

WARLPIRI VERB ROOTS AND PREVERBS

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This paper considers the range of verbal words in the Warlpiri language of the west-central Northern Territory, and compares the inventory of verb roots in Warlpiri with that of some closely related languages. This necessarily involves the related category of 'preverb', discussed in detail for Warlpiri in section 2.¹

The paper shows how preverbs bring out a covert distinction between two sorts of Warlpiri verb root — (i) those which occur in a number of lexical stems (i.e. in combination with a number of 'lexical preverbs'), and (ii) those which do not. It is shown that roots of type (i) are in general to be regarded as more ancient than roots of type (ii), as shown for instance by the much higher correspondences between roots of type (i) and verb roots in the languages to the north and west of Warlpiri. Another aspect of the preverb-verb combination is that it has given rise to new verb roots, synchronically simple as the result of reanalysis of a semantic-morphological disparity.

0. INTRODUCTION

The primary elements of certain complex verbs may be referred to as 'preverb' (following Hale 1973b:453-55 for Warlpiri) and 'verb stem', so that the complex verb of the relevant type has the following structure:

[preverb [root-inflexion]]
V V

-----stem-----

In Warlpiri, such a structure is justified phonologically and morphologically, though the units are not always semantic units. As will be seen below, particularly in section 2.3, the lexical entry for a complex verb may assign a meaning to the 'theme' consisting of preverb and root, which combines semantically with the tense/aspect inflectional suffix.

Another definition of 'preverb' relies on the Auxiliary category (Capell's 'catalytic auxiliary') found in Warlpiri and its neighbors. The Auxiliary constituent occurs only initially or in second position in the sentence, and so it is possible in these languages to propose the following:

A preverb is a morpheme which combines with a verb to form a unit which may occur at the beginning of a sentence, immediately preceding the Auxiliary (and may also occur in other contexts as well).

Such a definition is applicable in Warlmanpa, Walmatjari, and probably also in Gurindji and Warumungu. In discussing languages further afield, the term 'preverb' may be used more generally, as will be seen below.

The topic 'simple and compound verbs: conjugation by auxiliaries in Australian verbal systems' was one of the foci of the A.I.A.S. 1974 Biennial Conference (see Dixon, ed. 1976:613-768). Perhaps because of a confusion concerning the terms 'auxiliary' vs. 'catalyst' (mentioned in the introduction, Dixon, ed. 1976:14), the Warlpiri language was classified by the rapporteur in terms of its 'catalytic auxiliary' (Capell 1976:617-18).² However, Warlpiri also has complex verbs parallel to those of Walmatjari, described by Joyce Hudson in the same session, and these in turn are similar to the complex verbs in a number of languages of northern Australia: see papers by Heath, Kofod and Sharpe in Dixon, ed. 1976. Thus, the earlier notion that

the structuring of a verb from an invariant verb root and an auxiliary verb is a phenomenon not shared by a very large number of Australian languages (Sharpe 1972:vii)

depended on a restricted definition of 'auxiliary'. With the greatly increased amount of grammatical information that has become available over the last decade, it is possible to perceive an areal continuum in the structure of the verbal word, as summarised by Dixon (1980:280-81, section 9.4.3 Number of verbs): a number of Australian languages, particularly in the east of the continent, have hundreds of mono-morphemic verb roots, whereas the same range of verbal ideas is expressed mostly by complex verbs in a number of other Australian languages, particularly in the west of the continent.

Heath (1976:735) distinguishes between two complex verb structures in different north-east Arnhem Land languages, both of which might be described as 'an uninflected main verb bound to a following inflected auxiliary' (Heath 1978:88 on Ngandi and 'most languages in the area'):

- (i) [root - thematising suffix - suffixes]
- (ii) [verb] [pronominal-auxiliary-suffixes].

Heath finds (i) in Mara, Alawa, Warndarang and Yugul, and (ii) in Nunggubuyu, Ngandi, and the Yuulngu languages (such as Ritharngu). Merlan (to appear:8-9) distinguishes two types of complex verb within Mangarrayi. These Arnhem Land languages fall into the 'complex verb' area of the Australian continent. Dixon exemplifies the distribution with Dyirbal (hundreds of mono-morphemic roots) from the east on the one hand,³ and mentions on the other Warlpiri, Walmatjari, Gurindji (Kuurrinyji) and languages of 'Kimberleys and Daly River'. He notes that Diyari (north-east South Australia) has over 200 verb roots: Austin (1981a:71) records 248 verb roots in that language. It can be added that Yidiny (293 roots, according to Dixon 1977:207), Ngiyambaa (Donaldson 1980), Lardil (Hale 1981), and the Arandic languages of central Australia (K. Hale, p.c.), also exemplify the 'eastern' property of having hundreds of verb roots. On the other hand, Warlpiri's eastern neighbour Warumungu has around 50 verb roots (Simpson 1980); Jaru, with 'only forty odd verbs' (Tsunoda 1978:79) follows the pattern of its neighbours Warlpiri and Walmatjari. In his account of preverbs in Jaru, Tsunoda (1978:199) mentions parallels in the Pama-Nyungan languages Malngin, Wandijira and Walmatjari, and the non-Pama-Nyungan Gidja, Miriwung, Wunambal and Ungarinjin.

The qualitative statistical situation in Nyangumarda is typical:

by dictionary count, simple, i.e. monomorphemic, verbs number barely one hundred, while complex verbs are many times more numerous; by text count, the scales are tipped the other way: simple verbs far outnumber complex. (O'Grady 1970:49)

In this respect, Warlpiri is numerically intermediate between the languages to its north and north-west (with no more than 45 or so

verb roots) and the languages to its south and east (with many hundreds of verb roots), for the current dictionary shows around 115 roots.⁴ It is striking that even the language most closely related to Warlpiri — Wärlmanpa — has just over 40 verb roots.⁵ I propose that the discrepancy is in part attributable to Warlpiri's recent acquisition of a number of additional verb roots.

Near the other numerical extreme is the Daly River language Malak-malak, which exhibits 'conjugation by 6 auxiliaries'. There are a couple of complications to a straightforward comparison between the 'auxiliaries' of Malak-malak and the verb roots of languages to its south, since each auxiliary has a number of stems that supplement with the tense/aspect categories, and it is unclear how the semantic categories governing auxiliary choice are related to the putative etymologies of the auxiliary roots. However, it is interesting to note at this stage the semantic range covered by each auxiliary, particularly as indicated by its meaning when it occurs as an independent verb:⁵

conjugation	meaning
1	(none identifiable; dependent only)
2	movement, distal, copula
3	movement, iterative
4	sitting, proximate
5	lying, distal
6	standing, proximate

Another morphophonemically complex situation occurs in Ungarinjin in the Kimberleys, but the verbal inventory shows much more similarity with those of Pama-Nyungan languages to the south:

The set of roots on which all compound verbs are based (i.e. those whose inflected forms can serve as auxiliary verbs) is closed and quite small, numbering fourteen. Of these fourteen, all but two, /-wu/ and /-yinde/ ... sometimes also occur in isolation as 'simple verbs'. (Rumsey 1978:108)

The roots used exclusively as simple verbs number 'several thousand' and fall into 7 conjugations (though the 'vast majority' of non-compounding roots fall into the conjugation containing 8 of the 14 auxiliaries) — Rumsey (1978:151).

The wider Australian correspondences proposed thus comprise the following terms used by other workers:

LANGUAGE		
Warrpiri, Jaru	root	preverb
Walmatjari	Root 2	Root 1
Ungarinjin	auxiliary	simple root
Malak-malak	auxiliary	verb
Alawa	auxiliary	particle
Yirr'-Yorront	verb root	prefix

Of course, the properties of the categories vary from language to language — in the foregoing discussion my aim has been to draw out the similarities.

1. SOME ISSUES RELEVANT TO PREVERBS

1.1 TYPOLOGICAL PARALLELS

Indo-European:

The term 'preverb' has long been used by Indo-Europeanists, dating at least from Varo (*praeverbum*). The term refers to particles which appear following a noun (like a postposition) and simultaneously before the verb, and which, in early Indo-European, were typically spatial adverbials (such as 'up, down, away'). These forms are the antecedents of German (separable and inseparable) verbal prefixes.⁶ Tsunoda (1978:199) makes a comparison between preverbs in Jaru (and neighbouring languages) and the German *Vorsilben*, i.e. separable (verbal) prefixes. Russian verbal prefixes are also similar — Pesetsky (1979) argues that in morphological structure they are the sister of the inflected verb root (rather than being a sister of the bare root). Williams (1981: 270) draws attention to compound Latin verbs like *ludificio* 'to make game, to play'.

English:

English phrasal verbs (verb-particle constructions) are similar to preverb-verb constructions in two ways (hence Alpher's [1973:403-6] and Capelli's [1976:624] use of the term 'phrasal verbs' for certain complex verbs in Cape York languages). A phrasal verb has a meaning that is not simply a composition of the verb and the preposition (particle); and the verb and particle may form what has been called a 'discontinuous constituent' in that other words, such as pronouns, can intervene between the root and the particle.

Hindi:

Hindi forms compound verbs consisting of an uninflected verb root (called the 'main verb') followed by an inflected verb root (called by some the 'vector verb' or 'auxiliary'). It is interesting to compare the semantics of this basic set of Hindi verbs with that of the Australian verb roots classified in section 3, and so I list them here.

Only a fraction of Hindi verb roots may be the second (vector) verb in a compound verb, and it is not completely clear which verbs are to be classified as possible vector verbs. All 23 authors listed by Hook (1974:19-20) in his comprehensive study of Hindi compound verbs agree that the following 6 roots are vector verbs (using Hook's orthography):

baith	'sit down'
de	'give'
jaa	'go'
le	'take'
paR	'fall'
uTh	'get up, rise'

and Hook (1974:119-20) would add the following 18:

aa	'come'
cal	'walk, go'
choR (de)	'leave behind'
cuk	'run out, be used up; be paid off'
Daal	'throw'
dhar	'put; throw; keep'
khar ^o ho	'stand up'
le jaa	'take away'
maar	'strike; kill'
mar	'die'
nikaal	'take out'
nikal	'come out; go out; turn out'
paa	'find, get' (anti-vector)
rah	'stay, remain'
rakh (de)	'put down'
sak	'can, be able' (anti-vector)

Georgian:

Merian (1980a:10) points out a similarity between German verbal prefixes and the 'preverbs' of Georgian, particularly 'in earlier stages of the language'. Georgian preverbs typically mark aspect; certain Warlpiri preverbs, such as the 'quantifier' preverbs (section 2.4.1), have an aspect-marking function.

Algonquian:

Bloomfield (1940:103), no doubt taking the term from Indo-European studies, dubbed as 'preverbs' the pre-verbal particles found in Algonquian languages of North America.

Certain particles, preverbs, freely precede verb stems... /kees/ "completion," /pes/ (used only as a preverb) "hither".... Particles and even longer words are often included between the members of such compounds: M[enomini] nekees-pes-[teh-wenah]-neewaaw "but I did see him on the way," with /teh wenah/ "however" included.

Goddard (1979:60) assigns a structure to the complex verb, and he apparently faced analytical problems similar to those posed by Warlpiri preverb-verb combinations:

The basic structure of a [Delaware] verb form may accordingly be represented by the following diagram:

| prefix |
| or |-(preverb(s)) root(+medial)+final-endings
| change |
-----basic stem-----
-----compound stem-----

(the plusses are stem-internal; the dashes separate the stem from the affixes; the space is a word boundary, though indicated by a hyphen in the transcription used [by Goddard].)

In other words, Goddard places a stem-internal word boundary between the preverb and the following verb stem. He does this because 'independent words may occur between a preverb and the rest of a compound stem' and 'preverbs and basic stems — with a prefix or change, if any — are each treated phonologically as an independent word' (1979:59), yet the compound stem is the unit to which a prefix or change is applied. This analytical paradox is addressed in the next section.

1.2 MORPHOLOGICAL STRUCTURE OF SUFFIXED COMPOUNDS

I propose to analyse Warlpiri compound verbs as consisting of a preverb compounded with an inflected verb stem, even if the preverb-stem combination merits its own lexical entry. Thus the part

of a compound verb preceding its inflectional suffix, a unit I am calling a 'theme', is not a morphological constituent of the complex word of which it is a part.

The situation is in these respects parallel not only to the Algonquian complex verbs mentioned at the end of 1.1, but also to certain English derived nominals as in the following example (cf. Levi 1978:66-74):

[transformational grammar]-ian

-----compound stem----- N

The paradoxical nature of such a structure is that two words appear to make up one stem (which thus takes stem affixes). There is, however, another way of analysing these structures. In this view, the morphological structure is simpler, such as in

[transformational] [grammar]ian

A N N

-----related lexical entry-----

(where A=Adjective, N=Noun) and the meaning of the complex form, if it is to be related compositionally to the meaning of its parts, employs units which do not always correspond to morphological structure. Thus, in the above example, 'transformational grammar' is not a morphological constituent in 'transformational grammarian', but it is involved (in some unspecified manner, relying on the fact that there is another lexical entry 'transformational grammar') in deducing the meaning of 'transformational grammarian'. Which structure is justified for so-called adjective-noun compounds in English has been the subject of recent research in morphology (e.g. Levi 1978, Allen 1978), which is relevant here because the Warlpiri preverb-verb combination has a similar structure. Of course, '-ian' is a derivational suffix, but this does not affect the parallel with inflectional suffixes. English examples such as 'white-washed' raise the same problem (Williams 1981).

It is difficult to see any alternative to having as the head of a lexical entry an entity, the 'theme', which is not a morphological constituent of a word in which it occurs. The 'theme' is readily identifiable within Williams (1981) theory of lexical relatedness: it is that part of a word remaining when the inflection (the 'head' of the word, in Williams' theory) is deleted. Williams shows how this resolves '# inside +' paradoxes in English and Latin, and also mentions (1981:279) the application to Russian and Warlpiri. In addition, Warlpiri phonology motivates the right-branching compound verb structure. Processes of vowel assimilation, and stress

assignment, operate generally in domains beginning at each morphological '[' and extending rightward to the next '[' (passing over any number of ']')— see Nash (1980) for exemplification, for instance in reduplications and nominal compounds. Given that an inflected compound verb has structure

[preverb [root-inflexion]]

the phonological processes of vowel assimilation and stress apply without any additional restrictions on them. This would not be so if compound verbs had the structure

[[preverb-root] inflexion]

See also section 2.3.

2. PREVERBS IN WARLPIRI

This section presents details of the preverb category in Warlpiri. An understanding of the ways preverbs combine with verbs is required to understand the following section which distinguishes Warlpiri verb roots on the basis of their interaction with preverbs. For further details, particularly of phonology and morphology, see Nash (1980) and the references there.

2.1 SEMI-PRODUCTIVE PREVERBS

A typical Warlpiri preverb is /pirri/ 'scatter', occurring in such verbs as the following (with the meaning of the root given in square brackets after the meaning of the complex verb):⁷

pirri-kiji-rni	'ERG scatter ABS (by throwing ABS), ERG broadcast ABS' [throw]
pirri-mati-rni	'ABS (eyes) bulge out' [go in line]
pirri-nguna-mi	'ABS lie down individually, scattered' [lie down]
pirri-panti-rni	'ERG pierce, squash ABS and send flying' [spear]
pirri-parnka-mi	'ABS fun away and scatter' [run]
pirri-ya-ni	'ABS disperse' [go]
pirri-yi-nyi	'ERG distribute ABS (to DAT)' [give]

Another is /rdilyki/ (eastern alternant /tilykirr/) 'breaking', as in:

rdilyki-pi-nyi	{	'ERG break ABS' [act.on]
tilykirr-pi-nyi	[E]	
rdilyki-ya-ni		'ABS break' [go]
rdilyki-paka-rni	{	'ERG smash ABS to pieces' [hit]
tilykirr-	[E]	
rdilyki-kati-rni		'ERG step on ABS breaking it' [step on]
rdilyki-luwa-rni		'ERG hit ABS, breaking it' [hit]
rdilyki-paji-rni		'ERG break ABS' [cut]
rdilyki-panti-rni		'ERG break off (spear) in ABS' [pierce]

and two further compounds which are apparently specialised:

rdilyki-kiji-rni		'ERG (horse) throws ABS' [throw]
rdilyki-wangka-mi		'ABS (cooked meat) break into pieces' [speak]

A third is /milki/ 'demonstrating', so as to give an example', as in:

milki-purla-mi		'ABS demonstrate a call; ABS shout to make presence known' [shout]
milki-purra-mi	{	'ERG light warning fire (ABS)' [burn; make fire]
milki-yingki-rni		
milki-wangka-mi		'ABS demonstrate speech' [speak]
milki-yirra-rni		'ERG show ABS to DAT (?)' [put]

As may be seen in some of these examples, the preverb-verb combination sometimes has a more specialised meaning (optionally) than a simple composition of the meaning of the preverb and of the verb root. However, these 'semi-productive' preverbs apparently occur with any verb root with which it would make sense to combine them, even if the root occurs in no lexical preverb combinations (see section 2.2), and for this reason I call them 'semi-productive'. Each has its own lexical entry and is associated with a rule specifying how to combine its meaning (definition) with the meaning of a verb with which it is combined.

These preverbs may only occur with a verb stem which is a lexical entry: a verb root, or a lexical preverb-verb combination, but not a stem which is itself a (non-lexical) preverb-verb combination

(cf. productive preverbs, 2.4).⁸ Furthermore, like all non-derived preverbs, they do not take any nominal or verbal inflection, and do not occur uncombined with a verb root. Examples include:⁹

jaa	open (of entrance)
jaalyapa	whispering
jamparl	chomping
jurnpu	pile up
kanginy(pa)	misperceiving
karlirr(-karlirr)	swerving
larra	splitting
manyu	in play
milki	demonstrating
paarr(pa)	into flight
parri	mashing
pirri	distributing, scattering
raa	clearing
rdilyki	breaking
tilykirr [E]	dislodging, removing
rdungkurr	splitting, cracking
tiirl, tirk	bent double
turluny	spilling
walyi	adhering
wanyany	noisily
warurrka	gathering (people)
wirrpiyi	feigning
warika	

An example of a semi-productive preverb in combination with a stem which is a lexical preverb-verb combination is:

/kanginy-purda-nya-nyi/ 'ERG fail to hear ABS properly'
(cf. /purda-nya-nyi/ 'ERG hear ABS')

2.2 LEXICAL PREVERBS

Some preverbs have an identifiable meaning, but occur with only a couple of verbs. An example is perhaps /ngirrily/ 'teasingly' as recorded in:

ngirrily-nyina-mi	'ABS flit around (people (DAT))' [sit, be]
ngirrily-ngirrily-wangka-mi	'ABS bait, talk sarcastically' [speak]

or /ngardaly/ 'turn over', recorded in:

ngardaly-kiji-rni	'ERG turn ABS over' [throw]
ngardaly-wanti-mi	'ABS turn over, roll over' [fall]

Others may occur with only one or two verb roots and affect the meaning of the root to such an extent that it is difficult to assign an isolable meaning to the preverb. An example is /wurru/, which combines only with two roots:

wurru-ka-nyi	'ABS stalk DAT, ERG stalk DAT' [transport, go with]
wurru-marda-rni	'ERG keep ABS out of sight, ERG hide ABS' [have]

Apparently /wurru/ has something to do with seclusion (cf. the adverbial preverb /wuruly(pa)/ 'into seclusion'). However, with our current knowledge of Warlpiri, there is no basis on which to predict that the notion of 'cause another to accompany' will be played down or omitted from the contribution of /ka-nyi/ to /wurru-ka-nyi/, leaving its contribution as just that of a general verb of motion (though perhaps it is relevant to the sense that the movement of the stalker accompanies, albeit at a distance, the movement of the quarry). Hence /wurru-ka-nyi/ requires its own lexical entry: the combination /wurru-ka-nyi/ is the head of a lexical entry distinct from the lexical entry headed by /ka-nyi/, and there is probably no lexical entry headed simply /wurru/.¹⁰

Another example is /yirri/, found in:

yirri-ka-nyi	'ERG make ABS itch' [transport]
yirri-kiji-rni	'ERG startle ABS; ERG set ABS onto DAT' (e.g. to sick dogs onto) [throw]

A lexical preverb is the only type of preverb which occurs as part of a lexical entry with a verb root — all other preverbs are in some way 'productive', and have their own lexical entries rather

than occurring with particular roots in lexical entries. A number of the properties of lexical preverbs follow from this, e.g. (i) the fact that an Auxiliary may not occur between a lexical preverb and a root; (ii) the fact that a lexical preverb cannot occur following its associated root (or removed from it); (iii) the fact that the only preverb-verb combinations which occur with 'semi-productive' preverbs are combinations involving lexical preverbs (section 2.1), which otherwise only occur with verb roots in their scope.

2.3 SEMANTIC COMPOSITIONALITY

A preverb usually goes to form a compound verb which is a hyponym of the root verb — the preverb adds a component of meaning to the meaning of the root. Sometimes, as noted above, the combination may have a specialised meaning which is even more particular than the 'sum' of the meanings of the preverb and verb root, but of course this does not detract from the combination from being a hyponym of the root.

But hyponymy does not always hold for lexicalised combinations: it can fail to hold in a variety of ways. If a root has multiple senses, the more general senses tend to show up in verbs compounded from that root. Often it appears that one component of the meaning of the root is 'washed out', or 'diluted'¹¹ leaving other aspects of the root's meaning intact. I illustrate this in 2.6 with a presentation of all complex verbs involving the root /yi-nyi/ 'to give'. Further examples include the one involving /ka-nyi/ mentioned in 2.2 above, and a number of verbs built on /nga-rni/ 'ERG ingest ABS' which 'wash out' the component 'swallow' from its meaning, but retain 'act on by mouth'.¹² For example, /jampari-nga-rni/ 'to chew', or 'to crunch with mouth' are actions which do not necessarily involve swallowing. Similarly, /purda-nya-nyi/ 'ERG hear ABS' retains the notion of perception in the root /nya-nyi/ 'ERG see ABS'.

There are indications that failure of compositionality is not limited entirely to the lexical preverbs. For instance, a derived or productive preverb might enter into a lexicalised combination which is no longer a hyponym of the root verb (perhaps because the meaning of the combination has changed over time, or because the meaning of the root has changed). A case in point may be the root /karri-mi/ 'ABS stand' which enters into some combinations to which its contribution appears to be no more than

'to be', (cf. the apparent cognate verb root /karri-/ in Gurindji, Jaru, meaning 'to be, sit') as in

jaamalamala-karri-mi	'ABS yawn'
rdilypirr-karri-mi	'ABS be bitten, wounded' (cf. rdilypirrpia 'hole, wound')
rdumurdumu-karri-mi	1. ABS (heart) beat; 2. ABS worry about DAT'
manyu-karri-mi	'ABS play'

It is interesting to note that Warlpiri Sign Language verbs apparently may involve the same sort of dilution of root meaning. Kendon (1980:107) records that:

To sign "play" one signs a compound, the second sign of the compound being the sign for /karri-mi/. Here, thus, the root structure of a complex spoken expression is translated into sign simply by compounding the sign versions of the roots of which the compound is constructed.

Most of the roots listed in section 3.1, but no others, are susceptible to this dilution and generalisation when they combine with preverbs — I indicate in the list in section 3.1 which roots particularly evidence dilution. It is rare that the change in meaning is so great that the case frame of the preverb-verb combination does not contain that of the root verb. Leaving aside the superficial instances analysed as homophonous roots (/ -nga-rni/ 'ABS move', and / -ma-ni/ 'ABS make noise'), the only examples are /wurru-ka-nyi/ 'ABS stalk DAT; ERG stalk DAT'; (mentioned in section 2.2) and the handful of etymologically 'incorporated object' verbs of bodily function.

In fact, certain 'linking irregularities' (see Nash 1980:Chap.6) may be attributed to the persistence of the case-frame of the root verb, as is seen in the pair

/kanginypa-nya-nyi/	'ERG fail to see ABS'
/kanginypa-karri-mi/	'ABS fail to perceive DAT'

From the meaning of these two verbs, and the semantic roles of the arguments, one would expect that these two verbs would have the same case frame — probably 'ERG-ABS'. Yet, it seems, since /karri-mi/ has its subject argument linked to the 'ABS' case, the compound /kanginypa-karri-mi/ does also.

Note that there are few known instances of a difference in the linking of the subject argument between a verb root and a preverb combination involving that root. The few examples involve a root with ERG-linked subject, which occurs with a 'lexical' preverb to form a compound verb with ABS-linked subject.¹³ The instances are as follows, with the frame of the root given in square brackets:

/kuumarri- <i>yi</i> -nyi/	'ABS moan, groan' [ERG give ABS to DAT]
/wurru- <i>ka</i> -nyi/ {	'ABS stalk DAT'
/yura- <i>ka</i> -nyi/ }	[ERG transport ABS]

The generalisation is also illustrated (negatively) by the pair of verbs just quoted, since both verbs involve a 'semi-productive' preverb, not a 'lexical' one, and thus the case-frame of the root persists in the compound. This situation should not be surprising: unless a preverb-verb combination merits its own lexical entry, its case frame (and meaning) is known only through general rules (albeit 'lexical rules').

There is another way to observe semantic composition of certain preverb-verb combinations: when the meanings (and case-frames) of two verbs fuse to form one. This happens in two ways in Warlpiri:

- (i) The Infinitive of any verb V may combine in preverb-like fashion with the root /ya-ni/ 'ABS go' (and certain other motion verbs, such as /parnkà-mi/ 'ABS run') to form the compound verb /V-INF-ya-ni/ 'go along V-ing'.
- (ii) The Infinitive of one of the four verbs of stance may combine in a preverb-like fashion with the root /yirra-rni/ 'ERG place ABS (at ALL)' to form the compound verb /V-INF-yirra-rni/ 'ERG put ABS in V-ing position'.

Notice that in (i), the derived verb has the case-frame of the modifier, the verb V acting as preverb — thus /paka-rninja-ya-ni/ 'ERG go along striking ABS' — whereas in (ii) the verb has the case-frame of the head verb. In terms of case-frames, the combinations are as follows:

- (i) (ERG-)ABS(-DAT) + ABS → (ERG-)ABS(-DAT)
ERG-DAT + ABS → ERG-DAT
- (ii) ABS + ERG-ABS → ERG-ABS

It is possible to make the generalisation that the argument of the 'head' (finite) verb which bears the role of Theme (usually linked, as here, to the ABS case) corresponds to the subject argument of the 'modifier' verb (the Infinitive-preverb) and takes the case of

the subject of the 'modifier', while the remaining arguments are not affected. The notion 'subject' employed is the usual one in Warlpiri (that relevant to person-number marking, and infinitival control).

The generalisation extends, with respect to the 'going' construction (i), to the Warlpiri verbs with case-frame ABS-ABS ('cognate object' verbs, see Nash 1980:196-97) or ERG ('incorporated object' verbs, see Nash 1980:201), and to the following lexicalised combinations:

[parntarri-nja]-wanti-mi 'ABS stoop'
(related to /parntarri-mi/ 'ABS crouch', /wanti-mi/ 'ABS fall')

[yula-nja-ku]-ma-ni 'ERG make ABS cry'
(related to /yula-mi/ 'ABS cry', Purposive /-ku/ and the Causative /-ma-ni/; pointed out to me by Ken Hale)

2.4 PRODUCTIVE PREVERB-VERB COMBINATIONS

2.4.1 ADVERBIAL PREVERBS

The adverbial and dative-adjunct preverbs are distinguished by their ability to combine with a verb which is itself a non-lexical preverb-verb combination. But first note that they can, like semi-productive preverbs, combine with a lexical preverb-verb combination, as /jaala/ and /warru/ do in

jaala juurl-juurl-pi-nyi 'ABS jump back and forth'
warru kupaly-(w)anti-mi 'ABS swarm, flock around'

The greater combinatory power of adverbial preverbs is exemplified in the following sentence:

Ngapa wiri-ngki-nganpa pina lani-ma-ni. wirlinyi-
rain big -Erg -11lo back afraid-Caus-Npast hunting-
kijaku. NegPurp
'The big rain will deter us from hunting.'

Here, the productively formed /lani-ma-ni/ (cf. /lani/ 'fear') is in combination with the adverbial preverb /pina/ 'back, in return'. Another example, this time with the adverbial preverb sentence-finally and separated from the verb, is

Jinjin-(y)u-ngu-ipa-npa-ju ngaju-ku warrarda.
-give-Past-1mp-2s-1o 1-Dat always
'You told me [to get stuff for you] all the time.'
Similarly, /jurnta/ (treated in 2.4.2) and /yarda/ in
Pirlangkiti-ji jurnta-kuju-rnu yarda.
blanket-me(Dat) -throw-Past again
'He threw off (from me) my blanket again.'

The ability to combine with a complex verb apparently goes hand in hand with another property showing that the 'adverbial' and 'dative-adjunct' preverb is rather loosely connected with the verb stem with which it combines, viz. the ability of 'adverbial' and 'dative-adjunct' preverbs (but not the 'semi-productive' or 'lexical' preverbs) to follow rather than precede the accompanying verb stem, thus:

[(preverb) root-inflection]] [preverb]
V

In fact, these preverbs sometimes occur even further separated from the main verb, under conditions which I do not understand. As the example of /warrarda/ above shows, such separated preverbs, to the extent that they occur, often occur sentence-finally.

Other adverbial preverbs include:¹⁴

jaala	back and forth
jaantaku	protruding
jaarl	blocking
jangkardu	in opposition to DAT
japara	eating while going along
jarrwara	wrong direction, astray
jawirri	V and leave behind
jayirrpia	snatching
jiwirlki-2	with appendage bouncing
juka	jutting upwards
julyurl(pa)	in(to) water, fire
juru-juru	rolling, sliding
juul(pa)	up to a point, halfway
laja	carrying
nganjini	on arrival
pina	back, in return
pirriki	in pity
pulpurru	in opposition to DAT
rarra	dragging
rdalji	motionless
wajili	running

wapa(pa)	V in search of
wapirdi	on arrival, approach of
warlka	feigning
warru(kirdikirdi)	around, in a circle
yaarl(pa)	on, over top of DAT
yungka	blithely

and the quantifier preverbs:

jarnku, palju	each
kutu	anything, anywhere, anyhow
puta	some, partly
muku	all, completely
warrarda	always, consistently
yarda	more, again

The degree of productivity separating 'semi-productive' from 'adverbial' preverbs may not be anything more than a difference of degree, and may well be an artifact of incomplete data. At this stage we cannot do much better than observe that 'adverbial' and 'dative-adjunct' preverbs have been recorded in combination with verbs that are preverb-verb combinations, and that 'semi-productive' preverbs have not; and that it is generally 'semi-productive' (and 'lexical') preverbs that enter into combinations whose semantics is not entirely compositional.

Adverbial preverbs, and preverbs in general, are distinguished from adverbs in two respects:

(a) the inability of preverbs to take any nominal inflexions — an adverb, such as /yaruju/ 'quickly', is like a Nominal in that it may take an Ergative suffix, as in

Yaruju-rlu-ju paka-rnu. 'He hit me quickly.'
quickly-Erg-me-hit-Past

Note, however, that it may be that some adverbial preverbs listed above are also to be classified as adverbs, in which case the next property, (b), is the sole deciding one.

(b) the ability of preverbs to form a unit with the following verb root, which may be a pre-Auxiliary unit in the sentence, vs. the inability of a 'true adverb' or any Nominal to do so (unless it acts as a derived preverb).

2.4.2 DATIVE-ADJUNCT PREVERBS

This sub-category of preverbs is called 'dative-adjunct' since its members introduce an extra argument, always linked to DAT case, in the functional structure of the verb with which they combine (see Nash 1980: 48-49, 200-01, 222 for details). A further distinguishing property is that most (the exception is /jurnta/) dative-adjunct preverbs cannot host a directional enclitic (whereas all other preverbs, except perhaps for some lexical preverbs, may host a directional enclitic).

One dative-adjunct preverb /jurnta/ 'away from DAT, removal from (with adverse effect on) DAT' is exemplified in a sentence quoted in 2.4.1. Another is exemplified in the following sentence, which also shows that a dative argument may be added to a clause by one of these preverbs even if the clause already contains a dative selected by the verb root:

Ngarrka-^{ngku}-rla-jinta karli karnta-ku
man -Erg -Dat-Dat boomerang woman-Dat
kurdu-ku marlaja-punta-rnu
child-Dat Causative-deprive-Past

1. 'The man took the boomerang away from the child, because of the woman'; 2. 'The man took the boomerang away from the woman, because of the child'. (The sentence has at least these two readings, according as to whether the dative-marked nouns are construed with the oblique argument of /punta-rnu/ 'ERG take ABS away from DAT', or with the dative argument added by the preverb /marlaja/.)

The dative-adjunct preverbs are:

jurnganja	Comitative, with (dependent) DAT
yirrkirnpa	
jurnta	Adversative, away from DAT
kaji [Yuendumu]	Benefactive, for DAT
ngayi [E]	
marlaja	Causative, made possible by DAT (marlangka — restricted version)
piki(piki)	
	in jeopardy of DAT

In the languages to the north-west of Warlpiri with 'particle-auxiliary' constructions, there is no equivalent of the dative-adjunct preverb, i.e. there are no particles which introduce an extra argument into the clause (Merlan, p.c.).

There are two adverbial preverbs mentioned above in section 2.4.1 which also introduce a dative argument but which are not to be classified as true dative-adjunct preverbs. Not only do they host directional enclitics, but also the dative argument introduced by both these adverbial preverbs controls an Objective Complement (in */-kurra/*) and not an Obviative Complement (in */-rlarni/*) (a further distinction overlooked by Nash 1980:49n7).

2.4.3 DERIVED PREVERBS

Preverbs may be derived productively from Infinitives and Nominals in combination with a couple of verb roots; see Nash 1980:42-45 for an account. The Inchoative root */-jarri-mi/* and Causative root */-ma-ni/* combine productively with Nominals and form a complex verb with a structure quite similar to that of a preverb-verb combination, e.g.:

jururr-ma-ni	'ERG dream about ABS(?)' (cf. <i>jururpa</i> 'dream')
wikiny(pa)-ma-ni	'ERG taper ABS' (cf. <i>wikinypa</i> 'ledge, etc.') ¹⁴
pinpin-ma-ni	'ERG flatten, smoothe ABS' (cf. <i>pinpinpa</i> 'flat, smoothe') ¹⁵

The Inchoative and Causative may be separated by a directional enclitic from the nominal with which they combine. Normally a nominal may not host a directional enclitic, and the fact that it may just in this context supports the analysis of this construction as involving a denominal preverb. An example is the directional clitic /rra/ in

wiri-rra-jarri-nja-ya-ni
big-forth-1inch-1nf-go-NPast
'it goes growing forth'

These Nominal-Verb constructions are comparable to 'noun incorporation', as found to a limited extent for instance in Yidiñ (Dixon 1977:465-73). Warlpiri also has a few instances of preverbs derived from nouns, other than the productive Inchoative and Causative combinations, and these fit the pattern of 'object incorporation'. Examples are all verbs of bodily function, such as:

/kuntul-pi-nyi/	'ERG cough' (cf. /kuntulpa/ 'cough' (N))
/nungkurru-pangi-rni/	'ERG snore' (cf. /pangi-rni/ 'ERG scratch, dig ABS')

Note the persistence of the ERG-linking of the subject of these two one-argument verbs — compare the discussion in 2.3.

Infinitives as preverbs are discussed in section 2.3.¹⁵ The productive power of Infinitives and Nominals as derived preverbs is best seen as a property of those particular verb roots which enter such combinations — hence they differ in the type of productivity from the combinations of 2.4.1 and 2.4.2.

2.5 ETYMOLOGY OF PREVERBS

Preverbs are evidently a long-established category in Warlpiri, well integrated into the structure of the language.

The morpheme structure of preverbs conforms fairly closely to that of nouns (and words) in Warlpiri (see Nash 1980:67-81). There are two respects in which a preverb's form is less restricted than that of a nominal root in modern Warlpiri: (i) a preverb, unlike any other Warlpiri morpheme, may end in a consonant — any coronal sonorant non-glide consonant; (ii) a few preverbs consist of a single syllable, either an open syllable with a long vowel, or a closed syllable with a short vowel — both types not possible for nominal roots, but which were probably possible nominal shapes at an earlier historical stage. In general, the morpheme structure of a preverb conforms to the template:

CV(V)(C) (CV(C))ⁿ, n a non-negative integer

A few preverbs may be derived from nominals which no longer exist independently, through a freezing of a derivational process mentioned in section 2.4.3. Some others are cognate with present-day verb roots, possibly from a common nominal source, as in

parnti-mi 'ABS smell, give off odour'

parnti-nya-nyi 'ERG smell ABS, perceive by smell'
(cf. the Nominal /parntirr-parntirrpa/ 'smell of corpse')

However, it is also possible that preverb /parnti/ derives from a verb root. Compare verb derivation by stem-compounding, reported for Diyari's eastern neighbour Yandruwanda by Austin (p.c.), and attested by one compound Diyari verb (Austin 1981a:69).

A few preverbs may even be derived from something like stylised onomatopoeia. For example, /la(a)rr/ 'humming, whining', the only non-productive preverb recorded with the root /purla-mi/ 'ABS shout to DAT', giving /la(a)rr-purla-mi/ 'ABS hum, whine'; and /yapajaa/, the cry sometimes made by people in pain, is used in the complex verb /yapaja(yi)-ma-ni/ 'ABS groan in pain'.¹⁶

2.6 EXAMPLES: VERBS IN /YI-NYI/ 'to give'

The root /yi-nyi/ 'to give' enters into numerous preverb combinations of a variety of types. Here I classify all recorded combinations according to the type of preverb and demonstrate the varying degree of semantic compositionality (discussed in 2.3). This presupposes an analysis of the meaning of /yi-nyi/ which has not yet been achieved. I ask the reader's indulgence on this point, and adopt as a working definition the suggestion (due to Mary Laughren) 'X causes control over Y to pass to Z'.

2.6.1 PRODUCTIVE PREVERBS

The following are a sample of the combinations possible of /yi-nyi/ and the productive preverbs. Note that each combination is a hyponym of /yi-nyi/:

kutu-yi-nyi	ERG give DAT anything at all
nganjini-yi-nyi	ERG give ABS to DAT on arrival
yarda-yi-nyi	ERG give DAT some more ABS
pina-yi-nyi	ERG give ABS back to DAT

2.6.2 SEMI-PRODUCTIVE PREVERBS

The first example of a semi-productive preverb in combination with /yi-nyi/ is probably a hyponym, and the second is not. The full sense of /yi-nyi/ is not present even though there is a controlled transfer involved.

pirri-yi-nyi	ERG distribute ABS to DAT (/pirri/ generally means 'distributing, scattering')
rduul-yi-nyi	ERG light ABS (fire), ERG fan ABS (fire) (/rduul/ generally means 'rapidly expanding' or the like, as in /rduul-pardi-mi/ 'ABS explode', /rduul/nga-rni/ 'ABS flare up')

2.6.3 LEXICAL PREVERBS

There are several sorts of lexical preverb found in combination with /yi-nyi/.

(a) First, those which form a hyponym of /yi-nyi/ and, if appears, involve a preverb derived, perhaps only in the historical sense, from a nominal:

ngunyungunu-yi-nyi ERG give DAT what one has so far
(and go for more)

(ngunyungunu 'one load', ngunyungunu-ngarrirni 'ERG advise, propose, suggest')

yajarri-yi-nyi ERG exchange ABS freely (with DAT?)
(yajarri 'gift', yajarri-mi (with recip.) 'ABS exchange gifts')

yirdiyi-yi-nyi ERG make room for DAT
(yirdiyi 'road, route, way, space')

jantajanta-yi-nyi ERG pass ABS around to DAT,
ERG lend ABS, ERG share ABS
(jantawarra 'distributed, for everyone', jantawarra-ma-ni 'ERG share ABS', jantalya 'quartered kangaroo')

(b) Second, those formed with a preverb which occurs only with one other root, namely /pi-nyi/ 'ERG act on ABS'. The combination with /pi-nyi/ apparently has the same meaning as the combination with /yi-nyi/. The meaning of the compound is not a hyponym of /yi-nyi/, unless a quite abstract transfer of control from one entity to another is conceived as being involved in the meaning of the combinations.

jakuru-yi-nyi ERG announce one's own departure
(to DAT?), ERG take leave (of DAT?)

jinjin-(y)i-nyi ERG request favour of (ABS/DAT?)

kintil-(y)i-nyi ERG close incision in ABS with
stick for purpose (/kintilpa/)

There are two other preverbs found only with /yi-nyi/ and /pi-nyi/, but for these there is no connexion of meaning between the combinations with the two different roots:

marri-yi-nyi ERG brandish ABS,
ERG feint with ABS

(marri-pi-nyi '1. ERG covet ABS, 2. ERG bury ABS (deceased relative)')

yaru-yi-nyi (with recip.) ERG go in a big-group

(yaru-pi-nyi 'ERG wipe ABS, ERG spray ABS', yaru '1. covered with water, 2. light in weight')

(c) Similar to (b), preverbs which are generally found only with /yi-nyi/ and /pi-nyi/, or only with /yi-nyi/. These all have the phonological shape

CV(C)CVrr-(y)i-nyi

where the CV(C)CV element is often relatable etymologically to a nominal. The compound verb generally has two arguments (not three). The first argument, linked to ERG case, is typically a human acting in control on another entity represented by the second argument, linked to ABS case. The action generally involves an instrument (optionally expressible in the ERG/INSTR case); the type of which is inherent in the verb's meaning, and which is in some cases etymologically perceptible in the CV(C)CV element.

palyarr-(y)i-nyi	ERG anoint ABS	[E]
(palya 'wax, sticky substance'; palyarr-wanti-mi 'ABS fall and shatter')		
jurdurr-(y)i-nyi	ERG cover ABS	
(jurdu 'dust, dust cloud', jakarr-pi-nyi 'ERG cover ABS')		
rdilpurr(y)i-nyi	ERG make hole in ABS,	
[E] tilypurr(y)i-nyi	ERG pierce ABS	
pirlirr-(y)i-nyi	ERG beat in $1\frac{1}{2}$ time	
pirlirr-pi-nyi		
(Warlmanpa: pirlipi 'clap sticks')		
purlurr-(y)i-nyi	ERG stick spear part way in ABS	
purlurr-pi-nyi		
yimirr-(y)i-nyi	ERG frighten ABS with empty talk	
yimarr-pi-nyi	or noise	
(yimi 'speech, message')		

Two further preverbs which fit with the ones in this subsection but which occur with a larger number of other verb roots are

rdungkurr-(y)i-nyi	ERG dislodge ABS
rdanjarr-(y)i-nyi	ERG provision ABS

Both have a discernible meaning: /rdungkurr/ 'dislodging' (found with /kiji-rni/ 'throw', /yirra-rni/ 'put', etc.), and /rdanjarr/ 'a lot of' (found with /ka-nyi/ 'carry', etc.).

One line of speculation about the origin of these /rr/-final preverbs is to relate them to the 1st conjugation roots in /rri-mi/ listed in 3.3(a) and discussed in 3.4, at least in proposing that there was once a denominal verbalising suffix */-rri/ which formed verbs of the 'zero' conjugation (the fore-runner of the present-day 1st and 3rd conjugations — see Hale n.d.). In combination with certain nominals of form CV(C)CV, at least, the */-rri/ suffix form a transitive 'applicative' verb, with the meaning that the instrument represented by the given nominal be used characteristically. Thus, at an earlier stage, a verb root such as

*palya-rri 'to use /palya/'

existed. These underwent reanalysis, given the phonological, mor-

phonological and semantic possibility of reinterpreting the form as being derived from /yi-nyi/, and thus created a preverb morpheme such as /palyarr/ which subsequently became available for combination with certain other verb roots. Note that vowel assimilation does not penetrate the preverb in modern Warlpiri — so that /rdilypirr-(y)i-nyi/ has Past tense /rdilypirr-(y)ungu/ not */rdulpurr-(y)ungu/.

Naturally, this proposal calls for further supporting evidence and an account of the relation, which appears problematic, of the postulated */-rri/ to other suffixes reconstructed as */-rri/. It is offered at this stage as a suggestion to explain the otherwise remarkable set of preverbs just listed.

(d) Finally, preverbs which occur only with /yi-nyi/ and which do not form a hyponym of /yi-nyi/, but nevertheless generally form a transitive verb with ERG-linked subject which is typically a human in control of an activity.

juta-yi-nyi	ERG hit ground to determine presence of yams
rdingan-yi-nyi	ERG curse ABS by boning
rdalpu-yi-nyi	ERG carry ABS under arm, as coolamon
julyamarda-yi-nyi	ERG throw ABS (dirt) up (at DAT?)
wakawaka-yi-nyi	ERG use arms and kill ABS
kuru-yi-nyi	ERG warm ABS over fire
kardi-yi-nyi	ERG heat ABS
(also kardu-yi-nyi, cf. kardu-ma-ni 'ERG manufacture ABS')	
rdirri-yi-nyi	ERG start ABS, ERG start to V-INF-Purposive
(also found in /rdirri-yarnka-mi/ 'start on journey')	'start on journey'
jatu-yi-nyi	to go in opposition to DAT (?)
(also found in jatu-pardi-mi 'ABS go looking for fight')	
yurrurl-yi-nyi	ERG dart rapidly to avoid ABS, ERG talk one way and think another
(cf. yurrurlu, wirrirli 'March fly')	
A further, probably related, set of examples is	
mirrmirrparlu-yi-nyi } mirrmirrmarli-yi-nyi }	ERG make ABS shine
mirrmirrmarli-yi-nyi	ERG (cold weather) cause ABS to shiver

2.7. SUMMARY OF PREVERB PROPERTIES

The types of preverbs and their various properties discussed in section 2 are as follows:

PREVERB TYPE	I	II	III	IV
INF-ya-ni	yes	no	no	no
N-jarri-mi	yes	mostly	no	no
N-ma-ni		not		
N-V	yes	yes	yes	(yes, irrelevant)
semi-productive	yes	yes	no	no
lexical	no?	no	no	no
adverbial	yes	yes	yes	sometimes
dative-adjunct	no	yes	yes	sometimes

Abbreviations of properties:

- directional?: Can the preverb host a directional enclitic?
- Aux?: Is the order PVB-AUX-V possible? (i.e. can an Auxiliary occur between preverb and verb).¹⁷
- V-PVB order?: Can the preverb occur immediately following (as well as preceding) the verb it is combined with?
- V/PVC separate?: Can the preverb be separated from the verb (by words of the sentence, other than by directionals and the Auxiliary)?

3. CLASSIFICATION OF WARLPIRI ROOTS

All the known Warlpiri verb roots are listed in this section. They are arranged according to a gross property of combination with preverbs, viz. the degree to which they occur in lexical preverb combinations (as described in the previous section). Beyond this there are, of course, many finer classifications not considered here, at least within groups 3.1 and 3.2, according to which roots combine with a particular semi-productive preverb — for instance, /pirri/ 'scatter' selects verbs with a certain motional component in their meaning.

The citation form of the root is the non-past inflected form, which suffices to indicate conjugation membership (except that /nga-rni/ is the sole member of the 4th conjugation and not a member of the 2nd conjugation). The gloss assigned is extremely skimpy, and is designed to give a rough idea of the basic meaning of the root and to present the case-frame(s) it selects.

3.1 ROOTS WITH MANY PREVERB-DERIVED STEMS

>janka-mi	ABS (fire) burn ERG (fire) burn ABS
jarri-mi	ABS become ...
>karri-mi	ABS stand
nguna-mi	ABS recline
>nyina-mi	ABS sit
>pardi-mi	ABS arise
parnka-mi	ABS run
purra-mi	ERG (person) burn ABS
wangka-mi	ABS speak, ABS make characteristic noise ABS speak to DAT
wanti-mi	ABS drop
wapa-mi	ABS move about
-jirri-rni	ERG act forcefully on ABS
kiji-rni	ERG throw ABS ERG put decoration ABS on DAT
luwa-rni	ERG hit ABS with missile
marda-rni	ERG hold ABS
>ngarri-rni	ERG scold ABS ERG tell ABS to DAT ERG signify ABS
paji-rni	ERG cut ABS
paka-rni	ERG strike ABS
panti-rni	ERG pierce ABS
-parri-rni	ERG act on ABS
yirra-rni	ERG place ABS at LOC,ALL ERG create design ABS on DAT
>ka-nyi	ERG transport ABS
>nya-nyi	ERG perceive ABS ERG look about for DAT
>pi-nyi	ERG impact on ABS
>yi-nyi	ERG give ABS to DAT
>nga-rni	ERG ingest ABS

ji-ni	ERG scold ABS
ma-ni	ERG get ABS
-ma-ni	ERG cause ABS become...
>ya-ni	ABS go

> — these roots are often diluted in meaning in combination with a preverb (see section 2.3).

3.2 ROOTS WITH A FEW PREVERB-DERIVED STEMS

jiti-mi	ABS descend
kampa-mi	ABS (fire) burn
	ERG (fire) burn ABS
karrka-mi	ABS proceed
kulpa-mi	ABS return home
-para-mi	ERG follow ABS
pura-mi	ERG follow ABS
purla-mi	ABS shout to DAT
-yalpi-mi	return (from hunting) and...
yarnka-mi	ABS start on journey
	ABS grab for DAT
yula-mi	ABS cry
kati-rni	ERG weigh down on ABS
pangi-rni	ERG scratch ABS
parda-rni	ABS wait for DAT
-pirri-rni	ERG act on ABS...
punta-rni	ERG take ABS away from DAT
yingki-rni	ERG set fire to ABS
yurrrpa-rni	ERG grind ABS
-nga-rni	ABS move
-ma-ni	ABS make noise

3.3 ROOTS WITH NO DERIVED STEMS (COMBINE ONLY WITH PRODUCTIVE PREVERBS)

Some roots combine with one preverb which may not have 'productive' status: such preverbs are given in square brackets after the root concerned.

(a) Frozen Derived Forms (see 2.6.3(c), 3.4)

Polysyllabletrri-mi

kawarirri-mi	ABS wander
ngarlarri-mi	ABS laugh
ngurntirri-mi	ABS scold DAT
parntarri-mi	ABS crouch [maarr- 'crouch flat']
wapirri-mi	ABS conceal DAT
yajarri-mi (+recip)	ABS exchange gifts
yurirri-mi	ABS stir

(b) Frozen Preverb-Verb Combinations (see 3.4)

CVC+pi (cf. root /pi-nyi/ in 3.1 above)

karipi-mi	ERG (temperature) cause suffer ABS
tiripi-mi	ERG flake ABS
jampi-rni	ERG lick ABS
marnpi-rni	ERG touch ABS
parnpi-rni	ERG touch ABS
wirrpi-rni	ERG eat ABS [avoidance] [yilyi- 'slurp']
yarrpi-rni	ERG build fire ABS
yirrpi-rni	ERG insert ABS

CVC+ji- (cf. root /-ji-ni/, 3.1 above)

larrji-rni	ERG scratch ABS
nyunji-rni	ERG kiss ABS
parlji-rni	ERG wash ABS
rdirrji-rni	ABS start a fight
walji-rni	ERG pluck ABS
winji-rni	ERG pour ABS

Others

waraparnpi-mi	ABS sing out
wuurlparra-rni	ABS announce DAT
tirlarri-rni	ERG dehair ABS
	ERG split ABS

2 (c) Derived Roots

The following two roots also occur as preverbs and have etymologically related nominals:

pali-mi ABS die [jipirr-jipirr- 'flicker']

parnti-mi ABS smell

The following two roots are the only ones in the third conjugation which consist of more than one syllable. The element */ra-/ indicates an additional ancient root of that conjugation (Hale n.d.). The eastern Warlpiri /mapara-nyi/ corresponds in meaning to /mapa-rni/ in other dialects, and is probably related to nominal stems of the form /maparnpa/ 'healing powers', etc. found in various Australian languages.

mapara-nyi ERG anoint ABS [E]

yurlpara-nyi ERG send ABS [E]

4 (d) Possible Recent Loans From Arandic

-yalpi-mi (see section 3.2)

yampi-mi ERG leave alone ABS

ERG reject ABS

yarlki-rni ERG bite ABS

yillya-mi ERG send ABS to DAT

52 (e) Other Roots With No Lexical Preverb Combinations

japirdi-mi ABS threaten DAT

jarnti-mi ABS limp

jija-mi ABS succumb to DAT

jirrti-mi ABS hang out

kapati-mi ABS be uneasy in DAT

karli-mi ABS flow [jirrmily(pa) 'tear']

lirri-mi ABS swell

nyurla-mi ERG knead ABS

papi-mi ABS ignite

rdipi-mi ABS gather

rdipi-mi ABS encounter DAT

turlka-mi ERG pinch ABS

wipi-mi ABS radiate

wirli-mi ERG poke ABS

wirnpirli-mi	ABS whistle
wirnti-mi	ABS (women) dance
yirdi-mi	ABS be frightened
yuka-mi	ABS enter
yulka-mi	ABS cherish DAT
jaja-rni	ERG eat off ABS
japi-rni	ERG ask ABS about DAT
jarnti-rni	ERG scrape ABS
jija-rni	ERG notice, spy ABS
jiti-rni	ERG tease ABS
kardi-rni	ERG fetch, get ABS (water)
kipi-rni	ERG winnow ABS
kulpa-rni	use
maja-rni	ERG straighten ABS
mapa-rni	ERG anoint ABS
mati-rni	ABS go in procession
mila-rni	ERG select (best one of) ABS
mirri-rni	ERG erase ABS
ngaja-rni	ERG void ABS
nganti-rni	ERG erect ABS
ngartki-rni	ERG block ABS
ngarrmi-rni	ERG ritually increase ABS
paja-rni	ERG taste ABS
parnta-rni	ERG withdraw-from-fire ABS
payi-rni	ERG ask ABS about DAT
pirrki-rni	ERG trim ABS
rdanpa-rni	ABS accompany DAT
wanja-rni	ERG take ABS (sip) off DAT
wardi-rni	ERG straighten ABS
wari-rni	ERG tie ABS
warri-rni	ERG seek DAT
warrka-rni	ABS climb up, ERG ride ABS
yaja-rni	ERG enlist ABS

yarli-rni	ERG soak ABS
yipi-rni	ERG pick out pimple ABS
yingki-rni	ERG set fire to ABS
yirnti-rni	ERG capsized ABS
yunpa-rni	ERG sing song ABS
yunta-rni	to push, shove, jostle (as cattle)

There are a number of verb stems in Warlpiri which are synchronically analysable as preverb-verb combinations but which show some phonological amalgamation, typically cluster simplification at the preverb-root boundary (see Nash 1980:79), and possibly extra stress reduction on the root. Examples include a subclass of verbs with root /yi-nyi/, namely those with /rr/-final lexical preverbs, listed in 2.6.3(c), such as /rdilypirr-(y)i-nyi/ 'ERG wound ABS'. Note, for instance, that the Past inflexion of /rdilypirr-nyi/ is /rdilypirrungu/, not */rdulpurrungu/ — the combination has not undergone the reanalysis discussed in 3.4. Other similar combinations are those with glide-initial roots /wapa-mi/, /ya-ni/, /wanti-mi/.¹⁸

3.4 ETYMOLOGICALLY COMPLEX ROOTS

Within group 3.3 there are verb roots which are apparently etymologically complex but in modern Warlpiri are unanalysable roots. (Compare the analysable roots mentioned at the end of section 3.3.)

In particular, in 14 of these roots (but in none of those of groups 3.1 and 3.2) it is possible to identify two monosyllabic root-final formatives (*-pi and *-ji) which are probably related to the modern transitive roots /pi-nyi/ and /ji-ni/.¹⁹ Supporting evidence includes:

- (i) the case-frames of the relevant modern roots are ERG-ABS, even the two which are in the predominantly intransitive conjugation (viz. /karli-mi/ and tirli-mi/), with 1 exception out of 14 (/rdirrji-rni/);
- (ii) the non-final part of the root has phonological shape CVC, where the second C is [+son, +cor, +cons] (except in /jampi-rni/ 'ERG lick ABS' — possibly involving epenthesis or assimilation, and note common Australian /jawa/ 'mouth'), i.e. a possible word-final consonant at an earlier stage of the language (before /-pa/ augmentation — see Hale 1973b); and the only /rrj/ and /rlp/ clusters in Warlpiri verb roots are confined to these 14 roots.

Notice that the roots just discussed are the historical product of reanalysis. The reanalysis brings about a congruity between morphological and semantic structure: the erstwhile 'theme' (a semantic unit which corresponded to no morphological constituent) is re-

analysed as a simple root (which is both a meaning unit and a morphological unit).

*[tir1] [pi-TENSE]	[tir1pi-TENSE]
--stem--	---stem----
---theme--	

A third formative evident in group 3.3(a) in */-rri/, which is probably related to the derivational affix of the same form in the southern Pilbara languages, Western Australia (where it has the function of a Passive marker — Austin 1981b), and the wider range of possible cognates gathered by Sutton (1976:303-4), including forms in /-rri-/ which mark Inchoative and Middle (Refl/Recip). Evidence includes:

(i) the 7 roots are all intransitive, i.e. have a subject in the Absolutive (unmarked) case;

(ii) the non-final part of the root has phonological shape CV(C)CV, the most common word shape;

(iii) the only textually attested verbal reduplications (Nash 1980: 136-47) which copy part (not all) of a verb root are those which copy the first two syllables of /ngalarri-mi/, /parntarri-mi/, giving /ngarla-ngalarri-mi/, /parnta-parntarri-mi/ respectively (though /wirnpi-wirnpirli-mi/ may also be well-formed);

(iv) the only verb roots which contain two different high vowels (i.e. both /u/ and /i/) are /ngurntirri-mi/, /yurirri-mi/ (~yururri-mi/) and /nyunji-rni/, all three of which are proposed to be etymologically complex. (The root /winji-rni/ has been recorded in Past inflexion as /winjurnu/ as well as the usual /wunjurnu/. However, /winjurnu/ violates the Warlpiri stem prohibition */iCu/ unless C is /p,w/' whereas /nyunjirni/, etc. run counter to a generalisation which holds only verb roots.)

At what may well be a greater etymological depth, it is possible to perceive one more verbal formative in Warlpiri — the /*na-/ of stative verbs isolated by Merlan (to appear). There are only two verb roots in Warlpiri that have this final syllable: /nyina-mi/ 'ABS sit, be' and /nguna-mi/ 'ABS recline'. Further, these two roots are the only roots of the /-mi/ conjugation ('1st', in Warlpiri literature, properly the 'zero' conjugation) which take an Imperative and Irrealis other than in /-ya/ — these two roots prefer the Imperative in /-ka/ (and Irrealis /-karla/), the ending of the '2nd' conjugation, and of inceptives formed from 3rd conjugation roots (Nash 1980:41).

4. COMPARISON OF VERB-ROOT INVENTORIES

The Appendix contains Tables 1 - 4 presenting all the known verb roots of four Pama-Nyungan languages of the so-called Western Desert

type in the west-central Northern Territory and adjacent Western Australia: another member of the Ngarrka subgroup Warlmanpa, and three languages of the Ngumbin subgroup Jaru, Gurindji, and Walmatjari.

The roots in the Tables in the Appendix should be compared with each other and with the list of Warlpiri roots in 3.1. The reader will see that the majority of the roots have cognates, and the majority of those that do not nevertheless have a corresponding root with fairly similar meaning.²⁰

There are 13 verb roots found in all five languages, and there are a further 5 roots found in four of the five languages, shown in Table 5.

TABLE 5 — COMMON VERB ROOTS

gloss	Walmatjari	Jaru	Gurindji	Warlmanpa	Warlpiri
burn	kampa-	kampa-rn	kampa	kupa-ka	kampa-mi
hit	luwa-	luwa-rn	luwa-	la-ka	luwa-rni
(spear	la-n-ta	la-n			
bite	paja-rra	paya-n	paya-	piya-ka	paji-rni
sit, stand	karri-	karri-rn	karr-y	ka-rra	karri-mi
fall	wanti-	wanti-ny	wan-y	wa-n-ta	wanti-mi
say	ma-nyja	ma-ny	ma-ny	-ma-n-ta	-ma-n-ta
eat	nga-nyja	nga-ny	nga-ny	nga-nyja	nga-nja
give	yu-ngka	yu-ng	jayi-ng	yu-ngka	yi-nyi
carry	ka-ngka	ka-ng	ka-ng	ka-ngka	ka-ngka
see	nya-ngka	nya-ng	nya-ng	nya-ngka	nya-ngka
hit	pu-ngka	pu-ng	pu-ng	pu-ngka	pi-nyi
get	-ma-n-ta	ma-n	ma-n	ma-n-ta	ma-ni
go	ya-n-ta	ya-n-ta	ya-n	-ya-n-ta	ya-ni
scold		ju-n	ju-n	jin-ka	ji-ni
put		yaa-n	yuwa-rr	ya-ka	yirra-rni
void	ngaja-rra		ngaya-rr	ngaya-ka	ngaja-rni
sing	yinpa-	yunpa-rn	yinpa-		yunpa-rni
leave	wanyja-rra	warnta-n	wanyja-rr	winyja-ka	

There are also 4 roots found in 3 of the 5 languages:

gloss	Walmatjari	Jaru	Gurindji	Warlmanpa	Warlpiri
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cut		kuma-rn	kuma-	kuma-ka	
cry	lu-nunga	lu-ng		lu-nunga	
scratch		pangi-n		pangi-ka	pangi-rni
wet		kurnta-n	kunyja-	kinyja-ka	

The roots in Table 5 account for the following fraction of all verb roots in each language:

Walmatjari	Jaru	Gurindji	Warlmanpa	Warlpiri
16	17	18	17	17
42%	44%	60%	43%	16%
				(55% of 3.1)

Notes:

1. There is sometimes a variation in meaning from language to language, as is evident in the slightly fuller glosses given in the Appendix.
2. Warlpiri has /paja-rni/ 'taste' and /paji-rni/ 'cut, bite', and it is probably the former which is cognate with the root 'bite' in the other languages.
3. Warlmanpa /jin-ka/ means 'burn', not 'scold', but I have listed it with roots of similar form above.
4. Certain differences between the languages are the result of variations in citation form: for instance /pu-nga/ is the Imperative of Warlpiri /pi-nyi/ (the NonPast citation form); /ji-ni/ has Past /ju-nu/, etc.
5. A further member of the Ngumbin subgroup, Mudbura, also appears to have verb roots corresponding to those in Table 5. Since the sources of information on this language are much less extensive, I have not included it in the table.

If the exercise is repeated with the Warumungu roots given by Simpson (1980) or the Pintupi/Luritja roots given by Hansen & Hansen (1977), the number of apparent cognate roots is smaller (even though these two languages are also of Western-Desert type, and have fifty or more verb roots). Specifically, of the 18 most common roots listed above, 7 are found in Pintupi (kampa-, ma- 'get', nya-, patja-, pu-, ya-, yu-) and only about 4 in Warumungu (nya- 'see'; pu- 'bite, dance'; -ma- [unproductive trans. suffix]; yungku- 'burn [intr.]').²¹ However, the meanings of the common roots, if not their form, usually correspond to roots (rather than compounds) in Warumungu.

It is evident that Warlpiri's verbal inventory differs much less from that of the related Western-Desert type languages than appears

from a simple count, at least with respect to those of its own sub-group (Ngarrka), and the one to the north and north-west (Ngumpin). When one makes the comparison instead with the covert class of Warlpiri verb roots which are presumably of more ancient vintage in the language, viz. the 'core roots' of 3.1 above, which have entered into a number of lexical preverb-verb combinations, then the similarity between Warlpiri and its neighbours increases. Conversely, we see that there is an historical explanation for the diversity of combinatory frequencies of different Warlpiri verb roots.

It is also interesting to compare the meanings of the recurring roots with those of the 24 compounding Hindi roots, listed at the end of section 1: about half correspond.

5. CONCLUSION

My proposal for history of certain frozen Warlpiri combinations in sections 3.3(a) and especially 3.3(b) is the Warlpiri parallel to Merlan's (1980b, to appear) proposal for certain Pama-Nyungan languages, particularly Yidin and Dyrbal. She has shown that a number of disyllabic verb roots have second syllable putatively cognate with an ancient monosyllabic verb root. Donaldson (1976:767) had suggested a parallel history for certain verbalisers in Ngiyambaa, and Dixon (1980:418-9, but see 256) suggested for Pama-Nyungan verbs that 'perhaps the majority of modern polysyllables' are fused compound structures. Thus the Warlpiri situation bears out Merlan's observation that an archaic complex verb structure comparable to those productive today in many non-Pama-Nyungan languages is discernible in the history of many Pama-Nyungan languages.

The reanalysis evident in the history of these etymologically complex verbs is of the type that minimises disparity between morphological structure and semantic units. The change is in the direction of restoring compositional semantics of complex words. It appears that such a disparity, as in the structure

[preverb [root-inflexion]]
----theme----

is not uncommon (Williams 1981), but that in instances where the 'theme' requires its own lexical entry, with properties separate from those of the root and preverb, it is not uncommon for reanalysis to give rise to the structure

[[preverb-root] inflexion]

and for there to thus arise a new root.

APPENDIX — VERB ROOTS IN NEIGHBOURING LANGUAGES

The verb roots of four Pamam-Nyungan languages to the north and west of Warlpiri are given in this appendix.

As for the Warlpiri roots in section 3, the glosses given to the verb roots in these languages are extremely skeletal, and serve no more than as a hint at the meanings of the root.

Where known, a case-frame is provided, using the abbreviations

ERG - Ergative ABS - Absolutive DAT - Dative
LOC - Locative ('Accessory' in Walmatjari)

Some roots (including all those which have case-frames both with and without an ERG) are given more than one gloss, and thus the root appears more than once (once for each gloss).

The conjugation membership of each root is indicated in the given suffix.

Table 1 gives the roots of Gurindji (Kuurrinyji) with an English gloss on the same line. For Gurindji, the suffix is a particular consonant (or zero) which is an abstract conjugation marker. The roots are basically as provided by Patrick McConvell (p.c., and to appear) and Norman McNair (p.c.), and I have added case-frame information and slightly amended some glosses in the light of data from Hale's Gurindji Notes (1959).²²

Note the generalised use of /luwa-/ in the 'avoidance language' of Gurindji (McConvell to appear:19). Used in the avoidance vocabulary, /luwa-/ thus has any case-frame and, as Tsunoda (1978:219) observes for Jaru, where /luwarn-/ is also the general avoidance verb, 'this verb can be combined with any preverb'.

Table 2 gives 36 of the 39 Walmatjari verb roots recorded by Joyce Hudson. It is based on her list (1978:43) and I have added the case-frame markers to the glosses from information in her discussion of transitivity. The Imperative (Hudson's Irrealis) form of the verb is given to show conjugation membership.

The Jaru roots listed by Tsunoda (1978:85) are in listed Table 3. I have recast the forms into the Warlpiri orthography. Tsunoda (1978:3) refers to two dialects: 'N' Nyininy (to the east, neighbouring Maingin) and 'W' Wawarl (to the west, neighbouring Walmatjari).

TABLE 1 — GURINDJI VERB ROOTS

ja-n	ERG copulate with ABS [W?]
jama-rr	ERG grind ABS (seeds) with stone
jayi-ng	ERG give ABS to DAT
jiya-	ABS burn
jiya-	ERG deprive of ABS
ju-n	ERG scold ABS
ka-ng	ERG take ABS
kampa-	ERG cook ABS
karry	ABS sit, be
karrwa-	ERG have, keep ABS
kaya-rr	ERG kick ABS
kuma-	ERG cut ABS [Maingin]
kunyja-	ERG spray ABS
luwa-	ERG hit ABS with missile [Maingin] general avoidance verb
ma-n	ERG get ABS
ma-ny	ABS say
minyja-	ERG wet ABS
nga-ny	ERG eat ABS
ngaya-rr	ERG void ABS
nya-ng	ERG see ABS
pa-rr	ERG hit ABS
papa-rr	ERG weigh down ABS
paya-	ERG bite ABS
pu-ng	ERG act on ABS [wu-ng W?]
tuma-	ABS grow
wan-y	ABS fall
wanyja-rr	ERG leave ABS
wuya-	ERG throw ABS [?W only]
ya-n	ABS go
yunpa-	ERG sing ABS
yuwa-rr	ERG put ABS

TABLE 2 — WALMATJARI VERB ROOTS

-jarri-	ABS become ...
-ka-rra	ERG [place] ABS
-kuji-	ERG cause ABS to ...
-ma-nta	ERG [..do..] ABS
jula-	ERG tell, call ABS
kampa-	ERG cook ABS
ka-ngka	ERG carry ABS
kanyji-	ERG stamp, tread on, dance ABS
karla-	ERG dig, scrape ABS
karri-	ABS stand
karrpi-	ERG tie, bind ABS
kirra-nyja	ABS sit
la-nta	ERG pierce, spear ABS
lu-ngka	ABS cry, ERG cry for DAT
luwa-	ERG hit ABS with missile
ma-nyja	ABS speak, say; ERG speak to DAT
manyji-	ABS burn; ERG burn ABS
mapa-	ERG spread on, rub ABS
marra-	ERG scold ABS, talk angrily, argue
nga-nyja	ERG eat ABS
ngaja-rra	ERG give birth to ABS
nguna-	ABS exist, be
nya-(ng)ka	ERG see ABS
paja-rra	ERG chop, bite ABS
papaja-rra	ABS call out
pu-ngka	ERG hit ABS with implement, hand
ruka-nyja	ERG forget LOC
tarra-ngka	ERG throw ABS
turta-ngka	ABS get up (also turta-pu-ngka)
waa-ngka	ERG follow ABS

wanti-	ABS fall
wanyja-rra	ERG leave behind ABS
warnta-	ERG get ABS
ya-ntha	ABS go
yinpa-	ERG sing, curse ABS
yu-nga	ERG give ABS to ABS
yuka-nyja	ABS lie down

[and two others in the 'zero' class]

TABLE 3 — JARU

jampun	ERG kiss ABS
jan	ERG copulate with ABS
jun	ERG scold ABS
kamparn	ERG burn ABS.
kang	ERG carry ABS
karriny	ABS sit (N only)
karrun	ERG hold ABS
kayan, kayin (N)	ERG kick ABS
kumarn	ERG cut ABS
kunyjan	ERG wet ABS
tan	ERG spear ABS
tung	ABS cry
luwarn	ERG shoot ABS; general avoidance
man	ERG get ABS
marn	ABS do, talk
marran	ERG tell ABS to LOC
ngarn	ERG eat ABS
nyanjan	ERG miss ABS (target)
nyang	ERG see ABS, ERG search for DAT
nyin, nyinang	ABS sit

pangin, pangan (W)	ERG scratch ABS
parntiny	ABS smell (N only)
payan, payin (N)	ERG bite ABS
pulang	ABS call out to DAT (N only)
pung	ABS burn
pung	ERG hit ABS
wajparn	ERG throw ABS
wantiny	ABS fall
wanyjan	ERG leave ABS (N only)
wawang	ERG wipe ABS
wawarn	ERG search for ABS (N only)
wayan, wayin (N)	ABS become
wayin	ERG tie up ABS (person)
wurarn	ERG stop ABS (a fight)
yaan, jayin (N)	ABS be
yaan, yayin (N)	ERG put ABS
yan	ABS go, come
yingkarn	ERG smooth ABS
yung	ERG give ABS to ABS/DAT
yunparn	ERG sing ABS (song)
yuwarn	ERG send ABS

TABLE 4 — WARLMANPA

These are taken from the list of 44 Warlmanpa verb roots in the appendix to Nash (1979).

-ja-rra	ABS become
-jiya-ka	ERG burn ABS
-ma-nta	ABS make noise
-ya-nta	ABS go
jama-ka	ERG grind ABS
jin-ka	ABS burn, ERG burn ABS

jutpu- <i>ngka</i>	ABS run
ka- <i>ngka</i>	ERG carry ABS
ka-rra	ABS sit, be
kapu- <i>ngka</i>	ERG chase, follow ABS
karla-ka	ERG spear, poke ABS
kinyja-ka	ERG wet ABS
kipa-ka	ERG twist together ABS
kiya-ka	ERG throw ABS
kuma-ka	ERG cut ABS
kupa-ka	ERG (fire) burn ABS
la-ka	ERG hit ABS with missile
lamarta-ka	ERG hold ABS
lu- <i>ngka</i>	ABS cry
ma- <i>nta</i>	ERG get ABS
marta-ka	ERG have, hold ABS
murla-ka	ERG copulate with ABS
nama-ka	ERG crush, weigh on ABS
nga-ka	ERG tell, scold ABS
nga-nyja	ERG ingest ABS
ngarta-ka	ERG trim ABS
ngaya-ka	ERG void ABS
nguka-ka	ERG drink ABS
nya- <i>ngka</i>	ERG see ABS
paka-ka	ERG strike ABS
palu- <i>ngka</i>	ABS die
pan-ka	ABS go
pangi-ka	ERG scratch, dig ABS
partu- <i>ngka</i>	ABS rise
piya-ka	ERG cut, bite ABS
pu- <i>ngka</i>	ERG hit, act on ABS
wa- <i>nta</i>	ABS fall
waka-ka	ABS climb

wang-ka	ABS speak
wayi-ka	ERG seek DAT
winyja-ka	ERG leave behind ABS
ya-ka	ERG put ABS at ALL
yila-ka	ABS drip, leak; ERG melt ABS
yu-ngka	ERG give ABS to DAT



FOOTNOTES

1. I first visited Lajamanu (Hooker Creek) in November 1977, soon after Lothar Jagst's untimely death. Though I had never met him, I was made welcome by his widow, and later became aware of the high esteem in which he is held in that community. It is thus an honour to be associated with his memory in this volume. Funding for this research has been provided by National Science Foundation grant number BNS-7913950 (Kenneth Hale, Principal Investigator).

The part of this paper focussing on preverbs in Warlpiri is an extension of section 2.6 of Nash (1980:42-55), and was presented to meetings of the Central Australian Linguistic Circle (at Alice Springs, 23 August 1980) and the Australian Linguistic Society (at Monash University, Melbourne, 26 August 1980). A revised version was presented at the Seminar on Australian Aboriginal Languages at M.I.T., 9 January 1981. I am grateful to participants in these meetings for their help, and particularly to Ken Hale and Mary Laughren.

Warlpiri data is almost entirely from Ken Hale's field notes and the files of the Warlpiri dictionary project. I am indebted to the many workers who have contributed to this project (in particular the supervisors Pam Harris, then Mary Laughren), for on their shoulders the classification presented here is built. Transcription is in the practical orthography, except that hyphens are used more flexibly. I also use on occasion a '2' to indicate that the preceding morpheme is reduplicated. Glosses for pronominal clitics used a numerical code to indicate person and number, following Hale (1973a), and an added s 'subject', o 'object'. The abbreviations ERG (Ergative), and ABS (Absolutive), DAT (Dative) are used for the syntactic cases of Warlpiri and the other languages under consideration: more precisely, for the abstract cases linked to argument positions of lexical items by the particular language's Linking Rules (see Nash 1980, Chapter 6 and the references there). The notation [E] indicates that the form or usage is confined to the Willowra (Lander River) and Hanson River Dialects, i.e. the east of the area where Warlpiri is spoken.

2. Applied to Warlpiri, 'auxiliary' refers to the complex containing a tense/aspect base (possibly zero) and pronominal clitics cross-referencing subject and object, as described in detail in Hale (1973a).
3. The Yirr'-Yorrnt language of south-west Cape York Peninsula, i.e. not far from Dyirbal in continental terms, has numerous

compound verbs, and these show structural properties quite similar to those of Warlpiri preverb-verb combinations — see Alpher 1973:391-401.

Similarly Gumbaynggir, Gabi, and the West Torres Strait language, which have 'a set of productive prefixes, yielding a considerable number of compound verbs' (Dixon 1972:17).

4. Languages to the west of Warlpiri include a number of Western Australian languages with hundreds of verb roots. Jingili, a neighbour-but-one to the north-east of Warlpiri, also has hundreds of verb roots. Pintupi (a south-western neighbour of Warlpiri) has well over a hundred roots and inspection of the Pintupi dictionary shows many complex verbs similar to Warlpiri.
5. Summarised from the detailed discussion in Birk 1976:47-74. Note too Birk's observation that 'the semantic function of the auxiliary is relatively slight in relation to its other functions' (p. 74).
6. I am grateful to J. Schindler for this information.
7. A further verb with preverb /pirri/ is /pirri-ma-ni/ 'ABS alight, set down'. If this involved the sense of /pirri/ being discussed, the root would need also to have the case-frame ABS, thereby ruling out /ma-ni/ 'ERG get ABS' and 'ERG cause ABS...' and leaving only /-ma-ni/ 'ABS make noise'. However, it is more likely a lexicalised combination: the Willowra dialect synonym is /tarda-ya-ni/, involving /ya-ni/ 'ABS move, go', and the /pirri/ in this particular stem has to be seen as merely homophonous with the distinct /pirri/ referred to in the text. Thus this verb occurs in combination with an adverbial preverb (see 2.4.1) in the textual example.

Kala-tu yaarl-yaarl-pirri-ma-nu yalumpu-ju.
Aux-they on top- 2 -alight-Past that-Part
'They set down over the top of those (men).'
(Big Willy Japanangka, text, page 7; transcribed by Mary Laughren.)
8. The distinction drawn here may need modification. That is, there could be certain preverbs which can occur with one or two preverb-verb combinations but, for no apparent semantic reason, fail to combine with other verbs. In other words, it may be possible to have a lexicalised preverb-preverb-verb combination, although the few candidates that have come to my attention have proved analysable in other ways.

9. Note the /-pa/ augment (for a small number of morphemes, the augment is instead /-ku/) which must be present when the morpheme is an independent word (including when it hosts enclitics).
10. Nash (1980:50) incorrectly stated that the synonymous /wurru-ka-nyi/ and /yura-ka-nyi/ were the only occurrences of /wurru/ and /yura/: A second verb involving /wurru/ is given above; and /yura/ is also found in /yura-yura-ya-ni/ 'ABS go along out of sight'.
11. I owe this term to Merlan (to appear).
12. I am indebted to Mary Laughren for this observation and the detailed semantic analysis of /nga-rni/ verbs.
13. The other instances of differences between case-frames of root and compound result from the general addition of an argument to a case-frame (as with dative-adjunct preverbs), or merging of semantic representations (as with the infinitive preverbs discussed below).
14. Nash (1980:47-48) includes 'semi-productive' and 'adverbial' preverbs under the general label of 'adverbial' preverbs.
15. It should be noted that those Nominals which require the augment /-pa/ also require it when combined with /-jarri-mi/: it can only be dropped in combination with /-ma-ni/. Thus /*pinpin-jarri-mi/ is apparently ill-formed, and only /pinpinpa-jarri-mi/ is well-formed. The explanation for this presumably has to do with their basically nominal status, as non-derived preverbs drop /-pa/ freely.
16. Heath (1976:736-7) observes for Ritharngu that some 'roots' (sc. preverbs) may be used as a contraction for the full verb. 'The root form is usually pronounced emphatically, like an interjection, and is definitely expressive'. Alpher (1969) had noted similar particles in Yirr'-Yorront, calling them 'ideophones', and later 'interjections' (Alpher 1973:58).
17. The Auxiliaries observed to occur in the intervening position all have zero 'complementiser' and monosyllabic or zero 'base' — i.e. they begin with /ka-/ 'Present', /-ipa-/ 'Imperfect', or consist only of person-number clitics. See Nash 1980: chaps. 2,7.
18. A more solidified, reanalysed combination is that of an Infinitive with what was the verb root /*yan-/ 'to go', which is undoubtedly

the historical source of modern Inceptive and Progressive derivational affixes — see Nash 1980:41. This is different from the combination of /ya-ni/ with an Infinitive preverb discussed in 3.4.

19. As far as I know, Ken Hale was the first to make this suggestion — he drew my attention to it with the example /tirlpi-mi/.
20. The covert classification of Warlpiri verb roots as presented in section 3 strictly should also be applied to the languages with which I am comparing Warlpiri. To do so requires a considerable wordlist of preverb-combinations of various types, and this is not available to me for the neighbouring languages. It is possible to report at this stage that half the verb roots of Warlmanpa have not been recorded in non-productive preverb-verb combinations, including those which for other reasons one might suspect are a comparatively recent development in the language; and there is a similar covert classification of the Walmatjari roots (for instance, /yinpa-/ and /marra-/ do not occur in preverb-verb compounds — Hudson 1980:2). Thus the cline of verbal inventory size is repeated, though less steeply, for the covert 'core root' inventory.
21. This observation may hold implications for genetic subgrouping; the current classification has three co-ordinate Western Desert Type subgroups for these languages: Wati (Pintupi, etc.), Ngarrka (Warlpiri, Warlmanpa), and Ngumpin. The evidence of these verb roots links Ngarrka more closely with Ngumpin than with Wati.
22. Norman McNair kindly provided me with a list of the 26-7 (eastern) Gurindji verb roots that he has recorded at Wave Hill (Kalkaringi and Dagaragu), and all but one occur in the eastern Gurindji list provided by McConvell. McNair identifies some of the roots provided by McConvell as being from the westernmost Gurindji dialect (Malignin). I have indicated dialectal information in square brackets.

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Abbreviations:

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CUP Cambridge University Press

MIT Massachusetts Institute of Technology, Cambridge, Mass.

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