CASE AND CONFIGURATIONALITY[1]

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0.   INTRODUCTION

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. $\bar{X}$ ——> $\bar{X}$* X

       b. $\bar{V}$ ——> 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 <u>why</u> 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:[2]

(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. Further-more, non-adjacent nominals may correspond to a single verbal argument, resulting in discontinuous expressions:

(5)   Wawirri   kapi-rna 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 -rna, 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 θ-marking properties of lexical items are represented by argument arrays is LS, but not necessarily in PS. If Warlpiri verbs do not require the categorial representation of their θ-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 predicators 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-mi]] "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)"
              3fs   PERF

In (10a), the verb is identified by means of its radical consonants, as is traditional in Arabic dictionaries. The verb form <u>katabit</u> 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 <u>pro</u>, 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 <u>pro</u> 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)   <u>pro</u> 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.'

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

The object pronominal suffix -u̱ (3ms) may not co-occur with an object nominal, whereas subject AGR do̅es so co-occur. Arabic is a configurational language, with particular positions in the clause for nominals bearing particular grammatical functions;[4] the EC pro is present in PS when there is no overt subject nominal. Some Arabic predicators do not show AGR with the subject with respect to person:

(18)   hiyya ma̱sriyya
        she   Egyptian:fs
        'She is Egyptian.'

"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 ma̱sriyya 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 agrèe 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)   katabit-u
         wrote:PERF:3fs-it:3ms
         'She wrote it.'

we may assign it the following PS:

(21)   pro katabit-u pro
         NOM wrote   ACC
         3fs 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)   pro katabit-u
         NOM
         3fs 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)   nyuntulu-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:

(28)   a.   NOMINATIVE H/73/315-316   b.   ACCUSATIVE H/73/328

1	-rna	1	-ju
2	-n(pa)	2	-ngku
11	-rlijarra	11	-jarangku
12	-rli	12	-ngalingku (~ -ngali)
22	-n(pa)-pala	22	-ngku-pala
111	-rna-lu	111	-nganpa
122	-rlipa	122	-ngalpa
222	-nku-lu	222	-nyarra (~ -nyurra)
3	ZERO	3	ZERO
33	-pala	33	-palangu
333	-lu	333	-jana

The view that the person marking clitics in Warlpiri mark NOM/ACC case,
as apposed to the ERG/ABS case marking on nominals, is not original
here (see Blake, 1977; Dixon, 1979; Mallinson and Blake, 1982). Lan-
guages 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-rna   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:[6]

(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, PERLATIVE, 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-rni
     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 langauge of the W-type, a B-pronoun may be coindexed with a nominal, providing the L-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 NOM   (NP-ABS) (NP-SEC)*

        b. V_i NOM DAT (NP-ABS) (NP-DAT) (NP-SEC)*

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

        d. V_t NOM DAT (NP-ERG) (NP-DAT) (NP-SEC)*

In these schemata, optional nominals with compatible cases are shown in parentheses; (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-∅ ka-rna   wangka-mi
       I-ABS   PRES-1:NOM speak-NONPAST
       'I am speaking.' H/82b/21

(39)   ngaju-∅ ka-rna-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-rna-ngku   nyuntu-∅ nya-nyi
       I-ERG   PRES-1:NOM-2:ACC you-ABS see-NONPAST
       'I see you.' H/82b/22

(41)   ngajulu-rlu ka-rna-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)   ngajulu-rlu ka-rna-ngku   karli-∅   yi-nyi
       I-ERG   PRES-1:NOM-2:ACC boomerang-ABS give-NONPAST

       nyuntu-ku
       you-DAT

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

(43)   ngajulu-rlu kapi-rna-rla   karli-∅   punta-rni
       I-ERG   FUTURE-1:NOM-3:DAT boomerang-ABS take-NONPAST

       kurdu-ku
       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)   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

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

(46)   ngalipa-rlu ka-rlipa-jana   wawirri-patu-∅
       We-ERG   PRES-122:NOM-333:ACC kangaroo-PAUCAL-ABS

       nya-nyi
       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"
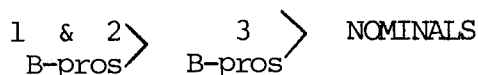
are reminiscent of a frequent cross-language phenomenon that has sometimes been called "dative movement". Compare:

(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 <u>primary</u> arguments to the verb, NOM and ACC, while third person may <u>also</u> 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:

$$\begin{array}{ccc} \text{1 \& 2} & \text{3} & \\ \text{B-pros} & \text{B-pros} & \text{NOMINALS} \end{array}$$

$$\text{1 \& 2 B-pros} > \text{3 B-pros} > \text{NOMINALS}$$

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 <u>warri-mi</u>, "seek", and <u>wapal-pangi-mi</u>, "dig in search of", that take DAT arguments. This <u>small class of</u> 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 <u>warri-mi</u>, "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-rna-ngku-rla   karli-ki
        I-ERG   PRES-1:NOM-2:ACC-3:DAT boomerang-DAT

        warri-mi   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-rna-ngku-ZERO   karli-∅
      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-rna-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_i NOM (NP-ABS) (NP-SEC)*

b. V_i NOM DAT_3 (NP-ABS) (NP-DAT_3) (NP-SEC)*

       V_i NOM $ACC_{\frac{1}{2}}$ (NP-ABS) (NP-$DAT_{\frac{1}{2}}$) (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 $ACC_{\frac{1}{2}}$ (NP-ERG) (NP-$DAT_{\frac{1}{2}}$) (NP-SEC)*

e. V_t NOM ACC_3 DAT_3 (NP-ERG) (NP-ABS_3) (NP-DAT_3) (NP-SEC)*

       V_t NOM $ACC_{\frac{1}{2}}$ ACC_3 (NP-ERG) (NP-ABS_3) (NP-$DAT_{\frac{1}{2}}$) (NP-SEC)*

       [V_t NOM $ACC_{\frac{1}{2}}$ DAT_3 (NP-ERG) (NP-$ABS_{\frac{1}{2}}$) (NP-DAT_3) (NP-SEC)*][7]

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

     V_t NOM ACC$_{\frac{1}{2}}$ DAT$_3$ (NP-ERG) (NP-DAT$_{\frac{1}{2}}$) (NP-DAT$_3$) (NP-SEC)*

     V_t NOM ACC$_{\frac{1}{2}}$ DAT$_3$ (NP-ERG) (NP-DAT$_3$) (NP-DAT$_{\frac{1}{2}}$) (NP-SEC)*

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

Verb Type	LS ARG Array	θ-Role	Co-indexed B-pronouns: G-case	Co-indexed Nominals: L-case
1. Int.	Req. 1	(variable)	NOMINATIVE	ABSOLUTIVE
	Opt. 1, 2	goal	$\left\{ \begin{matrix} \text{DATIVE}_3 \\ \text{ACC}_{1\frac{1}{2}} \end{matrix} \right\}$	DATIVE
2. Tran.	Req. 1 2	agent patient	NOMINATIVE ACCUSATIVE	ERGATIVE ABSOLUTIVE
	Opt. 1	goal	$\left\{ \begin{matrix} \text{DATIVE}_3 \\ \text{ACC}_{1\frac{1}{2}} \end{matrix} \right\}$	DATIVE
3. Di-Tran.	Req. 1 2 3	agent patient goal	NOMINATIVE $\left. \begin{matrix} \text{ACCUSATIVE}_3 \\ \left\{ \begin{matrix} \text{DATIVE}_3 \\ \text{ACC}_{1\frac{1}{2}} \end{matrix} \right\} \end{matrix} \right\}_3$	ERGATIVE ABSOLUTIVE DATIVE

linked to an ERG nominal; that LS argument positions with the θ-role patient may be eventually linked with ABS nominals; that the single required LS argument position of an intransitive predicate with a variable θ-role (including experiencer/patient) may also ultimately be linked with an ABS nominal; and that LS argument positions with the θ-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.[8] 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 θ-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)   Ngarrka-∅ ka-ZERO-nyanu   nya-nyi
        man-ABS   PRES-3:NOM-REFL see-NONPAST
        'He sees himself, (as) a man.' H/82b/63

(58)   Ngarrka-ngku ka-ZERO-nyanu   nya-nyi
        man-ERG   PRES-3:NOM-REFL see-NONPAST
        '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.[9] Or a nominal may not be marked ERG if the construc-
tion 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 ad-
joined 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 ∅-rna-ZERO   yankirri-∅ pantu-rnu
      I-ERG   PAST-1:NOM-3:ACC emu-ABS   spear-PAST

      kuja-lpa   ngapa-∅   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 adsen-
tential (temporal). Adjoined clauses, like nominals, are optional
additions to the main clause, but nominals are syntactically in-
tegrated 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.[10] 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:
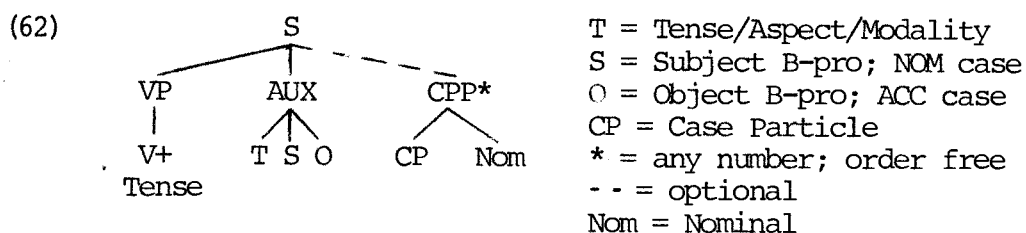
(60)   CP for W-type languages:

        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.[11]   The following rough PS rule may be added to those Hale proposes for Warlpiri, quoted in (2) above:

(61)   AUX $\longrightarrow$ TENSE/ B-pro$_{NOM}$ $\left(\left\{ \begin{array}{c} \text{B-pro}_{ACC} \\ \text{B-pro}_{DAT} \end{array} \right\} \right)$ $\left(\text{B-pro}_{DAT} \right)$
                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    AUX      CPP*
     |     /|\      /\
     V+   T S O    CP  Nom
   Tense
```

T = Tense/Aspect/Modality
S = Subject B-pro; NOM case
O = Object B-pro; ACC case
CP = Case Particle
* = any number; order free
- - = optional
Nom = Nominal

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. Lummi 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 α 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.[12]   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

Warlpiri Split Case Hierarchy

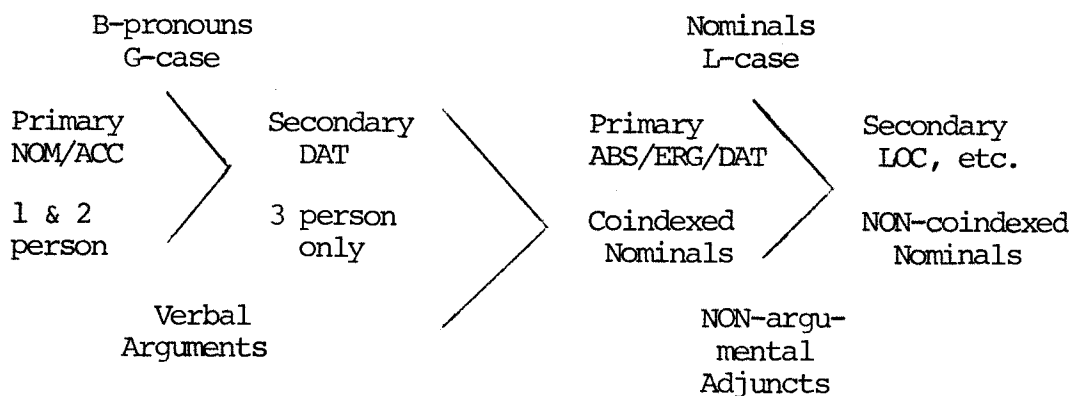| REF Classes	CASE Marking
a. B-pronouns	NOM/ACC/DAT
b. Nominals	ABS/ERG/DAT/LOC, etc.

The hierarchy may also be displayed as follows:

Figure 1

Warlpiri Split Case Hierarchy

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

    d.   Wakon 'o g Huan g ma:gina
          Verb AUX Subject Object

    e.   Ma:gina 'o g Huan wakon
          Object AUX Subject Verb

    f.   Ma:gina 'o wakon g Huan
          Object AUX Verb Subject

          'Juan is/was washing the car.' Zepeda/82/147

     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 con-
trast 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. Op-
tional 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 (LS, 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 categorially 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 interpreta-
tions 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 sen-
tences 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 argu-
ment 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 θ-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

Move α

Move α iff:	English	Warlpiri	Japanese
a. Both GF and θ-role marked on same REF item	a. Yes NPs	a. No B-pros CPPs	a. Yes CPPs
b. GF SUBJECT always marked	b. Yes Pleon.; ECs	b. Yes ZERO 3 pers.	b. No -wa; SUBJ Optional

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 α. Japanese, like English, has only a single set of REF elements, the nominals, on which both grammatical function and θ-role are marked. I am assuming a lexical passive construction in Japanese, in which a nominal with the grammatical function SUBJECT has the θ-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 θ-role according to the sub-categorization of the verb. In transitive sentences, an LS argument position with the θ-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 θ-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 θ-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 α 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 LS 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):

    a.   In a configurational language, some nominals
          are directly governed by the PRED-AUX
          complex;

    b.   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:

    a.   In W-type languages, the LS argument structure
          of a predicate is satisfied by B-pronouns;
          nominals (CPPs) are optional adjuncts.

    b.   In J-type languages, the LS 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, discon-
            tinuous expressions, and "null anaphora".
            To this we may add: the optionality of
            nominals, the lack of certain movement rules,
            and the absence of certain ECs.

       b.   The relationship between "ergative splits"
            and the split in syntactic functions of B-
            pronouns vs. nominals in W-type languages.[13]

       c.   The semantic idiosyncracies of case marking
            on nominals in Australia, where L-case
            particles mark θ-roles rather than gramma-
            tical functions; and the non-argumental
            functions of nominals.

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

       e.   The specification of the two markedly dif-
            ferent 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 $\emptyset$. I will record ABSOLUTIVE case marking on nominals also with $\emptyset$.

[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, ACC_{12} arguments are always interpreted as having the θ-role recipient. The clitic sequence constraint given in (52) above needs to be extended so as to specify the exclusion of this sentence type.

[8]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)).

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

[10]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).

[11]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.

[12]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.

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

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