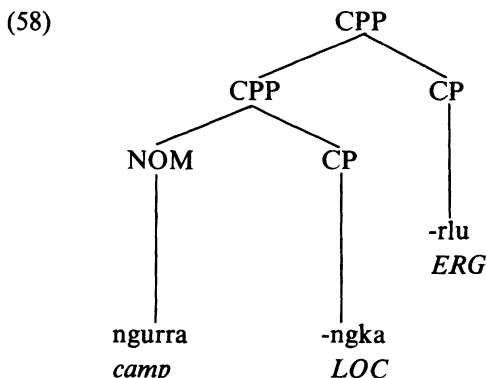The following is an example of a sentence with Secondary L-case nominals:

(56)   Ngarrka-patu-∅ ka-lu   karti-ngka
        man-plural-ABS PRES-3pl NOM cards-LOC

        manyu-karri-mi karru-ngka.
        play-NONPAST creek-LOC

        The men are playing (at) cards in the creekbed.
                                                (Nash, 1980, p. 203)

It is also possible for a nominal with Secondary L-case to receive additional, Primary L-case. The following example is adapted from Simpson and Bresnan (1983, p. 57):

(57)   Ngarrka-ngku ka-ZERO-ZERO
        man-ERG   PRES-3sgNOM-3sgACC

        jarnti-rni   karli-∅   ngurra-ngka-rlu.
        trim-NONPAST boomerang-ABS camp-LOC-ERG

        The man is trimming the boomerang in camp. (?The man in camp is trimming the boomerang.)

The double-case-marked CPP in (57) has the following structure:

(58)

```
                        CPP
                      /     \
                  CPP         CP
                 /   \         |
              NOM     CP      -rlu
               |       |      ERG
               |       |
            ngurra   -ngka
            camp     LOC
```

The ERG case-marking in (57) shows that this complex CPP is adjoined to

the NOM subject of the sentence. **Ngarrka-ngku** and **ngurra-ngka-rlu** constitute a discontinuous nominal adjunct.

The following is another example of double case marking on a CPP:

(59)   kurdu-ngku ∅-ZERO-ZERO   maliki-∅
        child-ERG   PAST-3sgNOM-3sgACC dog-ABS

        ngurra-kurra [-rlu]   wajirli-pu-ngu.
        camp-ALLATIVE [-ERG] chase-PAST

        The child chased the dog (all the way) to camp.

                                                    (Nash, 1980, p. 227)

Nash comments that if the ERG marking is present on the locative expression in this example, it indicates that the boy as well as the dog is approaching the camp; without the ERG case following the ALLATIVE case, no information on the motion or position of the referent of the subject argument is given. Examples such as these show clearly that CPPs marked ERG are adjuncts to verbal arguments, not arguments themselves.

While Primary L-case marked nominals *must* be coindexed with a clitic verbal argument, nominals with *only* Secondary L-case cannot be. Primary L-case nominals are thus linked with an element bearing a θ-role assigned by the verb, and Secondary (only) L-case nominals are not; they cannot be associated, via a verbal argument, to some variable in the dictionary definition of the verb. Secondary L-case marked nominals receive their θ-roles from their case particles/postpositons, and the semantic notions that they contribute to the meaning of the sentence are sentential in scope.

3. W-TYPE NON-CONFIGURATIONAL LANGUAGES

In the preceding section I provided some evidence for analyzing Warlpiri as a language in which the Verb-AUX complex constitutes a complete finite sentence; a verb and its arguments. I have proposed that the central feature of Warlpiri grammar is the presence of these AUX clitics which are obligatorily present and act as verbal arguments. The phonologically null third person singular arguments are not instances of empty categories; they are fully realized pronominal elements. Nominls, as opposed to the AUX clitics, are optional, and may be 'missing', 'extra', or simply fail to be coindexed with a LS argument position, if they bear a secondary L-case. I will call languages with these features W-type non-configurational languages. If a language has AUX clitic pronouns that (in finite clauses) always mark all verbal arguments, and that cooccur with optional nominals, it is a W-type non-configurational language.

The AUX clitics have a fixed order; furthermore, AUX itself has a fixed position in the clause – the only constituent of the Warlpiri finite clause that does so. The following rough PS rule may be added to those Hale (1983) proposes for Warlpiri:

(60) $AUX \rightarrow TENSE/$ $(clitic_{NOM})$ $\left(\left\{ \begin{array}{c} clitic_{ACC} \\ clitic_{DAT} \end{array} \right\} \right)$ $(clitic_{DAT})$
          ASPECT/
          MODALITY

In finite clauses in a W-type language, nominals and the clitic verbal arguments never fall together syntactically. This is the distinctive attribute of W-type non-configurational languages: the co-occurrence of two sets of referential elements, clitics and nominals, that have distinct syntactic functions.

Advantages of this analysis of Warlpiri are as follows:

(61)   a. The Projection Principle (that is, the projection of lexical structure onto phrase structure) need not be abandoned.
         b. We can say that any elements in PS that mark SUBJECT and OBJECT are marking NOM and ACC case.
         c. We can explain the fact that independent pronouns in W-type languages, as in a 'pro-drop' language, are used for emphasis.
         d. We can account for the fact that nominals are optional, and define the functions of nominals in sentences, which are quite distinct from the functions of verbal arguments.

In this section, I suggest further support for this analysis that may be gained from comparing Warlpiri with other W-type non-configurational languages.

If all W-type languages occurred within a single language family, they could be considered a single instance, the descendants of a common ancestor; or if they all occurred in a single area, we might attribute the common features to areal diffusion. This is not the case. There are W-type languages in unrelated language families, at great geographical distances. Lummi and Klallam, Coast Salish languages of the American Northwest, share the following traits with Warlpiri (Jelinek and Demers, 1982, 1983; Demers and Jelinek, 1982):

(62)   W-type features:

         a. A predicate-AUX complex that constitutes a finite sentence, a verb and its arguments.
         b. Optional, non-argumental nominals.
         c. A case split; that is, different systems of case-marking on clitics vs. nominals.

d. Independent pronouns (or nominal expressions that mark person) that are used for contrastive emphasis.

e. ZERO third person marking, with a consequent lack of pleonastic subjects.

f. Adjoined clauses with either a temporal or a relative interpretation.

This list of shared features is certainly beyond any chance association, and validates the definition of the type.[17] Of the features listed in (62), I consider only the first two to be definitional; the rest are associated optional features that the definition provides for, but does not require.

The Uto-Aztecan language Papago is an example of a W-type language that has split case (that is, separate systems of case-marking on clitics vs. nominals) but does not mark ERG/ABS case. Papago has a second position AUX clitic sequence (Hale, 1973; Zepeda, 1983). The subject is marked in AUX, while the object is marked in a verbal prefix. Therefore, the Verb AUX is a complete sentence, nominals are optional, and word order (except for AUX) is free. Nominals (including independent pronouns) have no G-case, and only Secondary L-case (LOC, POSS, etc.).

(63) a. ceoj $^?$o $^?$a:ñi ñ-ceggia.
         boy 3NOM 1sg   1sgACC-fight

      The boy is/was fighting me.   (Zepeda, 1983, p. 35)

In (63 a),$^?$o in AUX is the third person NOM subject clitic (number is unmarked in the third person here);$^?$a:ñi is an independent first person singular pronoun that is unmarked for case; and ñ- is the first person singular ACC prefix. Any word order is possible, provided AUX remains in second position.

(63) b. $^?$A:ñi $^?$o   ñ-ceggia   g   ceoj
         1sg   3:NOM 1sgACC-fight DET boy

      c. ñ-ceggia $^?$o $^?$a:ñi g   ceoj
         1sgACC-fight 3:NOM 1sg   DET boy

(A determiner is required if **ceoj** is not sentence initial.)

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[17] See Kinkade (1983) for an insightful presentation of the non-argumental role of nominal adjuncts in Salish. Kinkade suggests that prior to English language influence, transitive sentences in Salish generally permitted only one nominal adjunct. This is comparable to the restriction found in many languages against adjoining more than one topic to a sentence. In Salish, the predicate-clitic complex constitutes a complete sentence.

The following example shows the second person independent and clitic pronouns:

(64)   ʔA:pi ʔo   m-cendad   g   Klisti:na
        2sg   3:NOM 2sgACC-kiss DET Christina

        Christina is/was kissing you.

The following examples will show that the Verb-AUX elements mark NOM/ACC case, and the adjoined free pronouns do not mark G-case at all; there is no agreement in case between clitic pronominals and adjoined optional nominals, just as in Warlpiri.

(65) a. ʔa:ñi ʔañ   m-neid   ʔa:pi
        1sg   1sgNOM 2sgACC-see 2sg

        I am/was looking at you.

      b. ʔa:pi ʔap   ñ-neid   ʔa:ñi
        2sg   2sgNOM 1sgACC-see 1sg

        You are/were looking at me.   (Zepeda, p.c.)

There are no case compatibility rules in Papago, since ERG/ABS case is not present. Papago differs from a configurational language where pronouns show NOM/ACC case in a crucial respect: the fact that nominals (including free pronouns) cooccur with the obligatory clitics, and are therefore optional.

To summarize: W-type languages may have a split case system, as in Warlpiri, Lummi, and Papago, where the case marking systems of AUX clitics and nominals are distinct. There are also W-type languages where clitics and nominals share the same case-marking; in Basque, both sets of referential elements have ERG/ABS case, and in Cupeño, a Uto-Aztecan language, both have NOM/ACC marking. However, both Basque and Cupeño, like other W-type languages, treat the grammatical relations of subject and object alike in assigning them to bound pronominals, and thus have optional cooccurring nominals with no fixed order.[18]

4. 'ERGATIVE SPLITS' EXPLAINED

In the previous section, we have seen that split case is a possible, but not a necessary feature of W-type languages. The necessary feature is the presence of cooccurring sets of referential elements with distinct syntactic functions

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[18] I thank Jane Hill for information on Cupeño.

(clitic pronouns and nominals); this split in syntactic function provides for, but does not require, split case – in particular what has been called an 'ergative split'. Ergative splits are widespread in Australia, Asia, and the Americas (Dixon, 1979). Previous attempts at an explanation for these splits have been semantically oriented, and there is considerable current dispute over this question. The different syntactic functions of G- and L-case marking in some W-type languages identified here suggests a syntactic explanation for ergative splits. I will summarize briefly the semantically based accounts of ergative splits and the criticisms that have been brought against them, and then comment further on the connection between ergative splits and non-configurationality.

Silverstein (1976) surveyed a wide variety of systems of ranking of referential elements across languages, and concluded that all were consistent with the following hierarchy of features:

(66)   1 > 2 > 3 > proper > human > animate > inanimate

(First and second person often fall together, or 2 may outrank 1.) Silverstein proposed that this ranking follows from the speaker's and hearer's expectations as to *agency*. Ergative split occurs because first and second persons are more often agents, and receive NOM case marking – the "unmarked" case; while nominals are more likely to be *patients* and receive ABS case marking – the "unmarked" case in an ERG/ABS system. In such splits, third person may side either with first and second person or with nominals in case marking in a particular language. In 'ergative split' languages, a referential item is marked ACC when it is in the atypical role, the *patient*, and an item is marked ERG when it is in the atypical function of *agent*. (See Dixon, 1979, for a discussion of Silverstein's views on this question.)

More recently, Mallinson and Blake (1982) argue that the speech act participants' expectations as to agency are not the determining factor in case splits of this kind; they cite Wierzbicka's (1981) claims to the contrary, based on text counts on the relationship between person and agency. Mallinson and Blake add further counts, including some from Australian Aboriginal texts, and conclude that these counts show no overwhelming proportion of 1 agents or 2 agents. They propose that the factor underlying ergative splits is not the likelihood of agency but topic-worthiness:

We want to point out that accusative languages take the agent of a transitive verb to be the normal filler of the topic position but that this is not universal, however natural it might seem to English speakers. Ergative languages take the patient to be the normal filler of the topic position. . . . We reviewed various attempts to explain the incomplete spread of A and O marking across the spectrum. Silverstein saw the distribution as reflecting the propensity of a participant

to be agent or patient, 'good' agents tended to lack A marking, 'good' patients tended to lack O marking. . . . we suggested that the gross distribution of marking in this area also reflected topicality. In accusative languages the nominative, typically unmarked, is the prime topic position. In ergative languages the absolutive, almost always unmarked, is the prime topic position. The accusative and ergative mark secondary topic positions. (Mallinson and Blake, 1982, pp. 114–115.)

Mallinson and Blake suggest, then, that where ergative splits occur it is because the higher ranked elements (first, second, and sometimes third person pronominal) have a tendency to be topicalized as agents, while lower ranked elements (nominals and sometimes third person pronominal) tend to be topicalized as patients. This seems to lead us back to the feature of agency as the underlying factor in ergative splits, and suggests a very different kind of ergative split, unattested as far as I know:

(67)   a. I hit the boy   (where agent is topic)
           NOM   ACC

       b. I hit the boy   (where patient is topic)
           ERG   ABS

There is clear evidence that some languages rank NPs with regard to animacy, agency, or volition; see for example the discussion in Witherspoon (1977) and in Hale, Jeanne and Platero (1977) for a NP hierarchy in Navajo. However, a split in case marking between clitic pronouns on the one hand and nominals on the other is quite different. Mallinson and Blake's proposal leaves unexplained the following facts about W-type languages:

(68)   a. The fact that NOM/ACC bound pronouns of any person cooccur with and are coindexed with any nominal of compatible case marking, despite their differences in rank.
       b. The fact that bound and independent pronouns mark the same semantic features of person and number, and thus should match in rank; yet the former may (in some 'ergative split' languages, including Warlpiri) have NOM/ACC case, while the latter have ERG/ABS case.

Comrie (1981) isolates many of the semantic factors involved in animacy hierarchies and concludes, regarding topic-worthiness:

. . . [W]hat is the basis of topic-worthiness? The danger here is that of answering this question circularly, by citing as the bases of topic-worthiness precisely those parameters which are included in the animacy hierarchy. . . . Our conclusion then, is that the animacy hierarchy cannot be reduced to any single parameter, but rather reflects a natural human interaction among several parameters (1981, p. 192).

Comrie notes a particular problem in connection with the kind of ergative split we have seen in W-type languages:

[The animacy] hierarchy, even as established in purely linguistic terms, is not a single linear parameter on which all individual noun phrases can be arranged. The pronoun/non-pronoun opposition in fact cross-cuts the human/nonhuman or animate/inanimate opposition. (p. 188)

In short, Comrie finds that no single semantic feature can account for the diversity seen in agent/topicality/animacy hierarchies; and that in particular the kind of split in case marking that separates pronouns and non-pronouns is puzzling in that it is orthogonal to the ranking of NPs by animacy or agency. It is just this kind of ergative split that, as we have seen in Warlpiri, has clear syntactic functions. Clitic pronouns are governed by the Verb-AUX, and carry NOM/ACC/DAT G-case; nominals are governed by their case particles/postpositions, and carry ERG/ABS/DAT (or other) L-case. The distribution and function of these case systems are entirely distinct.

A problem with the explanation for ergative splits advanced here is that they are not uniform; some languages have third person clitic pronouns that mark ERG/ABS case. Since languages with ERG/ABS third person clitics often are related historically to languages with full splits between clitics and nominals, I suggest that there is a historical instability in split case systems because of the following factors: a) third person clitics, unlike first and second person (that are uniquely referential in context) often cooccur with some nominal that aids in reference; and b) third person AUX elements are often phonologically null. These factors set the stage for the emergence of overt third person clitics that match nominals in ERG/ABS case. In Australian languages, such ERG/ABS clitics are often clearly related to determiners and demonstratives. It is highly significant that, as Dixon (1979) notes, there are no splits between free pronouns and clitic pronouns where the former have NOM/ACC case and the latter have ERG/ABS case. And, Mallinson and Blake (1982) point out that there is no language known to have ERG/ABS case marking on bound person marking elements and NOM/ACC marking on nominals; we should expect these types of 'ergative split' to be excluded if splits originate from a system in which the syntactic functions of clitic pronouns as verbal arguments having grammatical case are distinct from the syntactic functions (adsentential and adargumental) of nominals with L-case.

According to data given in Blake (1977) we may generalize as follows with reference to case systems in Australia:

(69)   Case Marking in Australian Languages:

      a. There are a few languages with only NOM/ACC marking and no clitic pronouns.

      b. There are a few languages with only ERG/ABS marking and no clitic pronouns.

    c. The great majority of Australian languages have an ergative
       split and clitic pronouns. The most common pattern is NOM/
       ACC on *both* clitic pronouns and independent pronouns, and
       ERG/ABS on nominals.
    d. There is a smaller group with no clitic pronouns and an ergative
       split, with NOM/ACC on independent pronouns and ERG/ABS
       marking on nominals.
    e. There is a residual group of languages, mostly non-Pama-
       Nyungan, that have NOM/ACC or three-way marking on clitic
       pronouns, and *no* case marking at all on nominals.

Groups (a) and (b) are clearly not W-type languages; nominals are verbal
arguments. Groups (a) through (d) are related; I have no information on
the evidence for the direction of historical change.[19] Group (c) is the pre-
dominant W-type, and includes Warlpiri, which is atypical in having
ERG/ABS case on independent pronouns. (The case of free pronouns is
irrelevant, when they occur only for emphasis along with the clitics, and
do not serve as verbal arguments.) Members of group (d) may also be
W-type, with only independent pronouns serving as verbal arguments, if
an analysis of ZERO third person pronouns co-occurring with nominals
can be justified (for example, if a verb alone is unambiguously interpreted
as having third person arguments). It is possible that group (e) is also W-type,
like Papago, since the crucial feature of W-type languages is that nominals
are not verbal arguments, and therefore need not carry grammatical case.

    Mallison and Blake (1982) identify the following languages as having
NOM/ACC marking on bound person markers and no case marking on
nominals: the Bantu languages and other Niger-Congo groups; Ulithian
(Micronesian); Iai and Lenakel (Melanesian), and Nahuatl (Uto-Aztecan) as
well as the northern Australian languages mentioned above. They add:

We could recognize a sub-type in which the free pronouns operate in an accusative paradigm.
This sub-type would include the Celtic languages and some Chadic languages such as Hausa.
(p. 71)

They note also that Tongan (Polynesian) resembles Dyirbal and other
Australian languages in having no bound person markers and an ergative
split (group (d)) above.

[19] Dixon (1979), citing Hale (1973) reconstructs the following historical development for
Warlpiri:
    a. Ergative split: Pronouns NOM/ACC, Nominals ERG/ABS.
    b. The development of clitic pronominals with NOM/ACC case; free pronouns
       become optional.
    c. The ERG/ABS case marking on nominals is generalized onto the independent
       pronouns.

The predominant pattern involves the crucial features seen in the W-type: bound person markers with NOM/ACC case, and cooccurring nominals without G-case. It is important also that there are apparently no counter-cases; no languages with ERG/ABS case marking on clitics and NOM/ACC (the grammatical cases) on nominals or free pronouns. This distribution of case marking systems across languages appears to lend support to the interpretation of ergative splits suggested here, and to the view that NOM/ACC are G-cases, while ERG/ABS, in these languages, tend to be L-cases.

5. A REVISED CONFIGURATIONALITY PARAMETER

I do not intend to claim that all non-configurational languages resemble Warlpiri in having obligatory clitic verbal arguments that are distinct from non-argumental nominals; there may be other sources of non-con-figurationality. Hale (1983), Kitagawa (1983) and Farmer (1983) argue that Japanese is non-configurational, while Saito and Hoji (1983) argue that it is not. I will not attempt to resolve this issue here.

Japanese differs sharply from W-type languages in having no clitic pronouns; in fact, there is no person marking in INFL at all in Japanese. The nominals that correspond to independent pronouns in Japanese lack some of the syntactic properties of pronouns in configurational languages. (See Kitagawa, 1979, 1982).

Japanese appears to resemble W-type languages in the optionality of nominals and their relatively free word order. In general, Japanese nominals do not have fixed positions in the clause corresponding to their grammatical functions. Japanese nominals have case particles/postpositions that mark grammatical relations (-ga NOM, -o ACC, -ni DAT). These nominals may be absent, and there are no person markers that make them recoverable. Therefore, there is no surface expression of grammatical relations, and an apparent failure of the Projection Principle. The problem, then, is to account for these missing nominals.

So far we have identified two quite different factors resulting in "missing" nominals;

(70) a. Nominals that are recoverable because of certain syntactic principles and processes: NP movement, control, etc. These principles and processes are represented at surface structure by ECS.
      b. Nominals that do not serve as verbal arguments and are optional adjuncts.

Japanese sentences may lack nominals for reasons other than those given in

(70). Speakers of Japanese exploit discourse relations between sentences and contextual factors to omit nominals that are readily recoverable in context – 'discourse topics'. The verb complex alone may constitute a complete utterance, or any or all of the nominals carrying grammatical relations may be present. The following example, consisting of the finite verb, is acceptable in discourse:

(71)   Tabe-ta.
         eat-PAST

         '( ) ate ( )'.

In context, the hearer is able to make inferences about the referents of the missing nominals; he knows what matters are under discussion. Kitagawa (personal communication) likens the pragmatic strategies used in identifying the unspecified arguments of Japanese sentences to those that English speakers use in interpreting postcards and telegrams. The first strategy is to assume that the missing argument corresponds to the speaker, next the hearer, and last some third person, if the context makes earlier conjectures unlikely.

The missing nominals in (71) are not recoverable by virtue of syntactic principles and processes, as in the empty categories (PRO, *pro*, *trace*, and *variable*) defined in Chomsky (1982). Neither are they instances of a phonologically null pronoun, as in the case of the Warlpiri ZERO third person singular. In the case of empty categories, an NP is 'missing' under syntactic conditions (agreement, binding or control) that permit the hearer to restore the absent element without ambiguity. In the case of a ZERO pronoun, there is nothing missing and no ambiguity. But a Japanese sentence like (71) is ambiguous. It is not a case of underdetermined reference, as with a third person pronominal; a uniquely referential (speech act participant) first or second person may be the speaker's intended referent. Hearing (71) it is possible for the hearer to misunderstand, to mistake the speaker's referential intent, and the error in interpretation is an error of inference, not an error of grammatical performance.[20]

I conclude that an account of the missing nominals as in (71) is not a

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[20] **Tabe-ta** cannot be interpreted as being arbitrary or non-specific in reference. If the speaker intends to convey

(i) Dareka-ga   nanika-o   tabe-ta
    Somebody-NOM something-ACC eat-PAST

    Somebody ate something.

the nominals **dareka** and **nanika** cannot be omitted. (Kitagawa, personal communication.) Only nominals with specific reference in context can be omitted.

part of sentence grammar, but of the (language particular) grammar of discourse. It reflects a linguistic tradition in which sentence partials are more acceptable in discourse than they are in some other speech communities. Sentence partials must be well-formed; but as their interpretation depends upon discourse factors, their grammar lies outside sentence grammar. This kind of omission of nominals is completely unrelated to non-configurationality; Chinese, a configurational language, exhibits this same feature.[21]

In a configurational language, some nominals (objects) are properly governed by the verb; nominals that are so governed form part of a constituent of which the verb is the head, the VP. In a W-type language, all nominals are governed by their case particles/prepositions; CPPs are sisters to the verb under S. Japanese verbal arguments, like Warlpiri nominals, are Case Particle Phrases; and Japanese resembles W-type languages in that the order of these CPPs, when present, is relatively free. If Japanese is in fact non-configurational, it represents a sub-type that shares these features with W-type languages.

I have identified the following sources of free word order across languages:

(72)   Nominals may lack fixed positions in the clause reflecting grammatical relations if:
   a. They have no grammatical relations.
   b. Their case marking shows their grammatical relations.
   c. Their presence or order reflects pragmatic factors.

Note that these factors influencing word order are not mutually exclusive. Warlpiri shows (72a) and (72c); Japanese shows (72b) and (72c). In contrast, Chinese permits nominals to be 'dropped' in context, according to pragmatic factors; but the lack of case marking in Chinese makes it necessary for nominals, when present, to appear in an order that reflects their grammatical functions. The defining feature of configurationality is as follows:

(73)   Configurationality Parameter (Extended):

   a. In a configurational language, object nominals are properly governed by the verb.
   b. In a W-type non-configurational language, nominals are not verbal arguments, but are optional adjuncts to the clitic pronouns that serve as verbal arguments.

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[21] See discussion on this point in C. T. James Huang (1983). Huang classifies Chinese and Japanese as "discourse oriented" languages, while English is a "sentence oriented" language.

Whereas grammatical relations are defined configurationally in (73a), there is no asymmetry between subject and object in (73b).

I have argued here that in non-configurational languages, as in all languages, lexical structure is projected onto phrase structure. I have accounted for the association between non-configurationality and 'ergative splits' and have proposed a syntactic, rather than a semantic, explanation for certain 'splits' as reflecting the distinct syntactic functions of clitics vs. nominals in what have been termed 'clitic doubling' languages. I have suggested that the explanation given here for the fact that nominals may be 'missing' in Warlpiri main clauses may be extended to account for 'missing' subjects in so-called 'pro-drop' languages.

All the languages under consideration here are agglutinative; that is, more of the grammatical apparatus is morphologically constituted than in a configurational language that places more of the burden on syntax. Not all agglutinative languages are non-configurational, but the reverse inclusion may hold. In a configurational language, one predicational item may be directly governed by another, that is, nouns may be directly governed by a verb. In a non-configurational language with less complex syntactic structures, nominals are governed by case particles and strung together with verbs in 'flatter' syntactic structures. These flatter syntactic structures are comparable to the kinds of adjoined sentences seen in logical form. Hale's work on Australian, Native American, and Asian languages led him to the recognition of non-configurationality as a central feature in the grammar of many of these languages, seemingly unrelated and widely scattered all over the world.

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