Hale (1980, 1981, 1982a, 1982b) has drawn attention to a major dimension of difference in linguistic typology: the contrast between configurational languages such as English, and non-configurational languages such as Warlpiri and Japanese. Non-configurational languages frequently exhibit such features as (1) "free" word order, (2) syntactically discontinuous expressions, and (3) extensive use of null anaphora. For English, the following are PS rules for a declarative sentence:

(1)  
   a.  S -> NP AUX VP  
   b.  VP -> V (NP) (PP)

Whereas, Hale proposes, the following PS rules apply to Warlpiri:

(2)  
   a.  \( \bar{x} \rightarrow \bar{x}^* \bar{x} \)  
   b.  \( \bar{V} \rightarrow AUX \bar{x}^* V \bar{x}^* \)

Rule (2a) applies to nominals and infinitival clauses, and states that the head is rightmost; (2b) shows that finite clauses have an AUX constituent, and that nominals are optional and have no fixed positions in the clause that reflect their grammatical functions.

Hale (1982b) sets himself the important task of defining a configurationality parameter which would account "straightforwardly" for the differences between these two language types in terms of the grammatical processes that underlie phrase structure rules, and to answer the question as to why Warlpiri has such a "permissive" set of phrase structure rules.

This task is of interest, as Hale observes, since much recent work in linguistics suggests that "certain (perhaps most) aspects of phrase structure are derivative of independent grammatical processes and principles" (1982b, p. 9). It should be possible, then, to identify a typological distinction from which the observed differences in phrase structure rules would follow. Hale's proposal is that the typological distinction "finds its origins not in phrase structure itself but, rather, in the nature of the relationship between phrase structure (PS) and "lexical structure" (LS)" (1982b, p. 10); that is, in differences in the way the Projection Principle applies in the two language types.
Chomsky (1982) states the Extended Projection Principle as follows:

(3) EPP: a. the θ-marking properties of each lexical item must be represented categorially at each syntactic level; and
b. each clause must have a subject.

The EPP, as in earlier versions of the Projection Principle, does not require that the θ-marking properties of a lexical item be represented overtly at each syntactic level, only that they be represented categorially, thus providing for empty categories (EC) such as PRO, trace, and pro. This last EC, pro, is the "missing" subject in "pro-drop" languages, and thus free in its governing category; pro is a non-anaphoric pronominal, with independent (deictic) reference (see Chomsky, 1982, pp. 78-88).

Hale's move is as follows: sentences in a non-configurational language often appear to have "missing" nominals. Thus, in the following Warlpiri sentence, both nominals are optional:

(4) Ngarrka-ngku ka wawirri panti-mi.
     (man-ERG AUX kangaroo spear-NONPAST)
     'The man is spearing the kangaroo.' H/82b/2

Any word order is possible, with the provision that AUX occur in second position; if both nominals are absent, the verb is initial. Furthermore, non-adjacent nominals may correspond to a single verbal argument, resulting in discontinuous expressions:

(5) Wawirri kapi-ma panti-mi yalumpu.
     (kangaroo AUX spear-NONPAST that)
     'I will spear that kangaroo.' H/82b/3

Thus, verbal arguments are not uniquely represented by nominals in Warlpiri sentences; there may be none or more than one. In example (5), AUX contains the element kapi (FUTURE) and the clitic -ma, which marks first person singular subject. On Hale's view, AUX is that part of the verbal complex where INFL features are marked; the grammatical functions of SUBJECT and OBJECT are also marked there. 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" (1982b, p. 29). Since LS arguments are not audible, AUX gives information on the number and person (pronominal attributes) of the LS arguments. 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, which may have any of the following:

(6) monadic verbs: ABS (DAT)  
diadic verbs: ERG ABS or ERG DAT  
triadic verbs: ERG ABS DAT
These stipulated case arrays state the cases that optional nominals may bear, since the "principal function of case marking in Warlpiri [is] that of signaling the correct association of constituents in PS to arguments in LS" (1982b, p. 16). This association between PS nominals and LS arguments is stated as follows:

(7) 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). H/82b/16

This linking rule is not bi-unique, leading to the following:

(8) 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. H/82b/35

Hale proposes that there are no EC in Warlpiri sentences because the Projection Principle simply does not apply at that level of the grammar. The \( \theta \)-marking properties of lexical items are represented by argument arrays in LS, but not necessarily in PS. If Warlpiri verbs do not require the categorial representation of their \( \theta \)-marking properties in PS, then no EC need be postulated when there is no nominal in the sentence to bear a given grammatical function. This readily leads to an explanation for the lack of movement rules, for null anaphora, the lack of positions in the clause for nominals corresponding to grammatical functions and thus free word order, etc. Thus, a number of interesting properties of non-configurational languages can be seen to follow from Hale's Configurationality Parameter.

In the discussion that follows here, I will try to expand upon and develop this definition of non-configurationality with reference to case theory. Hale's fundamental insight on the nature of non-configurationality is the absence of certain ECs in PS structure in these languages. I will identify two markedly different sub-types of non-configurationality. In one of these sub-types, Hale's CP, as in (8), applies; Japanese is an example of this type of non-configurational language, which I will call the Japanese, or J-type. The other sub-type differs as follows: the PP applies in PS, but not with respect to nominals; and these languages may be said to be configurational, but not with respect to nominals. Warlpiri belongs to this second sub-type, which I will call the Warlpiri, or W-type. In order to characterize this W-type, we will need to distinguish between pronominal clitics or affixes on the one hand, and free, independent pronouns and nominal expressions on the other. The former are "bound" in the sense of not occurring independently of the verb or AUX; I will refer to them as B-pronouns, as opposed to nominals, a class which includes the independent A-pronouns. My claim will be that predicicators in LS in W-type languages are satisfied always and only by B-pronouns, and that nominals are therefore
simply optional additions to the clause, with non-argumental functions. While B-pronouns carry grammatical case, which reflects their grammatical functions, nominals carry lexical case. An exposition of the characteristics and functions of these distinct types of case marking will be the principal burden of this paper.

The analysis of Warlpiri proposed here differs principally from that of Hale in interpreting AUX not as simply marking grammatical functions, but as a constituent containing fully referential clitic pronouns that serve as verbal arguments and are case-marked, thereby marking grammatical relations. AUX is the locus of INFL in Warlpiri; some clause types (infinitival) contain a verb but not AUX. 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.³

The suggestions given here for an alternative view of Warlpiri structure and a refinement of the definition of configurationality as a parameter in typological studies 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. My purpose here is to demonstrate the essential validity of Hale's understanding of the relationship between configurationality and ECs, and to develop the definition of non-configurationality so as to distinguish between the two markedly different sub-types to be defined.

1. An alternative proposal for the specification of Warlpiri as a non-configurational language

1.1 Agreement and referentiality

A distinction that will prove useful is that between the LS of a verb and the LS of a verb form. A predicator or verb has an LS argument structure that specifies the arguments required to satisfy it. This LS argument structure does not specify any features of these arguments other than their grammatical functions, which are linked to particular cases by the principles of government. A verb governs its object, while INFL (a feature complex of the verb-AUX complex) governs the subject. I follow Hale in assigning structure of this kind to the LS of the verb:

(9) [__x [__y panti-rmi] ] "spear"

The LS of a particular inflected verb form, or verb-AUX complex, may specify certain additional features of its argument structure other than case: person, number, gender, animacy, etc. These features constitute agreement (AGR), which is a possible feature of INFL (Chomsky, 1982, p. 85). Agreement, like case, serves to differentiate among the arguments of a verb; it does so by mirroring certain features of some nominal functioning as the subject or object; and thus, like case, may aid in identifying the grammatical function of a nominal.
The following examples from Egyptian Arabic show the contrast between the LS of a verb and the LS of an inflected verb form:

(10) a.  [___x [___y KTB] ]  "(to) write"
      b.  [___x [___y katabit] ]  "wrote (3fs)"

In (10a), the verb is identified by means of its radical consonants, as is traditional in Arabic dictionaries. The verb form katabit may appear in a sentence as follows:

(11)  hiyya katabit ik-kitaab
       she wrote: PERF: 3fs the -book
       'She wrote the book.'

A rough functional structure would be as follows:

(12)  [hiyya [___x [katabit ___y [ik-kitaab] ] ] ]
       3fs 3fs PERFECT
       SUBJECT VERB OBJECT

The following is also acceptable as a complete sentence:

(13)  katabit ik-kitaab
       wrote: PERF: 3fs the -book
       'She wrote the book.'

In Egyptian Arabic as in other "pro-drop" languages, independent pronouns are used in such constructions primarily for emphasis. Chomsky (1982) identifies the missing subject in constructions like (13) as an instance of pro, an EC with the features [+pronominal, -anaphor] and therefore distinct from PRO, which is an EC with the features [+pronominal, +anaphor]. PRO is bound in its governing category, while pro is not, having independent reference. A rough functional structure for (13) is as follows:

(14)  [___x [katabit ___y [ik-kitaab] ] ]
       3fs PERFECT ms
       SUBJECT VERB OBJECT

The PS is as follows:

(15)  pro katabit ik-kitaab
       3fs

Egyptian Arabic distinguishes between subject AGR and object pronominal suffixes. Compare the following:

(16)  katabit-u
       wrote: PERF: 3fs-it:3ms
       'She wrote it.'
The object pronominal suffix -u (3ms) may not co-occur with an object nominal, whereas subject AGR does so co-occur. Arabic is a configurational language, with particular positions in the clause for nominals bearing particular grammatical functions; the EC pro is present in PS when there is no overt subject nominal. Some Arabic predicates do not show AGR with the subject with respect to person:

(17) *katabit-u ik-kitaab
wrote:PERF:3fs-it:3ms the-book

"Pro-drop" is not allowed in constructions like (18) since the predicate lacks person AGR. With regard to the mechanisms underlying the restriction of pro to the subject position in pro-drop languages, Chomsky (1982, p. 82) remarks as follows:

"We might approach the problem in the following way, keeping to a rather general intuitive level. There should be some grammatical indication of the presence, type, and content of an EC. The presence of an EC is determined by the Extended Projection Principle."

And on p. 86, Chomsky endorses Taraldsen's (1978) suggestion that

"... the possibility of having a pure pronominal EC subject is related, though sometimes imprecisely, to a "rich enough" inflectional system, so that the inflection determines the grammatical features of the missing subject. Thus, the AGR element is a set of specifications for the features person, gender, and number, and (in pro-drop languages) Case...There will then be a strong tendency to "spell out" AGR in the PF component if it has Case, perhaps another example of the Visibility Principle."

The Egyptian Arabic predicator maṣriyya in (18) specifies number and gender, but not person; and it is not "rich enough" to permit pro-drop. In the pro-drop languages with which I am familiar, the predicator agrees with the subject at least as to person, and since verbs more often agree with the subject than the object, it would appear that it is the feature of person AGR with the subject in the predicator that permits a "missing" subject. In languages where the predicator may agree with the object also, double pro-drop may occur. The following construction type is permitted is some colloquial Arabic dialects:

(19) hiyya katabit-u ik-kitaab
she wrote:PERF:3fs-it:3ms the-book
'She wrote the book.'
In this example, the form that corresponds to the object suffix in Egyptian Arabic co-occurs with an object nominal, and is therefore an instance of AGR with an object nominal. Since the following is also an acceptable sentence in such dialects,

(20) \[ \text{katabit-u wrote:PERF:3fs-it:3ms} \]
    'She wrote it.'

we may assign it the following PS:

(21) \[ \text{pro katabit-u pro} \]
    \[ \text{NOM wrote ACC} \]
    \[ 3fs \text{ PERF 3ms} \]
    \[ 3fs/3ms \]

Whereas in Egyptian Arabic, where there is an object suffix that cannot co-occur with an object nominal, as shown in (17), the sentence katabitu has the following PS:

(22) \[ \text{pro katabit-u} \]
    \[ \text{NOM} \]
    \[ 3fs \text{ wrote:PERF:3ms-it:3ms} \]
    'She wrote it.'

My purpose in this section has been to establish the following: that we may say that pro-drop may occur when the INFL is "rich enough", and that we may define "rich enough" as specifying at least the feature of person, in some languages. If the INFL morphology is "rich enough" in terms of person marking to permit pro-drop, then we may assign to INFL the feature of REFERENTIALITY, which it shares with pronouns and other nominals. We can state the following principles:

(23) Agreement Principle:

If an INFL system (a part of the verb-AUX morphology) marks certain features which (a) match features also marked on nominal arguments of the verb or INFL, and (b) which may co-occur with nominal arguments, then that INFL has the feature of agreement (AGR).

(24) Referentiality Principle:

If an INFL system is "rich enough" to mark each member of the person paradigm distinctly, then it has the feature of referentiality (REF), thus permitting pro-drop.

An INFL system having AGR without REF (for example, English) will not permit pro-drop; thus, AGR may occur without REF. REF may also occur without AGR. Recall example (17) above, which showed that object suffixes in Egyptian Arabic may not co-occur with an object nominal.
(17) *katabit-u  ik-kitaab
     wrote:PERF:3ms-it:3ms the-book

The object suffixes in Egyptian Arabic thus have the feature REF but
not the feature AGR, while in Syrian colloquial Arabic, for example,
the object suffixes may have both, as in example (19) above.

Pro-drop languages have the EC pro, and are configurational. I
think Hale is correct in his claim that non-configurational languages
have no EC such as pro, and I have included this discussion of pro-
drop and pro in order to show how non-configurational languages
differ from pro-drop languages.

Examples given in Hale (1982b) show clearly that there are
sentences in Warlpiri without nominals, and there there is a person
marking system in INFL in AUX. And there are independent pronouns
that may be present to lend emphasis, as happens in pro-drop languages.
Why then is there no EC of the pro type? We may identify the person-
marking clitics that appear in AUX in Warlpiri as having the feature
REF but not the feature AGR. In other words, they are bound
pronominals, B-pronouns. They do not fail to have AGR for the
reason that Egyptian Arabic object suffixes do, for not occurring
with nominals. They fail to have AGR because of the first of the
two requirements for AGR stated in the Agreement Principle (24) above:
the person marking clitics in AUX in Warlpiri do not match nominals
(nouns and A-pronouns) that are optionally present in the clause in
a crucial feature, and this feature is case.

1.2 Case marking in AUX in Warlpiri

The B-pronouns in Warlpiri may be recognized as marking NOMINATIVE/
ACCUSATIVE case, on the assumption that any set of elements that dis-
tinguish between transitive subjects and objects, and do not group
intransitive subjects with the latter, are marking NOM/ACC contrasts.
The following examples show these contrasts:5

(25) ngajulu-rlu ka-rna-ngku    nyuntu-∅ nya-nyi
     I-ERG       PRES-1:NOM-2:ACC you-ABS see-NONPAST
     'I see you.'  H/73/328

(26) nyuntu-rlu ka-npa-ju     ngaju-∅ nya-nyi
     you-ERG      PRES-2:NOM-1:ACC me-ABS see-NONPAST
     'You see me.'  H/73/328

(27) nyuntu-∅ ka-npa     purla-mi
     you-ABS      PRES-2:NOM shout-NONPAST
     'You are shouting; you shout.'  H/73/315

The person marking B-pronouns in Warlpiri are as follows:
The view that the person marking 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 B-pronouns (and typically, A-pronouns as well) show NOM/ACC case, while nominals show ERG/ABS case marking. In a few languages of this family, there are no B-pronouns, only A-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 AUX clitics, in view of the case systems present in closely related languages. Hale regards the AUX elements as marking grammatical functions; I'm suggesting that they do so by virtue of marking grammatical case. NOM and ACC are grammatical cases (G-cases) while the cases that appear on nominals are lexical cases (L-cases): ERG, ABS, and a variety of others, principally locative and directional, to be specified below. Since the B-pronouns and nominals do not match in case marking, the AUX pronominal system has REF but lack AGR. And without AGR, there can be no pro-drop, no EC pro.

Inspection of the paradigms given in (29) and (30) above shows that constructions with a ZERO NOM or ACC person marker are not ambiguous; the features of third person singular are fully specified, covertly, by the following principle:

(29) **Covertness Principle:**

If a feature marked in an INFL paradigm is obligatory, one member of the set may be unambiguously marked by the absence of all other members of the set (i.e., may be phonologically null).

This principle applies to INFL features such as tense, aspect, etc., as well as person marking, and to systems that show AGR, REF, or both; this principle distinguishes the ZERO third person singular NOM/ACC person markers in Warlpiri from the pro of a pro-drop language, which may have any feature of person, number, gender, etc., which AGR specifies. The absence of phonological material marking third person sg. NOM/ACC in Warlpiri is not pro, because it is not specified by AGR in INFL, but is rather a part of INFL with REF; it is a covert B-pronoun.
1.3 Linking rules and case compatibility

The AUX B-pronouns in Warlpiri always and only satisfy the predicator in PS in a finite clause; that is to say, the only direct arguments of Warlpiri predicators are B-pronouns. Thus the Projection Principle applies in PS in Warlpiri, but only with respect to B-pronouns. And there is a significant order present in the B-pronouns: SUBJECT precedes OBJECT.

(30) *ngajulu-rlu ka-ngku-ma nyuntu-∅ nya-nyi
I-ERG PRES-2:ACC-1:NOM you-ABS see-NONPAST

The preceding example differs from (26) in that the clitic pronouns have been reversed in order; Hale (1973) excludes such clitic sequences. Therefore, Warlpiri is configurational with respect to B-pronouns, and nonconfigurational with respect to the optional nominals, that are not required by the PP and have no fixed order.

We will need two linking rules. The first will account for the links between the LS argument array and B-pronouns in PS; the second will account for the links between B-pronouns and nominals. Hale's linking rule (7) above) ties LS argument arrays directly to nominals, on the assumption that LS argument arrays have the same case marking as nominals. Hale lists the argument arrays given in (6) above as "stipulated properties" of lexical items. I suggest that LS argument arrays and B-pronouns match in NOM/ACC case marking, and that the ERG/ABS case of nominals that may occur with the verb follows from the subcategorization of the verb as transitive/intransitive. I will begin by differentiating between G-case and L-case, as follows:

(31) Warlpiri Split Case Hierarchy:

a. G-case appears on B-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, PERITATIVE, ALLATIVE, ELATIVE, etc. Secondary L-case cannot be co-indexed with a B-pronoun.

DATIVE is both a G-case and an L-case in Warlpiri; this is not unusual across languages, where "recipients" are sometimes direct and sometimes oblique.

Warlpiri predicates have the following case arrays in LS:

(32) Warlpiri case arrays:

a. Intransitive: NOM
   NOM DAT

b. Transitive: NOM ACC
   NOM ACC DAT
   NOM DAT
These case arrays are stipulated properties of lexical items, along with the transitive/intransitive distinction. The LS argument arrays may be linked to the B-pronouns in PS as follows:

(33) Linking Rule I:

In a non-configurational language of the W-type, each argument position in LS is co-indexed with the B-pronoun in PS that matches it in case marking (assigning a distinct index to each argument position in LS).

This rule is bi-unique and accounts for the ACC reflexive B-pronouns:

(34) nyuntulu-rlu ka-npa-nyanu mapa-ri
    you-ERG PRES-2:NOM-REFLEXIVE rub-NONPAST
    'You are rubbing yourself (with red ochre, or the like)'

H/73/337

The second linking rule links the obligatory B-pronouns with the optional nominals. Having two linking rules makes it possible to give an explicit account of Hale's "general principles" that underlie the association between grammatical functions, as marked in AUX, and nominal case-marking:

"There is a straightforward and exceptionless correlation between the case category of an LS argument and its grammatical function, as reflected in the person marking system. The following two-step procedure will make the proper correlation: (1) identify the subject function with the erg argument, if there is one, otherwise with the abs argument; (2) identify the object function with the dat argument, if there is one, otherwise with the abs argument (if this is not already identified as the subject)." H/82b/24

The association between B-pronouns and optional nominals may be stated in terms of case compatibility:

(35) Linking Rule II:

In a non-configurational language of the W-type, a B-pronoun may be coindexed with a nominal, providing the I-case of the nominal and the G-case of the B-pronoun are compatible (assigning a distinct index to each B-pronoun).

This linking rule is not bi-unique, since there may be none or more than one nominal coindexed with a B-pronoun; 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 B-pronouns. Compatible cases are as follows:

(36) Warlpiri 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 two L-cases given in (36a and b) will be given below.

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 rule. A construction may fail to have the proper linkage between an LS argument array and B-pronouns, say by having two ACC B-pronouns. Or it may fail to have proper linkage between B-pronouns and nominals, say by having an intransitive sentence with a single NOM B-pronoun and an ERG nominal.

1.4 Finite sentence types in Warlpiri

With the linking and case compatibility rules, we have provided so far for the finite sentence types shown in the following sentence schemata:

(37)  
   a. \( V_i \ \text{NOM} \ (\text{NP-ABS}) \ (\text{NP-SEC})^* \)  
   b. \( V_i \ \text{NOM DAT} \ (\text{NP-ABS}) \ (\text{NP-DAT}) \ (\text{NP-SEC})^* \)  
   c. \( V_t \ \text{NOM ACC} \ (\text{NP-ERG}) \ (\text{NP-ABS}) \ (\text{NP-SEC})^* \)  
   d. \( V_t \ \text{NOM DAT} \ (\text{NP-ERG}) \ (\text{NP-DAT}) \ (\text{NP-SEC})^* \)

In these schemata, optional nominals with compatible cases are shown in parentheses; \((\text{NP-SEC})^*\) shows that nominals with secondary L-cases that are not compatible with G-cases, and thus cannot be linked to B-pronouns, may also be present. Examples of these constructions are as follows:

(38) ngaju-Ø ka-rna wangka-mi  
I-ABS PRES-1:NOM speak-NONPAST  
'I am speaking.' H/82b/21

(39) ngaju-Ø ka-rama-rla ngarrka-ku wangka-mi  
I-ABS PRES-1:NOM-3:DAT man-DAT speak-NONPAST  
'I am speaking to the man.' H/73/333

(40) ngajulu-rlu ka-ra-ngku nyuntu-Ø nya-nyi  
I-ERG PRES-1:NOM-2:ACC you-ABS see-NONPAST  
'I see you.' H/82b/22

(41) ngajulu-rlu ka-ra-rla karli-ki warri-mi  
I-ERG PRES-1:NOM-3:DAT boomerang-DAT seek-NONPAST  
'I am looking for a boomerang.' H/73/335
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:

(42) \[ \text{ngajulu-rlu ka-ma-ngku} \quad \text{karli-}\empty \quad \text{yi-nyi} \]
\[ \text{I-ERG} \quad \text{PRES-1:NOM-2:ACC boomerang-ABS give-NONPAST} \]
\[ \text{nyuntu-ku} \quad \text{you-DAT} \]
'I am giving you a boomerang.' H/73/333

(43) \[ \text{ngajulu-rlu kapi-ma-rla} \quad \text{karli-}\empty \quad \text{punta-mi} \]
\[ \text{I-ERG} \quad \text{FUTURE-1:NOM-3:DAT boomerang-ABS take-NONPAST} \]
\[ \text{kurdu-ku} \quad \text{child-DAT} \]
'I will take the boomerang away from the child.' H/73/333

For these triadic verbs, only two arguments appear to be marked in AUX; we will return to the question of the "missing" argument below. 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".

(44) \[ \text{ngajulu-rlu ka-ma-ngku} \quad \text{nyuntu-}\empty \quad \text{nya-nyi} \]
\[ \text{I-ERG} \quad \text{PRES-1:NOM-2:ACC you-ABS see-NONPAST} \]
'I see you.' H/73/328

(45) \[ \text{nyuntulu-rlu ka-npa-ju} \quad \text{ngaju-}\empty \quad \text{nya-nyi} \]
\[ \text{you-ERG} \quad \text{PRES-2:NOM-1:ACC you-ABS see-NONPAST} \]
'You see me.' H/73/328

(46) \[ \text{ngalipa-rlu ka-rlipa-jana} \quad \text{wawirri-patu-}\empty \quad \text{nya-nyi} \]
\[ \text{We-ERG} \quad \text{PRES-122:NOM-333:ACC kangaroo-PAUCAL-ABS} \]
\[ \text{see-NONPAST} \]
'We (plural inclusive) see the several kangaroos.' H/73/328

Comparison of (42) and (44) with (43) shows that the DAT marker (-rla) appears only in the third person in AUX. Sentence (42) and other examples given by Hale of sentences with first and second person "recipients"
are reminiscent of a frequent cross-language phenomenon that has sometimes been called "dative movement". Compare:

(47)  
a. I gave a boomerang to you.
b. I gave you a boomerang.

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. We may refine (31) above as follows:

(48) Warlpiri Split Case Hierarchy:

1. First and second person B-pronouns show only PRIMARY (NOM and ACC) G-case marking.

2. Third person B-pronouns show PRIMARY and SECONDARY (DAT) G-case marking.

3. Nominals show PRIMARY (ERG, ABS, DAT) and SECONDARY L-case marking.

4. The case-ranking of REF elements in Warlpiri is as follows:

   1 & 2 3 NOMINALS
   B-pros B-pros

We will take up the topic of case hierarchies in more detail in Section 2. First and second person show only NOM/ACC G-case marking in all sentence types in Warlpiri where third person B-pronouns have DAT marking, as examples given in Hale (1973) and (1982b) show. Hale identifies two or three transitive verbs, such as warri-ri, "seek", and wapal-pangi-ri, "dig in search of", that take DAT arguments. This small class of verbs, along with the few triadic verbs, must be so identified in the lexicon.

Hale describes certain sentence types in which three arguments in LS may be marked in AUX. A verb such as warri-ri, "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:

(49) ngajulu-rlu ka-ma-ngku-rla  karli-ki
    I-ERG     PRES-1:NOM-2:ACC-3:DAT boomerang-DAT

        warri-ri  nyuntu-ku
    seek-NONPAST you-DAT

'I'm looking for a boomerang for you; I'm hunting you a boomerang.' H/73/335
Here the second person DAT L-case nominal corresponds to a second person ACC B-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:

(50) *ngarrka-ngku lpa-ZERO-ju-ngku nyuntu-ku
     man-ERG PAST-3:NOM-1:ACC-2:ACC you-DAT
     warru-rnu ngaju-ku
     seek-PAST me-DAT

'The man was looking for you for me; The man was hunting me you.' H/73/335

While the following is allowed:

(51) ngajulu-rlu ka-rma-ngku-ZERO karli-Ø
     I-ERG PRES-1:NOM-2:ACC-3:ACC boomerang-ABS
     yi-nyi nyuntu-ku
     give-NONPAST you-DAT

'I am giving you a boomerang.' H/73/333

Warlpiri has the following constraint upon clitic sequences in AUX:

(52) Clitic Sequence Constraint:

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

That is, a sequence of two "audible" ACC B-pronouns is not permitted, while any object sequence with one or more third person elements is allowed. 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:

(53) ngajulu-rlu ka-rma-rla-jinta karli-ki
     I-ERG PRES-1:NOM-3:DAT-3:DAT boomerang-DAT
     warri-rni ngarrka-ku
     seek-NONPAST man-DAT

'I'm looking for a boomerang for the man; I'm hunting the man a boomerang.' H/73/336

The constraint given in (52) accounts for the fact that in di-transitive 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 ECs. The bi-uniqueness of Linking Rule I, as amended in (54), is maintained:

(54) Linking Rule I:

In a non-configurational language of the W-type, co-index each argument position in LS with the B-pronoun in PS that matches it in G-case marking, except for 1 and 2 person LS DAT arguments, which are co-indexed with ACC B-pronouns (assigning a distinct index to each argument position in LS).

This revision of LR I could have been avoided if we had assumed that there is a set of DAT B-pronouns that is homophonous with the ACC B-pronouns except in the third person. However, we would have been left with no explanation for the fact that (49) above is allowed, while (50) 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. Furthermore, an analysis which ignored the fact that first and second person never receive DAT G-case marking would have missed an important aspect of the Warlpiri case hierarchy.

We may now revise the sentence schemata list given in (37) as follows:

(55) Finite sentence types in Warlpiri:

a. \( V_1 \) NOM (NP-ABS) (NP-SEC)*

b. \( V_1 \) NOM DAT\(_3\) (NP-ABS) (NP-DAT\(_3\)) (NP-SEC)*
   \( V_1 \) NOM ACC\(_{1,2}\) (NP-ABS) (NP-DAT\(_{1,2}\)) (NP-SEC)*

c. \( V_t \) NOM ACC (NP-ERG) (NP-ABS) (NP-SEC)*

d. \( V_t \) NOM DAT\(_3\) (NP-ERG) (NP-DAT\(_3\)) (NP-SEC)*
   \( V_t \) NOM ACC\(_{1,2}\) (NP-ERG) (NP-DAT\(_{1,2}\)) (NP-SEC)*

e. \( V_t \) NOM ACC\(_3\) DAT\(_3\) (NP-ERG) (NP-ABS\(_3\)) (NP-DAT\(_3\)) (NP-SEC)*
   \( V_t \) NOM ACC\(_{1,2}\) ACC\(_3\) (NP-ERG) (NP-ABS\(_3\)) (NP-DAT\(_{1,2}\)) (NP-SEC)*
   \( [V_t \) NOM ACC\(_{1,2}\) DAT\(_3\) (NP-ERG) (NP-ABS\(_{1,2}\)) (NP-DAT\(_3\)) (NP-SEC)*]_7
I will conclude this brief survey of finite sentence types in Warlpiri with mention of a 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 single DAT object instead of the ordinary ACC one. Hale identifies this difference in case marking with the following semantic contrast:

(56) a. nyuntulu-rlu ø-npa-ju pantu-rnu ngaju-ø
    you-ERG ø-2:NOM-1:ACC spear-PAST me-ABS
    'You speared me.' H/73/336

b. nyuntulu-rlu ø-npa-ju-rla pantu-rnu
    you-ERG ø-2:NOM-1:ACC-3:DAT spear-PAST
    ngaju-ku
    me-DAT
    'You speared at me; you tried to spear me.' H/73/336

These specialized constructions are evidence that the first and second person object markers 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 element 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 markers appear: -rla+ -rla = -rla-jinta. This double case marking suggests that we may regard these constructions as involving an extended use of the DAT marker.

To summarize: it is the LS argument array of a verb that determines both the G-case of the PS arguments, the B-pronouns, and the L-case of any nominals that may be coindexed with them, as shown in Table 1 below.

We will also need to list in the lexicon the one or two transitive verbs that take a DAT object, as in (49) above. And the derived "spear at" constructions need to be described elsewhere. Both of these constructions involve unachieved goals. Following Hale, we will say that the dictionary definition of a verb determines its argument structure, and assigns θ-roles to the argument positions, as indicated roughly in Table 1. Linking Rule I gives us the required verbal arguments in PS with their G-cases; Linking Rule II gives us the L-cases that any optional co-indexed nominals must have. It will be seen that LS argument positions with the θ-role agent may be eventually
Table 1

Warlpiri Case Compatibility

<table>
<thead>
<tr>
<th>Verb Type</th>
<th>LS ARG</th>
<th>θ-Role</th>
<th>Co-indexed B-pronouns:</th>
<th>Co-indexed Nominals:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Array</td>
<td></td>
<td>G-case</td>
<td>L-case</td>
</tr>
</tbody>
</table>

1. Int.  

- Req. 1 (variable) NOMINATIVE ABSOLUTIVE
- Opt. 1, 2 goal
  - DATIVE
  - ACC

2. Tran.  

- Req. 1 agent NOMINATIVE ERGATIVE
- 2 patient ACCUSATIVE ABSOLUTIVE
- Opt. 1 goal
  - DATIVE
  - ACC

3. Di-

- Req. 1 agent NOMINATIVE ERGATIVE
- Tran. 2 patient ACCUSATIVE ABSOLUTIVE
- 3 goal
  - DATIVE
  - ACC
linked to an ERG nominal; that LS argument positions with the \( \theta \)-role patient may be eventually linked with ABS nominals; that the single required LS argument position of an intransitive predicate with a variable \( \theta \)-role (including experiencer/patient) may also ultimately be linked with an ABS nominal; and that LS argument positions with the \( \theta \)-role goal (including benefactive, etc.) can be ultimately linked to a DAT nominal.

It is certain semantic features of the verb which determine its LS argument structure, which is projected into PS via the G-cases and B-pronouns. Given the LS argument array, we know the G-cases of the PS arguments and the L-cases of any co-indexed nominals, along with some information on the number of the nominals. The Linking Rules and the Case Compatibility Rule merely describe these dependencies.

1.5 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 adsentential 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. Such case/prepositional phrases may be attached to the verb or to another nominal. 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 B-pronoun the nominal may be co-indexed with, and since these correspondences vary with predicator type, as shown in Table 1, these L-cases reflect \( \theta \)-roles more specifically than the B-pronoun verbal arguments do: they specify whether the subject is agent or experiencer, and whether the object is patient or goal. Compare the following:

(57) \[ \text{Ngarrka-} \theta \text{ ka-} \text{ZERO-} \text{nyanu nya-} \text{nyi} \]
\[ \text{man-ABS PRES-3:NOM-REFL see-NONPAST} \]
\[ \text{"He sees himself, (as) a man." H/82b/63} \]

(58) \[ \text{Ngarrka-ngku ka-} \text{ZERO-} \text{nyanu nya-} \text{nyi} \]
\[ \text{man-ERG PRES-3:NOM-REFL see-NONPAST} \]
\[ \text{"The man sees himself." H/82b/63} \]

In this minimal pair, the contrast lies in the case marking of the nominal ngarrka, "man". In (57), the nominal has ABS case, and is co-indexed with the ACC reflexive B-pronoun, nyanu; in (58), the nominal has ERG case, and is co-indexed with the NOM B-pronoun (third person ZERO). In (57), the optional nominal gives more information
on the "internal" argument, the object; in (58) the nominal gives more information on the "external" argument, the subject. The semantic contrast is an interesting one. 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" examples above (56a and b) we saw how a change in the case marking of the object B-pronoun 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 co-indexed 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. 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 preposition such as "by"). They note also that in Eskimo, ERG case coincides with the possessive. These features reveal some of the semantic correlates of L-case marking across languages.

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.

(59) ngajulu-rlu ø-rna-ZERO yankirri-Ø pantu-rnu
     I-ERG PAST-1:Nom-3:ACC emu-ABS spear-PAST
     kuja-lpa ngapa-Ø nga-rnu
     COMP-PAST water-ABS drink-PAST

'I speared the emu which was/while it was drinking water.' H/76/76

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.

1.6 Warlpiri as a W-type non-configurational language

The predicator-AUX complex in a finite sentence in Warlpiri constitutes a complete sentence: a verb and its arguments. Because
of the phonologically null third person arguments, there are necessarily no "missing" arguments or ECs in the PS of finite clauses. Nominals, as opposed to AUX clitics, are optional, and in this sense may be "missing", "extra", or simply fail to be co-indexed with an AUX B-pronoun, and thus ultimately with a LS argument position. This leads to a reformulation of the configurationality parameter as it applies to Warlpiri:

(60) CP for W-type languages:

In a non-configurational language of the W-type, the LS argument array of a verb is projected into PS, but the arguments satisfying the verb are always and only REF clitics in the PRED-AUX complex.

W-type languages are configurational with respect to these clitics, which 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 proposes for Warlpiri, quoted in (2) above:

(61) AUX → TENSE/ ASPECT/ MODALITY

The predicator selects the argument array in AUX. The following structure is proposed for a finite transitive sentence in Warlpiri:

(62) S VP T S O CP Nom

We need to add to (62) the stipulation that any 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 (62). 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 no hierarchical relationships among these words; that is, non-configurational at the word level.
The crucial point is that in W-type languages, nominals and the B-pronoun verbal arguments never fall together syntactically. This is the feature that underlies all of the distinctive grammatical attributes of this language type:

(63)  

a. Free word order, because nominals have no fixed positions in the clause; only AUX is fixed. The lack of fixed positions for nominals means that there are no ECs.

b. No move α rules, because there are no ECs.

c. No ECs, because of "null anaphora"--if there is no other subject or object marked, there is necessarily a third person argument.

d. "Null anaphora"--because of the feature REF in AUX.

e. REF person markers in AUX--because of the different systems of case marking on clitics and nominals, ruling out AGR.

The distinctive attribute of W-type languages, then, is the co-occurrence of two sets of REF elements, B-pronouns and nominals, that have distinct syntactic functions.

Other advantages of this definition of the W-type are as follows:

(64)  

a. We can say that any element in PS that marks SUBJECT or OBJECT is marking NOM or ACC case.

b. We can say that any element that marks case is visible. ZERO (phonologically null) arguments, by the covertness principle, are "visible" in the sense of a contrastive absence in the system, although when considered in isolation they are inaudible.

c. We can explain the fact that independent pronouns in W-type languages, no matter what their case marking system, are used for emphasis. They are never verbal arguments.

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 the next section, I will suggest further support for this analysis that may be gained from comparing Warlpiri with other languages that seem also to be W-type non-configurational languages.
2. OTHER W-TYPE 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. Lumi and Klallam, Coast Salish languages of the American Northwest, share the following traits with Warlpiri (Jelinek and Demers, 1982; Demers and Jelinek, 1982):

(65) W-type features:

a. A predicate-AUX complex that constitutes a finite sentence, a verb and its arguments.

b. Optional, non-argumental nominals.

c. An ergative split and case hierarchy, 1 & 2 > 3 > N, with only 1 & 2 B-pros marking only NOM and ACC case, the primary G-cases.

d. Nominal expressions that mark person, and have ERG/ABS case.

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

f. No move a rules, no PASSIVE transformation, etc.

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

This list of shared features is certainly beyond any chance association, and validates the definition of the type. Ergative splits are known to occur in many languages in the Americas and Asia; it seems likely that the W-type will prove to be exemplified widely in areas other than Australia.

In Warlpiri, B-pronouns and nominals have distinct syntactic functions; therefore, they need not have the same system of case marking. B-pronouns have NOM/ACC case, while nominals have ERG/ABS case. Such an "ergative split" is an example of a split case hierarchy, as follows:

(66) Split Case Hierarchy

A language has a split case hierarchy if it has two classes of referential elements which

a. co-occur;
b. have distinct syntactic functions;
c. have distinct systems of case marking.

Warlpiri meets the conditions stated in (66):

Table 2

<table>
<thead>
<tr>
<th>REF Classes</th>
<th>CASE Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. B-pronouns</td>
<td>NOM/ACC/DAT</td>
</tr>
<tr>
<td>b. Nominals</td>
<td>ABS/ERG/DAT/LOC, etc.</td>
</tr>
</tbody>
</table>

The hierarchy may also be displayed as follows:

<table>
<thead>
<tr>
<th>B-pronouns</th>
<th>Nominals</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-case</td>
<td>L-case</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary NOM/ACC</th>
<th>Secondary DAT</th>
<th>Primary ABS/ERG/DAT</th>
<th>Secondary LOC, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 &amp; 2 person</td>
<td>3 person only</td>
<td>Coindexed Nominals</td>
<td>NON-coindexed Nominals</td>
</tr>
<tr>
<td>Verbal Arguments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NON-argumental Adjuncts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1

A language may have a split case hierarchy and be W-type non-configurational and not have ERG/ABS case marking. The Uto-Aztecan language Papago (Hale, 1973; Zepeda, 1982) has a second position AUX clitic sequence. The subject is marked in AUX, while the object is marked in a verbal prefix. Therefore, the PRED-AUX is a complete sentence, nominals are optional, and word order (except for AUX) is free.

(67) a. Huan 'o wakon g ma:gina
     Subject AUX Verb Object
b. Huan 'o g ma:gina wakon
     Subject AUX Object Verb
c. Wakon 'o g ma:gina g Huan
     Verb AUX Object Subject
The optional nominals do not mark case, so that G-case marking appears only in INFL, on B-pronouns. The third person singular subject (NOM) is marked by 'o in AUX in (67), and the object (ACC) is marked in a verbal prefix as follows:

(68) Ha-wakon 'o g Huan
    3:PL:ACC-wash AUX DET Juan
    'Juan is/was washing them.'

(The prefix for 3:Sg:ACC is phonologically null.) Since Papago lacks PRIMARY L-case, i.e., nominals are not marked for agent or patient, there is ambiguity in sentences with agents and patients of the same number. DATIVE case is not marked; goal arguments are "advanced" to ACC case. The split case hierarchy for Papago is:

(69) Papago Split Case Hierarchy

a. B-pronouns (1, 2 and 3 person): NOM/ACC G-case
b. Nominals: only SECONDARY L-cases/adpositions (LOC, POSS, etc.)
c. Ranking of REF elements: 1 2 3 > N

There are no Case Compatibility rules, since ERG/ABS case is not present. AGR features such as person and number are relied upon for co-indexing between B-pronouns and nominals without case marking. Papago differs from a configurational language like English where A-pronouns show NOM/ACC case and nouns do not in a crucial respect: the fact that nominals co-occur with B-pronouns in Papago, and are therefore optional. The presence of co-occurring sets of REF elements with different syntactic functions is the defining feature of a W-type language. This contrast in syntactic functions provides for the possibility of separate and distinct systems of case marking on B-pronouns vs. nominals, an "ergative split". "Ergative splits" clearly demonstrate the different syntactic functions of the two sets of referring expressions, but such splits are not a necessary feature of a W-type language. Optional adjoined nominals that may be coindexed with verbal arguments may have no case marking, and thus resemble topics, as in Papago. Basque, which appears to be a W-type language, has ERG/ABS marking on both the AUX B-pronouns and the optional adargumental nominals. Basque therefore has agreement between B-pronouns and nominals. Like
other W-type languages, Basque treats the SUBJECT and OBJECT grammatical relations alike in assigning them to B-pronouns in the PRED-AUX, while in a "pro-drop" language such as Spanish, there is an asymmetry between these grammatical relations: while SUBJECTS are marked in INFL, and thus may be "dropped", OBJECTS are nominals with fixed positions in the clause. In Latin, where OBJECT nominals have ACC case marking, OBJECTS also have some freedom of word order, but there remains an asymmetry between SUBJECTS and OBJECTS, OBJECT nominals cannot be dropped, because there is no OBJECT agreement.

We can generalize as follows on free word order, so far:

(70) Free Order of Nominals

Nominals may lack fixed positions in the clause corresponding to their grammatical functions if:

a. They have no grammatical functions. (W-type)

b. Their case marking shows their grammatical functions. (Latin)

In the next section, we will briefly consider a second sub-type of non-configurational language, Japanese, and identify another source of free word order.

3. JAPANESE-TYPE NON-CONFIGURATIONAL LANGUAGES

I will not attempt to fully characterize Japanese as a non-configurational language here, but simply point to some features of Japanese grammar that lend support to Hale's Configurationality Parameter. Japanese differs sharply from W-type languages in having no B-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; Farmer, in press.)

The feature that Japanese shares with W-type languages is the optionality of nominals, and their relatively free word order. In general, Japanese nominals do not appear to have fixed positions in the clause that correspond to their grammatical functions. This freedom of word order of nominals may be in part related to their case particles/prepositions, as in Latin; but the optionality of nominals does not depend upon either AGR or REF in INFL. Japanese is not a "pro-drop" language, and there are no pro ECs in PS in the Japanese sentence. Without pro ECs there is no motivation for fixed argumental positions in the clause.

Hale's Configurationality Parameter captures these facts about Japanese:

(71) The Configurationality Parameter (CP):

a. In configurational languages, the projection principle holds of the pair (IS, PS).
b. In [J-type] non-configurational languages, the projection principle holds of LS alone. H/82b/35

That is, the argument array in the LS of a Japanese verb need not be represented categorically in PS. Evidence for this claim for Japanese can be adduced from two sources: (1) the pragmatic strategies that Japanese speakers employ in identifying the referent of the "missing" argument; and (2) the topic/comment sentence type in Japanese as an alternative to the subject/predicate construction.

Kitagawa (personal communication) likens the pragmatic strategies used in identifying the unspecified SUBJECT and OBJECT arguments of Japanese sentences to those that English speakers use in interpreting postcards and telegrams. The first strategy is to assume that the unspecified argument corresponds to the speaker, next the hearer, and last some third person, if the context makes earlier interpretations unlikely. Without AGR, there is no pro and no move α, although there may be PRO in subordinate constructions. The PRO subject of a subordinate clause would be anaphorically linked to a LS argument position of the matrix clause verb, in the absence of a nominal filling that position in PS.

In the topic/comment construction in Japanese (see discussion in Kitagawa, (1982)) topics are marked by the particle -wa. Such sentences may or may not also have a SUBJECT nominal in PS, with the particle -ga. In a configurational language, on the other hand, sentences with adjoined topics also necessarily have a subject argument in the main clause. The subjectless topic/comment construction is diagnostic of the J-type non-configurational language; because of this construction, Japanese sentences frequently have nominals that are not verbal arguments but correspond to some "missing" argument.

Japanese nominals are governed by their case particles/prepositions, and thus are not directly governed by the verb or predicator; they resemble the prepositional phrases that may serve as complements to the verb in configurational languages. The Japanese verb and optional nominals are sisters under the S-node. The particle -ga marks NOM case, the particle -o marks ACC case, and -ni marks DAT. Nominals with these case particles are verbal arguments, and are co-indexed with LS argument positions by a linking rule such as Hale's rule quoted in (7) above. A nominal with the topic particle -wa may or may not be co-indexed with some argument position. Some amendment of Hale's linking rule would be required to state the conditions under which a nominal marked -wa could be co-indexed with an LS argument position. I assume that no LS argument position ever carries the particle -wa and that a nominal plus -wa cannot be associated with any particular θ-role prior to its coindexing with an LS argument position.

A nominal with -wa that is not co-indexed with any LS argument position is shown in the following example, taken from Kitagawa, (1982):

(72) Sakana-wa tai-ga i-i
     fish-TOP red-snapper-NOM good-PRES
     'Speaking of fish, red snapper is the best.'
In this example, there is a pragmatic relationship (class inclusion) between the TOPIC and the SUBJECT.

The generalization on word order given above may be completed as follows:

(73) Free Order of Nominals:

Nominals may lack fixed positions in the clause corresponding to their grammatical functions if:

a. They have no grammatical functions.

b. Their case-marking shows their grammatical functions.

c. Their presence or order reflects pragmatic factors.

Note that these factors influencing word order are not mutually exclusive. Warlpiri shows (81a) and (81c); Japanese shows (81b) and (81c). In contrast, Chinese, a configurational language, permits nominals (verbal arguments) 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.

If the 0-marking properties of a lexical item do not require categorial representation at the PS level in Japanese, then there are no pro ECs, and no fixed positions in the clause corresponding to grammatical functions. There is a case hierarchy in Japanese; there is a distinction between G-case (NOM, ACC, DAT) marking on nominals that can be co-indexed with LS argument positions, and L-case (LOC, etc.) that appears on nominals that can not be co-indexed with LS argument positions. But there is no association between case and REF class, as in a split case hierarchy, since there is only a single set of REF elements, the nominals.

In the preceding sections, W-type languages were identified as non-configurational because of the presence of argumental B-pros and non-argumental adjoined nominals; in this section, I have suggested that Japanese is a non-configurational language from an entirely different cause: the fact, as Hale has claimed, that the PP does not apply at the PS level. It seems likely that the failure of the PP to apply may be associated with the presence of the topic/comment sentence type in which the case marking of a nominal as determined by the LS argument array, may be "overridden" by the topic marker -wa, that is, in which any case-marked nominal may be "replaced" by a topicalized nominal, with a consequent disruption of the linkage between LS argument arrays and the PS case marking of nominals.

I have the impression that the J-type non-configurational language may be less widely represented than the W-type. Outside of Japanese and Korean, I would look for other possible examples in languages with a topic/comment construction as a central rather than a marginal sentence type, with topic particles, perhaps in the
Philippine language families. It would be interesting to determine, if possible, if in an earlier historical stage Japanese placed less emphasis on topic/comment constructions and was more configurational.

4. GRAMMATICAL FUNCTIONS AND Ø-ROLES; THE MOVE-α PARAMETER

In Warlpiri, B-pronouns that serve as verbal arguments carry the grammatical relations, while the case particle of a nominal shows its θ-role (agent, patient, goal, etc.). In a configurational language there is only one set of referential elements, and therefore no possibility of the separate marking of grammatical functions vs. θ-roles, the same element simultaneously marks both. In underived transitive sentences in English, the grammatical function SUBJECT and the θ-role agent coincide. In the derived passive construction, the grammatical function SUBJECT and the θ-role patient coincide. Accordingly:

(74) Move α Parameter:

Move α rules are possible in a language that

a. simultaneously marks both grammatical function and θ-role on REF elements of a single kind; and

b. requires that the grammatical function SUBJECT be represented in finite clauses.

In English, grammatical functions and θ-roles are marked on a single REF element, an NP, and finite clauses must have a subject. Thus, English meets both conditions (74a) and (74b), and has Move α.

Table 3

<table>
<thead>
<tr>
<th>Move α iff:</th>
<th>English</th>
<th>Warlpiri</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Both GF and θ-role marked on same REF item</td>
<td>Yes NPs</td>
<td>No B-pros CPPs</td>
<td>Yes CPPs</td>
</tr>
<tr>
<td>b. GF SUBJECT always marked</td>
<td>Yes Pleon.; ECS</td>
<td>Yes ZERO 3 pers.</td>
<td>No -wa; SUBJ Optional</td>
</tr>
</tbody>
</table>

Warlpiri fails condition (74a); it has two sets of REF elements, with different syntactic functions, the B-pronouns that mark grammatical functions and the CPPs that mark θ-roles. Warlpiri meets (74b), because of the ZERO third person singular B-pronouns, which make it impossible for a finite clause to lack a subject. Thus, Warlpiri lacks Move α.
Japanese, on the other hand, meets condition (74a) but fails condition (74b), and therefore also lacks Move $\alpha$. Japanese, like English, has only a single set of REF elements, the nominals, on which both grammatical function and $\theta$-role are marked. I am assuming a lexical passive construction in Japanese, in which a nominal with the grammatical function SUBJECT has the $\theta$-role experiencer/patient:

(75) Hanako-ga sensei-ni sikar-are-ta
    Hanako-NOM teacher-DAT scold-PASSIVE-PAST
    'Hanako was scolded by the teacher.' Farmer/82/52

We would need to state linking rules for Japanese for grammatical function and $\theta$-role according to the subcategorization of the verb. In transitive sentences, an LS argument position with the $\theta$-role agent would be linked with an optional nominal with the grammatical function SUBJECT and NOM case; in intransitive -are- sentences, an argument position with the $\theta$-role agent would be linked to an optional OBLIQUE nominal with DAT case. These linkages may be disrupted as follows:

(76) a. Hanako-wa sensei-ni sikar-are-ta
    Hanako-TOP teacher-DAT scold-PASSIVE-PAST
    'As for Hanako, (she) got scolded by the teacher.'

    b. Sensei-ni sikar-are-ta
        teacher-DAT scold-PASSIVE-PAST
        '(She) got scolded by the teacher.'

The 'missing' subject is supplied in context by the hearer according to the pragmatic strategies mentioned earlier. An argument position in the LS of a Japanese verb has a particular $\theta$-role which is linked to a grammatical function and a particular case marking, according to the subcategorization of the verb, on any optional coindexed nominal. However, any nominal may be topicalized, lose its grammatical function, and be marked -wa. The PP does not apply at the PS level in Japanese; therefore, a Japanese sentence may lack a subject either because no nominal that may be coindexed with that argument position is present, or because a nominal corresponding to the subject is marked TOPIC. In either case, condition (74b) is not met, and Move $\alpha$ is absent.

5. CONCLUSION

The goal of this paper has been to show the utility of Hale's insight into the fact that in non-configurational languages, certain rules of order and movement that depend upon the presence of ECs in finite clauses do not apply. There are no ECs in the main clauses of a language of the W-type because there are no fixed positions in the clause that nominals may occupy—only fixed positions that B-pronouns must occupy; because of the ZERO third person singular B-pronouns, it is impossible for a finite clause in a W-type language to lack a SUBJECT or an OBJECT. In a J-type language, there are no fixed positions in the clause that nominals may occupy because the
requirement that IS argument positions be satisfied in PS may be "overridden" for pragmatic purposes. It is not the case that if there is a "missing" argument in a Japanese sentence, we must assume a third person pronominal argument; instead, we must employ pragmatic strategies to interpret the sentence, strategies related to the ranking inherent in REF classes. Thus, there are two radically different sources of non-configurationality.

An important trait that is common to these two non-configurational sub-types is the fact that nominals in these languages are never governed directly by the verb. In a W-type language, B-pronouns are governed by the verb, and nominals by their case particles. In a J-type language, nominals are governed by their case particles/prepositions, and some CPPs also serve as verbal arguments. In a W-type language, CPPs are sisters to the PRED-AUX complex, which incorporates the verbal arguments; in a J-type language, the CPPs are sisters to a PRED-AUX which does not include verbal arguments. This leads to a proposal for an amended configurationality parameter, as follows:

(77) Configurationality Parameter (Extended):

- In a configurational language, some nominals are directly governed by the PRED-AUX complex;
- In a non-configurational language, all nominals are governed by their case particles/prepositions; CPPs are sisters to PRED-AUX.

We may specify the sub-types as follows:

(78) Non-configurational sub-types:

- In W-type languages, the IS argument structure of a predicate is satisfied by B-pronouns; nominals (CPPs) are optional adjuncts.
- In J-type languages, the IS argument structure of a predicate need not be satisfied in PS; some CPPs are verbal arguments, others are adjuncts.

The fact that nominals are not directly governed by the predicator in non-configurational languages is the crucial feature common to these sub-types. It is significant that 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 predicators in "flatter" syntactic
structures. These flatter syntactic structures are comparable to the kinds of adjoined sentences seen in logical form, when the more complex hierarchical structures of natural language are decomposed into sequences of truth-functionally connected predicate/variable formulae of the kind that have been developed in predicate logic.

To summarize: this view of the different functions of case marking in configurational vs. non-configurational languages has brought us an explanation of the following:

(79) a. Certain features that Hale has identified as characteristic of non-configurational languages, i.e., "free" word order, discontinuous expressions, and "null anaphora". To this we may add: the optionality of nominals, the lack of certain movement rules, and the absence of certain BCs.

b. The relationship between "ergative splits" and the split in syntactic functions of B-pronouns vs. nominals in W-type languages.\(^\text{13}\)

c. The semantic idiosyncracies of case marking on nominals in Australia, where I-case particles mark \(\theta\)-roles rather than grammatical functions; and the non-argumental functions of nominals.

d. The Move a Parameter and its relationship to configurationality.

e. The specification of the two markedly different sub-types of non-configurationality, and the identification of other languages belonging to the W-type: members of the Salish and Uto-Aztecan language families, and Basque.

The contrast between configurational and non-configurational languages, and the specification of the sub-types of the latter, have been shown to depend upon a small number of grammatical features. A modular view of grammar can provide a language typology that presents a family of intersecting types with shared features, rather than a set of discrete types with mutually exclusive characteristics. The interesting task will be to determine what are surface features and what are underlying ones, and how different combinations of features produce different grammars.

The development of typological parameters is a crucial step in the growth of universal grammar. Hale's work on Australian and Native American languages led him to the recognition of non-configurationality as a central feature of the grammar of some of
these languages, seemingly unrelated and widely scattered all over the world. The configurationality parameter seems to be useful in accounting for a considerable range of grammatical features, and for the dependencies among them.

FOOTNOTES

1 I thank Ken Hale for the help and encouragement that made this paper possible, and for criticisms and corrections. I am grateful also to Adrian Akmajian, Dick Demers, Ann Farmer, Chisato Kitagawa, and Adrienne Lehrer for very helpful comments and suggestions, and to Ofelia Zepeda for explaining certain aspects of Papago grammar to me.

2 The Warlpiri example sentences will be identified by the year of Hale's publication in which they appear, followed by the page number. The transcription of the 1973 and 1976 examples has been changed to that employed in the 1982 examples, in accordance with information supplied by Hale.

3 See discussion in Steele, et al. and in Jelinek, in press: "Person-Subject Marking in AUX in Egyptian Arabic", in Frank Heny and Barry Richards, eds., Linguistic Categories.

4 There is some flexibility of word order in Egyptian Arabic; see Jelinek, 1981.

5 Beginning with example (25), 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 Ø. I will record ABSOLUTIVE case marking on nominals also with Ø.

6 Hale (1982b) 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 B-pronouns 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.

7 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, ACC₁ arguments are always interpreted as having the Ø-role recipient. The clitic sequence constraint given in (52) above needs to be extended so as to specify the exclusion of this sentence type.
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)).

Similar limitations on the distribution of ERGATIVE case marking are present in many languages: Basque, Georgian, Indic, Samoan (Blake, 1977, p. 16).

I will not address here the question of PRO in subordinate clauses in Warlpiri, since I lack the necessary information on complex sentences. In Lummi, subordinate clauses have distinct sets of non-AUX person markers, so that there is no PRO (see Demers and Jelinek, 1982).

Hale (1973, p. 333) identifies a stative sentence type in Warlpiri in which there are no tense/aspect markers in AUX, and observes that AUX as a whole may be deleted in stative sentences.

See Kinkade (MS) 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.

See Jelinek (to appear) for a more detailed treatment of the relationship between configurationality and ergativity.

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