HIERARCHICAL VARIATION IN PRONOMINAL CLITIC ATTACHMENT
IN THE EASTERN NGUMBIN LANGUAGES

Patrick McConvell

1. INTRODUCTION

In this paper I discuss the similarities and differences in the
attachment of pronominal clitics in three languages of the Ngumbin sub-
group that I have studied to some extent, Gurindji, Mudbura, and
Bilinara, together with some passing references to the operation of
pronominal clitics in neighbouring languages. The Ngumbin languages
share with the languages of the Western Desert region (the Wati and
Ngarga subgroups of the Nyungic group) the grammatical feature of
attachment of a clitic complex, consisting of formatives agreeing with
certain NPs in the same simple sentence, to another element in the
sentence. The pronominal clitics are quite similar in form throughout
the Western Desert region. The areas in which there are notable dif-
ferences in their behaviour as between different languages and dialects
can be divided into three:

(a) The relations of *agreement* between the free NPs and the bound
clitics which represent them. The three areas to be examined here are
(i) case, (ii) person, and (iii) number (there is no grammatical gender
or noun classification in the Ngumbin languages). It appears generally
true for the Western Desert languages that there is a different organ-
isation of case marking in the pronominal clitic system on the one hand
and free NPs on the other; in the E. Ngumbin languages the free pronouns
differ in their case system from either nouns or clitics. The difference
is not simply one of a neutralisation of a set of cases in one system as
compared to another, but different neutralisations of semantic cases in
each system, producing an 'ergative' system for one nominal type and an

31

'accusative' system for another. The question of person need not take
up much of our time, although we shall see that some difficulties do
arise where the free pronoun system in Mudbura makes fewer distinctions
of number and person that the clitic system (in other Australian lan-
guages the opposite situation also arises, e.g. Yukulta (Keen 1972)).
As for number, in most of the Ngumbin languages, and some other neigh-
bouring languages neutralisation of the distinction between dual and
plural takes place under some circumstances where a dual clitic combines
with a non-singular clitic (DUAL NEUTRALISATION). The environments
which cause this neutralisation vary widely between different languages
and dialects.

(b) The *order* of the clitics in the clitic complex. This appears to
be determined by a combination of case, person and number of the clitics
concerned in the E. Ngumbin languages. Variation in the surface orders
of clitics is to be found in these and neighbouring languages. Two
aspects will be considered here: (i) why clitics are found sometimes
in the order subject-oblique, sometimes oblique-subject, and even, in
Mudbura, subject-oblique-subject (see further under CLITIC SWITCH and
CLITIC COPYING), (ii) why number markers (particularly those of subject
clitics) appear sometimes adjacent to the person marker they refer to,
sometimes separated from it by other clitics (SUBJECT NUMBER SHIFT).

(c) The element to which the pronominal clitics (henceforth, for the
purposes of this paper, simply 'clitics') are attached. I shall refer
to this element as the *clitic base*.

In the languages under consideration here this base may be either
(i) an Auxiliary (often referred to by Capell, particularly in relation
to the Ngumbin languages, as the 'catalyst'), (ii) a complementiser or
negation marker, (iii) the initial constituent of the clause (sometimes
the initial word) or (iv) the verb. These types I shall call respect-
ively (i) Aux-attachment, (ii) Presentence Attachment, (iii) Initial
attachment, and (iv) V- attachment. Languages may exhibit exclusively
one type of attachment, or, as in the case of the languages to be
examined here, more than one type, either in free variation, or in which
the type is determined by the context in which the clitics appear.

I argue throughout the paper and in the conclusion that the concept
of *hierarchy* elaborated by Silverstein (1976) in relation to case-mark-
ing may fruitfully be extended to explain not only the operation of the
rules discussed here in individual languages, but also the range of
variation found in different languages and dialects.

2. CLITIC AGREEMENT

2.1. *PRONOUN AND CLITIC PARADIGMS*

I take the rule of CLITIC ATTACHMENT to be a transformational rule
which copies bundles of features from an NP or NPs in a simple sentence
into another position in the same sentence. In the languages dealt
with here, the clitics which cross-reference the NPs are attached to
each other and suffixed to another word in the sentence. An optional
rule of PRONOUN DROP follows CLITIC ATTACHMENT, deleting those of the
NPs in the sentence which are pronominal and which have been cross-
referenced by clitics.

As a guide to later discussion, the paradigms of free pronouns (1)
and (2) and of clitic combinations (3)-(11) (S + O only; see Section
2.3. for further possible combinations) are set out below. In what
follows G. stands for Gurindji (both dialects, where not otherwise
specified); WG for Western Gurindji, EG for Eastern Gurindji; B for
Bilinara, and M for Mudbura. WM and EM are also used in distinguishing
Mudbura dialects. Elsewhere (a), (b) etc. are used to indicate dialec-
tal forms which do not have a clear geographical basis. In the
orthography j is a laminal palato-alveolar stop and y a palatal glide.

Free Pronouns

(1) G, B	ABS	ERG	DAT	(2) M	ABS	ERG	DAT
1S	ŋayu	ŋayiɲ			ŋayi		ŋayiɲa
2S	ɲuntu	ɲunuɲ			ɲuntu		ɲunuɲa
3S	ɲantu	ɲanuɲ			ɲani ɲaniṇiḷi (-ṇi)		ɲanuɲa
1ID	ŋali	ŋaliŋuɲ			ŋayi (kujara)		ŋayiɲa (kujarawu)
1ED	ŋayira	ŋayiraɲ			ŋayi (kujara)		ŋayiɲa (kujarawu)
2D	ɲunpula	ɲunpulaɲ			ɲuntu (kujara)		ɲunuɲa (kujarawu)
3D	ɲanpula	ɲanpulaɲ		(Demonstratives used)			
1IT	ŋaliwula	ŋaliwulaɲ			ŋayi (yukaṭu)		ŋayiɲa (yukaṭuwu)
1IP	ŋaliwa	ŋaliwaŋuɲ			ŋayi (taṭu)		ŋayiɲa (taṭuwu)
1EP	ŋantipa	ŋantipaŋuɲ			ŋayi (taṭu)		ŋayiɲa (taṭuwu)
2P	ɲurulu	ɲuruluɲ			ɲuntu (taṭu)		ɲunuɲa (taṭuwu)
3P	ɲarulu	ɲaruluɲ		(Demonstratives used)			

Pronominal Clitics

(3) Singular Subject and Singular Oblique:

G	1	2	3
		O	
S 1.	ṇaṇunu (RFL)	ṇaṇku	ṇa (DO) ṇaḷa (IO)
S 2.	yin	njunu (RFL)	n (DO) nkula (IO)
S 3.	yi	ŋku	∅ (DO) ṇunu (RFL) ḷa (IO)

B as above, except that ṇanu replaces ṇunu as RFL marker.

(4) Singular Subject and Singular Oblique:

M	1	2	3
		O	
S 1.	ṇayi (RFL)	ṇaṇku	ṇa (DO) ṇaḷa (IO)
S 2.	yin	nṇanun (RFL)	n (DO) nkuḷa (IO)
S 3.	yi	ŋku	∅ (DO) ṇanu (RFL) ḷa (IO)

ŋku is often realised phonetically as ŋu or ŋ^w.

(5) Singular Subject and Non-Singular Oblique:

G	1ID	1ED	2D	3D	1IT	1IP	1EP	2P	3P
1	ṇaṇali (IO)	ṇaṇayira-ṇunu (IO)	ṇaṇku-wula	ṇawuliṇ	ṇaṇali-wula (IO)	ṇaṇala (IO)	ṇaṇantipa-ṇunu (IO)	ṇaṇjura	ṇayina
2	nṇali (IO)	nṇayira	___	npuliṇ	nṇali-wula (IO)	nṇala	nṇantipa (IO)	___	njina
3	ṇali	ṇayira	ŋkuwula	wuliṇ	ṇali-wula	ṇala	ṇantipa	ṇjura	yina

B as above, except that ṇanu replaces ṇunu, ṇalawa sometimes replaces ṇala.

WG as above, except: ṇaliṇ replaces ṇali; ṇura replaces ṇjura; jini/yini replace jina/yina; ṇaliwa sometimes replaces ṇala.

(6)

M	1ID	1ED	2D	3D	1IT	1IP	1EP	2P	3P
1	ṇaṇali-(ṇju)(IO)	ṇaṇaliya (IO)	ṇaṇku-wula	ṇawuli	ṇaṇali-wula(IO)	ṇaṇalaa (IO)	ṇaṇanta (IO)	ṇaṇjura	ṇayina
2	ṇalin (IO)	ṇaliyan	___	npulin (WM) wulin (EM)	nṇali-wula	ṇalan (IO)	ṇantan	___	njinan (WM) yinan (EM)
3	ṇali-(ṇju)	ṇaliya	ŋkuwuṇa	wuli	ṇali-wula	ṇalaa	ṇanta	ṇjura	yina

(7) Non-singular Subject and Singular Oblique:

	G	O	
	1	2	3
1ID	—	—	ḷi (DO) / ḷiḷa (IO)
1ED	—	jaŋku	ja (DO) / jaḷa (IO)
2D	yinpula	—	npula / npulaḷa
3D	yiwula	ŋkuwula	wula (DO) / wulaḷa (IO)
1IT	—	—	ḷiwula (DO) / ḷiwulaḷa (IO)
1IP	—	—	ḷa(a) (DO) / ḷaaḷa (IO)
1EP	—	ṇaŋkula	ṇalu (DO) / ṇaluḷa (IO)
2P	yinta	—	nta (DO) / ntaḷa (IO)
3P	yilu	ŋkulu	lu (DO) / luḷa (IO)

S (applies to rows 1ID–3P)

(8)

	M		
1ID	—	—	ḷi (DO) / ḷiḷa (IO)
1ED	—	ḷaŋku	ḷa / ḷaḷa
2D	yinpula	—	npula (DO) / npulaḷa (IO)
3D	yiwula	ŋkuwula	wula (DO) / wulaḷa (IO)
1IT	—	—	ḷiwula (DO) / ḷiwulaḷa (IO)
1IP	—	—	ḷaa~ḷawa (DO) / ḷaaḷa (IO)
1EP	—	ṇaŋkula	ṇali (DO) / ṇaliḷa (IO)
2P	yinta	—	nta (DO) / ntaḷa (IO)
3P	yili	ŋkulu	ḷi (DO) / ḷiḷa (IO)

S (applies to rows 1ID–3P)

B as G except that lawa sometimes replaces ḷa(a).

Also reported for G: an obsolete 1ET subject form jawula. Oblique and independent forms of this could not be elicited.

(9)   Non-singular Subject and Non-singular Oblique:

EG, O

	1I	1E	2	3
1I	RFL/RCP: liɲunu (D) ḷiwulaɲunu (T) ḷaɲunu (P)	——	——	(a) ḷayina (b) ḷayinaŋkula
1E	——	RFL/RCP: jaɲunu (D) ŋaluɲunu (P)	ŋaɲjurakula	ŋayinaŋkula
2	——	nŋantipaŋkula	RFL/RCP: npulanunu (D) ntanunu (P)	njinaŋkula
3	ŋalaŋkulu	ŋantipaŋkulu	ɲjurakulu	yinaŋkulu RFL/RCP: wulaɲunu (D) luɲunu (P)

ḷaa alternates with ḷa as 1IP marker.

In addition to the replacements mentioned earlier, B replaces G ŋkula with ŋulu, and has ḷawayinaŋulu instead of ḷayina/ḷayinaŋkulu.

(10)

M, O

	1I	1E	2	3
1I	RCP: liɲa (D) ḷiwulaɲa (T) ḷaaɲa (P)	——	——	ḷaaŋulu
1E	——	RCP: ḷaɲa (D) ŋaliɲa (P)	ŋaɲjuraŋulu	ŋayinaŋulu
2	——	ŋantaŋulu	RCP: npuɲan (D) ntaɲan (P)	yinanŋulu
3	ŋalaaŋulu	ŋantaŋulu	ɲjuraŋulu	yinaŋulu RCP: wuna (D) lina (P)

(11)   Non-singular Subject and Non-Singular Oblique:

WG, O

	1ID	1ED	2D	3D	1IT	1IP	1EP	2P	3P
1D	liɲunu (R/R)	——	——	ḷiwuliɲ	——	——	——	——	ḷiyina
1ED	——	jaɲunu (R/R)	naɲura-kulu	jayina-kulu	——	——	——	ŋaɲura-ŋkulu	ŋayina-ŋkulu
2D	——	nŋayira-ŋkulu	npula-ɲunu (R/R)	npula-yina	——	——	nŋantipa-kulu	——	njina-ŋkulu
3D	ŋali-ŋkulu	ŋayira-ŋkulu	ŋura-ŋkulu	wula-yina-ŋkulu	ŋali-wula-ŋkulu	ŋala-ŋkulu	ŋantipa-kulu	ɲura-ŋkulu	yina-ŋkulu

1IT	— —	—	ḷiwula-yina	ḷiwula-ɲunu (R/R)	— —		—	ḷayina
1IP	— —	—	ḷayina	—	ḷaɲunu (R/R)	—	—	ḷaylna
2P	—	(a) nŋantipa-kulu (b) nŋayira-ŋkulu	—	njina-ŋkulu	—	—	(a) nŋantipa-kulu	nta-ɲunu (R/R)	njina-ŋkulu
3P	(a)ŋala-ŋkulu (b)ŋali-ŋkulu	(a)ŋantipa-kulu (b)nayira-ŋkulu	ŋura-ŋkulu	(a)nala-ŋkulu (b)naliwula-ŋkulu	ŋala-ŋkulu	ŋantipa-kulu	ɲura-ŋkulu		yina-ŋkulu luɲunu (R/R)

2.2. NUCLEAR CASES

In dealing with case I shall take the view that each NP in a sentence
has a 'semantic case' associated with it at an underlying level, which
is made up of a number of semantic features drawn from a universal set.
Such deep cases are realised differently in different languages, by word
order, verb-marking, prepositions, or, as in the Ngumbin languages, by
case suffixes on nouns and adjectives. In their passage to surface
structure, underlying cases undergo various neturalisations and distor-
tions which eventually produce a *surface case system*. Here I shall not
be concerned with the case-system at the deepest semantic level, about
which a number of proposals have been made (Fillmore 1968, Chafe 1970).
I shall refer here to an *underlying case system*, consisting of a larger
number of cases than the surface system, which remains the same for the
languages under discussion while the surface system varies slightly for
different languages and for different types of nominal.

One such variation is that between nouns (in which I include non-
pronominal NPs and adjectives), free pronouns, and pronominal clitics.

The surface case-system of nouns in the E. Ngumbin languages is
typically 'ergative'. The agent or subject of a transitive verb (A) has
an ergative case-suffix, whereas the patient or direct object of a
transitive verb (O) and the subject of an intransitive verb (S) are in
the absolutive case and have no suffix, e.g. (12).

(12)
G (a) ŋumpit + tu ŋaṛin pa + n + ana
B (b) ŋumpin + tu ŋaṛin pa + r + a
M (c) ŋarka + ḷi ŋaṛina pa + n + ini
        man   ERG *meat* ABS *hit* CM PRES
        'A man (Aborigine) is killing some game'.

The instrumental case, although it may have the same form as the ergative,
is never cross-referenced by a clitic, e.g. (13), in which the plurality

of the instrument is usually left unexpressed. This indicates that surface case alone does not present sufficient information for the correct application of CLITIC ATTACHMENT. The (b) forms are alternatives in which instrumental case is expressed by PROPRIETIVE + ERGATIVE in G and B, and by a distinct INSTRUMENTAL case in M cognate with the PROPRIETIVE in the other languages.

(13)

G (A) kaṇa   (a) +ŋku $(*\eta u + \begin{Bmatrix} lu \\ yina \end{Bmatrix})$
                (b) +yawuŋ+kuḷu

        spear   (a) ERG $(*AUX \quad \begin{Bmatrix} 3PS \\ 3PO \end{Bmatrix})$
                (b) PROP & ERG

                      pa + n + ana ŋaṛin
                      hit CM PRES meat

    (B) miḷaraŋ (a) +kuḷu $(* \begin{Bmatrix} +lu \\ +yina \end{Bmatrix})$
                (b) +yawuŋ+kuḷu

        spear   (a) ERG $(* \begin{Bmatrix} 3PS \\ 3PO \end{Bmatrix})$
                (b) PROP & ERG

                      pa + ra   ŋaṛin
                      hit PRES meat

M miḷaraŋ (a) ti $(* pa + \begin{Bmatrix} li \\ yina \end{Bmatrix} pa+n+ini)$
            (b) jaṛu

    spear   (a) ERG $(* AUX \begin{Bmatrix} 3PS \\ 3PO \end{Bmatrix} hit \ CM \ PRES)$
            (b) INST

                      ŋaṛina
                      meat

'He is killing game with spears.'

In the independent pronoun system, the situation is different. There is no distinction between absolutive and ergative cases in pronouns in any of the languages, with the exception of the M third singular pronoun in which the ergative suffix can be added to an apparently extended form of the pronoun to form an ergative. Otherwise all three functions, S, A and O, are realised by the same unmarked form of the pronoun without suffix. This is illustrated in examples (14), (15) and (16).

(14)

G (a) ŋayu ŋu + ṇa ya + ni yala +ŋkura
                    to PAST *that* ALL

M (b) ŋayi pa + ṇa ya + n + ana yalu + ŋkura
       1S AUX 1SS *go* CM PERF *that*   ALL
       'I went there.'

(15)

G (a) ŋayu ŋu + ŋa pa + ni ŋaɾin
                hit PAST

M (b) ŋayi pa + ŋa pa + n + ana ŋaɾina
     1S AUX 1SS *hit* CM PERF *meat*
     'I killed game.'

(16)

G (a) ŋayu ŋu + yi pa + ni yalu + ŋku + ma
                hit PAST

M (b) ŋayi pa + yi pa + n + ana yalu + ḷu + ma
     1S AUX 1SO *hit* CM PERF *that* ERG   #
     'That one hit me.'

In the clitic system, case is not expressed by suffixes. In most cases the person and case (and sometimes number) markers are fused into one formative. As far as the 'nuclear' S, A and O functions are concerned, in all cases except for 3rd singular, for each pronominal category there are two clitics, one cross-referencing NPs with the S and A function ('subject' or S), and another, usually quite dissimilar in form, cross-referencing NPs with the O function ('oblique' or O). In other words, whereas the noun surface case system was 'ergative', the clitic case system is 'accusative'.

In the 3rd singular, neither S, A nor O have any overt clitic marking. Like the free pronouns, their system is neither 'ergative' nor 'accusative'. This bears out Silverstein's (1976) prediction that where there is a split-case system, ergative marking on agents will occur at the lower end of the hierarchy (e.g. here non-pronominal NPs), and accusative marking on patients at the upper end of the hierarchy (e.g. here oblique marking in pronominal clitics, with the exception of third singular).

In the middle of the hierarchy there may either be an 'overlap' between the two systems, in which case all three major functions are formally differentiated, or, as in this case, there is a 'gap' between the two systems, in which case all three major functions are neutralised into one form. Put more formally, if the rule which assigns marked case to agents is dependent on the agent being $[-F^i]$, whereas the rule which assigns marked case to patients is dependent on the patient being $[+F^j]$, the class of elements with the features $[^{+F^i}_{-F^j}]$ fails to satisfy the conditions for either rule, and these elements remain unmarked.

Clearly the case-marking hierarchy for the Ngumbin languages is (17).

(17) Case Marking Hierarchy:
     1.   1 and 2 clitics and non-singular clitics

      ii.   3S clitics

      iii.   1 and 2 free pronouns and non-singular free pronouns

      iv.   3S free pronouns

      v.   non-pronominal NPs

It is desirable then to generate this hierarchy from the inherent
features of the elements involved. The placing of 1st, 2nd, and non-
singular, above -rd singular is easily effected since the former all
have at least one plus value for one of the features $[\pm I]$, $[\pm II]$, or
$[\pm NS]$, whereas the latter have none. Similarly, pronouns and pronominal
clitics are distinguished from other nouns by having the feature $[+pro]$.
But how are clitics to be assigned a higher place on the hierarchy than
independent pronouns? One might make use of a feature $[\pm aff]$. which
would indicate whether an element is a suffix $(+aff)$ or an independent
word $(-aff)$. $[-aff]$ elements would be preceded by a word boundary.

    In any case we are not here dealing with a universal aspect of
nominal-case hierarchies. Pronoun case-systems may tend universally to
be more 'accusative' than nouns, but it is not true to say that pronomi-
nal clitic case-systems are universally more 'accusative' than those of
free pronouns, although this may be true of most Australian languages.
In Ubyx for instance, (Dumezil 1931), a Causasian language that has a
'split-ergative' case system, the pronominal clitics are 'ergative' in
their order and partially in their form even in the third person,
whereas the free pronouns are 'accusative' in their order and neither
'ergative' nor 'accusative' in their form, except in the third person,
which has ergative marking. The particular historical development of
the clitic system in conjunction with the direction of shifts in the
balance between 'ergative' and 'accusative' marking of pronouns like
those described by Dixon (1976) could well have a bearing on the present
day marking of clitics in individual languages or language families.

    The fact that the case-system of the clitics is 'accusative', that
of the nouns 'ergative' and that of the pronouns neither, indicates
that, as we noted before, the different forms of the clitics cannot be
derived directly from the surface forms of the nouns they cross-refer-
ence. It seems rather that the features transferred by the rule
CLITIC ATTACHMENT must include the three-way distinction S/A/O present
at underlying level, perhaps in the following form:

(18)   agent   patient

	agent	patient
S	−	−
A	+	−
O	−	+

This rule applies, $[-pat]$ transferring the agreement features first of

elements followed by those of some [+pat] elements (and possibly some
others: this point is examined below) into the clitic position. After
this CASE MARKING applies to nouns, pronouns and pronominal clitics.

'Ergative' and 'accusative' local case-marking rules would be
universally of the form (19) (Silverstein 1976, McConvell 1976). All
one would have to do in the grammars of G and B would be to substitute

[pro] for [F^i] and $\begin{bmatrix} aff \\ \left\{ \begin{matrix} I \\ II \\ Ns \end{matrix} \right\} \end{bmatrix}$ for [F^j]. In M, F^i would be replaced by $\begin{bmatrix} I \\ II \\ NS \end{bmatrix}$,

instead of simply [pro].

(19) CASE MARKING

'ergative'

$\begin{bmatrix} +agent \\ -patient \end{bmatrix}$ → [+case] / $-F^i$

'accusative'

$\begin{bmatrix} -agent \\ +patient \end{bmatrix}$ → [+case] / $+F^j$

2.3. *PERIPHERAL CASES*

The question of the cross-referencing of NPs bearing peripheral cases
(other than S,A,O) is a rather complex one, which I do not yet fully
understand. The surface DATIVE case (suffix ku/wu/u on nouns, G and B
ɲ, ŋuɲ M. ɲa on pronouns) represents a number of underlying cases:
dative (i.e. person to whom thing is given; M uses absolutive for this
as in (20c)), genitive, purposive, benefactive (which itself could be
broken down into a number of distinct 'implicative' functions), etc.
Surface datives are generally cross-referenced by O clitics (identical
to those used for the transitive object function), except for 3rd
singular, which is represented by the 'indirect object' (IO) marker ḷa.
This is illustrated in (20). (20)(c) shows an underlying dative
realised as an absolutive, and not cross-referenced when 3rd singular in
M. 3(d) shows a benefactive realised as a dative and cross-referenced by
ḷa in M.

(20)

G (a) ŋaṟin ŋu +{ḷa / yina } jayi + ɲa   ŋalawuɲ + ku

       meat   AUX 3SIO *give* PAST *son*   DAT
                 3PO

B (b) ŋaṟin + pa +{ḷa / yina } pina + ɲa ŋalawuɲ + ku

       meat   LINK   3SIO *give* PAST *son*   DAT
                   3PO

M (c) ŋaɽina ⎰   ∅   ⎱ ɲu + ŋ + ana ŋaliɲa
       meat ⎱ pa + yina ⎰ *give* CM PERF *son* ABS

            ⎰   ∅   ⎱
            ⎱ AUX 3PO ⎰

       'He has given meat to the ⎰ *son* ⎱ *.'*
                                   ⎱ *sons* ⎰

M (d) ŋaɽina pa ⎰ + ḷa   ⎱ wanṭa + ɲa ŋaliɲa + wu
       meat   AUX ⎰   yina ⎱

         meat   AUX ⎰ 3SIO ⎱ *get* PERF *son*   DAT
                       ⎱ 3PO ⎰

       'He has got meat for the ⎰ *son* ⎱ *.'*
                                  ⎱ *sons* ⎰

In G, at least, there is a third set of markers that consist of the
normal O marker followed by ḷa as in (21). In the case of 3rd singular,
the marker in this set generally consists of simply ḷa, as in (21)(a),
but some Western speakers appear to use a distinct marker ḷa + ɲanta,
as in (21)(b). In the same dialect, ḷa + ɲanta is also used to cross
reference two dative NPs, e.g. an underlying dative and an underlying
benefactive.

(21)

G (a) walŋin ŋu + ŋku + ḷa wani + ɲa mila + ŋka
       fly   AUX 2SO IO *fall* PAST *eye*   LOC
       'a fly has settled on your eye'

   (b) walŋin nu + (a) ḷa   wani + ɲa mila + ŋka
                    (b) ḷa + ɲanta

       fly   AUX   3SIO   *fall* PAST *eye*   LOC
                       3SIO ?

       'A fly has settled on his eye.'

This set of markers cross-references COMITATIVE case ('together with'),
LOCATIVE with animate, especially human, nouns, with a comitative or
locative meaning, DATIVE with a locative sense and ALLATIVE and ELATIVE
with animate, especially human, nouns. Normally LOCATIVE, ALLATIVE and
ELATIVE (with inanimate nouns) are not cross-referenced by clitics at
all, like instrumentals. Sometimes even human NPs in locative cases
are not cross-referenced. It is difficult to tell whether this distinct
set of clitic markers arises from the fact that the locative cases here
are distinct from the locatives used with inanimates in being possibly
[+PAT] or that they are simply determined by the feature combination
⎡+PAT⎤
⎢+ANIM⎥ . M appears to use the 'dative' clitic set for the above func-
⎣+LOC⎦
tions.

If the locative cases that are cross-referenced are in fact [+PAT],
this is further evidence that underlying case distinctions, which are
not manifested in surface structure, are relevant both to whether
CLITIC ATTACHMENT applies or not, and to the form of the clitics

generated. A further point is that the clitic complex in the E. Ngumbin languages is limited to the maximal string: S-O-!a. Clearly if there are a number of NPs (other than the subject) that could be cross-referenced, a choice has to be made as to which one or two are in fact to be cross-referenced. In many circumstances, the choice is limited to one by various restrictions on the form of the clitic complex. Such restrictions probably make it necessary to introduce surface constraints in addition to rules: this is left an open question for the moment. Work has been done on related questions for Walmadjari by Hudson and Richards (to appear) and for Walbiri by Hale (1973).

2.4.   CASE SYSTEMS AND THE FORM OF CLITIC ATTACHMENT

The relations of the case systems of nouns, pronouns and clitics are shown schematically in the charts below:

(22)   SURFACE CASE
G, B

Underlying Case	Nouns	Pronouns	Clitics	
			3s	Others
Inst.	PROP + ERG			
A	ERG			S
S	∅			
O				
Dat.				O
Gen.	DAT			
Ben.				
Purp.		DAT + DAT	I	
Comit.	DAT + LOC			O + I
Loc.	LOC			
	ALL	DAT + ALL		
W. animates	ELAT	DAL + ELAT		
Loc.	LOC	DAT + LOC		
	ALL	DAT + ALL		
W. inanimates	ELAT	DAT + ELAT		∅

(23)   SURFACE CASE
M

Underlying Case	Nouns	Pronouns 3S	Pronouns Others	Clitics 3S	Clitics Others
Inst.	INST				
A	ERG	(?) + ERG			S
S					
O			φ		
Dat.					
Gen.	DAT + NP Clitics (see Section 4.2.)				
Ben.	DAT			I	O
Purp.					
Comit.	LOC	DAT			
Loc w. animates	ELAT	DAT + ELAT			
LOC w. inanimates	LOC / ALL / ELAT	?			φ

   We may now tentatively formulate the rule of CLITIC ATTACHMENT as (24)
(α, α' and α'' are used to mean distinct unconnected variables with the
domain ±). The rule as shown does not indicate any hierarchy of pre-
cedence among peripheral NPs, which hierarchy probably does exist.
BASE indicates the *base* to which the clitics are attached: its nature
in different languages and the details of attachment are discussed in
Section 4. Further rules are needed to spell out the output of this
rule and to eliminate impossible sequences generated by it: some of
these are given here very roughly as (25)(a)-(d).

(24)   CLITIC ATTACHMENT

```
        BASE    X        NP        Y        NP       Z       NP
                       ⎡-pat⎤             ⎡+pat⎤          ⎡+pat⎤
                       ⎢-loc⎥             ⎢-ag ⎥          ⎢-ag ⎥
                       ⎢α  I⎥             ⎢α′ I⎥          ⎢α″ I⎥
                       ⎢β II⎥             ⎢β′ II⎥         ⎢β″ II⎥
                       ⎢γ NS⎥             ⎢γ′ NS⎥         ⎢γ″ NS⎥
                       ⎣δ  D⎦             ⎣δ′ D⎦          ⎣δ″ D⎦

   SD:   1      2        3        4        5        6       7

   SC:          ⎡+aff⎤  ⎡+aff⎤   ⎡+aff⎤          2  3  4  5  6  7
                ⎢+pro⎥  ⎢+pro⎥   ⎢-pro⎥
                ⎢-pat⎥  ⎢+pat⎥   ⎢+pat⎥
          1+    ⎢α  I⎥ +⎢α′ I⎥ + ⎢α″ I⎥
                ⎢β II⎥  ⎢β′ II⎥  ⎢β″ II⎥
                ⎢γ NS⎥  ⎢γ′ NS⎥  ⎢γ″ NS⎥
                ⎣δ  D⎦  ⎣δ′ D⎦   ⎣δ″ D⎦
```

   C: 1, 3, 5, 6 within same simple S

(25)

(a)   ⎡+aff⎤   +   ([+aff])   →   1   !a
      ⎣+loc⎦

       1   2   1   2

(b)   ⎡{[+ben]}⎤
      ⎢{[+loc]}⎥
      ⎢ -I   ⎥   →   !a
      ⎢ -II   ⎥
      ⎢ -P   ⎥
      ⎣ -D   ⎦

(c)   ⎡{⎡+pat⎤}⎤
      ⎢{⎢-ben⎥}⎥
      ⎢{⎣-loc⎦}⎥
      ⎢{[-pat]}⎥   →   ∅
      ⎢ -I   ⎥
      ⎢ -II   ⎥
      ⎢ -P   ⎥
      ⎣ -D   ⎦

(d)   !a + !a   →   {1 ∅ (most dialects)   }
       1   2   {1 ɲa nta (some W. dialects)}

2.5. NUMBER

Some of the independent pronouns of G and B show some signs of being
analysable as roots indicating person: 1 excl. ŋay-; 1 incl. ŋali-;
2 ɲun-; 3 ɲan-; with various suffixes indicating dual and plural. The
range of variation in the suffixes and the effect on the roots casts
doubt on the idea of viewing this as a synchronic process. The same is
true of oblique clitics, which in most cases display a strong similarity
to the independent pronouns (see (15)-(23)). The fact that some of the
M oblique clitics are similar to the independent pronouns in the other
languages may indicate that it too possessed a full set of independent
pronouns at an earlier stage in its history.

In one case only, the 2nd dual in G and B the oblique clitic ŋku +
wula is clearly analysable as the 2nd sing. oblique clitic plus the dual
suffix. This circumstance in fact causes ambiguity between the 3 sing.
S - 2 du. O and the 3 du. S - 2 sing. O clitic-complexes, as in (26).
In M, the ambiguity is resolved as in (27), by the addition of the
reciprocal suffix -ɳa to the dual oblique form. The general rule (28)
produces the surface form. For further discussion of the addition of
-ɳa to O clitics in M, see Section 3.2.

(26)

```
G    ŋu + ŋku + wula      ɲa + ɲa
     AUX {(a) 2DO      }  see  PAST
         {(b) 2SO  3DS }
```

(27)

```
M                   ⎧(a) ŋku    wu    na ⎫
                    ⎪      2     DO   RCP⎪
          ɲa +      ⎨                    ⎬   ɲa + ŋ + aɲa
          AUX       ⎪(b) ŋku    wula     ⎪        CM  PERF
                    ⎩      2SO   3DS     ⎭
```

     (a) 'He saw you two.'
     (b) 'They two saw you (sing).'

(28)

```
M    pula  →  pu  /  _____  ɳa
                            RCP
```

In G and B, for each of the pronominal categories cross-referenced
by the clitic system there is a corresponding free pronoun (the only
possible exception is the obsolete 1st trial exclusive clitic in G,
referred to in the notes to table (7)). So in G and B, the clitic
attachment rule could be formulated as a feature-copying rule without
problems.

If we compare tables (13) and (14), we see that M does not incorporate
number into its free pronoun system. While it is possible to add the
dual numeral suffix + kujara or the plural independent numeral taṭu to
the pronouns, as to any other NP, as in (29) and (30), this is not
obligatory, and in many cases it is only the appearance of the clitics
elsewhere that marks the number of the pronoun, as in (29b) and (30b).

(29)

M   (a) ŋayi + kujara + ḷi + ma
         1   *two*   ERG   #
       (b) ŋayi + ma
         1   #

pa + ḷa   pa + n + ini
AUX 1EDS *hit*   CM   PRES

     'We two (excl.) *are hitting it.'*

(30)

M   (a) ŋayi taṭu + ḷu + ma
         1   ERG   #
       (b) ŋayi + ma
         1   #

pa + ṇa + ḷi   pa + n + ini
AUX 1ES   PS   CM   PRES

     'We lot (excl.) *are hitting it.'*

Note too that where the dual or plural numeral is added, the ergative
suffix can also be added as in (31)(a) and (35)(a). Thus these combi-
nations depart from the normal rule in the E. Ngumbin languages that
the absolutive/ergative distinction is neutralised in the independent
pronouns. This is a further indication that the numerals do not form
a true part of the pronominal system.

    A further deficiency of the M pronominal system as compared with the
other languages is its lack of an inclusive/exclusive distinction in
the first person. As well as (29) and (30), the same pronominal forms
may be used as in (31) and (32) with a different clitic to give an
inclusive meaning.

(31)

M   (a) ŋayi + kujara + ḷi + ma
         1   *two*   ERG   #
       (b) ŋayi + ma
         1   #

pa + ḷi   pa + n + ini
AUX 1IDS *hit* CM   PRES

     'We two (incl.) *are hitting it.'*

(32)

     (a) ŋayi taṭu + ḷu + ma
          1   *many*   ERG   #
     (b) ŋayi + ma
          1   #

pa + ḷaa   pa + n + ini
AUX 1IPS   CM   PRES

     'We lot (incl.) *are hitting it.'*

If inclusive and exclusive are to be distinguished as isolated forms, speakers may append a suitable AUX element to the independent pronouns as in (a) ŋayi pa + !i *you and me'* and (b) ŋayi pa + ļa *'him and me'*.

So while in G and B the pronouns reflect a full set of combinations of four features, Mudbura pronouns only have two inherent features [±I] and [±II], of which two of the possible combinations $[^{+I}_{-II}]$ and $[^{+I}_{+II}]$ are both realised by the pronoun ŋayi·

In order to retain the CLITIC ATTACHMENT rule for M in the form (24), it is necessary to say that the Mudbura pronouns are fully marked for all four features at the time that the rule applies, but lose some of their features later. In the case of the number features one could say that the numerals kujara *'two'*, yukaṭu *'three'* and taṭu *'many'* are within the NP of which the pronoun is head in underlying structure and that they are optionally deleted after CLITIC ATTACHMENT. From a functional viewpoint, CLITIC ATTACHMENT clearly makes a rule like NUMERAL DELETION more likely to occur, but there need not be any explicit syntactic connection between them. NUMERAL DELETION would probably also cover the case of non-pronominal NPs that are often not overtly marked for number in all the E. Ngumbin languages, but have their number clarified by associated clitics as in (33)(a), which is far more common than (33)(b) with overt number marking on the noun.
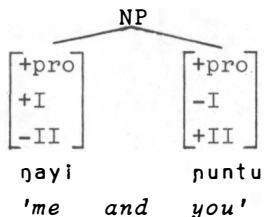
(33)

$$\left\{\begin{array}{l} \text{(a) ŋarka} \\ \quad man \\ \text{(b) ŋarka + tara} \\ \quad man \qquad P \end{array}\right\}$$
pa + !i ya + n + ana   ŋura + ŋkura
AUX 3PS *go* CM PERF *camp* ALL

'The men went to the camp.'

Even if the above accounts for the presence of number in M clitics, how is the presence of the inclusive/exclusive distinction in M clitics to be accounted for? Presumably, 1st person non-singular pronouns derive from conjoined NPs, e.g. (34) for dual inclusive and (35) for dual exclusive.

(34)

```
              NP
          _____|_____
         |                 |
    ┌+pro┐            ┌+pro┐
    │+I  │            │-I  │
    │-II │            │+II │
    └    ┘            └    ┘
    ŋayi              ɲuntu
    'me       and     you'
```

(35)

$$
\begin{array}{c}
\text{NP}
\end{array}
$$

$$
\begin{bmatrix} +\text{pro} \\ +\text{I} \\ -\text{II} \end{bmatrix}
\qquad
\begin{bmatrix} +\text{pro} \\ -\text{I} \\ -\text{II} \end{bmatrix}
$$

ŋayi   ɲani

'me   and   him'
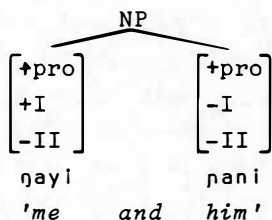
At this level, features are added to the conjoined NP as a whole by
adding together the number of singular NPs (which comes to two, i.e.
dual in (34) and (35)), and assembling together the plus-valued person-
features (yielding $[{+\text{I} \atop +\text{II}}]$ for (34) and $[{+\text{I} \atop -\text{II}}]$ for (35)). It is on the
basis of this combination of features that CLITIC ATTACHMENT operates.
In G and B, the pronouns are also generated directly by spelling out
these combinations of features. In M, however, the pronouns are formed
by taking only the feature [+I] into account, if it is present, and
[+II] if [+I] is not present, and ignoring the right hand part of the
conjunct, except for the purpose of counting the total number of NPs.
This summed number then provides the specification for the segmentalised
numeral within the NP.

One peculiarity of all the E. Ngumbin languages is the existence of
a first person trial clitic (and pronoun in G and B). These forms are
used nowadays mainly by older speakers, and in M, the plural seems to
be an optional substitute for the trial. The obsolete exclusive trial
form noted in G will not be considered here, as it is somewhat doubtful.

The form of the inclusive trial is that of the inclusive dual, with
a further dual morpheme -wula suffixed to it. The fact that the trial
is indicated by a dual suffix may be taken as evidence that the inclusive
trial is somehow parallel to the duals of other persons.

If one takes the position that inclusive has a redundancy relation-
ship with non-singular of the kind which applies without exception, i.e.
that inclusive automatically means non-singular, then trial number
cannot be distinguished from other numbers by using only the four
features available, which are [±I], [±II], [±NS], [±D]. A new feature
[±trial] must then be added. This new feature provides no explanation
of why the trial form is limited to inclusive persons. But there is
some evidence that inclusive duals do not behave like non-singulars
[+NS] in some circumstances. In E. Ngumbin languages, all combinations
of dual and dual, and dual and plural subject and oblique clitics undergo
some change whereby either one or both of the dual elements becomes
plural. This DUAL NEUTRALISATION rule is discussed fully in the follow-
ing section. In WG, however, as seen in (II), 1st inclusive dual

pronoun subjects do not behave in this way: where they combine with
third dual oblique, both subject and oblique clitic retain their dual
form: ļi+wuliɲ. 1st incl. du. S. here behaves like a singular clitic
in that it does not alter the form of the following oblique clitic.
1st inclusive trials, however, follow the pattern of duals of other
persons in triggering the application of DUAL NEUTRALISATION. Further,
inclusive dual is often used as the unmarked form of the inclusive in a
plural sense as in (36).

(36)   ɲila ŋali + ŋuɲ ŋu + ŋali   ŋura + ma
       that 1ID   DAT AUX 1IDO *country* #
       'That is our (plural) *country.'*

This parallels the fact that the dual inclusive is the basic form upon
which the trial and plural forms are built by suffixation.

Trial number is found in inclusives only elsewhere in Australia and
is most often associated with the situation in which the inclusive
'dual' behaves in ways more like a singular than a non-singular. McKay
(1975) has suggested for Rembarnga, which has such a system, that the
feature system for number should involve the terms [±augmented] and
[±unit augmented].

As far as I can tell, the difference between this system and the non-
singular/dual system as used here is a purely terminological one that
should be resolved by simply adopting either one or the other labelling.
In this paper I retain the more traditional terms non-singular (NS) and
dual (D). The real difference between pronominal systems like that of
Rembarnga and the E. Ngumbin languages, on the one hand, and those in
which there is no inclusive trial (and the inclusive dual is a full
grammatical dual) is that in the former languages the counting procedure
that yields number as a feature on conjoined NPs mentioned above (and
more fully described in Hale 1973) treats the conjunction of a 1st
singular and 2nd singular pronoun as if it were a singular unit, by
counting only [+I] and $[^{-I}_{-II}]$ units if [+I] is present and by counting
all units if [+I] is not present.

The latter languages are less marked in that they count all units
without discrimination, but as a result they produce redundant [+NS]
marking on all $[^{+I}_{+II}]$ pronouns.

The problem in the E. Ngumbin languages is that the occasions in
which the inclusive dual behaves like a singular discussed above are
outweighed by those in which it behaves like a non-singular:
(1)   In WG, the 1IDO causes neutralisation of a dual subject (ŋali +
ŋkulu in (11)).
(2)   In WG (b) the 1IDO behaves like the IEDO in not being neutralised

by a plural subject.

(3) In EG, B and M, both 1IDS and 1IDO undergo dual neutralisation like other duals, although they still have trial inclusive forms.

(4) NG(K)U-INSERTION applies to ǃu following 1IDO ŋaǃi: this normally only applies where the O clitic is non-singular.

(5) Inclusive duals may be accompanied by the numeral kujara *'two'* in agreement with it, e.g.:

(37)

G   ŋu+ǃi   ya+n+ku   kujara
     AUX 1IDS *go* CM FUT *two*
     'Both of us will go.'

Similarly trials may be accompanied by murkuṇ *'three'*.

(38)

G   ŋu + ǃi + wula   ya + n + ku   murkuṇ
     'The three of us will go.'

(6) In M, inclusive dual S clitic may be followed by the RCP suffix ŋa, which is not normally possible for singular S clitics.

(7) The $[^{-D}_{-NS}]$ element left after SUBJECT NUMBER SHIFT has applied to plural inclusives is realised as plural inclusive ǃa(a), not dual ǃi (see Section 3.1.).

We must conclude that in these cases the more common type of counting procedure *has* applied to $[^{+I}_{+II}]$ dual pronouns to mark them $[^{+NS}_{+D}]$. We therefore propose that in the E. Ngumbin languages there are two sets of features accounting for number in inclusives:

(39) $[^{+I}_{+II}]$

		'dual'	'trial'	'plural'
(a)	NS	–	+	+
	D	–	+	–
(b)	NS	+		+
	D	+		–

The (a) system is used to determine the form of the pronouns and clitics and, anomalously, the grammatical behaviour of the S clitic with regard to DUAL NEUTRALISATION; the (b) system governs all other grammatical behaviour of inclusives that I am aware of. System (a) seems to be losing ground to system (b), presumably under the influence of the paradigms of other persons, so that the trial forms are losing currency.

It is possible that one could arrive at a generalisation about the use of the two systems by saying that (a) determines more superficial

processes (the morphophonological realisation of elements) and (b)
deeper syntactic processes. It is shown in the following section that
DUAL NEUTRALISATION in WG, is made up of two rules, one for S clitics
and one for O clitics. If it could be shown that in addition the two
rules are ordered S-D-N followed by O-D-N, then it might be possible to
explain why O-D-N alone among syntactic rules uses the (a) number system,
because of its more superficial nature. How all this might relate to
the counting procedures that produce number remains unclear, however.

2.6. *DUAL NEUTRALISATION*

The term 'dual neutralisation' refers to the process that leads to
the appearance of clitics which are semantically dual as surface-struc-
ture plural clitics because of their combination with other non-singular
clitics. A similar phenomenon has been described for Walbiri and
reported for Warramungu (Hale 1973). In the dialects of M, B and EG
that I know, the DUAL NEUTRALISATION rule is quite simple. Wherever a
subject clitic is combined with an oblique clitic, and both are non-
singular, any clitic that is dual becomes plural. This rule can be
formulated as (40) and is of the mirror-image type in order to avoid
stating two rules, one for neutralisation of subject clitics and one for
oblique clitics. In what follows it is assumed that clitics have the
order S-O at the time that DUAL NEUTRALISATION applies. Changes to
this order are discussed in Section 3.

(40)   DUAL NEUTRALISATION
EG, B, M, E. Walbiri

$$+ \begin{bmatrix} + & \text{pro} \\ + & \text{NS} \end{bmatrix} \qquad + \begin{bmatrix} +\text{pro} \\ +\text{D} \end{bmatrix}$$

SD: 1   2
SC: 1   2
                       [-D]

C: mirror-image

The general easterly location of the languages using this simple
rule accords well with Hale's (1973) observation that it is Eastern
Walbiri and Warramungu that have a simple rule, whereas in Western
Walbiri the rule is more complex. In the Western dialect of Walbiri
dual clitics may retain their dual form on all occasions when they are
combined with plurals. Where there are two duals combined, a hierarchy
of persons (1st precedes 2nd precedes 3rd) and (occasionally) prominence
in discourse determines which of the clitics remains dual and which
becomes plural, the higher being the one that remains dual.

The dialect of Gurindji referred to here as WG (sometimes called
Malngin, although it is somewhat more like EG than far northern and

western Malngin) also diverges from the simple rule but in a different
way that gives the neutralisation rule a wider scope of application.
Instead of allowing duals to remain intact where they are combined with
plurals, as in Western Walbiri, WG changes all duals to plurals in such
combinations (with the exception of 1st incl dual subjects, which have
already been discussed in Section 2.5., and for some speakers 1st incl.
and excl. dual obliques (dialect (b) forms)). It is only where *two
duals* combine that one may remain dual, again the higher in a person
hierarchy which is further discussed below, and which is similar but not
identical to the Walbiri hierarchy.

   So W. Walbiri adds [+D] to item 1 of the simple rule (40), a hier-
archical condition, and a further condition dealing with topicality,
labelled X here: (41). WG, on the other hand, adds [-D] to item 1 of
(40) to produce (42) for the (a) dialect and (43) for the (b) dialect,
and further rules that take care of what happens if item 1 is [+D].

(41)
W. Walbiri   SD, SC as (40)
                C: (a) mirror-image
                    (b) 1 is +D
                    EITHER (c) 2 1 1. I
                                    11. II
                    OR   (d) X

(42)
WG   (a) SD, SC as (40)
             C: (a) mirror-image
                 (b) 1 is [-D]

(43)
WG   (b) SD, SC as (40) (but not mirror-image)
             C: (a) 1 is [-D]
                 (b) 2 is [-I]

   If we now consider the combinations of dual and trial clitics of WG
in (11), we find the rather puzzling pattern set out in (44). If we
ignore the addition of right-hand plural subject markers discussed in
Section 3.1., it is clear that the pattern is based on a hierarchy
similar to the familiar 1 > 2 > 3 hierarchy, but slightly different
from that usually found. The explanation appears to be that instead of
one unified ranking system, there are two slightly different systems,
in which obliques are somewhat more prone to neutralisation than sub-
jects. (This may be a syntactic reflection of the discursive hierarchy
of Walbiri, since subjects are more frequently topics than obliques).
The point of intersection of the two system is C, in which both the

subject and oblique clitics become dual.

Despite their apparent oddity, the whole set of neutralisations in (44) can be represented by two DUAL NEUTRALISATION rules with hierarchical conditions, one dealing with obliques, (45), and one dealing with subjects, (46).

(44)   DUAL/DUAL COMBINATIONS

M	Group	Change	S	O	S	O
	A	S remains D, T	1 excl - $\begin{Bmatrix}2\\3\end{Bmatrix}$		$\begin{bmatrix}+I\\+II\end{bmatrix}$	$[-I]$
		O becomes P	$\begin{Bmatrix}1\ incl\ T\\2\\3\end{Bmatrix}$ - 3		$\begin{Bmatrix}[+II]\\[-I\\-II]\end{Bmatrix}$	$\begin{bmatrix}-I\\-II\end{bmatrix}$
	B	S becomes P O remains D, T	$\begin{Bmatrix}3\\2\end{Bmatrix}$ - 1		$[-I]$	$[+I]$
	C	S and O become P	3 - 2		$\begin{bmatrix}-I\\-II\end{bmatrix}$	$[+II]$

(45)   OBLIQUE DUAL NEUTRALISATION

M   + $\begin{bmatrix}+pro\\+D\end{bmatrix}$ + $\begin{bmatrix}+pro\\+D\end{bmatrix}$

SD: 1   2

SC: 1   2
                                  [-D]

C: (a)   1 is +P
   (b)   1 ⩾ 2 [I]

(46)   SUBJECT DUAL NEUTRALISATION

M   SD: as (45)

       SC: 1   2
            [-D]

       C: 2 > 1 $\begin{Bmatrix}[I]\\\begin{bmatrix}I\\II\end{bmatrix}\end{Bmatrix}$

The condition on (45) means 'where the subject clitic has more or the same number of plus values with respect to the feature I than the oblique clitic'. This rule accounts for the neutralisation of dual oblique clitics in groups A and C of (44). There is clearly a relationship between this 'blobal' rule and the 'lcoal' rule (43) of WG (b) (for 'global' and 'local', see Silverstein (1976)). The condition on (46) means 'where the oblique clitic has more plus values with respect to either the feature I or the features I and II taken together, than the subject clitic'. This rule accounts for the neutralisation of dual subject clitics in groups B and C of (44).

It is interesting to compare the operation of the DUAL NEUTRALISATION rule of WG with that of Ngarinman, its north-easterly neighbour within the same group. Here I draw upon the notes made by Capell in 1939, as I have done no more than record some short texts in this language myself. Although incomplete, (47)-(50) show clearly that DUAL NEUTRALISATION operates in Ngarinman in a more limited way than in any of the other languages discussed. This confirms our earlier observation that DUAL NEUTRALISATION is at its strongest in the southeast, and the range of environments in which it applies decreases as we move farther northwest.

Ngarinman (=Ng) Non-Singular Clitic Combinations (after Capell; orthography changed).

(47)   DO

		1I	1E	2	3
DS	1I	___	___	___	ḷiwiḷin
	1E	___	___	jakula	jawiḷin
	2	___	npula-ŋayiraŋ	___	npula-wiḷin
	3	___	(a) wula-ŋayiraŋ (b) ŋayira-ŋkulu	(ŋ)kula	wiḷin

(48)   PO

		1I	1E	2	3
DS	1I	___	___	___	ḷiyiṇiṇ
	1E	___	___	japuraŋ	jayiṇiṇ
	2	___	npula-ŋantipa	___	npulayiṇiṇ
	3	___	ŋantipa-ŋkulu	(a) wula-puraŋ (b) pura-ŋkulu	wulayiṇiṇ

(49)

		1I	1E	2	3
PS	1I	___	___	___	___
	1E	___	___	___	___
	2	___	(n)taŋayiraŋ	___	(n)tawiḷin
	3	___	ŋayiraŋkulu	(ŋ)kula	wiḷin

(50)

		1I	1E	2	3
	1I	___	___	___	___
	1E	___	___	ŋaluɲura	___
	2	___	ʔɲayiṇta	___	(n)tayiṇiṇ
	3	ŋaḷiwaŋkulu	ŋantipa-ŋkulu	ɲura-ŋkulu	luyiṇiṇ

In Ngarinman as recorded by Capell, only subjects may be neutralised;
both the mirror-image nature of the original rule and the rule OBLIQUE
DUAL NEUTRALISATION are absent. The hierarchy 1 > 2 > 3 recurs in
weakened form; neutralisation takes place at most only where the oblique
is [+I] or [+II] and the subject is $[^{-I}_{-II}]$. Assuming that the (a) and
(b) forms of (47) and (48) represent different dialects, we have in
dialect (a) the rule (51), by which the operation of DUAL NEUTRALISATION
is confined to *only one* clitic combination. In dialect (b) there is
the rule (52) in which the condition is hierarchical and applies to four
combinations of clitics. Of the four, however, it does not appear to
act in one case, that of 3 du. S-2 du. O. This combination is realised
by (ŋ)kula (cognate with G. ŋkuwula), in which the subject dual is not
marked. This also occurs with wilin, and it reminds me of the occasional
omission of non-singular subjects that I have noted in G. It may
represent a distinct type of neutralisation rule, but the available data
support no further discussion of it at this point.

(51) DUAL NEUTRALISATION
Ng   (a)   SD as (45) except [+NS] instead of [+D] in 2; SC as (46)
              C: 1 is $[^{-I}_{-II}]$ (b) 2 is $[^{-D}_{+I}]$
              (a)

(52)
Ng   (b)   SD, SC as for 'A'
              C: 2 > 1 $\left\{ {1 \atop II} \right\}$

3. THE ORDER OF CLITICS

3.1. *SUBJECT NUMBER SHIFT*

Up to now it has been assumed that clitics are first generated in
the order S-O, with number features associated with the person features.
The following sections examine deviations from this order and how they
arise. Where an oblique clitic follows a plural subject clitic, the
subject person morpheme is placed to the left of the oblique clitic and
the subject number morpheme to its right, as in (53). Where the object
is non-singular, an element ŋu in B and M and ŋku in G, is added between
the oblique clitic and the subject number morpheme as in (54). ŋu takes
secondary stress, but ŋku follows the syllable which takes secondary
stress. As in (54)(a), ŋkulu becomes kulu by a general phonological
rule when it follows a nasal cluster. The element ŋku originally arose
from the fact that clitics had final ŋ: the link ku was then inserted.
Reanalysis has now taken place in Gurindji. See also Section 4.8.

(53)

G   (a) ŋaja + ŋa + ŋku + lu pa + n + ana
                                 hit CM PRES

M   (b) pi   + ŋa + ŋku + lu pa + n + a + ra
            ADMON. AUX 1S   2SO   PS *hit* CM GEN
            'We might hit you (sing.).'

(54)

EG   (a) ŋája + ŋa + ɲjurá + kulu
WG   (b) ŋája + ŋa + ɲurá + ŋkulu panana
M   (c) pí   + ŋa + ɲjura + ŋulu panara
            ADMON. AUX 1S   2PO   PS   *hit*
            'We might hit you (plur.).'

One might reasonably suppose that the feature bundles referring to
each cross-referenced NP are transferred as one unit by CLITIC ATTACH-
MENT. The subject number element is subsequently moved to the right by
another rule, which we shall call SUBJECT NUMBER SHIFT.

One piece of evidence for this is the sporadic occurrence in texts
by WG and sometimes EG speakers of forms like (55) instead of (54)(b)
in which the subject number morpheme is not moved to the right.

(55)

G (occasionally) and Ng   ŋaja   + ŋa + lu + ɲura panana
                          ADMON. AUX 1S   PS   2PO   *hit*

If such forms are pointed out to speakers, they will usually correct
them to forms like (54)(b), but they do appear to be genuine alterna-
tives. In G's northern neighbour Ngarinman, SUBJECT NUMBER SHIFT
operates in far fewer cases, and the order of clitics in (55) is the
regular one (see 47-50).

In the case of dual subjects combined with objects, the dual marker
may appear to the right of the oblique when the dual is third person
and the object non-third person, as in (26)(b) and (27)(b). On this
evidence alone, the order might be interpreted as resulting from
SUBJECT NUMBER SHIFT. But when the dual subject is 1st and the oblique
2nd, as in (55), or the dual subject is non-third person and the
oblique 3rd person, or both subject and oblique are 3rd person, as we
see in (11), the dual marker remains to the left.

(56)

G   (a) ŋaja   + ja + ŋku panana
M   (b) pi   + ɟa + ŋku panara
            ADMON. AUX 1DS   2SO *hit*
            'We two might hit you (sing.).'

The differential application of this movement is determined by a nominal hierarchy of the same kind as that involved in the rule CLITIC SWITCH, discussed in the following section. We may conclude from this that the movement of dual markers results from CLITIC SWITCH, not from SUBJECT NUMBER SHIFT.

Where SUBJECT NUMBER SHIFT operates on plural subjects the element remaining to the left is the singular person morpheme. In most languages, DUAL NEUTRALISATION prevents dual subjects co-occuring with non-singular objects. However, in WG, SUBJECT NUMBER SHIFT operates in some cases when dual subjects are retained. In such cases (+ja+yina+ŋkulu, +ja+ɲura+ŋkulu and +wula+yina+ŋkulu in (11)), the dual subject form is retained and a plural marker added to the right of the oblique clitic.

One way of handling this case together with the other cases of SUBJECT NUMBER SHIFT would be to say that where the subject clitic is [+NS], the [+NS] feature (i.e. the non-singular feature) is transferred away from the subject person marker to the right of the oblique clitic, and is realised as an otherwise unspecified [+NS] (i.e. plural) suffix. The subject marker, if originally plural, retains only the feature [-D] and is realised as singular, but if it was originally dual (or trial), it retains the feature [+D] and is realised as a dual or trial morpheme.

In the case of the inclusive forms in EG, B and M, the DUAL NEUTRALISATION rule has already reduced all subjects to [-D]. When the [+NS] feature is moved away to form the plural suffix, [-D] remains the only number specification on the subject clitic. Since the only [-D] inclusive form is the plural in the (b) number system discussed in Section 2.5., it is the plural form that is placed in subject position.

The rules SUBJECT NUMBER SHIFT and NG(K)U INSERTION may therefore be formulated as (57) and (58), respectively. (These rules are assumed to apply before 3rd sing. S is deleted).

(57)   SUBJECT NUMBER SHIFT

G, B, M   + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$ + [+pro]

         SD: 1   2
         SC: 1   2 + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$
                  [-NS]

(58)   NG(K)U INSERTION

              + [+pro]   + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$ + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$
         SD: 1   2   3
         SC: 1   2 (M, B) ŋu   3
                        (G) ŋku

Since we have proposed that all plural suffixes to the right of the oblique clitic are placed there by a general rule of SUBJECT NUMBER SHIFT, we must also explain why the plural suffix is *not* present in some cases when it might be expected.

In fact, there is dialectal variation in this area of the grammar. Hale made some notes of a dialect of Gurindji spoken by Smiler Major (SMG) in Alice Springs in 1959, in which, as in WG, DUAL NEUTRALISATION does not apply in every case. As in WG, one of the cases in which it does not apply is when there is a second dual subject and a third dual oblique, in which only the latter is neutralised to plural. In WG, there is no plural subject suffix as in (59), while in SMG there is a plural subject suffix but no oblique suffix, as in (60).

In (60), the presence of ŋku indicates that the oblique clitic, which is missing in surface structure, was [+NS], and, given the dual subject clitic, could only have been an underlying dual. We seem to be dealing here with two rules, one of which deletes the right-hand subject number marker (SUBJECT PLURAL DELETION) and, another (OBLIQUE PLURAL DELETION), which occurs in SMG, which deletes plural oblique clitics after NG(K)U INSERTION has applied, rendering the object clitic redundant.

OBLIQUE PLURAL DELETION also applies where the subject is 1st inclusive and the object dual or plural in SMG (61) (cf. EG 62) and M (63). The rule may therefore be formulated as (64).

Returning to SUBJECT PLURAL DELETION, it occurs where the underlying subject is dual and the oblique singular, in all languages as in (56). In WG, it also applies precisely in those circumstances in which OBLIQUE PLURAL DELETION occurs in SMG, where the subject is 1st incl. or 2nd person, and so can be formulated as (65). In WG, and for some speakers of EG, as in (62)(a), SUBJECT PLURAL DELETION also applies when the subject is 1I, but in B and for other speakers of EG, it does not, producing (62)(b).

(59)

WG   ŋu + n + pula + yina   ma + ŋi
      AUX 2S   DS   3PO(D) *say* PAST
      'You two told them two.'

(60)

SMG   ŋu + n + pula + ŋku+lu ma   + ŋi
      AUX 2S   DS   PS   *say*   PAST   (=59)
      'You two told them two.'

(61)

SMG   pa + ɾu + ḷaa + ŋku + lu
        hit FUT 1IPS LING   PS
        'let's hit them.'

(62)

EG   (a) pa + ɾu + ḷaa + yina
        (b) pa + ɾu + laa + yina + ŋku + lu
            hit FUT 1IPS   3PO   LINK   PS
            'let's hit them'

(63)

M   pa + ḷaa + ŋu + lu + ɲu + ŋ + ku
        AUX 1PS LINK PS *give* CM   FUT
        'we (incl.) will give it to them.'

(64) OBLIQUE PLURAL DELETION

             + [+pro]   + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$ + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$

SD: 1   2   3
SC: 1   ø   3
C: (SMG) 1 is [+II]
     (M)   1 is $\begin{bmatrix} +I \\ +II \end{bmatrix}$

(65) SUBJECT PLURAL DELETION

             + [+pro]   + [+pro]   + $\begin{bmatrix} +pro \\ +NS \end{bmatrix}$

SD: 1   2   3
SC: 1   2   ø
C: (M, B) 1 is [+D] and 2 is [-NS]
     (G) either 1 is [+D] and 2 is [-NS]
         or 1 is $\left\{ \begin{bmatrix} +II \\ +D \end{bmatrix} \right.$ and 2 is [+NS]
                 $\left. \begin{bmatrix} +I \\ +II \end{bmatrix} \right\}$

SUBJECT NUMBER SHIFT, as well as DUAL NEUTRALISATION, suffers a
dimunution of its scope of application in Ngarinman, as remarked earlier
in relation to the apparent sporadic optionality of the rule in G. In
Ngarinman, the rule applies only when the subject NP is $\begin{bmatrix} -I \\ -II \end{bmatrix}$ and the
oblique is [+I] or [+II]. The hierarchical nature of this rule leads
us to speculate about whether CLITIC SWITCH and SUBJECT NUMBER SHIFT
do not both arise from an original tendency to move $\begin{bmatrix} -I \\ -II \end{bmatrix}$ elements
(either 3rd person or segmentalised number markers) to the right of

1st and 2nd person elements. In Ngarinman, it might be possible to
collapse CLITIC SWITCH and SUBJECT NUMBER SHIFT, although the rule would
have to follow SUBJECT NUMBER SEGMENTALISATION and refer to number
markers only in some cases to account for the clitic complex (65), in
which the person and number elements are split. We shall see in the
next section that CLITIC SWITCH and SUBJECT NUMBER SHIFT are distinct
rules in M. Assuming that the Ngarinman SUBJECT NUMBER SHIFT rule is
also distinct from CLITIC SHIFT, it has the condition (66).

(65)
Ng   +ŋa + ŋku + lu
          1S   2SO   PS

(66) SUBJECT NUMBER SHIFT
Ng, marginal in G   SD, SC as (57)
                       C: (a) 1 is [-D]
                       and either (b) 2 is [-NS]
                       or   (c) 2 > 1 $\begin{Bmatrix} I \\ II \end{Bmatrix}$

3.2. *CLITIC SWITCH*

   Apart from the reordering resulting from SUBJECT NUMBER SHIFT, there
are a number of cases in which the order of subject and oblique clitics
as units is reversed to yield a surface order oblique-subject. A
hierarchy of persons is involved in all the E. Ngumbin languages, but
it works differently in G and B on the one hand, and M on the other.
   Let us first examine the simpler case, that of G and B. Here, as
with M and many other neighbouring languages, the first person singular
clitic must precede any second person clitic, so that where the first
person is oblique, the surface order is oblique - subject as in (67).
In G and B (if the 1st person marker is non-singular), however, as in
(68), the normal subject-oblique order is maintained.

(67)
G   kuya ŋu + yi + n ma + ŋi
       thus AUX 1SO 2SS *say* PAST
       'You (sing.) *told me that.'*

(68)
G   kuya ŋu + n + ŋantipa ma + ŋi
       thus AUX 2SS 1EPO   *say* PAST

   As for combinations involving third persons, order is difficult to
determine since the third singular forms are generally ∅. The 'indirect-

object' form !a is always final in the clitic complex, but this may
result from its particular function rather than its person features.
As we mentioned in 3.1., the movement of dual subject markers to the
right of the oblique clitic does not result from SUBJECT NUMBER SHIFT.
The cases in which the dual marker is on the left are where the subject
is first person and the object second, as in (56), or third person,
when the subject is second person and the object third person, as in
(59), and when both are third person. The cases in which the dual
marker follows the oblique clitic are those in which the subject is
third person and the object first or second person, as in (26)(b). This
accords well with the precedence of first over second person already
noted, and with the person hierarchy 1 > 2 > 3 recognised for numerous
Australian languages (Capell, Wurm). It is highly likely therefore
that the position of dual markers is determined by the rule that
reverses the order of clitics as a whole, which I shall call CLITIC
SWITCH.

It is hard to tell in most cases whether third plural subjects are
effected by CLITIC SWITCH or solely by SUBJECT NUMBER SHIFT. In Mudbura,
both SUBJECT NUMBER SHIFT and CLITIC SWITCH may apply to the clitic
complex under certain conditions (see below).

A hierarchy (69) can now be established that determines the operation
of CLITIC SWITCH in G and B. When an oblique clitic is higher on the
hierarchy than the subject clitic, the order is reversed so that the
oblique precedes the subject.

(69) Clitic Switch Hierarchy:

G, B   i. 1 sing. $[^{+I}_{-NS}]$

       ii. 2 sing. $[^{+II}_{-NS}]$

      iii. 1 and 2 non-sing. $[^{+I}_{+NS}]$ $[^{+II}_{+NS}]$

      iv.(?) 3 $[^{-I}_{-II}]$

In an earlier paper on Yukulta (McConvell 1976), I attempted to show
that nominal hierarchies are based on the number of plus-values of the
features of the nominals concerned. This may be true for case-marking,
but in the light of (69), in which the unmarked category singular takes
precedence over dual and plural, this now seems incorrect insofar as
the operation of nominal hierarchies in the order of clitic sequences
is concerned.

The CLITIC SWITCH rule is in fact formulated as (70) without the
hierarchical conditions of the type suggested in my earlier paper. It
might be possible to eliminate some of the values of the features
referred to in the rule (e.g. to replace +I by I), if one could arrive

at the equivalent of a set of markedness conventions for clitic ordering
on the basis of comparative work.

(70) CLITIC SWITCH

$$+ \begin{bmatrix} +pro \\ +pat \end{bmatrix} \quad + \begin{bmatrix} +pro \\ +pat \end{bmatrix}$$

SD: 1   2

SC: 2   1

C: (G, B) i. 2 is $\begin{bmatrix} +I \\ -NS \end{bmatrix}$

            ii. 2 is $\begin{bmatrix} +II \\ -NS \end{bmatrix}$

The conditions on the rule are marked i and ii. This indicates that the
rule (70) is an abbreviation of two ordered rules which are identical
except that the first has condition i and the second as condition ii.
After rule i moves all 1st sing. objects to the left, rule ii. moves all
2nd sing. objects to the left. Rule ii. cannot reapply to structures
to which i. has already applied, since the order of the [+pat] and [-pat]
features has been reversed, so that the structural description of the
rule ii. is no longer met.

   One might argue that to introduce ordered movement rules into the
grammar at the level of clitic placement unnecessarily complicates
matters. It might be suggested that perhaps surface structure con-
straints could be used instead to provide a 'template' on to which
clitic sequences would either fit or be discarded (Perlmutter 1972).
Despite the merit this proposal might have for clitics in other languages,
there is strong evidence in M that CLITIC SWITCH is a movement trans-
formation not a surface constraint.

   In M, as in G and B, a 1st sing. oblique clitic precedes a 2nd or
3rd person subject clitic, and a 2nd sing. oblique clitic precedes a
3rd person subject clitic. Arguments parallel to those adduced for G
can be brought to show this in cases where there may be doubt. M clitic
sequences differ in four respects from those of G and B:
(a) Not only do 1st sing. obliques precede second and third person
subjects, but so do 1st du. and plur. obliques. Where such orders are
found, ŋu still intervenes between the second person subject to the
right of the oblique, and the right-hand subject number marker, as in
(71).

(71)

M   pa + ŋanta + n + ŋulu wa   ŋu + ŋ + ku?
        AUX 1EPO   2S   PS   Q   *give* CM FUT
        'Will you (plur.) *give it to us* (plur.)*?'*

(b) Where S is third singular and O is second dual or plural or first
inclusive, the 'reciprocal' suffix ṇa is normally added to the right of
O, as in (27)(a) (repeated here for convenience) and (72).

(27)(a)   pa + ŋku + wu + ṇa   ṇa + ŋ + ana
          AUX 2O   DO   RCP *see* CM PERF
          'He has seen you two.'

(72)

     pi + ŋala + ṇa   pi + ṇ + a + ra
     AUX 1IPO   RCP *bite* CM GEN
     'It might bite us.'

(c) In the dialect of M, referred to as WM in 6 (I call it Western as
I did not encounter it in the eastern part of Mudbura country), when a
second person singular subject appears with a third non-singular oblique
clitic, it occurs *both to the right and to the left of the oblique*, as
in (73)(a) and (74)(a). In the same dialect W, when the subject is non-
singular, the subject clitic appears only once, to the right of the
object, as in (75)(a).

     There is dialectal variation in this area: the dialect I have called
E in 6 has second person subjects occurring only once to the right of
the obliques, in all numbers as in (73)(b) and (74)(b), whereas a dialect
recorded by Capell (CM), has the second person subject occurring twice
even in the plural, as in (75)(b).

(73)
WM   (a) pa + n + puli + n
           AUX 2SS 3DO   2SS   ju + n + tu
EM   (b) pa + wuli + n   *scold* CM   FUT
           AUX 3DO   2SS
           'you (sing.) *will scold two'*

(74)
WM, CM (a) pa + n + jina + n
             AUX 2SS 3PO   2SS
                                    juntu
EM   (b) pa + yina + n
             AUX 3PO   2SS
             'you (sing) *will scold them'*

(75)
WM, EM (a) pa + yina + n + ŋulu
             AUX 3PO   2SS   PS
                                    juntu
CM   (b) pa + n + jina + n   ŋulu
             AUX 2SS 3PO   2SS   PS
             'you (dual or plur.) *will scold them* (dual or plur.)'

(d) In G and B, reflexives and reciprocals are both represented by the
same clitic, G ɲunu, B ɲanu, which follows the subject clitic in all
cases. Following the 2nd person subject n, ɲunu becomes junu.

In M, the reflexive is ɲanu (except for 1st sing. when the normal
oblique +yi is used), but there is also a distinct reciprocal suffix
+ŋa. For the purposes of this paper I consider both forms to be derived
from combinations of subject and obliques that have the same reference,
(or perhaps one should say include the same referent and have the same
person features, to account also for +na+ŋantipa+ɲunu 1SS-1EPO-RFL, etc.
in G and B). Naturally, ŋa described in (b) has a somewhat different
derivation.

In 2nd sing. reflexive and 2nd dual and plural reciprocal, the sub-
ject marker again occurs *both to the left and right of the reflexive/
reciprocal marker that replaces the oblique clitic*, as in (76) and (77).

(76)

M   ɲampa + ka   pa + n + ɲanu + n   tut   waɳṭa + j + waɳṭa + ŋ + ini?
     what   LOC AUX 2SS RFL   2SS *hold get*   REDUP   CM   PRES
     'What's wrong that you are holding yourself?'

(77)

M   ɲampa + ka   pa + n + pu + ŋa + n   punpa   ɲa + ŋan + ini?
     what   LOC AUX 2S   DS RCP 2S *fight see*   CM   PRES
     'What's wrong that you two are looking for a fight with each other?'

So we have the situation that in a widespread dialect of M under
specific regular conditions, a subject clitic appears twice in the
clitic complex. The rule CLITIC ATTACHMENT, as shown in (24), or
modified in any reasonable way that I can conceive of, could not
generate two occurrences of a subject clitic, just in case the oblique
clitic is of a particular type. In order that a surface constraint
might account for it, all subject clitics would have to be generated in
two positions by CLITIC ATTACHMENT and the filter would have to throw
out huge numbers of ungrammatical clitic complexes.

It seems to me more likely that the double appearance of the subject
clitic results from a rule that *copies* the S clitic to the right of the
O clitic, after the clitics have been attached. If we consider this
proposed rule of CLITIC COPYING in relation to CLITIC SWITCH in M, the
copying rule occupies the middle ground between the O-S order, which
appears where the O clitic is higher on a nominal hierarchy than S, and
the S-O order which appears where the S clitic is higher on the hier-
archy than O. Since CLITIC COPYING and CLITIC SWITCH appear to be
related in this way, if CLITIC COPYING must be a movement rule, it is
likely that CLITIC SWITCH is a rule of the same type, the difference

between them being that the former is a copying rule and the latter is
a chopping rule (Ross 1967).

    The relation between the two rules is not however a straightforward
one. There is a Clitic Switch hierarchy in M (78) which is similar to
that of G except that 1 replaces 1 sing.

(78) Clitic Switch Hierarchy
        i.   1 $[+I]$

m   ii.   2 sing $\begin{bmatrix} +II \\ -NS \end{bmatrix}$

      iii.   2 non-sing $\begin{bmatrix} -I \\ +II \\ +NS \end{bmatrix}$

       iv.   3 $\begin{bmatrix} -I \\ -II \end{bmatrix}$

Where the O clitic is higher on the hierarchy than the S clitic, the
order of the clitics is switched to O-S. This change can be expressed
by the rule (79).

(79) CLITIC SWITCH
      SD, SC as (70) (conditions represent ordered sub-rules as in (70))
      C: i.   2 is $[I]$
          ii. 2 is $\begin{bmatrix} +I \\ II \\ -NS \end{bmatrix}$

    For CLITIC COPYING in WM there is a slight change in the hierarchy:

(80) WM Clitic Copying Hierarchy

       i.   2 sing, 3 non-sing $\begin{bmatrix} +II \\ -NS \end{bmatrix}$ $\begin{bmatrix} -I \\ -II \\ +NS \end{bmatrix}$

      ii.   2 non-sing $\begin{bmatrix} -I \\ +II \\ +NS \end{bmatrix}$

     iii.   3 sing $\begin{bmatrix} -I \\ -II \\ -NS \end{bmatrix}$

    All $[+I]$ elements are disregarded, and 3rd non-sing. rises from the
lowest level to the same level as 2nd sing. CLITIC COPYING causes all
second person S clitics that are *on the same level* as the following O
clitic to be copied to the right of O. Reflexives and reciprocals have
O clitics on the same level as S, as the S clitics are identical to the
O clitics in underlying structure.

    The CLITIC COPYING rule can be written as (81).

(81)

    SD as (70)
    SC: 1   2   1 $\begin{bmatrix} -I \\ +II \\ \alpha NS \end{bmatrix}$
    C: either (a) 1 and 2 are

        or   (b) 1 is $\begin{bmatrix} +II \\ -NS \end{bmatrix}$

            and 2 is $\begin{bmatrix} -II \\ +P \end{bmatrix}$

The differences in dialects for this rule can be seen as reflecting
slight variations in the hierarchy and conditions on the rule. In EM,
where only reflexives and reciprocals trigger CLITIC COPYING, condition
(b) of the above rule would be absent and the hierarchy would be more
like that of CLITIC SWITCH (82) with 3rd non-sing. once again on the
same level as 3rd sing. For CM, in which non-singular second person S
clitics are also copied across third person non-singular clitics, the
hierarchy would be (83), and [-NS] would be absent in the first feature
combination of condition (b) of (81).

(82)

EM   i.   2
      ii.   3

(83)

CM   i.   2, 3 non-sing
      ii.   3 sing.

    The rule of SPURIOUS RECIPROCAL INSERTION (ṇa), which occurs only in
M, not in G or B, is a puzzling rule, for whose existence I can offer
no grammatical, functional or historical explanation at my present stage
of knowledge. However, it does appear to have some connection with the
hierarchies under discussion. It could be said to have its own hierarchy
(84), which is similar to the bottom two lines of both the CLITIC SWITCH
hierarchy (78), and the CLITIC COPYING hierarchy (80).

(84)

    i.   2 non-sing, 1 incl $\begin{bmatrix} +II \\ +P \end{bmatrix}$

    ii.   3 sing. $\begin{bmatrix} -I \\ -II \end{bmatrix}$

The rule would have the form (85).

(85)   SPURIOUS RECIPROCAL INSERTION
       SD as (70)
       SC: 1   2   RCP
                              (ṇa)

       C: 1 is $\begin{bmatrix} -I \\ -II \end{bmatrix}$

            2 is $\begin{bmatrix} +II \\ +NP \end{bmatrix}$

One might suggest collapsing this rule with true RECIPROCAL INSERTION, but this possibility will not be discussed here.

There is a further argument that can be adduced to show that CLITIC SWITCH and CLITIC COPYING in M exist as movement transformations, not as reflections of surface constraints. We have seen that when the 2PS clitic occurs with number markers separated it has the form n...ŋ u + lu in M and B, n...ŋku + lu in G, but when the two markers are adjacent it has the form nta in all the languages. This is true also when the 2PS clitic has been moved to the right of a singular O clitic by CLITIC SWITCH.

(86)
M   pa + yl + nta
       AUX   1SO   2PS

However, when the 2PS clitic has been moved to the right of a *non-singular* O clitic by CLITIC SWITCH (87) or CLITIC COPYING (88), the rule that produces nta cannot apply (89).

(87)
M   pa + ŋanta + n + ŋulu
       AUX   1EPO   2S   PS

(88)
CM   pa + n + jina + n + ŋulu
       AUX   2S   3PO   2S   PS

(89)
M   *pa + ŋanta + nta
       AUX   1EPO   2PS

The rule of NGU-INSERTION normally only operates when a right-hand plural marker lu immediately follows a non-singular clitic. If we order CLITIC SWITCH (and CLITIC COPYING) after SUBJECT NUMBER SHIFT and NGU-INSERTION, we can retain this form of the rule and generate (86) by the rules (90) and (87) by the rules (91).

(90)

SUBJECT NUMBER SHIFT	n + lu + yl	
	2S PS 1SO	(NGU-INSERTION does not apply
CLITIC SWITCH	n + yl + lu	as the O clitic is singular)
NTA-FORMATION	yl + n + lu	
	yl + nta	

(91)
SUBJECT NUMBER SHIFT   n + lu + ŋanta

                        2S   PS   1EPO

                        n + ŋanta + lu
NGU INSERTION   n + ŋanta + ŋu + lu
CLITIC SWITCH   ŋanta + n + ŋu + lu
(NTA FORMATION does not apply as n and lu are not adjacent)

   CLITIC SWITCH must therefore apply not at surface structure, but
before NTA-FORMATION. Furthermore, if n were to be generated to the
right of ŋanta in the underlying structure of the clitic complex, this
would incorrectly prevent NGU-INSERTION from applying since this rule
has as its environment an immediately preceding [+NS] O clitic. One
could not argue that underlying n + lu normally becomes n + ŋu + lu,
since it in fact normally becomes nta. n must therefore have been
moved to its surface position to the right of O in the course of the
derivation.

4.   THE CLITIC BASE

4.1.   *TYPES OF BASE*

   The following section should be considered as preliminary. The
question of which base is chosen in the several E. Ngumbin languages
in different circumstances is a very complex one. In some cases the
data are not sufficient to make a definitive statement; in others the
nature of the data seems to require an extension of linguistic theory
in areas in which there is still little of theoretical significance
that is generally accepted by linguists. The latter comment applies
particularly to the effects of *discursive* factors such as *topic, focus,
contrast,* etc. on clitic attachment. What is offered here therefore is
a brief statement of some of the more salient facts about the clitic
base, with some additional fairly speculative comments by way of
explanation. I hope to produce a fuller account of clitic attachment
and clitic bases in one of the languages discussed (Gurindji) in the
near future.

   I have provisionally divided the elements that may act as clitic
bases into seven categories.

(92)   i.   Auxiliaries (Aux)
        ii.   Complementisers (Comp)
       iii.   The Negation marker (Neg)
        iv.   Special Question Words (Q)
         v.   Initial demonstratives (ID)
        vi.   Other initial constituents (IC)
       vii.   Verbs (V)

For easy reference I have classed CLITIC ATTACHMENT to 1. as AUX
Attachment; to ii-iv as Presentence Attachment; to v-vi as Initial-
attachment, and to vii as V-attachment. Although attachment to Q-words
might be thought to be a form of Initial Attachment, we shall we below
that it has a number of characteristics quite different from those of
Initial Attachment, and more akin to those of Pre-sentence-Attachment.
Under iv and vi is subsumed both attachment to Q or initial constituents
as a whole (where these consist of more than one word) and attachment
to the initial word, where this is also the initial word of a larger
consituent. The difference between these two probably results from the
breaking-up of constituents by SCRAMBLING (or minor topic-movement) rules
which precede CLITIC ATTACHMENT. This question is not discussed in
detail here: it is assumed that clitics are attached to *constituents*,
whether these consist of one or more than one word at the time of the
application of CLITIC ATTACHMENT. By 'Verbs' (vii) I mean members of
the small set of items (under 40 members for the languages discussed)
which include such roots as ya + *'go'* ka + *'take'* which fall into
conjugations and are inflected with tense suffixes. These may occur
either alone with nominal arguments, or together with qualifying elements
similar to adverbs which I call 'pre-verbs'. Unlike similar prefixes in
other Western Desert languages, the E. Ngumbin pre-verbs are free, not
bound, may be moved around in the sentence with some degree of indepen-
dence from the accompanying verb, and may sometimes appear without the
verb.

4.2. AUX AND PRESENTENCE ATTACHMENT

In this section I shall deal with attachment to AUX, COMP and NEG.
Q-word attachment is dealt with in the following section.

The neutral unmarked auxiliaries are G ŋu and M pa. These occur in
all cases in which there are overt clitics, and which are not provided
for by the other forms of attachment to be described below: i.e. in
neutral positive declarative non-contrastive sentences as in (93)(a)
and (b). In G ŋu may also be used where there are no overt clitics
attached to it, as in (94)(b), but I have found no examples of this in
M e.g. (95), but cf. M (95c) paa may be an allomorph of pa here, but
this pa appears distinct from AUX pa; see further below.

(93)
```
G     (a) kaylra  ŋu + wula  ya + ni
          north   AUX  3DS   go   PAST
M     (b) kirawara  pa + wula  ya + ni + ra
          north     AUX  3DS   go   PAST  DIST
          'they two went north'
```

(94)

G   { (a) kayira yani
      { (b) kayira ŋu ya + ni }

M   { (a) kirawara yani
      { (b) *kirawara pa ya + ni + ra }

        'he went north'

     (c) kirawara paa ya + ni + ra...

        'after he had gone north...'

The neutral AUX most frequently immediately follows the S-initial
constituent or word as above, but may also itself occupy the initial
position:

(96)

     (a) ŋu + wula kayira ya + ni
     (b) pa + wula kirawara ya + ni + ra
        'the two went north'

The difference in meaning between (93) and (96) is slight: (93) does
appear to imply however that the fact that they two went is to some
extent presupposed (*topical*) or at least predictable; the direction
'north' is relatively new information. In (96) both the going and the
direction are new information (non-topical).

Occasionally in G and more rarely in M Aux occurs to the right of V,
or of a V-centred constituent like VP, as in (97).

(97)

     waḷu yuwa + ni waḷiḷik   ŋu + ɲunu + ŋkuḷa
     fire put   PAST *round* REDUP AUX   RFL   1O
     'he put firewood around himself'

Aux frequently intervenes between pre-verbs and verbs even where
these are close-knit, otherwise inseparable elements as in (98).

(98)

     (a) paraj ŋu + lu pu + ŋ + ku
        find   AUX 3PS *pierce* CM FUT
     (b) kiṇaŋ pa + li ku + ya
        find   AUX 3PS *throw* FUT
        'they will find it'

In G clitics are attached directly to COMP, NEG and Q-words; if S
contains such items in M however, clitics are still attached to the
AUX pa, which immediately follows the COMP, NEG or Q-word as in (99),
(100), and (101).

(99)

M   apaɻa   pa + ɭi   kiṇaŋ   ku + ṇa + na   jɪya + ma...
      REL   AUX 3PS   *find* *throw* PERF   *kangaroo* #...
      'the kangaroo which they found...'

(100)

M   kuɭa   pa + ɭi   kɪṇaŋ   ku + ṇa + na
      NEG   AUX 3PS   *find* *throw* PERF
      'they have not found it'

(101)

M   ɲampa   pa + ɭi   kiṇaŋ   ku + ṇa + na?
      what AUX 3PS   *find* *throw* PERF
      'what have they found?'

The M temporal-conditional complementiser paa referred to above does not follow this pattern. It follows the AUX + clitic complex if it is present, as in (102); and otherwise it follows the initial constituent of the clause as in (95)(c).

(102)

pa + ɭi paa   ɭa + ŋa + nɪ miḻaraŋ + tɪ ɲani + ma ŋuku + ŋkura pa + ɭi
AUX 3PS TEMP *spear* CM *past Spear* ERG 3   # *water* ALL   AUX 3PS
waṇ   ku + ṇi
throw throw PAST
'when they had speared him they threw him into the water'

In M there are two more Auxiliaries apart from pa: pi (pɪya where no clitics are attached) 'possibility with adverse results', ɲa 'possibility (with no adverse connotation)'. Syntactically these behave in the same way as pa, except that they may not be deleted where no clitics are attached to them. They may occur in main clauses (103) or introducing subordinate clauses (104). When combined with a following paa, they form the hypothetical conditional complementisers pi...paa (if S with adverse results, as in (105) and ɲa...paa *'if'*, as in (106)).

(103)

M   kaɻu   pi + yina + ŋuɭu pi + ṇa + ɻa kaya + ḷi + ma
      child LEST 3PO   3PS *bite* GEN   *ghost* ERG #
      'ghosts might bite the children'

(104)

M   kaɻu + ma + yɪna + ŋuɭu wara ɲa + ŋ + ka   pi + yɪna + ŋuɭu
      child #   3PO   PS *care see* CM IMP ADM AUX 3PO   PS
      pi + ṇa + ɻa kaya + ḷi + ma
      bite GEN   *ghost* ERG
      'take care of the children lest ghosts bit them'

(105)

M   kawaraj ɲi + n   paa waɳṯa + ṯa   ɲa + n tuṯ mara + ɳṯa
       lose LEST 2SS TEMP *get* FUT.IRR AUX 2SS *hold say*   FUT.IRR
       wumaŋku + ma
       dreaming #
       *'if you were in danger of forgetting your totemic designs, you
       would have to hold on to them'*

(106)

G   ɲa   + n paa ya + n + ta + ḷa + ɳi yali + ma + ɲa + ŋku
       DOUBT AUX 2SS TEMP *go* CM IMP IRR ALL *that* #   1SS 2SO
       kataj ɲa + ra + ḷa
       cut   hit IMP IRR
       'if you had come I would have cut you'

There are a number of elements in G which could be classed either as
auxiliaries or complementisers, to which clitics are attached. Since
they also occur and attract clitics in B which does not have a neutral
AUX, it is convenient to call them all complementisers.

Of these, G ɲamu is most clearly a complementiser in the usual sense,
as it normally occurs in subordinate clauses and only rarely in main
clauses (probably as a result of ellipsis). It is a type of complemen-
tiser familiar in Australian languages, by means of which either rela-
tivetive clauses, or temporal clauses, or conditional clauses can be
formed as in (107), (108) and (109) respectively. In both G and B the
DOUBT suffix +ŋa is usually suffixed to the clitic complex where the
clause is conditional.

(107)

G   ɲamu + lu luwa + ɳi miɳawut + ma, ɲila + waḷa ŋu + lu kampa + ɲi
       REL   3PS *spear* PAST *kangaroo* #   *that* FOCUS AUX 3PS *cook* PAST
       'they cooked the kangaroo which they speared'

(108)

       ɲamu + lu luwa + ɳi miɳawut + ma, kuya + ŋka + waḷa ŋu + lu
       REL   3PS *spear* PAST *kangaroo* #   *thus* LOC FOCUS AUX   3PS
       waḷu pIrka ma + ni
       fire make get PAST
       'when they speared a kangaroo they made a fire'

(109)

```
        ɲamu + lu + ŋa    miɲawut + ma luwa,      wayi    + lu + ŋa
        REL    3PS DOUBT kangaroo  #  spear  IRR INDEF AUX 3PS DOUBT
        waḷu pirka ma + n + ta
        fire make  get CM   IRR
        'if they had speared a kangaroo they would have made a fire'
```

In ɲamu clauses in G clitics are occasionally attached to a ŋu AUX,
rather than to ɲamu, especially by younger speakers.

G, B ŋaja means the same as M pi: 'possibility of S occurring with
adverse results'. As with pi it may occur wither in main or subordinate
clauses, as in (110) and (111) respectively, the translations of (103)
and (104).

(110)

```
G       kaṛu + ma ŋaja + yina + ŋkulu paya + n + ana kaya + ŋku + ma
        child  #  LEST  3PO    3PS   bite  CM PRES ghost  ERG    #
        'the ghosts might bite the children'
```

(111)

```
G       kaṛu + ma wara ka + ŋ + ka + yina + ŋkulu ŋaja + yina + ŋkulu
        child  #  care take CM IMP  3PO   3PS   LEST   3PO    3PS
        paya + n + ana kaya + ŋku + ma
        bite  CM PRES ghost  ERG    #
        'take care of the children lest the ghosts bit them'
```

wayi is used as an interrogative particle in G and B as in (112)(a).
It is also used as an interrogative AUX in G, as in (112)(b). When it
follows a Q-word it means 'the speaker does not know the value of the
variable indicated by the Q word'. In this construction clitics may
either be attached to wayi or to a further ŋu AUX, as in (113).

(112)

```
G       (a) ŋu + lu kaṭaj pa + ni wayi?
            AUX 3PS         PAST Q
        (b) wayi + lu  kaṭaj pani?
            Q AUX 3PS  cut        PAST
            'did they cut it?'
```

(113)

```
        waɲji + ka ⎧(a) wayi + lu  ⎫ tirip kari + ɲa
        which   LOC ⎪    INDEF 3PS ⎪ camp    be   PAST
                    ⎨                ⎬
                    ⎪(b) wayi ŋu + lu⎪
                    ⎩    INDEF AUX 3PS⎭
        'they camped somewhere; I don't know where they camped'
```

A further use of wayl in EG is as the AUX used with the imperative/
irrealis form of the verb to form a past irrealis tense as in (109).
Usually +ŋa is also suffixed to the clitic complex in this tense. In
WG in the past irrealis, the complex clitic + ŋa is attached either to
the initial constituent or ŋu.

There are a number of other lesser-used AUX or Comp elements in G
and B to which clitics are added: in the case of kaṭa ... ŋa *I thought
(incorrectly) that...*' walima 'Q...any?' obligatorily; and in the case
of e.g. ŋanta 'assertion modified by doubt', kayi 'assertion and
surprise' and kuṭi *soon, shortly after*, optionally.

The complementiser in M which is closest to G, B ɲamu is apala. It
seems to be confined to relative clauses as in (99), comparatives, and
silultaneous temporal clauses; conditionals and sequential temporal
clauses are handled by combinations of various Aux and paa, as already
discussed. apala does not attract clitics, and is followed by the Aux
pa. Apart from pa, pi and ɲa there are no other auxiliaries or comp-
lementisers in M which attract clitics.

In B there is no AUX, and the unmarked form of attachment is to the
initial constituent. Clitics may be attached to COMP in second position
as in G, however.

The negation marker is the free form kula in G, B, and M, and usually
either follows the initial constituent or itself takes initial position.
In G and B clitics are normally attached to kula, even where there is a
complementiser or Q-word in initial position, as in (114), where ɲamu is
initial, however, the clitics are usually suffixed to ɲamu and kula
without clitics follows it as in 114(b). Where kula has a scope less
than S., e.g. an NP, clitics are attached to Aux instead:

(114)
G   (a) ɲampa + wu kula + n ya + ni?
             what   DAT NEG 2SS *go* PAST
             'why didn't you go?'

         (b) ɲamu + n + ŋa   kula ya + n + ku
             COMP 2SS DOUBT NEG   *go* CM FUT

(115)
G   kula ŋayu + ɲiɲi ŋu + ŋa ya + nl
         NEG   1S   *only* AUX 1SS *go* PAST
         'not only I went'

In M, as already mentioned, kula does not attract clitics, but is
followed by the neutral Aux pa with clitics attached.

In addition to the cross-referencing of NP's within the domain of
simple S by clitic attachment, M (and B too but not G) has the possibility

of cross-referencing dative NPs within the domain of complex NPs. The
clitic representing the dative NP is attached either to the AUX pa which
follows the initial NP as in (116), or to the initial NP to which ma has
been suffixed, as in (117).

(116)

M   kampapirijaṇa + ma + ṇaiiya tuḷk + kara pa + ni + ra waḷaṭaṭi
       former   #   1EDO *explode* ACT *hit* PAST DIST *many dead*
      'they shot many of our forebears dead'

(117)

      maḷuka + wu + ma   pa + ḷa Gerald + ku + ma   pa + yi ṇu + ṇa + ni
      oldman DAT   #   AUX 3SIO   DAT   #   AUX 1SO   CM PAST
      + ra
      DIST
      'she gave me the one belonging to old man Gerald'

   (117) has two pa Aux elements in one simple S. Since there is only
one Aux and one set of clitics for each S, the first Aux and clitic
complex in this sentence must be generated within the object NP maḷuka +
wu + ma pa + ḷa Gerald + ku + ma. This sentence also shows that where
NP-domain clitic attachment applies, the non-dative (possessed) NP in
the complex NP may be anaphorically deleted.

   (116) on the other hand shows that the dative NP may be deleted once
it has been cross-referenced by clitics attached to the possessed NP.
The existence of NP-domain clitics largely solves the problem of the
poverty of the M free pronouns (and thus of the dative (genitive)
pronouns) by reintroducing a full set of numbers and an inclusive/
exclusive distinction.

   Where the NP as a whole is in an oblique case, case suffixes are
added to each of the constituent nominals in the normal way preceding
the (Aux +) clitic complex:

(118)

      ṇayi + ṇa + ṇkura ⎰(a) + ma + ṇanta⎱ ṇura + nkura
                        ⎱(b) pa + ṇanta ⎰

        1   DAT   ALL   (a) + #   1EPO
                           (b) AUX   1EPO   *country* ALL
      'towards our country'

4.3. Q-WORD ATTACHMENT

   In G and B clitics are attached to special question words like ṇana
'who', waṇji *'which'* etc. Constituents containing such words are most
frequently sentence-initial as in (119)(a), although other positions are
found, sometimes with the clitics attached, not to the Q-word but to ṇu,

as in (119)(b). Where the Q-constituent consists of more than one word,
the clitics may be attached to the final word of the constituent but
this is rather rare. More often the clitics are either attached to ŋu
as in (120)(a), or the Q-constituent is broken up and the clitics
attached to an initial Q-word, as in (120)(b).

(119)

G   (a) waɲji + ka + lu tirip kari + ɲa?
            which LOC 3PS *camp* *be*   PAST

      (b) ŋu + lu tirip kari + ɲa waɲji + ka?
            AUX 3PS *camp*   *be*   PAST *which* LOC
            'where did they camp?'

(120)

G   (a) waɲji + ka ŋura + ŋka ŋu + lu tirip kari + ɲa?
            which LOC *place* LOC AUX 3PS *camp* *be*   PAST

      (b) waɲji + ka + lu tirip kari + ɲa ŋura + ŋka + ma?
            which LOC 3PS *camp* *be*   PAST *place* LOC
            'which place did they camp at?'

    Attention should be paid to the ordering of the clitic complex with
respect to other suffixes, as this is different in the case of Q-word
attachment on the one hand and contrastive initial attachment on the
other. The clitic complex follows paḷa/waḷa the focus marker which
itself follows the case-suffixes on Q-words. paḷa/waḷa marks something
either new in time (*'now'*, sequential *'then'*;) or new in information
content (non-topical, focus). In its latter meaning it has a particular
attraction to Q-words, which are by nature non-topical or non-presupposed,
hence Q-words are frequently found with the paḷa/waḷa suffix as in (121).
The topic marker ma, for parallel reasons, is hardly ever found on Q-
words unless, by ellipsis, they occur alone in the sentence. More
frequently, ma is found on the remainder of the sentence which is
relatively topical, often the verb (which does not normally take the
ma suffix) as in (121)(a).

    Occasionally, perhaps because of the topical nature of one of the
clitics, ma may occur on the Q-word. When it does so, it follows the
clitic complex, as in (121)(b).

(121)

      (a) ɲampa + wu + waḷa + yi + ta pa + ni + ma?
            what   DAT   FOCUS 1SO 2PS *hit* PAST #
            'why did you lot hit me?'

      (b) ɲampa + wu + waḷa + yi + ta + ma pa + ni?
            what   DAT   FOCUS 1SO 2PS   #   *hit* PAST

Where the Q-word ends in a consonant e.g. ɲatjaŋ *'how much, how many?'.*
and is immediately followed by a clitic complex, an epenthetic linking
syllable pa intervenes between the Q-word and the clitic complex as in
(122)(b). This is the same link pa which occurs with other suffixes in
G, e.g. ŋi, as in (123)(b), and separating final consonants of initial
consonants and clitic complexes in B.

(122)

G   (a) ɲatjaŋ   jiya + ŋi?
              how much win   PAST
              'how much did he win?'

         (b) ɲatjaŋ + pa + ku   jiya + ŋi?
              how much LINK 2SO *win*   PAST
              'how much did he win from you?'

(123)

G   ⎧ (a) jintaku + ŋi   ⎫
         ⎪   *one   only*   ⎪ jiya + ŋi
         ⎨   ⎬ *win*   PAST
         ⎪ (b) murkuɳ + pa + ŋi   ⎪
         ⎩   *three*   LINK *only*   ⎭
              'he won only {*one* / *three*}*,'*

According to most criteria, the clitic complex forms part of the same
phonological word as the Q-word to which it is attached:

  (i) it is unstressed, except for secondary stress on the syllable
preceding ŋkulu, where this occurs in G. A separate word would normally
have primary or at least secondary stress on the initial syllable.

  (ii) phonological rules operate from the Q-word onto the clitic
complex. In (114) NASAL CLUSTER DISSIMILATION (DENASALISATION) has
changed n into t because of the preceding cluster mp. In (121) and
(122), NASAL CLUSTER DISSIMILATION (DELETION) has operated, changing
nta into ta and ŋku into ku because of the preceding clusters, respect-
ively mp and np.

  (iii) the clitic complex is inseparable from the Q-word except by a
well defined class of other *suffixes.*

  (iv) the clitic complex precedes the topic marker ma which is normally
last in a sequence of suffixes and thus acts as a word boundary marker.
In M clitics are not attached to Q-words, but to Aux pa; see (101).

4.4. *INITIAL ATTACHMENT*

In B attachment of clitics to the S-initial constituent as in (124)
is the normal unmarked form of attachment. There is no unmarked Aux in
B and attachment to V has a special use discussed in section 6. Where

the word to which clitics are attached has a final consonant as in (124)
(b) the link pa is inserted before the clitics, (as with patjaŋ in G.).
Phonological rules operate between the base word and the clitic com-
plex, as with G. Q-words. Unlike with Q-words, however, ma may be suf-
fixed to the clitic base word and in this case the clitics follow ma,
as in (124)(c).

(124)

B   (a) ya + ni + ŋi + ŋa + ŋku ɲunu + ɲ
          go PAST ALL 1SS   2SO   2S   DAT
          'I came to you'
     (b) ɲunu + n + pa + ŋa + ŋku ya + ni + ŋi
          2S   DAT LINK 1SS   2SO *go* PAST ALL
     (c) ɲunu + ɲ + ma + ŋa + ŋku ya + ni + ŋi

As in the other languages, the link pa becomes wa following a liquid
by a general phonological rule:

(125)

B   kuḷ + wa + ŋa paya + ŋi
      drink LINK 1SS *drink* PAST
      'I drank it'

In B the attachment of clitics to the final word of a complex initial
constituent is more common than in the other languages, e.g. (126)(a),
but again the initial constituent may be split and the clitics attached
to the first word e.g. (126)(b). In (126) pre-verb and verb together
form a constituent (V).

(126)

B   (a) jaṛakap ma + ḷa + ŋa + ḷa
          talk   *say* PRES 1SS 3SIO
          'I am talking to him'
     (b) jaṛakap + pa + na + ḷa ma + ḷa
          talk   LINK 1SS 3SIO *say* PRES

Attachment of clitics to V may happen coincidentally in B because V
is the only or final word of the initial constituent, as in (124)(a)
and (126)(a) respectively. V-attachment conditioned by a particular
type of discursive environment in B is discussed in the following sec-
tion.

Attachment to initial constituents in G (other than to AUX, COMP, NEG
or Q-words) and M (other than to AUX) respresents a marked sentence-type
which is not frequently found. Upon investigation this marked sentence-
type can be shown to have a distinct set of functions related to dis-
course pattern.

One type found in G is that in which the initial constituent is the
semantic *focus*, and the rest of the sentence is presupposed. The suffix
paḷa/waḷa is always found attached to the initial word, preceding the
clitic complex.

(127)

G   waṇan + tu + waḷa + yina pa + na + ni wututur   ɲila + ma
         lying ERG FOCUS   3PO *hit* PROG PAST *completely that*   #
         juḷak + ma
         bird   #
         '*it was by LYING DOWN that he was able to kill all the birds*'

This type of attachment is optional and rather rare, as focus can
equally be expressed by placing the focus constituent with the paḷa/waḷa
suffix in initial position without initial attachment:

(128)

G   waṇan + tu + waḷa ŋu + yina pa + na + ni wututur ɲila + ma
                          AUX
         juḷak + ma (=127)

This type of initial attachment is probably related to Q-word attach-
ment as it is semantically and syntactically similar. The apparent
absence of this type in M is paralleled by the absence of Q-word, COMP
and NEG - attachment in M. A minor use of initial attachment in G
(without an intervening ma and with the link pa) is in swearing e.g.

(129)

G   miṇṭi puka + nta!
         anus stinking 2PS
         '*stinking anus!*'

(130)

G   miṇṭi kaṭak   + maraj + pa + n!
         anus receptacle   like   LINK 2SS
         '*(you have an) anus like a billy-can!*'

Attachment to the initial word of NPs is an alternative to AUX-attachment
in NP-domain clitic attachment M mentioned above. The two types of
attachment appear to be in free variation in NP-domains, but there may
be some distinction of meaning or environment which has escaped me.
Attachment to initials is an alternative to V-attachment in M imperatives,
and to AUX and V-attachment in the past-irrealis in M and WG.

4.5. *CONTRASTIVE INITIAL ATTACHMENT*

The most important form of S-domain initial attachment is that which
I refer to as *contrastive*. This will require a fairly lengthy expla-
nation before the data can be introduced. It has two main forms which
appear to be related: that in which clitics are attached to a demon-
strative pronoun (G ɲila *'that'*/ɲawa *'this'*, M yali *'that'*/ŋiɲa *'this'*)
with a ma suffix; and that in which clitics are attached to another NP
with a ma suffix. The two types share a discursive function of *contrast*,
which I believe to be distinct either from the topic-comment structure
to be found within a normal topic-chain organisation of discourse, or
from the focus-presupposition structure, which is (somewhat confusingly)
called 'contrastive' by some authors, both of which have been more
investigated than contrast. The forms of contrastive initial attachment
also share a number of syntactic characteristics, which are quite differ-
ent from those of Q-word attachment in G.

The unmarked form of discourse is that which proceeds in a *linear*
fashion. In each succeeding sentence some new information is added to
old information (*topic*) which is carried over from the previous sentences
or drawn from a pool of presuppositions available in other ways to the
speaker and hearer. Typically, such a discourse describes a temporal
sequence of events, or a logical sequence of statements, or both.
Essentially, focus-presupposition sentences (such as clefts etc) are
generated in the same mode of discourse, except that it is the new
rather than the old information which is placed in the foreground.

However, a different mode of joining sentences in discourse is also
available to speakers, which I shall call *lateral*. By this I mean that
such a joining of sentences in the normal chain of new building on old
information, and its implications of temporal, causal or logical
sequence is temporarily suspended. Given a topic as a starting point
sentences are joined in lateral sequence, as it were, by shifting
paradigmatically, rather than moving on syntagmatically. A pair of
sentences in a lateral sequence have a symmetrical relationship with
each other with respect to time, cause or implication, so that reversing
their order in itself does not alter the meaning of their relationship.
This is unlike a pair of sentences in a linear sequence, which bear an
asymmetrical relation to each other of the kind 'first S1 then S2' or
'if S1 then S2'.

One type of lateral sequence could be a *cumulative* list of factual
statements on a particular topic. Probably more common is a *contrastive*
sequence. In English, contrast may be expressed by stress and inton-
ational marking of the elements contrasted. The stress added to

contrasted elements appears to be the same as that used to mark focus
(indicated by " in (131)) perhaps because contrastive elements are by
their nature new (non-topical). I have not investigated whether any
intonation pattern is uniquely associated with contrast.

(131) "Jack "swam across. "Jill "waded across.

Contrast in English may be further indicated by conjunctions and
particles, e.g.:

(132) "Jack "swam across, but "Jill "waded across.

(133) Whereas "Jack "swam across, "Jill "waded across.

It should be noted that there is nothing inherent in the meaning or
referents of pairs of sentences in a discourse which determines whether
they form part of a linear or lateral sequence, or of a cumulative or
contrastive sequence. (Although, of course, for certain pairs these
factors do make one or other interpretation highly likely.) The choice
of type of sequence is something within the autonomous discursive
domain, which is added by the speaker by means of grammatical markers
(such as stress and intonation in English). Thus (134), which is the
same as (131) except for the lack of marked stress, is either a linear
(temporal) sequence, or a lateral cumulative sequence.

(134) Jack swam across, (and) Jill waded across.

   Contrast is taken to be an irreducible notion in this paper. It
appears to shade imperceptibly off into cumulation yet appears to be a
basic building block of human thought: perhaps the two concepts are
the two sides of the same coin of a symmetrical paradigmatic relationship
one or other of which may be foregrounded.

(135) A is x; A is not y
       B is y; B is not x
       cumulative contrastive
       aspect   aspect

'Focus' is called 'contrastive' by some authors because it identifies
the value of a variable and thereby asserts that other values are
discounted.

(136) A is X (variable); A is either x or y or z or....
       X = x (value);   A is not y nor z nor ...

Contrast in the sense used here, on the other hand, means contrast with
only *one,* not many, possible values.

   In G and M *contrast* has a specific syntactic effect: attachment of
clitics to the first constituent of a sentence. In the case of attach-
ment to initial demonstratives, the contrast is frequently with a

preceding or following relative/temporal/conditional clause of the same
complex S, as in (137), but this is not necessarily so as we see in
(138). The demonstrative does not have a normal deictic or anaphoric
significance in this construction. If the distal (G ɲila, M yali) is
used to introduce one of the pair of sentences and the proximal (G ɲawa,
M ŋiɲa) the other, this indicates a contrast in time of the two con-
trasted sentences, that with the proximal initial being closest to the
present, as in (138). A similar temporal contrast may be effected by a
proximal initial in the main clause, but with a relative-type clause
indicating the farther-removed contrasted event as in (138). Where the
distal introduces a sentence of main clause, without a corresponding
proximal in the other sentence, this indicates that there is no temporal
contrast, but the two sentences are equally removed from the present,
e.g. (139).

(137)

G   ɲawa + ma + ŋa kulukulup + paḷa ɲamu + ŋa kari + ɲa wankaj + ma
        this   # 1SS *happy*   FOCUS REL 1SS *be* PAST *bad*   #
        purinjiṛi + ḷa + ma
        yesterday LOC #
        'I am happy now although I was bad yesterday'

(138)

M   yali + ma + n ya + n + ta + ḷa + ɳi jaliḷa + ɳi ŋiɲa + ma + n
        that   # 2SS *go* CM IMP IRR *all* *new*   EMPH *this*   #   2SS
        ṭuṭukuḷ wanti + ɲa + ra
        overlap fall   PAST DIST
        'you should have come (when you rib was) still new(ly broken),
        now it has doubled over'

(139)

G   maḷuka + ḷu yalu + ŋku ɲamu + ŋa yunpa + wu yarinti + ḷu kula
        old man ERG *that*   ERG REL   DOUBT *sing* FUT *sorcery*   *song* ERG NEG
        wanji kar + u ɲila + ma yarulan + ma ɲila + ma + ŋa tempaŋ
        alive be FUT *that*   # *young man* # *that*   #   DOUBT *dead*
        kar + u wajija + ɳi
        be FUT *quick*   EMPH
        'if that old man sings him with a sorcery song, that young man
        won't stay alive but will die quickly'

In (139) it is unclear whether the contrast in the final clause is
with the immediately preceding clause or with the protasis of the
condition. Conditionals with initial attachment to demonstratives in
the apodosis without a clear contrastive meaning are fairly common.

In all of the above examples the two sentences in a contrastive pair (with the possible exception of 139) share their subject: this appears to be particularly common (but not completely without exception e.g. (140)) for initial demonstrative attachment. Where the subjects are different, they are usually contrasted, and themselves become the initial element to which clitics are attached.

It will have been noted that all demonstratives in this construction are immediately followed by the suffix ma which *precedes* the clitic complex; this is indeed obligatory for all contrastive initial attach- ment, whether of demonstratives or otherwise. In this respect the construction differs markedly from Q-word-attachment, in which ma is rarely suffixed, to the initial constituent, and if it is, *follows* the clitic complex. Another difference between the two constructions is in the position of the focus marker (G paḷa/waḷa, M waṇa).

In G Q-word attachment (and in the related focus attachment), paḷa/ waḷa immediately follows the Q-word and *precedes* the clitic complex. In initial attachment, however, it *follows* the clitic complex as in (140). As with Q-word attachment, where an initial element co-occurs with NEG in a contrastive construction, as also shown by (140), it is kuḷa to which the clitics are attached:

(140)

       ma + lu + ra   yipurk ɲila + ma + waḷa kula + na + ḷa jayi +
       say FUT HORT *in vain that*   #   FOCUS NEG   1SS 3SIO *give*
       ŋ + ku
       CM FUT
       'whatever he says I won't give it to him'
       (lit: *'let him talk in vain (but) I won't give it to him'*)

Attachment to initial demonstratives (ɲila, ɲawa) which do not have a normal deictic or anaphoric meaning is common in B. This does appear to have the contrastive meaning associated with it in G on some occasions, as in (141) and (142). On other occasions the distal appears to indicate simply relevance of S to a temporally distant state of affairs, (past or future), and the proximal, relevance of S to the present state of affairs.

(141)

       1. kula + ŋa   pina + ŋu + ḷa + wu ya + n + ku
          NEG   1SS *give* GER LOC DAT *go* CM FUT
          'nobody gives me anything'
          (lit: *'I can't go for when (someone) is giving'*)

  ii. ɲawa + ma + ŋa + ŋa waŋaak
   this   #   1SS   DOUBT *waif*
   'I am (like) a waif' (unsupported by kin)

(142)

  i. liwaṭ + pa + yi kar + a
   wait   LINK 1SO *be*   PRES
   'he is waiting for me'

  ii. ɲawa + ma + ŋa + ŋku liwaṭ kar + a
   this   #   1SS 2SO *wait*   PRES
   'I am waiting for you'

Another initial element to which clitics are attached in B is paⅼa. It
is used to introduce temporally new sentences or sentences having a
relation of result or purpose with what precedes.

(143)

   paⅼa + ŋa + ŋku ma + ⅼu maṇu + kaṛi + ļi
   FOCUS 1SS   2SO *say put language other* ERG
   $'\begin{Bmatrix} so \\ now \end{Bmatrix}$ *I'll tell you in a different language'*

 Contrastive initial attachment of elements other than the demonstra-
tives discussed above seems to have two major functions. The first is
marking of the second sentence in a lateral contrastive pair such as the
English sentences in (131). This is organised in the following way:
one constituent of the second sentence, usually an NP (frequently a
pronoun) is foregrounded as contrasting with one constituent of the
preceding contrastive sentence. This element although non-topical in
the normally-used sense may be regarded as a sub-topic which is a
member of a paradigmatic topic-set, including e.g. JACK and JILL in
(131). It is this element which is sentence-initial and to which
clitics are attached. The properties of the second sub-topic which
contrast with those of the first are expressed in the remainder of the
sentence. In G and M the sub-topic is not confined to any particular
grammatical function: it may be the subject, as in (144), the direct
object as in (145), or an adverbial as in (146). The sentences (iii) in
(144) and (145) return to a linear sequence after the lateral parenthesis:
in the case of (144), (iii) continues from (i), in (145) (iii) continues
from (ii). In these passages, C̲ marks the contrastive sentences.

(144)

G i. wayi + ļi ya + n + ta kujara
    INDEF 1IDS *go* CM IRR *two*
    'we should both have gone'

C   11. ɲuntu + waṟij + pa + ɳi + n   ya + ni
            2S   alone   LINK only 2SS go   PAST
        'YOU went on your own'

    111. wayi   + ɳa + ŋku jarara ma + n + ta waḷu + wu
         INDEF AUX 1SS   2SO follow get CM IRR fire DAT
        'I would have gone with you for firewood'

(145)

G   1. yirap + ma   ŋu + ɳa + yina paṟik waɲja + ni V.R.D. + ḷa
        one mob #   AUX 1SS   3PO behind leave   PAST   LOC
        'one lot (A) I left them at V.R.D.'

C   11. yirap + ma + ɳa + yina waṭ ka + ɳa muḷa + ŋkura
        one mob #   1SS   3PO back take   here ALL
        'THE OTHER LOT (B) I brought them back here'

    111. muḷa + ŋka + ɳi   ŋu + lu kari + ɲ + ana
         here   LOC still AUX 3PS be   CM PRES
        'they are still staying here'

(146)

M   1. pa + ḷa ŋuɲjuŋuɲju   ka + ɳa + ra
        AUX 3SIO special kind of yellow ochre take PAST DIST
        waṟiṭila   + wu maḷaḷuka + li kampara + ma
        hook-boomerang DAT oldmen   ERG before   #
        'in the old days, the old men used to bring a special kind
        of yellow ochre for the hook boomerangs'

C   11. jaḷajaɲa + ma + ɳa + li wampal + waɲa yuwa + ra waṟiṭila +
        today   REDUP # 1EPS nothing FOCUS put   HAB hook.boomerang
        ma kula ŋuɲjuŋuɲju   + wuru + ḷu
        # NEG special kind of yellow ochre PROP   ERG
        'NOWADAYS, WE make the hook boomerangs without it because
        we do not have the special ochre'

Contrastive initial attachment is often found in conversational dis-
course, where the contrast is between the behaviour or properties of
speaker and addressee as in (147) and (148).

(147)

G   1. A: "ŋu + ja ya + n + ku kani   + mpara"
           AUX 1EDS go CM FUT downstream ALL
           'we two will go downstream'

C   11. B: "ŋantipa + ma + ɳalu + kar + u muḷa + ŋka + ɳi"
           1EP   # 1EPS   be   FUT here LOC EMPH
           'WE will stay here'

(148)

M   i. A: "tanku   pa + ŋa + yi waɲja + na kaja + ŋka"

             supplies AUX 1SS 1SO *leave* PERF *bush* LOC

             '*"I have left my swag in the bush"*'

  <u>C</u> ii. B: "ŋayi + ma + ŋa   ka + ŋ + ana + ɲi"

             1   #   1SS *take* CM PERF ALL

             '*"I have brought it (mine) back"*'

Sometimes contrastive initial attachment takes place without an
explicit preceding sentence to contrast with. In such cases such a
preceding sentence can be said to be presupposed.

(149)

G   i. PRESUPPOSITION

            '*(you (A) said that he is coming to see me (B))*'

        ii. "ɲawa + ma ŋu + yi + n kuɾaɲ ma + ɲi"

            this # AUX 1SO 2SS *lie* *say* PAST

  <u>?C</u>   '*"you told me a lie"*'

  <u>C</u> iii. "kaɲjura ŋu ya + n + ana ŋayu + ma + ŋa ŋaḷaka + ḷu ma +

            down AUX *go* CM PRES 1   #   1SS *head*   ERG *say*

            ŋ + ana"

            CM PRES

            '*"I think he is going down (to the Settlement)"*'

(150)

M   i. PRESUPPOSITION

            '*(you are just women)*'

  <u>C</u> ii. ŋayi + ma + na piɲiɲja

          1   #   1SS *initiated man*

         '*"I am an initiated man"*' (said by mythical snake to women
         who are trying to keep him out of a sacred ritual)

The fact that linear and lateral contrastive sequences can be alterna-
tive ways of joining the same pair of sentences is illustrated in the
following passage (151). The transition from iii. to iv. or v. (which
have the same information content) can be seen as either primarily one
of paradigmatic contrast or primarily one link in a temporally sequential
topic-chain. In fact, here both these possibilities are realised. The
former is realised as sentence iv. with the sub-topic kiṭa *'father'*
contrasted with lampara *'father-in-law'* in iii., receiving initial-
attachment. The topic-chain alternative is realised as v. in which
kiṭa of iii. becomes the topic of v., in the typical subject-topic
position immediately preceding the compound verb.

(151)

M   i.   ŋayl + ɲa pa + yl jawljl
              1   DAT AUX 1SO   MF
            'my mother's father...'

      ii. ŋayl + ɲa pa + yl jakaṭl jawljl + ḷi klɲaŋ ku + ɲi + ra
            1   DAT AUX 1SO   MF   ERG   PAST DIST
            'my mother's father fathered my mother'

     iii. lampara + ḷi ɲu + ɲa + ra ŋayl + ɲa + ma klṭa + ma
           WF/DH   ERG *give* PAST DIST 1   DAT   #   *father* #
           'as father-in-law he gave her to my fathers'

C   iv. klṭa + ḷi + ma + ŋanta + ŋulu kiɲaŋkiɲaŋ ku + ɲi + ra
           father ERG #   1EPO   3PS *find* REDUP *put* PAST DIST
           'OUR FATHERS fathered US'

      v. pa + ŋanta + ŋulu klṭa + ḷi + ma klɲaŋkiɲaŋ ku + ɲi + ra
           AUX 1EPO   3PS *father* ERG   *find* REDUP *put* PAST DIST
           kampara + ma
           ahead   #
           'our fathers fathered us before'

The second, and less significant, function of contrastive initial attachment is in correcting an incorrect or vague specification of an element in a preceding sentence, or in correcting an impression that an element has been carried over as a topic, whereas in fact a new element has been substituted for it. It is this new element which receives contrastive clitic attachment, like the locative NP in (152). Here iii. is paired with ii., in which the location is assumed to be unspecified, or the same as that mentioned in i. Incidentally, the attachment here is to the last word of a complex constituent.

(152)

M   i. yall kaṭa karampaḻjl + ḻa ŋura + ŋka pa + ŋanta ŋura
           that TOP Karimbaldi LOC *place* LOC AUX 1EPO *camp*
           'our camp was Karimbaldi Yard then'

      ii. pullki pa + ɲa + ḷi kiṭlkiṭl waɲṭa + ɲi + ra
           cattle AUX 1S EPS *chase* REDUP *get* PAST DIST
           'we were mustering cattle'

C iii. Gum Creek + kuḷa paddock + kuḷa + ma + ɲa + ḷi waɲṭa + ɲi
                     LOC   LOC   # 1EPS   *get*   PAST
           +ra pullkl
           DIST *cattle*
           'we were mustering cattle AT GUM CREEK PADDOCK'

iv. ŋayl + ŋi + waɲa   pa + ŋa kiṭikiṭi waŋṭa + ŋi + ra   puliki + ma
       1   ONLY FOCUS AUX 1SS *chase* RED *get*   PAST DIST *cattle*
     'I was mustering the cattle myself'

v. karakara   pa + li   pulikl + ma   ya + nl + ra
   run REDUP AUX 3PS *cattle*   #   *go* PAST DIST
   'the cattle ran off'

vi. kula + waɲa   pa + ŋa wujuk   pa + ni   yali + ma puliki + ma
    NEG   FOCUS AUX 1SS *let go hit* PAST *that* # *cattle* #
    'it wasn't that I let the cattle go...'

In ii. pulikl *'cattle'* is new (non-topical); it is marked as such by
its initial position and by the lack of a topic suffix ma. In iii. puliki
is shifted to the right by the presence of a contrastive element in
initial position, but still has no ma suffix. This indicates that unlike
in sentences iv. - vi., puliki in iii. is not topical, although it is
preceded by an instance of the same word in ii. This results from the
fact that the pair ii. and iii. is a *lateral* sequence, whereas the
sequence iii. - vi. is a *linear* topic-chain.

Although the property asserted by each sentence of a contrastive
pair of this type is formally the same (although not strictly referen-
tially identical), contrast is still present since the two sub-topics
are contrasted in this way.

(153)

    i.   A is x
   ii.   A is not x
  iii.   B is x

Since stage (ii) of (153) presupposes an earlier statement (i), con-
trastive pairs of the type (ii)-(iii) are found, often conjoined, with
backward gapping as in (154).

(154)

G   kula ɲanawu + ṇṭil,   ɲawa + ma + lu   ŋumpit + kaṛi   ya + ni
       NEG *that occasion people this*   #   3PS *man*   OTHER *go* PAST
                                    (contrast)

       'not the same ones as that time (came), but THESE OTHER MEN came'

4.6. *V-ATTACHMENT*

In G where the mood of the sentence is imperative or hortative, as
in (155) and (156), the clitics are suffixed to the verb, following the
tense/mood suffixes. In the imperative in M the clitics are attached
either to the verb or to the S-initial constituent, as in (157)(a & b).
As in (157)(b) the clitics are more often attached to the first word
than to the whole initial constituent.

(155)

G   ɲila + ma waḷu + ma wara ka + ŋ + ka + lu
       that   #   *fire*   #   *care take* CM IMP   PS
       'you lot watch out for that fire'

(156)

G   ɲila + ma waḷu + ma wara ka + ŋ + ku + ra + lu
       that   #   *fire*   #   *care take* CM FUT   HORT   PS
       'let them watch out for that fire'

(157)

M   (a) yali + ma pupa + ma wara ɲa + ŋ + ka + li
           that   #   *fire*   #   *care see* CM   IMP   PS
           'you lot watch out for that fire'
       (b) yali + ma + li wara ɲa + ŋ + ka + li pupa + ma
           that   #   PS *care see* CM   IMP   PS *fire*   #
           'you lot watch out for that fire'

In M the irrealis (IMP + ḷa) does duty both as hortative and past
irrealis. Both hortative and past irrealis may be formed by Aux-
attachment as in (158) and (159)(b), but the past irrealis may alter-
natively be formed by Initial-attachment as in (159)(a).

(158)

M   yali + ma pupa + ma wara ɲa + ŋ + ka + ḷa pa + li
       that   #   *fire*   #   *care see* CM   IMP   IRR AUX   PS
       'let them watch out for that fire'

(159)

M   (a) yali + ma + li   ⎫
           that   #   PS   ⎪ wara ɲa + n + ka + ḷa pupa + ma
       (b) yali + ma pa + li   ⎬ *care see* CM   IMP   IRR *fire*   #
           that   #   AUX 3PS   ⎭
           'they should have watched out for that fire'

A similar pattern is found in B where IMP ḷa also realises both
hortative and past irrealis, except of course that there is no Aux-
attachment in B. A suffix +ŋa is also added to the clitic complex in
the case of past irrealis, as in (98). In B imperatives, attachment
to the verb is the rule.

(160)

B   ɲila jawl + ma + lu + ŋa wara ka + ŋ + ka + ḷa
       that fire   #   PS DOUBT *care take* CM   IMP   IRR
       'they should have watched out for that fire'

Clitic attachment in the imperative and hortative is however different

in B on the one hand and G and M on the other. In B, if the focus
suffix pa!a/wa!a is attached to these forms of the verb, the clitics
follow this suffix, as in (161 a and b), but in G the clitics are
directly attached to the V-tense suffix, and precede pa!a/wa!a as in
(162 a and b).

(161)

B   (a) ka + ŋ + ka + wa!a + !u
            take CM IMP   FOC   PS
            'you lot take it now'

        (b) ka + ŋ + ka + !a + wa!a + !u
            take CM IMP HORT FOC   PS
            'let them take it now'

(162)

G   (a) ka + ŋ + ka + !u + wa!a
            take CM IMP   PS   FOC
            'you lot take it now'

        (b) ka + ŋ + ku + ra + !u + wa!a
            take CM FUT HORT PS   FOC
            'let them take it now'

In B therefore, the order of suffixes where the clitics are attached
to imperative and hortative forms of the verb is the same as that in
other tenses of the verb in B, as in 163, and the same as that in COMP,
NEG and Q-word attachment in G, where pa!a/wa!a also precedes the clitic
complex (see section 4.2.).

(163)

        ka + ŋ + a + wa!a + !u
        take CM PRES FOC   3PS
        'they are taking it now'

In G (and M) however, the order of suffixes in 162 shows attachment
to V to be a distinct rule from other types of clitic attachment.

In WG, but not in EG, clitics may be attached to the verb in the
future and irrealis tenses. The former is the same as the future tense
in the other languages, but frequently adds the +ŋa DOUBT suffix to the
clitic complex. The past irrealis is realised by the same verbal suffix
as the imperative, but the suffix +ŋa is obligatorily present on the
clitic complex. Clitics are usually attached to the verb, but sometimes
to the initial constituent. In both the future and irrealis, clitics
may alternatively, and less commonly, be attached to the Aux ŋu ... (+ŋa).
In EG the Aux way! ... (+ŋa) is used with the past irrealis, instead of
ŋu ... + ŋa. Examples of the above tenses are given in (161)-(165).

(164)
WG   (a) kayira ya + n + ku + lu (+ŋa)
              north *go* CM FUT 3PS (DOUBT)
          (b) kayira ŋu + lu (+ŋa) ya + n + ku
              north AUX 3PS (DOUBT) *go* CM FUT
              'they will (possibly) go north'

(165)
WG   (a) kayira ya + n + ta + lu + ŋa
              north *go* CM IRR   PS DOUBT
          (b) kayira + ma + lu + ŋa ya + n + ta
              north   #   PS DOUBT *go* CM IRR
          (c) kayira ŋu + lu + ŋa ya + n + ta
              north AUX   PS DOUBT *go* CM IRR
              'they would have gone north'

(166)
EG   kayira ŋu + lu ya + n + ku
          north AUX 3PS *go* CM FUT
          'they will go north'

(167)
EG   kayira ŋanta + lu ya + n + ku
          north DOUBT AUX 3PS *go* CM FUT
          'they may/want to go north'

(168)
EG   kayira wayi + lu + ŋa ya + n + ta
          'they would have gone north'

Attachment of clitics to verbs may come about in B coincidentally, because V happens to be the first constituent, as already illustrated in (124)(a). There is also in B clitic attachment to V irrespective of V's position in the sentence. Like initial-attachment in G and M, this appears to be determined by a discursive environment, but at the present stage of investigation I cannot be sure of the exact nature of this environment. Some examples like (169) and (170) appear superficially similar to those of lateral contrast described above for G and M. (170) shows that what is being dealt with is not strictly V-attachment, but also includes attachment to preverbs ($\bar{\text{V}}$-attachment).

In examples (171) and (172) however there is strictly no contrast of the type described here. What seems to characterise the sentences in which V-attachment occurs is a temporary (usually parenthetical) break in a topic chain in which a new (non-topical) element acquires prominence. In all the examples here, the new element takes over

sentence subject status. I have not found any clear examples of the new
element being anything other than a new subject, but the corpus analysed
at the moment is too small to be conclusive.

(169)

B　　1. nijpuɽu + ŋuḻu + ŋa + ḻu ya + ni
　　　　　Pigeon Hole ELAT 1EPS　　go　PAST
　　　　　'we went away from Pigeon Hole'

　　ii. Sanford + ta + ŋa karl + ŋa jaŋkaṇi + k ŋayu + ma
　　　　　　　　　　LOC　1SS be　　PAST big　　INCHOAT 1S　#
　　　　　'I grew up at Mt. Sanford'

?C iii. ŋayl + ṇ + ma ŋamayl + ma ŋajl + ma karl + ŋa + wula
　　　　　1S　DAT　#　mother　#　father #　be　　PAST　3DS
　　　　　piḻimatjuru + ḻa
　　　　　Bilinara Hill LOC
　　　　　'my mother and father lived at Bilinara Hill'

　　iv. ŋayu + ma + ŋa karl + ŋa Sanford + ta
　　　　　1S　　#　1SS be　　PAST　　　　LOC
　　　　　'I lived at Mt. Sanford'

(170)

B　　1. ya + n + ta + ḻa + ŋa + ŋa
　　　　go　CM　IMP　IRR　1SS　DOUBT
　　　　'I wanted to go'

?C ii. ŋumpln + kaɽi + ḻi kajl + yl　ma + ṇi
　　　　man　　　OTHER ERG stop 1SO say me
　　　　'another man stopped me'

(171)

B　　1. yḻkarp + pa + ŋa + ṇanu ma + n + a
　　　　scratch LINK 1SS　RFL　get CM PRES
　　　　'I am scratching myself'

　　ii. kanamuru + ḻu paya + ṇi + yl
　　　　mosquito　ERG bite　PAST 1SO
　　　　'mosquitoes have bitten me'

　　iii. janarjanar + wa + yl kampa + ṇi
　　　　sore REDUP　LINK 1SO　burn　　PAST
　　　　'they have made me sore'

(172)

　　1. karl + ŋa + ŋa yapakaɽu + ma pakaḻi + ḻa + ma
　　　　be　　PAST 1SS　baby　　　# paperbark LOC　#
　　　　'I was a baby in a paperbark cradle'

　　ii. ŋayl + ṇ + ju ŋamayl + ḻi kampa + ṇi + yl
　　　　1S　DAT ERG mother　ERG cook　PAST 1SO
　　　　'my mother cooked me (in antbed for strength)...'

    iii. jaŋkaṇi + k   kari + ṇa + ŋa
         big   INCHOAT *be*   PAST 1SS
        '...*and I grew up*'

   iv. ḷuku + ṇa kari + ṇa
      marry 1SS   *be*   PAST
      '*I was married*'

4.7. *THE VARIETIES OF CLITIC ATTACHMENT*

The chart below summarises the environments in which different clitic bases appear in the four languages and dialects examined:

(173)

		B	WG	EG	M
(i)	AUX	no AUX	unmarked	unmarked	unmarked
(ii)	COMP	yes	yes	yes	no
(iii)	NEG	yes	yes	yes	no
(iv)	Q-words	yes	yes	yes	no
(v)	ID	?contrast	contrast	contrast	contrast
(vi)	IC	unmarked	contrast past irrealis	contrast	contrast imperative past irrealis
(vii)	V	?subject/ topic change imperative hortative	imperative hortative past irrealis future	imperative hortative	imperative

We have seen that COMP, NEG, Q-words (and focus elements) behave similarly with regard to clitic-attachment.

(i) they usually occur initially, but sometimes do not;

(ii) they attract clitics in G and B, but not in M;

(iii) even in G they can co-occur with the neutral auxiliary (which attracts clitics) under certain circumstances;

(iv) they may not have ma suffixed to them preceding the clitic complex and rarely have it following the clitic complex, but may take the pa link where the Q-words has a final consonant;

(v) they may have paḷa/waḷa suffixed to them preceding the clitic complex;

(vi) they are not contrastive (in the sense defined in this paper).

ID and IC attachment, on the other hand, share the following characteristics, which are, with the exception of iii, different from the above set:

(i) they always occur initially;

(ii) they attract clitics in M as well as in G;

(iii) ID possibly does occasionally co-occur with the neutral

auxiliary; as in (146)(ii); it is difficult to say whether other IC do
or not;

(iv) they must have ma suffixed to them preceding the clitic complex
and must not have it following the clitic complex;

(v) they must not have pala/wala suffixed to them preceding the
clitic complex, but may have it following the clitic complex;

(vi) they are contrastive (in the sense defined in this paper).

One feature that is absent from the above lists is a positive semantic
characterisation of COMP, NEG, Q-word and focus-attachment together,
(rather than the negative one of (vii)) to complement the syntactic
facts which link them together. I believe that it is possible to provide
such a characterisation in terms of the topical or presuppositional
nature of the remainder of the sentence when it is introduced by COMP,
NEG, Q-word or a focus. The last implies that the clause which follows
it is presupposed by definition, as in (174)(a and b). Special
questions like (174)(c) are similar in their organisation to other focus
structures. Schachter (1973) has shown that relative clauses are also
presupposed as in (174)(d). This analysis can probably be extended to
other subordinate clauses like (174)(e). Negation as in (174)(f) also
implies that the equivalent positive statement has occurred or is in
some other way topical in the discourse. On the other hand in the
simple sentence (174)(g) there is not necessarily any presupposition.

(174)   PRESUPPOSITION

    (a) "Jack swam across   (someone swam across)
    (b) It was Jack who swam across   (someone swam across)
    (c) Who swam across?   (someone swam across
    (d) The boy who swam across is here   (a boy / someone swam across)
    (e) After Jack swam across he came here (Jack swam across)
    (f) Jack did not swim across   (Jack / someone swam across)
    (g) Jack swam across   (Jack was expected to
                                             swim across etc)

Thus it is the meaning of the COMP, NEG, Q-word or focus element
which is *new* here, and the remainder of the sentence relatively topical.

We can capture the syntactic and semantic similarity of COMP, NEG,
Q-word, and focus-attachment in the following way. In the languages
with auxiliaries, G and M, the clitics may be attached to AUX. The AUX
node is located on the left of the main part of the sentence, identified
as S. To the left of AUX there are two further presentential nodes
COMP and NEG, in that order, under another node S̄. In G clitics may
also be attached to the rightmost of these pre-sentential elements.

Priority of clitic attachment to different bases appears to have an

order, but a slightly different order in each language; as in (172)
(excluding V-attachment and initial attachment due to tense).

(175)

M   i.   attachment to I(nitial) C(onstituent) if present
                            [+contrast]
otherwise ii. attachment to AUX

G   i. attachment to COMP if present
                            [-Q]
otherwise ii. attachment to NEG if present
otherwise iii. attachment to COMP is present
                            [+Q]
otherwise iv. attachment to IC if present
                            [+ contrast]
otherwise v. attachment to AUX

B   i. attachment to NEG is present
otherwise ii. attachment to COMP if present
otherwise iii. attachment to V if IC [-topic] (?)
otherwise iv. attachment to IC
                            [±contrast]

Q- and other initial focus words are taken here to have been generally
moved from their normal position within S and attached under COMP, before
any attachment takes place. The Q marker wayi could be also considered
to be generated under COMP, and 'variable' elements like ŋampa (which
means *'anything'* etc. as well as *'what'*) could be moved under COMP
preceding wayi to form Q-constituents. wayi would then be deleted in
main clause questions (but not in indirect questions).

While there appears to be a connection between the distribution of
types of clitic attachment and the types of sentence organisation
determined by discursive sequences in the languages discussed, which
may be resolvable into a linked hierarchy of types, I have not been
able to arrive at any definite conclusions about this. It is to be
hoped that a combination of further work on the syntax of the languages
concerned, and on the theory of discourse, and the extension of the
type of comparison undertaken here to related languages will shed more
light on this question.

One possible approach would be to regard the CLITIC ATTACHMENT rule
as carrying out basically the same type of operation for all the lan-
guages discussed here: attachment of clitics to the initial element
of the domain in which it operates, as in (173), where D marks the
domain to be further specified, I is the initial constituent, and the

rest of the rule is an abbreviation of the rule (173) in which feature
bundles with greek-letter variables are written as f^1 etc. and variables
are omitted.

(176)

$$\begin{bmatrix} I & X & NP^1 & NP^2 & NP^3 \\ & & f^1 & f^2 & f^3 \end{bmatrix}$$

D   D

SD: 1   2   3   4   5

SC: pro   pro   pro
             1 + f^1 + f^2 + f^3 2   3   4   5

One could regard the sentence in G, B, and M as having roughly the
following structure, with the AUX node being present in G and M but not
in B.

(177)
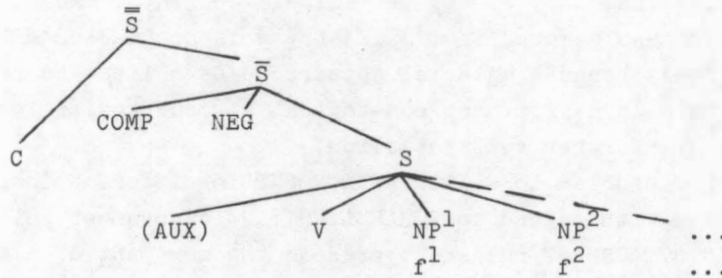
(not necessarily in this order)

C would be a node under which elements such as NP's from within S
could be attached if they carried a particular discursive function:
in G and M this might be characterised as $[\begin{smallmatrix} +contrast \\ +topic \end{smallmatrix}]$; in B it might
include this, but would aslo include another designation, possibly
$[\begin{smallmatrix} -patient \\ -topic \end{smallmatrix}]$. In G and M the contrastive demonstratives together with
ma might be generated as underlying daughters of C, as indicating the
most general form of lateral contrastive sequence, and later replaced
by other sub-topics from within S by a transformation. This would not
be possible in B as 'contrastive' demonstratives behave differently
from the elements which cause V-attachment.

In M (and probably B) NP (or N̄) could also be regarded as a domain
of CLITIC ATTACHMENT, with AUX being an optional initial constituent of
NP for M. An alternative to this not considered here would be to regard
clitic-marking in genitive constructions as arising from an underlying
embedded S within the NP concerned.

CLITIC ATTACHMENT could then be seen as applying more than once for
each (maximal) sentence in a manner similar to that of a cyclical rule,

but using different domains to cycle on in each language:

(178)
       D: (numbers indicate repeated applications)
       G: (1) $\overline{\overline{S}}$ (2) $\overline{S}$
       B: (1) $\overline{N}$ (2) $\overline{S}$
       M: (1) $\overline{N}$ (2) S (3) $\overline{\overline{S}}$

This type of application of the rule would correctly predict the facts
about the distribution of clitics in the three languages. The suggestion
of course raises many questions. For instance, why does B skip S, and
M skip $\overline{S}$, in its application? Perhaps it is because there is no
distinction between S and $\overline{S}$ in B, and $\overline{S}$ and $\overline{\overline{S}}$ in M at the time of the
application of CLITIC ATTACHMENT. Also, why does cycling on $\overline{S}$ cause V
(or $\overline{V}$) attachment in B where there is a 'contrastive' element under $\overline{\overline{S}}$?
This would have to be answered by showing that $\overline{V}$ would either be (as in
our examples) the only or the initial element in S, once a 'contrastive'
element has been removed from S and there is no COMP or NEG present.
This is likely because material appears to be shifted to the right of
V where there is a prominent non-topical element to its left, but this
would require further substantiation.

    A further problem in CLITIC ATTACHMENT in different languages is
its ordering with regard to SCRAMBLING (topic-movement rules). In G
the CLITIC ATTACHMENT rule must precede the movement of elements to the
left of COMP, NEG and AUX, otherwise the clitics will be attached to
the surface initial elements, not to COMP, NEG or AUX. In B, CLITIC
ATTACHMENT must attach clitics to the surface initial element of S,
but not the surface initial element of $\overline{S}$, if this is followed by COMP
or NEG. This is ensured if we allow some kind of SCRAMBLING to apply
on the S cycle, and a rule which optionally moves *one* (non-topical)
element to the left of COMP and NEG to apply on the   cycle. CLITIC
ATTACHMENT would then apply on the   cycle *before* the latter rule. In
G and M, however, either no SCRAMBLING takes place on S or CLITIC
ATTACHMENT applies before SCRAMBLING on S. The former solution is
possible for G, and the latter for M, but not vice versa, given the
present framework.

    The variations in clitic attachment considered above are related to
variations in the domain of initial CLITIC ATTACHMENT between NP,
minimal S and maximal S, with various more or less inclusive forms of
S defined in a slightly different way for each language. There is also
a form of CLITIC ATTACHMENT in which the clitic base is defined not by
its position in sentence-structure, but by its grammatical category:
V-ATTACHMENT. This form of attachment is found either exclusively, or

alternating with INITIAL ATTACHMENT, in a number of Nyungic languages
to the West and South of the area examined here. In the Ngumbin group,
the occurrence of V-ATTACHMENT is determined by factors of mood and
tense.

All the tenses which determine marked forms of attachment (V-attach-
ment, or Initial Attachment in WG and M) imperative, hortative, past
irrealis and future could be described as [+irrealis] in the sense that
they presuppose that the event described has not taken place. G, B and
M all agree in having clitics attached to V in the imperative and
hortative mood, although in M they may alternatively undergo initial
attachment. Past irrealis is the next most likely tense to produce
marked attachment, as in WG (V- or Initial-) and occasionally in M
(initial), and finally future produces V-attachment in WG. Realis past
and present never produce V-attachment in the languages examined here.
There appears then to be the following tense hierarchy:

(179)

Imperative Hortative	$\left[\begin{array}{l}(\text{+irrealis})\\ \text{+order}\end{array}\right]$	↑ V-attachment (marked Initial Attachment)
Past Irrealis	$\left[\begin{array}{l}\text{+irrealis}\\ \text{+past}\end{array}\right]$	
Future	$\left[\begin{array}{l}\text{+irrealis}\\ \text{+future}\end{array}\right]$	Unmarked (G, M Aux- attachment)
Present Past	[−irrealis]	↓

One possible explanation of this hierarchy is that the tenses at the
irrealis/marked attachment end are positively correlated with topical
subjects, that is, they are more likely to have pronoun subjects than
not, more likely to have definite subjects than indefinite subjects,
etc. The reason for this is probably connected with the *accessibility*
of the subject-verb relation to the speaker. By this I mean that while
a speaker might report a past or present event involving as subject
something or someone unknown to the addressee, this becomes more unlikely
if the event is being predicted, and more unlikely still in any hypo-
thetical context, where some knowledge of the predispositions or mental
state of the subject is usually presupposed. In the case of imperatives,
of course, the subject is not only topical but completely predictable
as being the addressee.

I do not see how this observation can provide us with any direct
means of simplifying the grammar in synchronic terms, however. In other
words, the base (X in rule 24) must still be specified as V independent
of its order, and modal/tense elements must be specified for the
appropriate features (+irrealis etc.). This rule, and its alternative

forms of INITIAL-ATTACHMENT must apply before the major form of INITIAL-
ATTACHMENT.

4.8. *THE HISTORY OF CLITIC ATTACHMENT*

The particularly topical nature of subjects in the tenses which
undergo V-ATTACHMENT may however provide a clue about the historical
development of V-ATTACHMENT. Assuming that INITIAL-ATTACHMENT was the
dominant form of clitic attachment at an earlier stage of these languages
(further evidence for this is presented below), if V tended to be the
surface initial constituent under certain circumstances, one might
hypothesise that these same circumstances might provide the environment
for a rule of V-ATTACHMENT which differentiated itself from INITIAL-
ATTACHMENT by freezing the initial constituent clitic complex sequence,
then beginning to apply before rather than after some topic and new
movement rules. The type of alternation between V- and INITIAL-
ATTACHMENT as in the M imperative thus represents a kind of survival of
the stage in which this change was taking place.

Further evidence for the genesis of V-attachment in initial attachment
is provided by the different order of suffixes in B, where initial-
attachment is dominant, and in G where it is not (discussed in Section
4.b.). In B, although clitics are attached to V in the imperative and
hortative, the attachment rule remains the same as that for attachment
to any initial constituent. In G however we can perceive a later stage
of development in which V-attachment has further separated itself from
attachment of other types of joining the clitics more closely to the
verb, to the left of the focus suffix paꞀa/waꞀa.

V would tend to be in initial position particularly in the tenses
referred to for the following reasons:

(i) since the subjects (and probably other NPs in the sentence) would
be topical, they would usually be pronominalised, and the full pronouns
would often be dropped following clitic attachment. V + clitic complex
would therefore often be the only and thereforethe initial sentence
constituent;

(ii) even if there were other elements in S, they would tend to be
topical, while V would be new. Since new elements often acquire initial
position in the E. Ngumbin languages, V would still be initial position
in the majority of cases.

Finally in this examination of clitic bases in the E. Ngumbin lan-
guages, I wish to look briefly at the possible origins of the auxiliary.
Unlike 'auxiliaries' in other languages, which have a close affinity
with and usually originate from *verbs*, the AUX in the Ngumbin and Ngarga

languages (called 'catalyst' by Capell) are quite unlike verbs. Here
we shall consider only the neutral AUX and those which are similar to
them:

(180) Auxiliaries:

    G ŋu   Djaru/Nyinin   ŋa Walmadjari pa; ŋa (Q)

    M pa   Walbiri   ka (PRESENT) l+pa (PAST INDEF)

First consider pa, which occurs in M and Walmadjari as the unmarked
AUX, and in Walbiri in one tense. Now in many of the Nyungic languages
of the Western Desert and desert fringes there is an epenthetic element
pa which is either synchronically productive or historically reconstruc-
table as a suffix which adjusts final syllables, and, as in the case
of Walbiri, was added to consonant final morphemes in the past to avoid
having any consonant-final words in the language (a constraint which
still applies in Walbiri but not, of course, in the Ngumbin languages).

This is undoubtedly the origin of pa in ɩ + pa, in which the element
ɩ has many cognates throughout the Nyungic languages (Capell, 1956).
In G, as we have seen, that pa is used as a link between consonant-final
stems and certain suffixes, including pronominal clitics, and in M it
is used to separate sequences of consonant-final and consonant-initial
tense morphemes suffixes to verbs. In B, where there is no AUX, pa is
much more widely used to separate consonant-final clitic bases and
clitics. In the E. dialect of Ngarinman of which I have some data, pa
is used in the same way as in B but is more prominent as Ngarinman has
many more final nasal consonants which have been dropped in B, e.g.:

(181)

B   (a) pina + ɲa + yi
           give PAST 1SO
           'he gave it to me'

Ng   (b) pina + ɲaŋ + pa + yi
           give PAST LINK 1SO

(182)

B   (a) jala + ŋa   ya + n + ku
           today 1SS *go* CM FUT
           'I will go today'

Ng   (b) jalaŋ + pa + ŋa ya + n + ku
           today LINK 1SS *go* CM FUT

It is interesting that it is precisely in the language in which pa
does *not* occur as a link between consonant-final bases and pronominal
clitics, Mudbura, that pa occurs as a free auxiliary. We can then
hypothesise the development from the general rule (183) into the M

rule (181) by the loss of the left-hand environment [+C] followed by
the establishment of pa as an AUX in underlying structure.

(183)   PA – INSERTION

G, B

$$\emptyset \rightarrow pa \; / \; [+C]\underline{\quad\quad} \left\{ \begin{matrix} + \\ \# \end{matrix} \right\} \; \left\{ \begin{matrix} [+pro] \\ n\,i \end{matrix} \right\}$$

(184)

M $\emptyset \rightarrow pa \; / \; \underline{\quad\quad}$ [+pro]

At the time that Capell collected Ngarinman data (probably a western
dialect), a half-way house situation appears to have existed in that
dialect in which pa could function either as a bound link, or a free
form.

With regard to the other forms of the AUX base ka/ŋa/ŋu, the situation
is less clear. ka and ŋa appear to have been variants in dialects lying
between Djaru and Walbiri (Capell 1962), so one could propose these two
as reflexes of a single proto-form, presumably *ŋa. The specialisation
of ka in standard Walbiri to the present tense and of ŋa to the inter-
rogative in Walmadjari remain as problems, however. G ŋu could be
regarded as originating in ŋa, as the functions of the elements are so
similar in G and Djaru (Tsunoda, personal communication) and appear as
variants in the border area between the two languages. ŋu might have
developed through assimilation to the high back vowel characteristic of
a number of clitics in G (+lu, +wula, +ŋku, ɲ(j)ura, etc). On the other
hand, there is a development of ŋu from an epenthetic link ku observable
in M. ku is usually used to separate consonant-final elements from
lateral-initial suffixes, which may be case-suffixes as in (185) or
pronominal clitics as in (186).

(185)

G   kuniŋ + ku + !u
       dreaming LINK ERG

(186)

G   ŋu + n + ku + !a   ɲa + ɲa
       AUX 2SS LINK 3SIO *see* PAST
       'you looked for it'

The element ŋku which separates oblique pronouns and reflexives from
lu (3PS) or !a (1O), also arises from ku through reanalysis of final ŋ
in forms like (184)(a) as belonging to the following morpheme as in
(187)(b).

(187)

Ng   (a) ŋalaŋ + ku + lu
            1EPO   LINK PS
G   (b) ŋala + ŋku + lu
            1EPO   LINK   PS

A further development is the transfer of stress on to the link
syllable in M. Presumably because homorganic nasal clusters are not
found as initials in stressed syllables (e.g. never in word initial
position), ŋku became ŋu.

(188)

M   ŋala + ŋu + lu

If such a development had taken place at any earlier stage in G it
could have resulted in the releasing of a free form ŋu AUX. This is
unlikely however as the original form +ŋku + lu would have to have been
maintained throughout, unless a complex pattern of borrowing and
morphological influence between proto-Gurindji and proto-Mudbura is to
be posited. Such hypotheses are beyond what the evidence at the present
stage or possibly at any future stage of research could support.

5. CONCLUSIONS

5.1. *SPLIT SYSTEMS AND HIERARCHIES*

In this paper I have attempted to contribute towards the understanding
of variation within one section of the grammar of some languages of one
sub-group of Australian languages. I hope that some of the ideas and
data in this paper will be of use when further studies of the languages
of this area become available (as they shortly will, e.g. Hudson and
Richards on Walmadjari, Tsunoda on Djaru), and comparative and historical
syntax of the Ngumbin sub-group and of the Nyungic family can proceed on
a wider and more thorough-going basis.

Another aim of this paper has been to attempt to extract some
theoretical notions which may be of use in the discipline of comparative
syntax. I feel that studies of variation within closely related lan-
guages may be of particular value in advancing hypotheses in this field.

The starting point of my theoretical enquiry has been the notions of
split system and *grammatical hierarchy*. Silverstein has put forward an
interesting hypothesis concerning the relations of so-called *split
ergative systems* and a universal *nominal hierarchy* (Silverstein 1976).
I have also touched on this question in this paper and will review the
evidence directly. In the remainder of the paper I attempt to analyse
the variations of other rules using similar notions of grammatical
hierarchy.

In this investigation I have concentrated on 'split systems' that
have been created in the surface structure of languages by the applica-
tion of a grammatical rule where the SD of the rule contains as an item
a specification of a sub-set of the members of a category X, but not of
the category X as a whole. In comparing the operation of the rule in
this language A, to related or neighbouring languages, it is often the
case that some of the languages may contain a rule similar to that in
A, but which applies for all X, as in (189).

Another related language may have another similar rule, which applies
for a sub-set of X, like A, but for which the sub-set is different from
that in A, as in (189)(c). In other related languages, the rule may be
entirely absent, or may have changed so much that it can no longer be
regarded as the same rule as in (189)(d).

(189)

> (a) Language A: Rule R: SD: Q X P
>   [Y]
>
> (b) Language B: Rule R: SD: Q X P
>
> (c) Language C: Rule R: SD: Q X P
>   [Z]
>
> (d) Language D: Rule R': SD: Q' X P'

Cases like (d) also of course involve syntactic change and deserve
study, but this is not my primary purpose here. Y and Z indicate either
features of X or optional expansions of X. My concern is with what Y
and Z and similar elements are for each type of rule whether it is pos-
sible to evolve a general theory of the occurrence of tokens of Y and Z
in rules, and substantive proposals concerning the possible values of
Y, Z, etc., for each type of rule.

Work on case-marking has shown that where there is a split system,
i.e. where the rule does not strictly apply to all X, which in this case
is (normally) $\begin{bmatrix} NP \\ -pat \\ +ag \end{bmatrix}$ for 'ergative' marking, and $\begin{bmatrix} NP \\ +pat \\ -ag \end{bmatrix}$ for 'accusative'
marking, values of Y, Z etc., are universally constrained by a nominal
hierarchy. A hierarchy consists of an ordered set of elements which
have implicational relations:

(190) .... x > y > z ....

That is, if a rule in a grammar G applies where a certain item of the
SD is y, it also applies where that item is z, but if a rule in a
grammar G^1 applies where a certain item of the SD is z, the rule does
not necessarily apply where the item is y. Examples of this would
include the following: if nouns generally take a marked patient-
objective ('accusative') form in a language, pronouns would also take a

marked accusative form, but not necessarily vice-versa; if pronouns
generally take a marked agentive ('ergative') form in a language, nouns
would also take such a form, but not necessarily vice-versa. Thus the
hierarchies for the two types of case-marking appear linked, but the
implicational order appears to be opposite in the two cases. (Strict
implicational order may in fact prove to provide too string a definition
of hierarchy; see further below.)

We may establish that for the purposes of hierarchies, > means 'is
implied by', x > y > z therefore means 'if z, then y; if y, then x' as
an item of rule R. x will be referred to as 'higher than' y and z, and
at the 'top' of the hierarchy, while z is referred to as 'lower than'
x and y, and at the 'bottom' of the hierarchy. Unless otherwise
specified, the high-low dimension of hierarchies will be mapped on to a
left-right dimension in diagrams. Hierarchies are also interpretable in
a historical sense, that the higher the element in a hierarchy the
earlier it enters a language grammar and the later it drops out. This
remains a secondary hypothesis, however, subject to empirical testing.
Hierarchies of this kind appear to exist in phonology (see Foley 1972,
Zwicky 1972).

So far we have been talking about what Silverstein refers to as the
'local' operation of hierarchies, in which the application or non-
application of a rule is determined by the position of *one* item in its
SD in the hierarchy. There are also rules in which hierarchies operate
in a 'global' fashion, by which the application or non-application of
a rule is determined by the *relative* position of *two* items of its SD in
the hierarchy. Silverstein has given examples of 'global' hierarchies
in case-marking; case-marking in the languages considered here appears
to be purely 'local' in its operation. Other rules in certain of the
E. Ngumbin languages (CLITIC SWITCH, COPYING, DUAL NEUTRALISATION,
SUBJECT NUMBER SHIFT) do however operate partially in a 'global' way.
Where they do operate in a 'local' way, there appears to be a connection
between the 'local' rules and 'global' rules in neighbouring languages
and dialects.

The hierarchy diagrams below are organised in the following way:
the first set of lines is the hierarchy for the rule, which concerns an
item or items of the SD. Where the rule is local it is the hierarchical
position of the item to be changed which alone determines whether the
change takes place. In such cases there is only one line labelled SD,
which represents the item which is both the determinant and determinand
of the rule. Where the rule is global, the SD hierarchy has two lines,
the first concerning the determinant (Dt) or additional item of the SD
which effects the application of the rule, and the second concerning the
determinand (Dd) or item to be changed by the rule. The second set of

lines is labelled SC: here they may be one line if there is only one
sub-rule covered by the hierarchy above (SD), or more than one is there
is more than one covered by the rule.

The bracketings represent the areas of the hierarchy SD which trigger
the application of the rule; outside those areas the rule does not apply.
If there is both a Dt and Dd hierarchy in SD, both are covered by the
brackets in SC, and areas of overlap either of rules or hierarchies,
are to be considered conjunctions (e.g. the condition where X=y *and*
Q=z for hierarchies; '*both* R *and* R^1 apply' for rules, in (189)).

The first rule considered in this paper was (nuclear) CASE-MARKING.
Since there appears to be an inverse relationship between 'ergative' and
'accusative' marking, the two types are placed in relation to one
hierarchy. Where all nominals are either subject to ergative or
accusative marking, there is the situation, as in Walmadjari (Hudson
1976) and other W. Ngumbin and Walbiri diagrammed in (191), in which the
two rules 'fit' except for a small '*gap*'.

(191)

Walmadjari,   SD: | other clitics | 3S clitics | pronouns | nouns |
Walbiri

        SC: [+case] on O   [+ case] on A

In other languages, e.g. of the Wati group, there is a situation of
'*overlap*' as in (192).

(192)

        SD: | clitics | pronouns | nouns |

        SC: [+case] on O

                          [+case] on A

In the E. Ngumbin languages, G and B, the '*gap*', already observed in
Walmadjari, widens to include all free pronouns.

(193)

G and B   SD: | other clitics | 3S clitics | pronouns | nouns |

        SC: [+case] on O   + case on A

In M the *gap* includes all pronouns except 3S.

(194)

M   SD: | other clitics | 3s clitics | other pronouns | 3S pronouns | nouns |

        SC: + case on O   + case on A

The hierarchy here seems fairly well defined for these related sub-
groups of languages: only the scope of the rules appears to be altering,
as it were, by pulling the rule-brackets further along or further back
on the hierarchy. As we move beyond these immediately related languages,
we would expect to find more pronounced types of variation on the
hierarchy. We have already remarked that in Causasian languages, pro-
nominal clitics do not necessarily occupy the left-hand position in the
hierarchy. Further in some Cherkess and W. Caucasian language, (Deeters
1963) the following pattern has been observed, in which 'accusative'
marking is not tied to the right-hand end of the hierarchy, but occupies
the same left-hand area as 'ergative' marking.

(195)

SD:	pronouns	definite nouns	indefinite nouns

SC: + case on O and A

Despite such variation, CASE-MARKING hierarchies still seem to be sub-
ject to some universal constraints, the general character of which has
been pointed out by Silverstein. Further work on variation in specific
areas could reveal more about the general character of such hierarchies.

   Rules affecting clitics other than CASE MARKING will now be discussed.
DUAL NEUTRALISATION will be used as the primary example of global
hierarchical variation. The simplest form of DUAL NEUTRALISATION in the
E. Ngumbin and Ngarga languages is non-hierarchical i.e.:

(196)

E. Walbiri,   SD: | all P, D. 1, 2, & 3 |
M, EG

           SC: -D on +D clitics adjacent
                     to +NS clitics

In the Wati languages I know of (Pitjantjatjara: Glass and Hackett
1970) there is no DUAL NEUTRALISATION rule, nor is there in Walmadjari.
In Ngaliwuru, a non-Nyungic language spoken to the north of Ngarinman
(Bolt et al. 1971) there is non-hierarchical neutralisation of dual subject
clitics to plural. This opens up the possibility that hierarchical
variation in rules which cross major group boundaries could be
profitably studied in future.

   The first variation of DUAL NEUTRALISATION dealt with here was that
in W. Walbiri (Hale 1973), which can be diagrammed as follows (excluding
discursive factors):

(197)
W. Walbiri   SD: Dt
D.N.

	D		
P	1	2	

Dd

	2	3	

SC: -D on clitics
             adjacent to +NS clitics

This hierarchy indicates that DUAL NEUTRALISATION operates in a
'global' way. The determinand is either the S or the O clitic; the
determinant is the other (S or O) clitic apart from the determinand.
The hierarchy above means that the rule only operates where the deter-
minant is dual, and where the determinant is 1st person and the determi-
nand 2nd or 3rd, or the determinant 2nd and the determinand 3rd person.

It is interesting to compare this to another 'global' variation on
the same rule, in WG.

(198)
WG

SD: Dt

	D	
P	1 2	

Dd

	2 3	

SC: -D etc. as above

As compared with (197) there are changes here: (i) the rule is
extended to include all plural determinants, (ii) the relationship
between 1st and 2nd person determinants and 2nd and 3rd person determi-
nands is no longer assymetrically divided: the rule applies where the
determinant is dual 1st *or* 2nd, and the determinand 2nd *or* 3rd.

A further variation within WG is the following (dialect b):

(199)
WG   (b) SD: Dt
D.N.

1	2	3
3	2	1

Dd

SC: [-D] etc. as above

Here (i) number is eliminated entirely as a relevant category in the
determinant and (ii) the residual person categories (Dt: 3, Dd: 1) are
aligned with each other as a combination falling outside the scope of
the rule.

There is a further set of variations of DUAL NEUTRALISATION in
Ngarinman. In dialect (a), the situation is as in (200).

(200)

Ng   (a)   SD: Dt

O			
1	2	3	S

D.N.

Dd

3	2	1	

SC: –D etc.

Here (1) only S clitics are affected by the rule, therefore only O
clitics are determinants, (11) 2nd person determinands have shifted
outside the scope of the rule.

The final variation is that of Ngarinman dialect (b) (201).

(201)

Ng   (b)   SD: Dt:

P	D
O	O
1	23

D.N.

Dd:

3	21

SC: –D etc.

Here the rule deals only with 1st plural O determinants (the left most
most point of the Dt. hierarchy), combined with 3rd person determinands
as in (200).

The hierarchical variation displayed by DUAL NEUTRALISATION is of
four types: (1) extension and contraction of the scope of the rule
relative to the Dd. and Dt. hierarchies, (11) extension and contraction
of the scope of categories within the Dd and Dt hierarchies relative to
each other, (111) removal of boundaries between adjacent categories,
(1v) introduction and removal of sub-hierarchies (such as number and
subject/oblique) within the Dt. hierarchy.

Among types of variation not encountered were (1) splitting up of the
scope of the rule into sub-scopes interspersed with gaps relative to the
Dd and Dt hierarchies and (11) permutation of the order of categories
within the Dd and Dt hierarchies relative to each other. In order to
establish hierarchies as fully implicational, it would be necessary to
show that rules apply to stretches of a hierarchy *including the top-most
end* of the hierarchy. This does not appear to be the case with (197),
which omits plural and starts with dual; it may be necessary to allow
changes in the order of certain major parts of sub-hierarchies (such as
dual/plural). This in turn may help to clarify why the order of 2 and
3 also appears to change as between (197) on the one hand and (200) and

(201) on the other.

Assuming that the latter problems can be resolved, it might be useful to propose an analogy for variation in hierarchies. Picture first a set of pieces of elastic, one or more representing a rule or sub-rules, one or more representing the Dd. hierarchy, and one or more representing the Dt. hierarchy. The latter two sets of pieces are calibrated by grammatical categories, each category occupying a stretch of the elastic in a fixed implicational order. The observed type of variation can then be thought of as a stretching of parts of one or more than one of the pieces of elastic so that a stretch of it extends to be partially or completely adjacent to stretches of another piece to which it was formerly not adjacent. In addition boundaries in the calibration may vary between being of significance and being of no significance in the hierarchy. The limiting case is when no boundaries are of significance, for one of the pieces, in which case that piece represents a sub-hierarchy which no longer plays any role in the application of a rule.

Such a analogy implies a fairly highly constrained model of variation in rules. Precise formulation of the hypotheses involved here and their empirical testing remains a task for the future. It may be necessary to distinguish, for instance, between universal constraints on the possible form of single *steps* in the history of grammars, and universal (ahistorical) constraints on the form of grammars. No doubt for both these questions more attention will also have to be paid to the functional embedding of rules in grammars. In what follows, the other rules examined in this paper are discussed in the light of the hypothesis already advanced.

In most of the languages considered here, SUBJECT NUMBER SHIFT is not a hierarchical rule. In Ngarinman, and sometimes in G, a person hierarchy operates globally. In (202), Dt is the O clitic and Dd is the S clitic:

(202)
Ng,   SD: Dt
S, N S

	sing	non-sing	
		1 2	3

Dd		3	2 1

SC: [+NS]S element moved
     to right of O

It may be also that there is also hierarchical variation in the rule between languages like Walmadjari, in which both dual and plural elements are shifted to the right, and G, B and M, in which only plural elements are moved.

CLITIC SWITCH in G is a hierarchical rule. In (203) Dt and Dd are
O and S clitics, respectively.

(203)

G, C.S.   SD: Dt

sing		non-sing
1	2	

Dd

2	3	

SC: S chopped to
      right of O

In M the situation is more complicated as there appear to be three
rules related to the same hierarchy: CLITIC SWITCH, CLITIC COPYING and
SPURIOUS RECIPROCAL INSERTION. CLITIC COPYING has three variant scopes
depending on dialect marked by E, W and C in (204).

(204)

M
C.S./C.C/
S.R.I.   SD: Dt

		NS	Sing
1	2	3	

Dd

2	3	2	
		sing	NS

          clitic   E   spurious
          switch   reciprocal
                         W

                         C
                        clitic copying

Dt and Dd refer to O and S respectively, except for SPURIOUS RECIPRO-
CAL INSERTION, where they refer to S and O respectively.

There must be some doubt as to whether the three rules do refer to
the same hierarchy, as (i) non-singular and singular appear as distinct
categories, on the right of the hierarchy, but not on the left, and in
the case of the Dt hierarchy, in an opposite order from that of G, (ii)
the category 2 appears split by an intervening 3 in the Dd hierarchy.
These problems appear to be similar to those raised in connection with
DUAL NEUTRALISATION: reordering of number categories and of 2 and 3
when asymetrically connected with 1 and 2.

If CLITIC SWITCH alone is considered, the change from G to M consists
of the loss of number (sing/non-sing) as a significant variable (sub-
hierarchy).

At the present stage it is not possible to fully incorporate the

data concerning CLITIC ATTACHMENT into a schema of the type outlined
here, although some type of little-understood hierarchical variation
seems to be at work. I take it that there are three rules involved
here: (i) Initial-attachment, which I take to include both contrastive
and 'focus' attachment (i.e. to Q-words, COMP and NEG); the syntactic
differences between the two types are assumed here to result from the
nature of the initial constituent, not the CLITIC ATTACHMENT rule itself;
(ii) AUX-attachment, which developed from Initial-attachment in some of
the languages; and (iii) V-attachment (including also for the purposes
of the following discussion attachment to non-initial pre-verbs) which
may or may not have developed from Initial-attachment in some cases.

There appear to be two hierarchies which govern these rules: (i)
one concerned with mood and tense in some languages, and (ii) one con-
cerned with discursive relations. The two hierarchies will be placed
as consecutive SD lines in some of the diagrams which follow, and the
rule-bracketing labelled SC refers to both. It much be borne in mind
however, that unlike the Dt and Dd hierarchies in earlier diagrams, the
two SD lines here are to be interpreted as a *disjunction,* not a *con-
junction.*

In B there is no hierarchy of the first type.

(205)

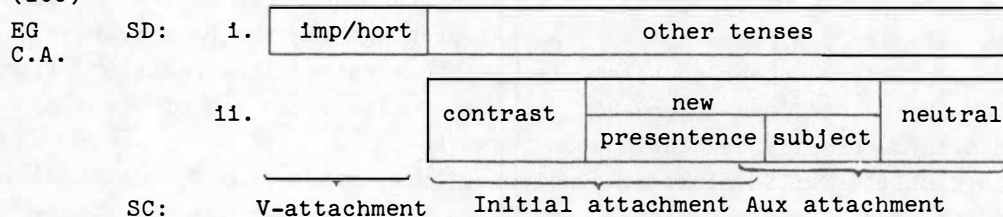|	contrast	new		neutral
B, C.A. SD:		subject	presentence	

SC: V-attachment   Initial-attachment
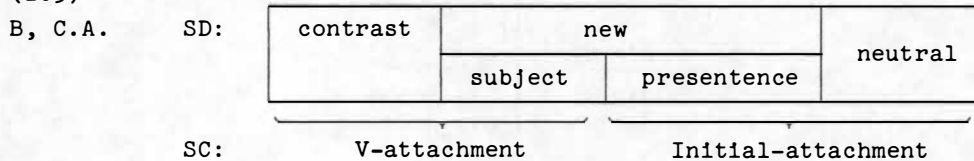
'New presentence' refers to COMP, NEG, Q-words and focus. These are
assumed to be initial when the rule applies.

In EG the category 'new subject', which is doubtful, even in B, is
incorporated into the neutral category, which is marked by AUX-attachment.
Aux and initial attachment overlap slightly. A tense-mood hierarchy is
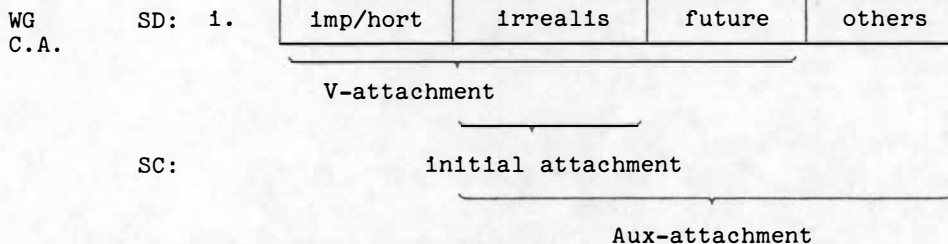introduced.

(206)

	1.	imp/hort	other tenses
EG SD:			
C.A.			

	ii.	contrast	new		neutral
			presentence	subject	

SC: V-attachment   Initial attachment Aux attachment

In WG the scope of V-attachment is widened relative to the tense-mood
hierarchy and overlaps both with Aux-attachment and initial-attachment.

For this reason the rule hierarchy relationship for tense and mood must
be separated from that of discursive relations, which does not overlap
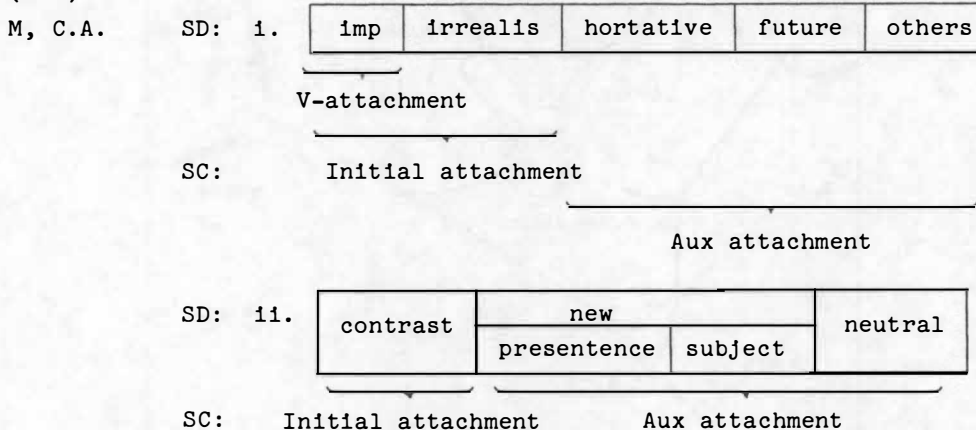in the same way.

(207)

WG   SD: i.
C.A.

imp/hort	irrealis	future	others

          V-attachment

          SC: initial attachment

                                          Aux-attachment

          SD:
          SC: ii. as for (206)ii.

In M both the tense-mood hierarchy and the discursive hierarchy
differ from WG. In the tense-mood hierarchy, the elastic-implicational
hypothesis is apparently disconfirmed by hortative moving to the left
of irrealis; V-attachment contracts leftwards and initial attachment
expands leftwards. In the discursive hierarchy, initial attachment
contracts leftwards, and Aux attachment expands leftwards.

(208)

M, C.A.   SD: i.

imp	irrealis	hortative	future	others

       V-attachment

          SC: Initial attachment

                                       Aux attachment

          SD: ii.

contrast	new		neutral
	presentence	subject	

          SC: Initial attachment   Aux attachment

It appears that the other variations in rules discussed in the paper
conform generally to the model proposed for CASE-MARKING and DUAL
NEUTRALISATION. Some additional counter-examples to the strongest form
of the 'elastic-implicational' theory have been uncovered, involving a
few minor changes in the order of categories in hierarchies, and
examples of rules occurring in the middle of hierarchies rather than
'tied' to the top of a hierarchy. The latter point raises the problem
of the extent to which rules which are different in form should be
considered as sub-rules which are part of the same continuum, and
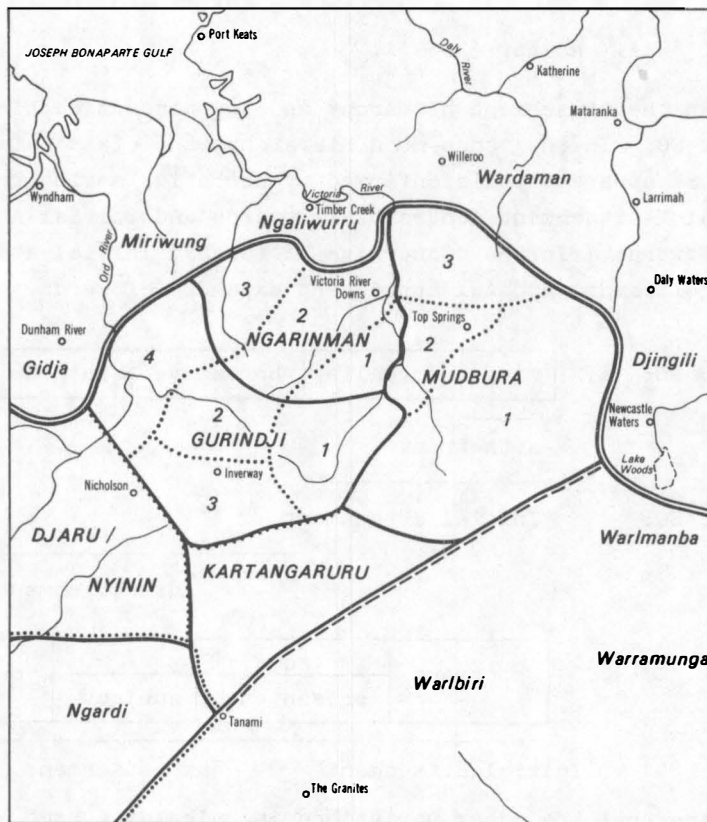
BIBLIOGRAPHY

BOLT, J.E., W.G. HODDINOTT and F.M. KOFOD
    1971   An Elementary Grammar of the Ngaliwurru Language of the
            Northern Territory. Mimeo. Australian Institute of
            Aboriginal Studies Library.

CAPELL, A.
    1939a   Notes on Mudbura. MS. Australian Institute of Aboriginal
            Studies Library.

    1939b   Notes on Ngarinman. MS. Australian Institute of Aboriginal
            Studies Library.

    1956   *A New Approach to Australian Linguistics. Oceanic
            Linguistic Monographs* 1. Sydney.

    1962   *Some Linguistic Types in Australia. Oceania Linguistic
            Monographs* 7. Sydnet.

CHAFE, W.L.
    1970   *Meaning and the Structure of Language.* Chicago: Chicago
            University Press.

DEETERS, G.
    1963   *Armenisch und kaukasische Sprachen.* Handbuch der Orientalistik
            1/7. Leiden: Brill.

DIXON, R.M.W.
    1976   The Syntactic Development of Australian Languages. MS.

DUMÉZIL, G.
    1931   *La Langue des Oubykhs*. Collection Linguistique 35, Société
            de Linguistique de Paris. Paris: H. Champion.

FILLMORE, C.J.
    1968   'The Case for Case'. In: E. Bach and R.T. Harms, eds
            Universals in Linguistic Theory, 1-88. New York: Holt,
            Rinehart and Winston.

FOLEY, J.
    1972   'Rule Precursors and Phonological Change by Metarule'. In:
            R.F. Stockwell and R.K.S. Macaulay, eds *Linguistic Change
            and Generative Theory*, 96-100. Bloomington: Indiana
            University Press.

GLASS, A. and D. HACKETT
    1970   *Pitjantjatjara Grammar: A Tagmemic View of the Ngaanyatjara
            (Warburton Ranges) Dialect*. AAS 34, L13. Canberra:
            Australian Institute of Aboriginal Studies.

HALE, K.L.
    1959   Notes on Gurindji. MS. Australian Institute of Aboriginal
            Studies Library.

    1972   'Deep-Surface Canonical Disparities'. In: T.A. Sebeok, ed.
            Current Trends in Linguistics, vol. 11:25-84. The Hague:
            Mouton.

    1973   'Person Marking in Walbiri'. In: S.R. Anderson and P.
            Kiparsky, eds *Festschrift for Morris Halle*, 308-45. New
            York: Holt, Rinehart and Winston.

HUDSON, J. and E. RICHARDS
    forth- *The Core of Walmadjari Grammar*. Canberra: Australian
    coming Institute of Aboriginal Studies.

KEEN, S.L.
    1972   A Description of the Yukulta Language an Australian Aboriginal
            Language of North-West Queensland. M.A. thesis, Monash
            University.

McCONVELL, P.

 1976 'Nominal Hierarchies in Yukulta'. In: R.M.W. Dixon, ed.
   Grammatical Categories in Australian Languages, 191-200.
   Canberra: Australian Institute of Aboriginal Studies.

McKAY, G.R.

 1975 Rembarnga: A Language of Central Arnhem Land. Ph.D. thesis,
   Australian National University, Canberra.

PERLMUTTER, D.M.

 1971 *Deep and Surface Structure Constraints in Syntax.* New
   York: Holt, Rinehart and Winston.

ROSS, J.R.

 1967 Constraints on Variables in Syntax. Ph.D. dissertation,
   M.I.T., Cambridge.

SCHACHTER, P.

 1973 'Focus and Relativization'. *Language* 49/1:19-47.

SILVERSTEIN, M.

 1976 'Hierarchy of Features and Ergativity'. In: R.M.W. Dixon,
   ed. *Grammatical Categories in Australian Languages*, 112-71.
   Canberra: Australian Institute of Aboriginal Studies.

WURM, S.A.

 1969 'Person Marker Sequences in Australian Languages'. *Papers
   in Australian Linguistics* 4:51-70. *PL, A-17.*

ZWICKY, A.M.

 1972 'Notes on a Phonological Hierarchy in English'. In: R.P.
   Stockwell and R.K.S. Macaulay, eds *Linguistic Change and
   Generative Theory*, 275-301. Bloomington: Indiana University
   Press.