

VERB COMPOUNDING IN CENTRAL AUSTRALIAN LANGUAGES

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1. Introduction

Languages spoken in the region of Cameron Corner, the junction of the South Australia-Queensland-New South Wales borders have systems of verb compounding which are highly unusual for Australian languages. In Yandrruwandha and Wangkumara we find compounding of verb roots to form complex verb stems. In languages immediately to the west, namely, Diyari, Ngamini and Yarluyandi, there is compounding of verb words to form complex verb phrases. Additionally, these latter languages have productive systems of auxiliary verbs.

In this paper¹ I address the question of the historical development of these verb compounding systems. I show that it is possible to argue that stem compounding in the eastern languages derives historically from verb phrase compounding, similar to that found synchronically in the western languages. Further, it can be claimed that verb phrase compounding results from morphologisation of the syntactic system of switch-reference through reanalysis of a fronting process. In certain fronted constructions, the clause boundary is reanalysed as a phrase boundary and verb phrase compounding results. This is followed by reanalysis of the compounds as complex words in the eastern languages. Parallels are noted between these proposals and the history of other language groups, in particular the Yuman languages of southern California.

An alternative account of the data is also presented, one which involves not syntactic reanalysis and grammaticisation but rather innovation in phrase and word formation. The historical trigger for these changes is areal pressure and grammatical diffusion. I show that there is strong evidence for diffusion in the region and suggest that the alternative analysis, while not supporting the current fashion for proposing grammatical reanalysis as a widespread historical mechanism, is nonetheless to be preferred.

1.1 Verb structure in Australia

The canonical structure of verb words in Australian Aboriginal languages, especially those of the widely dispersed southern languages of the Pama-Nyungan group, is a verb root followed optionally by one or more derivational suffixes, in turn followed by an obligatory inflectional suffix (see Dixon 1980:378). For main clause verbs, the inflection is usually a tense, aspect mood marker. Thus, we typically find the following structure:

$$\text{VERB WORD} = \text{ROOT} + (\text{DERIVATION})^n + \text{INFLECTION}$$

Two languages spoken near Cameron Corner, which is the geographical point at which the South Australia, Queensland and New South Wales state borders meet, are unusual in that they employ *compounding of verb roots* to form complex verb words. These languages are Yandrruwandha (Breen 1975, 1976a, Kerwin & Breen 1986), and Wangkumara (Breen 1981

¹ This paper was completed while I was visiting researcher at Xerox Palo Alto Research Centre. I am grateful to my sponsors Joan Bresnan and Kris Halvorsen for making it possible for me to spend time working in the stimulating environment at PARC. I also wish to thank Gavan Breen for freely making his language data available to me and for offering his comments on it. I received useful comments on oral presentations of this paper from Kate Burridge, Mark Dune, Nick Evans, Michael Silverstein, and Lesley Stirling. Needless to say, neither they nor anyone else is responsible for errors of fact or interpretation in what follows. Research for this paper was materially assisted by grants from the Australian Research Council, and the School of Humanities, La Trobe University. Fieldwork on Diyari and Ngamini in 1974-77 was supported by the Australian National University.

Robertson 1985), including the Galali dialect (McDonald and Wurm 1979). Here we find verb words with apparently two (or more) roots compounded together preceding the final inflection.

Languages spoken to the west of Yandrruwandha and Wangkumara follow the usual Pama-Nyungan pattern for verb word formation, but they also allow *compound verb phrases* where two verb words are compounded. In this paper I attempt to unravel the possible historical connections between these two sets of patterns.

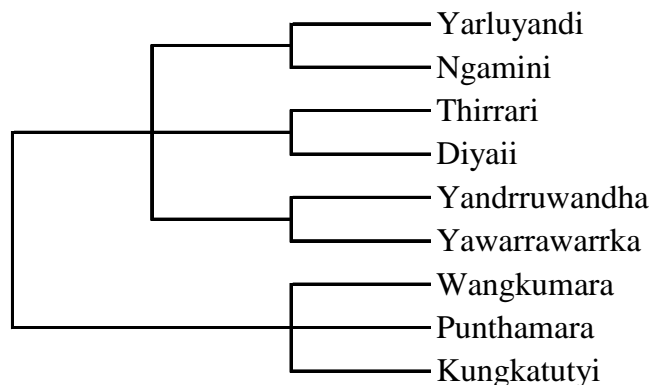
1.2 Language relationships

The languages considered in this paper are all spoken in the far north-east of South Austral and neighbouring areas of south-west Queensland arid north-west New South Wales. They comprise:

1. *Diyari* and *Thirrari*, spoken to the immediate east of Lake Eyre - see Austin 1978, 1981
2. *Ngamini*, spoken north of Diyari around the Lower Diamantina River - see Breen 1971, 1976b, Austin 1988a,b
3. *Yarluyandi*, spoken north of Diyari onto the lower Mulligan River in far west Queensland- see Austin 1988c
4. *Yawarrawarrka* and *Yandrruwandha*, spoken to the east of these languages down to Innamincka and the Strzelecki track - see Austin 1989a, Breen 1971, 1975, 1976a, Kerwin and Breen 1986
5. *Wangkumara*, spoken in south-western Queensland along the Wilson River and south into western New South Wales and the present-day towns of Tibooburra and Milparinka - see Breen 1971, 1976c, 1981. Wangkumara was apparently spoken in a number dialect forms, including the one termed Galali by McDonald and Wurm 1979 (not to be confused with the Garlali language spoken east of Wangkumara along the Bulloo and Paroo Rivers).

According to Breen 1971 all these languages are related and are members of a putative 'Karnic Group'; the first five languages belong to the Karna subgroup of this group, while Wangkumara belongs to the Ngura subgroup. Breen's classification is based on lexicostatistical methods, but for the western languages at least, seems to be supported by grammatical comparisons (see Austin 198 1:6-8, 1988d). The genetic grouping proposed by Breen and Austin is summarized in Diagram 1. The more distant relationships postulated by Breen are yet to be demonstrated conclusively.

DIAGRAM 1. **Proposed subgrouping.**



2. Verb structures in eastern languages

In the following sections we examine the structure of verbs in Yandrruwandha and Wangkumara.

2.1 Yandrruwandha verbs

The general structure of verb words in Yandrruwandha is the same as that in other Pama-Nyungan languages (see 1.1 above), namely, a verb root followed optionally by one or more derivational suffixes followed obligatorily by an inflectional suffix (with tense/mood or dependent clause functions). Addition of a derivational suffix may or may not produce a stem which differs in transitivity from the root to which it is attached. Thus, the following are possible verb words in Yandrruwandha:²

1. **root plus inflection** — as in *wawa-nga* see-fut ‘will see’
2. **root plus derivation plus inflection** — as in *wawa-yindrri-nga* see-reflex-fut ‘will see one’s self’
3. **root plus derivation plus derivation plus inflection** — as in *windrri-ma-yindrri-nga* enter-tr-refl-fut ‘will put one’s self in’

In the position of the root in the above formulae, it is possible to use a verb root derived by attaching a verbalising suffix to a noun or adjective root. There are two main verbalisers in Yandrruwandha (Breen 1976a:751):

1. the inchoative *na* which derives intransitive verb roots, as in *pirna-na-* big-inchoat- ‘to become big’
2. the causative *ka* which derives transitive verb roots, as in *marndumarndu-ka-* join-caus ‘to join’

Such verb roots must take an inflectional suffix, and may also take derivational suffixes before the inflection.

In addition to the derivational affixes employed in constructing verb words of these types, there exist a number of roots (mostly identical in form to certain verb roots) which can be suffixed to free lexical verb roots to form compound verb stems. As Breen (1976a:750) notes, Yandrru-wandha has:

² Yandrruwandha examples are drawn from Breen 1975, 1976a and from the text in Kerwin and Breen 1986 (with corrections where there are obvious typographical errors such as missing diacritics). I have respelled the Yandrruwandha forms in Breen’s and Kerwin and Breen’s papers into a practical orthography which does not use diacritics. I have adopted the widely used Australianist conventions that *th/dh* represent lamino-dental stops, *c/j* represent lamino-palatal stops, *t/d* represent apico-alveolar stops, and *rt/rd* represent apico-domal (retroflex) stops (*p/b* and *k/g* are used for bilabials and velars respectively). The corresponding nasals and laterals are *nh*, *ny*, *n*, *m*, and *lh*, *ly*, *l*, *rl* respectively. The dorso-velar nasal is transcribed as *ng*, and is to be distinguished from a cluster of apical nasal plus voiced stop which is transcribed as *n.g*. Stops are written voiceless except in positions where there is a voicing contrast. In consonant clusters the digraphs for retroflexion and lamino-dental articulation are written once only: thus, *m* plus *rt* becomes *rnt* (not *mrnt*) and *nh* plus *th* becomes *nth* (not *nhth*). Vowels are transcribed following the sources. The same transcription is used for the other languages discussed in this paper.

Abbreviations used in the morpheme by morpheme glosses are: ablat - ablative; acc - accusative; aux - auxiliary; caus - causative; cont - continuous; dat - dative; emph - emphatic; erg - ergative; fut - future; immed - immediate; imper - imperative; implDS - implicated clause-different subject; implSS - implicated clause-same subject; inchoat - inchoative; irr - irrealis; loc - locative; nom - nominative; pres - present tense; ptple - participle; refl - reflexive; relDS - relative clause-different subject; relSS - relative clause-same subject; sim - simultaneous; tr - transitiviser; unspec - unspecified tense.

“a system in which verbs (or certain other words) are compounded with a main verb to perform a wide range of functions.”

Some of these compounding roots are identical in form to free verb roots, while others are not. On the semantics of the resulting compounds, Breen (1976a:751) comments:

“[i]n some cases, the meaning of the combined form corresponds fairly closely to the meaning of the free form ... in other cases it is clearly related ... and in others it is so different as to create doubt as to whether they are not simply homophones belonging to two different morphemes”

There are sixteen forms which are described in Breen 1976a as compounding roots. Breen (1975:ch8) provides the following example which shows how ubiquitous are these compounds in Yandruwandha discourse. The compound roots are underlined:

- (1) *Ngaparla* *kuldrro* *paku-ngari-ri* *nga* *yanku-la* *kurrha-waga-ri*
 well hole dig-down-unspec then bough-emph put-around-unspec
- nga* *windrri-pandhi-nga* *palha* *muku-li* *wirlpi-nhina-rnanga* *ngala*
 then enter-down-fut bird bone-erg whistle-sit-cont then
- kathi* *thana* *ngara-ngara-mini-rlayi-la* *warrhuwici-li-ci* *thawa-warra-nga*
 animal they nom hear-hear-run-sim-emph emu-erg-emph go-arrive-fut
- ngara-ngara-mini-rlayi-la* *warrhuwici-li-ci* *thawa-warra-nga* *thawa-warra-nga*
 hear- hear-run-sim-emph emu-erg-emph go-arrive-fut go-arrive-fut
- hanggu-waga-waga-nga* *ngala* *karna* *purrhi-nhina-rlayi* *ngari*
 stand-around-around-fut then person hide-sit-sim down
- mingka-yi* *ngarrhu* *thanggu-thalka-warra-rlayi* *rdranyi-nga-la-ci* *yarra-li*
 hole-loc only stand-up-arrive-sim pelt-fut-emph-emph boomerang-erg

Well, they would dig a hole and put boughs around it. Then [a man] would get down into the hole and whistle with a bird bone, and the emus would hear it as they were passing. They would come and stand around, while the man hid down in the hole. Then he would jump up and hit [one] with a boomerang' [Breen 1975 ex. 448].

Compound verb roots in Yandruwandha form a single phonological word (and are written as such by Breen).³ Inflections are suffixed to the final element. The *head* of such a compound is the *first* verb root; there are three pieces of evidence to support this analysis (the evidence is to be found in Breen's paper (and the data in Kerwin and Breen 1986) though it is not explicitly discussed by him):

1. the transitivity of the compound stem corresponds to the transitivity of the first verb root⁴. For example, *wawa-* 'TS sees TO' is a transitive verb and so too is *wawa-thika-* 'TS sees TO while (TS is) returning'. Similarly, *walki-* 'IS climbs' is intransitive, and so too is *walki-thika-* 'IS climbs back'. The majority of the roots which can be the second

³ Such compounds may be reduplicated and hence are treated morphologically in the same way as simple verb roots. Breen 1975 gives the example *mandrri-thawa=mandrri-thawa-* 'pick up here and there', where indicates the reduplication boundary.

⁴ Australian languages typically make a rigid distinction between transitive and intransitive verbs, with the case-marking for arguments of the two verb types differing according to a split-ergative pattern. In the following discussion IS stands for Intransitive Subject, TS stands for Transitive Subject, and TO stands for Transitive Object.

element in a compound are related to INTRANSITIVE verb roots (except for *-thayi-*, *-waga-*, and *-warrga-* as discussed below). The compounding roots do not affect the transitivity (valence) of the initial root.

2. the first root may be followed by a derivational suffix (which can affect its transitivity) and these always PRECEDE any compounding roots. Compounding roots are always immediately followed by an inflectional affix and never appear with a following derivational suffix. Breen's examples illustrate two possibilities:

a) root followed by the detransitivising suffix *-yindrri-* which converts a transitive root into an intransitive stem and adds the meaning of reflexive or reciprocal. Consider the following examples:

<i>mandrri-</i> 'TS gets TO'	<i>mandrri-yindrri-</i> 'IS get one another'
<i>wawa-</i> 'TS sees TO'	<i>wawa-yindrri-</i> 'IS sees self'

These two derived stems appear with compounding roots in:

<i>mandrri-yindrri-parra-</i>	'IS marry' (Breen ex. 66)
<i>wawa-yindrri-pandhi-</i>	'IS looks down at self (Breen ex. 29)

Although Breen does not make it explicit, I suspect that it is impossible in Yandruwandha to get either *mandrri-parra-yindrri-* or *wawa-pandhi-yindrri-*.

b) root followed by the transitive suffix *-ma-* which has a causative function and converts an intransitive root into a transitive stem. An example is:

<i>windrri-</i> 'IS enters'	<i>windrri-ma-</i> 'TS inserts TO'
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This forms the basis for the compound:

windrri-ma-parra- 'TS inserts TO inside' (Breen ex. 62)

Again, we can suspect that *windrri-parra-ma-* is impossible.

3. the SEMANTICS of compounded stems is such that the first root carries the main lexical meaning and the compounding roots have modifying, adverbial-type semantics. Thus they typically modify the directionality component of motion (including induced motion) verbs, eg. action directed upwards/downwards/into etc.

This means that the structure of verb stems in Yandruwandha is:

[[MAIN ROOT— (DERIVATION)ⁿ] — (COMPOUNDING ROOT)] — INFLECTION

That is, the stems have an internal endocentric constituency and are not exocentric compounds. We may classify the compounding affixes into three broad groups:

1. those affixes identical in form and almost identical in semantics to free verb roots;
2. those affixes identical in form but different in semantics from free verb roots; and
3. those affixes which do not correspond to free verb roots.

In the following sections, we discuss and exemplify each of these in turn.

2.2.1 Affixes with form and meaning similar to verb roots

There are seven compounding roots which are similar in form and meaning to free verb roots. Semantically, they fall into two subgroups: six which add a component of motion or direction to the initial verb root semantics, and one which adds another non-motion meaning. Consider the list set out in Table 1.

Instances of the use of these may be found in example (1) above. Note that the coding of motion and direction found in these affixes is an areal feature of central Australian languages (see 4.2 for further discussion).

TABLE 1. **Yandrruwandha affixes with verb root form and similar meaning**

VERB ROOT	MEANING	COMPOUND SEMANTICS
Roots with motion semantics		
1. <i>-thawa-</i>	go	action done while agent is in motion
2. <i>-mini-</i>	run	action done while agent is in motion
3. <i>-thika-</i>	return	action directed back to point <i>of</i> origin (also an altruistic action done for someone other than the agent)
4. <i>-pandhi-</i>	go down	action directed downwards
5. <i>-ngari- g</i>	go down	action directed downwards
6. <i>-thalka-</i>	go up	action directed upwards (also action in morning)
Root without motion semantics		
7. <i>-yukarra-</i>	spend a night	action at night or in darkness

2.2.2 Affixes with form similar to verb roots but different meaning

There are six compounding affixes which are identical in form to free verb roots but which have different semantics from the root to which they correspond. Three correspond to INTRANSITIVE verb roots and three to TRANSITIVE . They are set out in Table 2.

TABLE 2. **Yandrruwandha Affixes with verb root form and different meaning**

VERB ROOT	MEANING	COMPOUND SEMANTICS
1. <i>-thawa-</i>	go	action done while agent is in motion
Affixes corresponding to intransitive verbs		
8. <i>-nhina-</i>	sit	continuing action or state (and action during the daytime)
9. <i>-windrri-</i>	enter	action away from speaker
10. <i>-tharra-</i>	fly	action done thoroughly or completely
Affixes corresponding to transitive verbs		
11. <i>-waga-</i>	shift	action oriented around some referent
12. <i>-thayi-</i>	eat	action done for benefit of agent
13. <i>-warrka-</i>	throw	action in morning

Although the meanings of these forms when they serve as compounding roots differs from the meanings of the corresponding free verb roots, it is relatively easy to see how the semantics can be related. Thus, *-nhina-* ‘sit’ with the meaning ‘continuing action or state’ can be understood in terms of the fact that in Aboriginal communities actions or events which extend over a period of time are typically engaged in while seated.⁵ Similarly, *-windrri-* ‘enter can be

⁵ Evidence for this comes from Diyari. Austin (1981:155) describes the affix *-tharrhi-* in Diyari which in one of its functions converts a transitive verb root into an intransitive verb stem with an extended activity meaning, and notes that “[t]here is a strong preference for these ... stems to be followed in the VP by *ngama* ‘to sit’ ... which normally occurs with predicates indicating a prolonged continuous activity”. There is further discussion of this point below.

understood as ‘action directed away from the speaker’ if one assumes that the entity which moves (IS of an intransitive verb, **TO** of a transitive verb) ENTERS a space AWAY from the speaker. For *-warrka-* ‘throw’, however, a shift in meaning to ‘action done in the morning’ seems intuitively less clear.⁶

2.2.3 Affixes not corresponding to verb roots

There are three compounding affixes which do not correspond formally to free verb roots. These are set out in Table 3. Notice that their semantics seems to be of the ‘associated motion’ type discussed in relation to the forms in Table 1 above.

TABLE 3. **Yandrruwandha Affixes not corresponding to free verb roots**

COMPOUNDING ROOT	COMPOUND SEMANTICS
14. <i>-durrha-</i>	continuing action while in motion
15. <i>-warra-</i>	denotes arrival
16. <i>-parra-</i>	action across or into

2.2.4 Double compounding

Breen 1975, 1976a and Kerwin and Breen 1986 contain a number of examples which illustrate another compound verb phenomenon in Yandrruwandha, namely double compounding. This is not discussed by Breen 1976a but examples such as the following suggest that it is possible for two (and apparently only two) of the compounding roots described above to occur in sequence. The examples are:

- a) *-thalka-warra-* ‘go up’ + ‘arrive’, eg. *thanggu-thalka-warra-* ‘stand right up’ (Breen ex. 29), *kukupathalka-warra-* ‘jump right up’ (Breen ex. 28)
- b) *-thika-pandhi-* ‘return’ + ‘go down’, eg. *walki-thika-pandhi-* ‘climb back down’ (Breen ex. 19)
- c) *-mini-windrri-* ‘run’ + ‘enter’, eg. *thanggu-mini-windrri-* ‘get up and go’ (Breen ex. 32)
- d) *-tharra-parra-* ‘fly’ + ‘inside’, eg. *mandrri-tharra-parra-* ‘take out of’ (Breen ex. 42)

Breen 1975 provides more examples of this type. It appears that the relative orderings of the compounding affixes is describable in terms of the following formula (note that TWO only of these affixes may appear in any given grammatical word):

-mini-windrri-tharra-thika- thalka- warra
-pandhi
-parra

Interestingly the other languages to be discussed below DO NOT allow multiple compounding of the Yandrruwandha type.

2.3 Wangkumara

There are two sources of information on this language: Breen 1981 (which forms the basis of Robertson 1984) on Wangkumara proper, and McDonald and Wurm 1979 on the variety they call “Galali”.

⁶ It is interesting however that in Diyari there is a recent past tense auxiliary verb *warra-* which corresponds to the free verb root *warra-* ‘to throw’. Diyari has a number of other past tense auxiliaries apparently derived from verb roots, for example *wirri-* marking yesterday past corresponds to *wirri-* ‘to enter’. In Ngamini *warra-* serves to mark all past tenses except the distant past (see discussion below).

According to the very brief description of Wangkumara verbs in McDonald and Wurm 1979, the language has a system of verb root compounding which is similar to that of Yandruwandha described above. McDonald and Wurm (1979:36) say that:

“[d]erivational suffixes not affecting transitivity are of two types. One well-defined group ... is adverbial in nature, specifying direction of the action of a verb with respect, usually, to the speaker.”

They give four affixes that are well attested in their data, plus four others which occur in one example each (McDonald and Wurm 1979:36-7).

According to Breen 1981 there are nine suffixes which may be added to verb roots in Wangkumara to form verb stems. Three of these are monosyllabic (unlike the Yandruwandha formatives discussed above), and of the remaining five, three affixes correspond in form to verb roots. **The** affixes all have adverbial meanings and are:

1. suffixes corresponding to verb roots:

<i>-dhika-</i>	back	cf. <i>thika-</i>	to return
<i>-manja-</i>	along	cf. <i>manja-</i>	to crawl
<i>-waga-</i>	at night	cf. <i>waga-</i>	to sleep, camp
2. suffixes not corresponding to a verb root:

<i>-tharri-</i>	hence, hither
<i>-thaba-</i>	away
<i>-warn-</i>	down
3. monosyllabic suffixes:

<i>-nhi-</i>	hence, hither
<i>-pa-</i>	upwards, in the morning (but cf. <i>walpa-</i> to go up)
<i>-ka-</i>	prior motion

In the following sections we discuss and exemplify each of these types.

2.3.1 Affixes similar in form to verb roots

Three affixes fall into this category; one of them *-dhika-* ‘back’ corresponds to Yandruwandha affix in both form and meaning. According to Breen (1989:34) *-dhika-* marl “[a]ction directed backwards, or in the reverse direction to the previous action” (see also McDonald and Wurm 1979:36). It is used with motion, induced motion and non-motion verbs. An example of a motion verb is:

- (2) *Karna-bula* *pula-guru* *nuga-bula* *yantha-dhika-garla-rrri*.
 man-two they-two big-two go-back-present-irr?
 ‘Two big men are coming this way.’ (M&Wp81, ex. 238)

Induced motion verbs are seen in:

- (3) *Kanga-dhika-garla* *ngathu* *nguthi-anha*.
 carry-back-pres I erg meat-acc
 ‘I carry the meat back.’ (Breen 1981, ex. 144)
- (4) *Mandha-dhika-rra* *nhanha-guru* *pakarranyi*.
 hold-back-imper that acc-there boomerang
 ‘Bring back that boomerang.’ (M&Wp83, ex. 262)

An example where a non-motion verb is involved is:

- (5) *Nhaja-dhika-garla nhulu-guru.*
look-back-pres he erg-there
'He is looking back.' (Breen 1981 ex. 146)

The second compounding root in this category is *-manja-* which corresponds to the verb *manja-* 'to crawl' (see Ngamini discussed below). According to Breen (1981:34) this is "us with verbs of motion apparently to emphasise the idea of progression; it can also be used with other verbs to denote that the action is being carried out while the agent is going along". That the affix indicates both progressive aspect as well as concurrent motion (in terms of Koch's typology discussed below). An example is:

- (6) *Yantha-garla nhia-guru thaltha-manja-garla.*
go-pres he-there eat-along-pres
'He is walking along eating.' (Breen 1981 ex. 149)

McDonald and Wurm do not discuss this affix but their sentence 391 appears to illustrate it.

The final verb-like affix is *-waga-* which Breen (1981:36) says "denotes action at night" An example is:

- (7) *Thamba-waga-nga nhia ngawula-nga-ninha.*
creep-night-past he dark- loc
'He sneaked up in the dark.' (Breen 1981 ex. 164)

2.3.2 Affixes not related to verbs

There are three disyllabic affixes which DO NOT appear to be related to verbs in the synchronic lexicon of Wangkumara.⁷ The first of these is *-tharri-*, only found in imperatives, and indicating action directed towards the speaker (Breen 198 1:34), as in:

- (8) *Yantha-tharri wii-angura.*
go-hence-imper fire-ablat
'Come away from the fire!' (Breen 1981 ex. 140)

The converse of this is *-thaba-*, denoting "action directed away from the speaker" (Breen 198 1:34). Again, it only appears in imperatives, such as:

- (9) *Yantha-thaba.*
go-away-imper
'Go away!' (Breen 1981 ex. 141)

Finally, there is *-warn-*, which "denotes action directed downwards" (Breen 198 1:35, see also McDonald and Wurm 1979:37), as in:

- (10) *Kula-warri.*
sit-down-imper
'Sit down!' (Breen 1981 ex. 154)

The three monosyllabic affixes are semantically a mixed group.⁸ One, *-nhi-*, is apparently identical in meaning to *-tharri-* 'this way', but it appears in non-imperative sentences (in

⁷ The affix *-tharri-* glossed 'hence, hither' is identical in form to the verb root *tharri-* glossed 'to wear, put on clothes', however it is difficult to see a semantic connection between the two.

⁸ Note that verb roots in all these languages contain at least two syllables.

complementary distribution with *-tharri-*). The second affix *-pa-* has two functions, either “action directed upwards or action in the morning” (Breen 1981:36). The directional function of this affix is seen in:

- (11) *Kula-pa-rra*.
 sit-up-imper
 ‘Sit up!’ (Breen 1981 ex. 158)

Its temporal function is evident in:

- (12) *Purda-pa-nga* *ngathu* *ngawuburu* *matha-inha-i*.
 tell-morning-immed past I erg morning boss-acc-?
 ‘I told the boss early this morning.’ (Breen 1981 ex. 163)

The final monosyllabic affix *-ka-* marks prior motion, i.e. “that an action is preceded by a period of movement which is necessary to take the agent to the place where the action must be carried out” (Breen 1981:35). An example is:

- (13) *Mandha-ka-nga* *ngathu* *wii-nhanha*.
 carry-prior-immed past I erg firewood-acc
 ‘I went and got some firewood.’ (Breen 1981 ex. 151)

None of the monosyllabic or disyllabic affixes discussed in this section has any apparent cognates with verb roots in Wangkumara, or in any of the related languages. They exist synchronically purely as compounding elements.

3. Verb structure in western languages

3.1 Compound verb phrases

The Yandruwandha and Wangkumara compound verb stems discussed above have a direct analog in their western (and apparently genetically related) neighbours: Yarluyandi, Ngamini, Diyari and Thirrari. In these languages we find compound verb PHRASES. These languages follow the typical Pama-Nyungan pattern of allowing verb words to consist of a root plus optional derivational affixes plus obligatory inflection. However, they also allow compound verb phrases in which we find sequences of two verbs. These sequences have the following characteristics:

1. the sequences are syntactically tightly bound. No words may appear between the two verbs. The two verbs are two phonological words, but are pronounced together under the same intonation contour;
2. the first verb in the sequence always takes a participial inflection (with allomorphs in the three languages of the form *-rnda*, *-rda*, *-ma*)⁹ and the second takes a tense or mood inflection which has scope over the whole sequence;
3. the second verb root in such sequences is restricted to a small set of intransitive verbs of stance or motion;
4. only the first verb of a compound sequence may be followed by a derivational affix, which may or may not affect the transitivity of the (first) root (and the

⁹ The allomorphs *-rnda* and *-rda* occur in Thirrari and Yarluyandi; the latter occurs when the stem to which it is attached contains a nasal-stop cluster in the immediately preceding syllable (ie. nasal-stop dissimilation occurs). We find *-ma* in Diyari for all verbs, and in Ngamini for most verbs, except a few irregular roots which take *-nda* (eg. *nganda* is the participial form of *ngana* ‘to be’). See Austin 1988b for details.

sequence as a whole). The second verb may NOT bear any derivational morphology. Thus we find sequences of the form:

ROOT—(DERIVATION)ⁿ —PARTICIPLE ROOT—INFLECTION

5. the second verb provides ADVERBIAL type qualification of the semantics of the first verb in the compound, typically of a motion or directional sort. Notice that there is no restriction on verbs occurring as either the first or the second in a sequence. Thus, we find for example in Diyari:

ngama-rna *ngari-* ‘to sit down’
ngari-rna *ngama-* ‘to go down sitting’

As illustrations of the use of these verbs, consider the following examples, first from Diyari (see also Austin 1981:101ff):

(14) *Nganha* *nganthi* *yingki.-rna* *thika-mayi*.
me acc meat give-ptcple return imper-emph
‘Give me the meat back!’

The following Ngamini example shows two instances of the compound verb phrases:

(15) *Nhawa* *thirriha* *ngakarni* *parka-ma* *kurrhu-rna* *warra-yi*,
he nom dog my dat r un-ptcple away-ptcple aux-pres

ngathi *nhinha* *manda* *thika-rna* *warra-yi*.
I erg him acc get-ptcple return-ptcple aux-pres
‘My dog ran away but I brought him back.’

A Yarluyandi example is:

(16) *Yindi* *kurrha-rnda* *thika*.
you erg put-ptcple return imper
‘You put (it) back!’

Table 4 lists the set of verbs which may occur second in a verb compound in Diyari, Ngamini¹⁰ and Yarluyandi, together with a gloss of their qualifying functions (see also Austin 1981:99).

TABLE 4. **Diyari, Ngamini and Yarluyandi compounding verbs**

	DIYARI	NOAMINI	YARLUYANDI	GLOSS OF ROOT	QUALIFYING FUNCTION
1.	<i>thara</i>	<i>thara</i>	<i>thara</i>	go up	action directed upwards
2.	<i>ngari</i>	<i>ngari</i>	<i>ngari</i>	go down	action directed downwards
3.	<i>thika</i>	<i>thika</i>	<i>thika</i>	return	action directed back to point of origin
4.	<i>ngama</i>	¹¹		sit	action whilst stationary
5.	<i>tharrka</i>	<i>tharrka</i>		stand	action whilst standing

¹⁰ Breen 1976a failed to distinguish clearly between compounding roots in Ngamini and auxiliary verbs (see below). He lists the members of these two syntactically distinct groups together. Note that Breen’s data contains several compound types not reported by him, and there are additional examples in my Ngamini fieldnotes.

¹¹ See below on the form *-rnama-* in Ngamini.

6.	<i>karrji</i>	<i>karruwa</i>		go around	action directed around some referent (prototypically a fire)
7.	<i>wirari</i>			walk about	action performed in various directions
8.	<i>wirrhi</i>	<i>wirrhi</i>	<i>wirrhi</i>	enter	action directed into a place
9.	<i>parlka</i>	<i>parka</i> ¹²		travel	action whilst moving
10.	<i>kurrha</i>	<i>kurrhu</i>	<i>kurrha</i>	¹³	action directed away from some referent

3.2 Cross-linguistic comparison

It is clear that there is a close parallel between the syntactic pattern of compound verb phrases found in these western languages and the compound verb stems we described above for Yandruwandha and Wangkumara. Table 5 sets out the affixes and verb stems with similar functions in all the languages. We explore the implications of this data below.

TABLE 5. Cross-linguistic comparison

	WANG KIJMARA	YANDRUWANDHA	DIYARI/NGAMIM	GLOSS
Motion or direction				
1.		<i>-thawa-</i> <i>-mini-</i>	<i>parlka-</i>	action whilst moving
2.	<i>-manja-</i>	<i>-rdurrha-</i>	<i>marrka-</i> ¹⁴	continuous action whilst moving (<crawl)
3.	<i>-dhika-</i>	<i>-thika-</i>	<i>thika-</i>	action directed back to origin
4.	{ <i>-tharri-</i> <i>-nhi-</i> }	<i>-warra-</i>	<i>wirrhi-</i>	action towards speaker or into a place
5.	<i>-thaba-</i>	<i>-windrri-</i>	<i>kurrha-</i>	action away from speaker
6.	<i>-pa-</i>	<i>-thalka-</i>	<i>thara-</i>	action upwards (also in morning for W and Y)
7.	<i>-warri-</i>	{ <i>-pandhi-</i> <i>-ngari-</i> }	<i>ngari-</i>	action directed downwards
8.		<i>-waga-</i>	{ <i>karrji-</i> ¹⁵ <i>karruwa-</i> ¹⁶ }	action around a referent

¹² The verb *parka-* in Ngamini means ‘to run’. As a compounding root *parka-* is only used for momentary action whilst moving. There is a further compounding root *marrka-* (meaning ‘to crawl’ as a main verb) used for continuing action whilst moving (see Breen 1976a).

¹³ The root *kurrha-/kurrhu-* DOES NOT occur as an intransitive verb outside these compounding sequences. However, there is a TRANSITIVE verb root *kurrha-* (Diyari, Yarluyandi) or *karrhu-* (Ngamini) which means ‘to place, to put’.

¹⁴ In Ngamini

¹⁵ In Diyari

¹⁶ In Ngamini

Notice that the languages differ in the number and range of auxiliaries they have. Thus, Yarluyandi has just two, marking future and distant past, Ngamini has three (future, distant past, recent past), while Thirrari and Diyari have six (marking future and various subdivisions of the past)¹⁹. The future auxiliary is cognate in all three languages (*ngana-*, homophonous with the lexical verb 'to be'), while the distant past auxiliary in Yarluyandi and Ngamini is *wapa-* (homophonous with 'to go'), which is identical to the intermediate past auxiliary of Diyari (distant past being a different form *wanthi-*, homophonous with 'to search'). Ngamini and Diyari both have an auxiliary *warra-*; in Ngamini it marks non-distant past, while in Diyari it marks today past (there being other subdivisions of the non-distant past). It seems reasonable to suggest that historically there has been a change from the Yarluyandi pattern to the Diyari pattern (via the Ngamini pattern) through gradual addition of auxiliaries and finer subdivisions of the past. The following table sets out the auxiliaries in all three languages.

TABLE 6. Auxiliary verbs

	DIYARI	NGAMIM	YARLUYANDI	MAIN VERB LEXICAL MEANING	AUX SENSE
1.	<i>ngana-yi</i>	<i>ngana-yi</i>	<i>ngana-yarra</i> ‘	to be’	future
2.	<i>wanthi-yi</i>			‘to search’	distant past
3.	<i>wapa-ini</i>	<i>wapa-ni</i>		‘to go’ ²⁰	distant past
4.	<i>wapa-yi</i>			‘to go’	intermediate past (month)
5.	<i>parrha-ya</i>			‘to lie (of inanimate)’	recent past
6.	<i>wirrhi-yi</i>			‘to enter’	very recent past (last night)
7.	<i>warra-yi</i>	<i>warra-yi</i>		‘to throw’	earlier today

4. Sources for compound verbs

There are three possible explanations for the apparent similarities we have observed between the languages described above:

1. *coincidence* - this seems unlikely given the apparent genetic relationships between the languages, the existence of apparently cognate forms (eg. *thika-/dhika-* in Table 5), and the geographical proximity of the language groups;
2. *diffusion and borrowing* - it is possible that the patterns of verb compounding we have exemplified above represent an areal feature of eastern Lake Eyre languages. Diffusion of such an areal feature between languages and groups is possible, and we discuss this further below;
3. *genetic inheritance* - we can suggest that the patterns arise, because of inheritance from an ancestral system, differentially reflected in the daughter languages. We discuss this in more detail below.

Below we discuss in some detail the choice between diffusion and genetic inheritance as sources for the patterns we have observed.

¹⁹ Additionally, the Thirrari spoken by Ben Murray has an obligatory auxiliary *purri-* which appears in all clauses and carries the tense/mood/dependent inflection attached to the verb stem in Diyari (see Austin 198 1:82).

²⁰ Note that in Yarluyandi the ordinary main verb for ‘to go’ is *yurtari-*.

4.1 Genetic inheritance

One possible account for the similarities shared by the eastern and western languages is to suppose genetic inheritance. It seems reasonable to propose that the pattern in the western languages of having compound verb phrases more closely reflects an ancestral pattern for the group, and that the systems of Yandrruwandha and Wangkumara of having compound verb words are an innovation.

As Anderson (1988:336) points out:

“[i]t is a commonplace of historical change that many morphological elements can be derived historically from originally independent words ... An originally syntactic collocation developed into a pattern of compounds, and the recurrent second element of these compounds was reanalysed as derivational suffix. An original syntactic structure has been morphologized, and the rule which describes the addition of this affix to certain stems is a historical reflex of that syntactic structure.”

Hock (1986:378) also emphasises this view that:

“reinterpretation-cum-extension is the most important cause for syntactic change. Other processes, such as analogy or polarization, seem to play a much less important role or are mere ancillary phenomena.”

The sort of reanalysis we are discussing here is what Hock (1986:338) calls “univerbation”:

“univerbation, the morphological counterpart of Behagel’s law, by which elements forming a single lexical unit become a single word.”

We discuss a possible “univerbation” analysis in the following sections.

4.1.1 On the origins of compound verb words

It is easy to propose a scenario by which the historical changes mentioned above could come about. The phrasal compounds have become fixed constructions and are extremely tightly knit syntactically and phonologically in the synchronic grammars of the western languages. If the participial affix were to be lost between the two verbs, the resulting sequence could be reanalysed as a compound WORD instead of a compound phrase. That is, the word boundary within a compound VP would become a morpheme boundary in Yandrruwandha and Wangkumara. The alternative account (taking the compound word pattern as source) would involve splitting of words and the introduction of an affix. It appears to be more complex and less likely.

We can propose a possible PHONOLOGICAL trigger for the loss of the participial affix in the compound VP construction. In all these languages most verb roots are disyllabic. Word stress is not phonologically contrastive and falls on the first syllable of a word (or disyllabic morpheme). The third and fifth syllables of a word may bear secondary stress. Final syllables are always unstressed. In general, long polysyllabic words have an alternating stress pattern with stressed and unstressed syllables adjacent.

In a compound sequence we would find the following stress pattern:

CVC(C)V—(rn)da CVCV—tense/mood

Notice that the resulting stress pattern is SUU SUU (where S stands for stressed syllable and U stands for unstressed syllable). The compound is pronounced as a single intonation unit and the pattern of alternating stressed and unstressed syllables in polysyllabic words could exert phonological pressure for the loss of the medial unstressed -(rn)da/-rna and the reanalysis of the whole as a single word.

There is some evidence from Ngamini and Diyari which relates to the issue being discussed here, although it is of a slightly different kind. Ngamini has a verb derivational affix of the form *-mama-* which is added to roots to indicate continuous aspect (Austin 1988a, Breen 1976b). It does not affect transitivity. Two examples are:

<i>ngama-</i>	to sit	<i>ngama-rnama-</i>	continuously sitting
<i>thayi-</i>	to eat	<i>thayi-rnama-</i>	continuously eating

It appears that this affix is related historically to the Diyari compounding verb root *ngama-* ‘to sit’, which is used adverbially to specify action done whilst seated. Typically, such actions involve an extended period of continuous activity. I suggest that the initial *-ma* is the participial affix and the *ma-* is the second syllable of *ngama-*, ie. **V-rna ngama-* has become *V-mama-*. Notice that here the initial syllable of this (disyllabic) affix, ie. *-ma* bears stress (while our proposal for the eastern languages depends on the participial affix being unstressed).

The loss of the initial syllable in *ngama-* has a parallel in the phonology of Diyari auxiliary verbs (see Table 6). In fast speech in Diyari (see Austin 198 1:31) auxiliary plus main verb combinations are pronounced as a single phonological word with the stress pattern of a single word. The initial syllable of the auxiliary is elided, being either lost, for the initial *nga* of the future tense auxiliary *ngana*, or reduced to a phonetic diphthong, for the initial *wa* of the past tense auxiliaries *warra* and *wanthi*. This gives, taking *wapa-* ‘to go’ as an example (note the stress pattern):

<i>wapa-lha</i>	<i>nganayi</i>	‘will go’ [wópalhànei]
<i>wapa-rna</i>	<i>warrayi</i>	‘went (recent)’	[wóparnàurrei]
<i>wapa-rna</i>	<i>wanthiyi</i>	‘went (distant)’	[wóparnàuthiyi]

Interestingly, the first amateurs who recorded Diyari wrote verb forms such as these as single words. Thus, in Gason (1886:102) we find “Wopulauni Will go, Wopunaori Has gone”. If we take the compounding root *ngama-* as parallel to the future then, we have the following:

**V-rna ngáma-* ---> *V-rnáma-*

Notice that in these examples the secondary stress now falls on the erstwhile participial verb inflection.

It may be that the sort of reduction we are proposing here for Ngamini and Diyari triggered by the stress target could also be achieved by LOSS of the participial affix. In this instance there would be no stress shift and the resulting compound word form would meet the canonical words stress target. Possibly then, Yandruwandha and Wangkumara could have had compound verb phrases but these were reanalysed as compound words through the loss of the participial inflection.

An alternative proposal, and one which we shall discuss in more detail below, is that the compounds in Yandruwandha and Wangkumara derive historically from verb stem compounds, NOT from phrasal reanalysis.

4.1.2 On the origins of compound verb phrases

There are certain patterns in Yarluyandi, Ngamini, Diyari and Thirrari which we can use us to speculate about the possible origins of compound verb phrases in these languages. The evidence here is less solid, but we can put forward a possible scenario to reconstruct the syntactic origins of the pattern. In doing this we are making use of the idea that morphological patterns can arise out of syntactic constructions through a process of morphologisation (Givon 1971, Anderson 1988:336-337).

Anderson (1988:349-350) discusses how this process can occur, triggered by opacity:

“originally, two constructions ... are correlated in such a way as to motivate a syntactic derivation of one from the other or a lexical relation between two syntactically distinct structures. Subsequently, however, one construction comes to be used systematically (and the other systematically excluded) under conditions that define some structural category ... the result is that in the relevant circumstances the complementarity of the two (originally related) structures makes the syntactic derivation of one from the other less transparent. The resulting development consists in interpreting the surface form of one structure not as reflecting its derivation from the other, but rather as the overt marker of the category with which it is correlated - applied to a syntactic structure which is no longer motivated as derived from a non- basic source. This is simply the syntactic analog of morphologization as it results from the development of opacity.”

We will develop an account of a syntactic origin for the compound VPs as follows:

Firstly, it is important to note the participial inflection attached to the first verb of compound verb phrases in the western languages is identical in shape to the infinitive which is used as a citation form. Also, it is identical to one of the dependent clause suffixes. All four languages have three major types of dependent clauses (see Austin 1981:187-229):

1. *implicated clauses* - these code relative future tense and are typically used to specify a purpose relation to the main clause, as in the equivalent of ‘(I am going) to kill a kangaroo’;
2. *relative clauses* - these code relative non-future tense and are typically used to give temporal or logical conditions or to provide information about some main clause noun phrase;
3. *lest clauses* - these specify the unpleasant consequences of some action or event and are typically used in warnings or admonitions.

The first two of these clause types are marked by affixes which also code switch-reference, that is, whether the dependent clause subject is coreferential with the main clause subject (SS — same-subject), or non-coreferential with the main clause subject (DS — different-subject). The affixes employed for these functions are set out in Table 7

TABLE 7. Dependent clause affixes

	THIRRARI	DIYARI	NGAMINI	YARLUYANDI
implSS	<i>-lhali</i>	<i>-lha</i>	<i>-lha</i>	<i>-lhangga</i>
implDS	<i>-yani</i>	<i>-rnanthu</i>	<i>-ili</i>	<i>-li</i>
relSS	<i>-(rn)da</i>	<i>-rna</i>	<i>-rna</i>	<i>-(rn)da</i>
relDS	<i>-(rn)danhi</i>	<i>-rnanhi</i>	<i>-iyimu</i>	<i>-nimu</i>
lest	<i>-yathi</i>	<i>-yathi</i>	<i>-nda</i>	<i>-ndathi</i>

The relative same-subject marker is identical with the participial in all the languages. We make use of this coincidence in the following explication.

Dependent clauses in these languages are not embedded and typically occur following preceding the main clause. They may be set off by a slight intonation break. The following examples of implicated clauses, in Diyari:

- (18) *Nganhi wapa-yi ngapa mani-lha.*
 I nom go-pres water get-implSS
 ‘I am going to get water.’

and Ngamini:

- (19) *Nganji nganha yingki-ya thayi-ili.*
 meat me acc give-imper eat-implDS
 ‘Give me some meat to eat.’

and finally Yarluyandi:

- (20) *Nganyi yurtari-yarra ngandi nhika-lhangga.*
 I nom go-pres mother see-implSS
 ‘I am going to see (my) mother.’

Implicated clause verbs can NEVER occur preceding the main clause verb, except under t; special sets of circumstances:

1. An implicated clause can be fronted before the main clause when the main verb is want’ (*nganja-* in Thirrari, Diyari and Ngamini, *yuri-* in Yarluyandi) and the dependent clause is intransitive. This is especially true if the dependent clause contains a single word, the implicated verb. Thus, we get the following two alternatives in Diyari:

- (21) *Ngathu nganja-yi wapa-lha.*
 I erg want-pres go-implSS
 ‘I want to go.’
- (22) *Nganhi wapa-lha nganja-yi.*
 I nom go-implSS want-pres
 ‘I want to go.’

Notice that the main verb is transitive and requires an ergative case-marked subject *ngathu* (21); when the dependent clause is fronted the nominative intransitive subject *nganhi* appears.

In Yarluyandi, this fronting is possible when the dependent clause is either intransitive transitive. Consider the following intransitive examples (note that *yuri-* ‘to want’ in Yarluyandi is intransitive):

- (23) *Nhanpa yanhi-lhangga yuri-yarra.*
 she nom talk-implSS want-pres
 ‘She wants to talk.’
- (24) *Nganyi ngarda-mu thika-lhangga yuri-yarra.*
 I nom then-loc return-implSS want-pres
 ‘I want to come back later.’

An example with a transitive dependent clause is (note the switch in subject pronoun forms):

- (25) *Nganyi yuri-yarra parrkulu thayi-lhangga.*
 I nom want-pres three eat-implSS
 ‘I want to eat three.’
- (26) *Parrkulu ngathi thayi-lhangga yuri-yarra.*
 Three I erg eat-implSS want-pres
 ‘I want to eat three.’

These fronted clauses have two important characteristics:

- a) the implicated verb plus the main verb form a SINGLE INTONATION UNIT; they are pronounced as one breath group and there can be no pause between the verbs (when the implicated verb follows it is possible to pause between the two verbs);
- b) no words may appear between the implicated verb and the main verb.

These two characteristics suggest that the ‘V-implSS want’ sequence is treated syntactically and phonologically as a compound phrase, rather than as two separate clauses. In this it resembles the compound verb phrases described above.

2. In periphrastic causative constructions: In these languages periphrastic causatives are constructed with the verb ‘to cause’ as the main clause verb (*nganka-* in Thirrari and Diyari, *nganaka-* in Ngamini and Yarluyandi) and a dependent clause whose verb is marked with the implicated different subject affix. An example is Diyari:

- (27) *Yundrru nhinha nganka-yi yindrra-rnanrhu.*
 you erg him acc cause-pres cry-implDS
 ‘You are making him cry.’

When the dependent verb is intransitive it can be fronted and embedded between the main verb and its arguments. Thus, alongside (26) we have:

- (28) *Yundrru nhinha yindrra-rnanthu nganka-yi.*
 you-erg him acc cry-implDS cause-pres
 ‘You are making him cry.’

In clauses such as (28) the two verbs are pronounced as a single breath group and no words may interrupt the sequence. Syntactically and phonologically they form a compound. We return now to the compound verb phrases and recall that they contain a participle *affix* which is identical in form to the relative same-subject marker. Relative dependent clauses in these languages are typically employed to specify actions or events occurring at the same time as the main clause action or event. Thus we find Diyari examples such as:

- (29) *Nhawu ngama-yi wima wangka-rna.*
 he nom sit-pres song sing-relSS
 ‘He is sitting down singing a song.’
- (30) *Thana yatha-mali-yi nganhi wapa-rnanhi.*
 they nom scold- recip-pres I nom go-relDS
 ‘They were arguing when I came.’

A Ngamini example is:

- (31) *Nhawa yatha-yi kalapaja-rna.*
 he nom say-pres be ill-relSS
 ‘He says he is sick.’

The following example from Yarluyandi shows both clause types in the same sentence:

- (32) *Kurnu-wara yanhi-yarra walha thana pangga-rda*
 child-plural talk-pres not they nom listen-relSS

nganha yanhi-nimu.
 me talk-relDS
 ‘The children are talking, not listening to me speaking.’

The dependent relative clause normally follows the main clause and can be set off by a slight intonation break.

Historically, the compound verb phrases of these languages could have originated structures produced by a fronting process which applied to relative same-subject verbs if 1 main clause verb was one of stance or motion (cf. the implicated clause examples discuss above). Thus, from (29) above we could get:

- (33) *Nhulu* *wima* *wangka-rna* *ngama-yi*.
 he erg song sing-relSS sit-pres
 ‘He is sitting down singing.’

If intonation treats *wangka-rna ngama-yi* as a single unit, then it is possible that the pair verbs could be reanalysed as a compound not a biclausal structure. What I am suggesting then is a direct parallel to the sentences (22) to (28) discussed above.

It is clear that sequences of *V-ptcple V-inflection* are not synchronically analysable fronted constructions and that the second verb has purely adverbial functions (i.e. the derivation has become opaque). With transitive verbs of motion or induced motion the second verb in sequence adverbially modifies not the stance or motion of the SUBJECT but that of the OBJECT. Thus, sentences such as (14) above do not mean ‘Give me the meat whilst (you are) returning’ but ‘Give me the meat so it returns’. That is, (14) is not the same in meaning as:

- (34) *Yini* *thika-mayi* *nganha* *nganthi* *yingki-rna*.
 you nom return imper-emph me acc meat give-relSS
 ‘You return giving me meat.’

Similarly there is a difference in meaning between the following pairs:

- (35) *Ngathu* *nhayi-rna* *ngari-yi* *paya* *pirna-ndrru*.
 I erg look-ptcple go down-pres bird big-ablat
 ‘I looked down from the plane.’

- (36) *Nganhi* *ngari-yi* *paya* *pirna-ndrru* *nhayi-rna*.
 I nom go down-pres bird big-ablat look-relSS
 ‘I go down from the plane looking.’

The original switch-reference marker no longer signals same subject, rather we have a compound verb phrase construction in which the inflection simply marks the first verb as nonfinite, ie. a participial inflection. This could have happened if the fronting process we have proposed first applied to intransitive verbs only (as fronting of implicated clauses does synchronically in Diyari). Here the relSS meaning would remain a possible interpretation (see (29) and (33) above). If the reanalysis took place and the adverbial modification structure were extended then to transitive verbs the old relSS inflection would be grammaticised as a participial affix.

Essentially what this account is suggesting is that an original bi-clausal structure is reanalysed as mono-clausal and the syntactic boundary between the two verbs becomes a phrase internal boundary and is no longer a clause boundary. Yandrruwandha and Wangkumara could have taken the reanalysis one step further by removing the (redundant) participial inflection and reducing the sequences to single words, ie. reanalysing the phrase boundary as a morpheme boundary. The sequence of possible historical developments could thus be as depicted in Diagram 2.

DIAGRAM 2. Proposed reanalysis

Verb₁—inflection Verb₂—relss
FRONTING
Verb₂—relss Verb₁—inflection
REANALYSIS
Verb₂—ptcple Verb₁—inflection
REANALYSIS
Verb₂— Verb₁—inflection

Notice that this is exactly parallel to the sequence of changes proposed for Adnyamathanha by Tunbridge 1988. It is also similar in style to the sequences of changes proposed by Langdon 1978, 1988 in her description of the development of auxiliary verb constructions in Yuman languages (southern California-Arizona). She suggests that auxiliaries have an original biclausal origin with a switch-reference marker losing its referential functions and becoming simply an infinitive desinence. Also, Munro 1981 in her discussion of auxiliarization in Muskogean languages proposes a similar path of development for the genesis of auxiliaries, as does Haas 1977.

We explore an alternative account to this in the following sections. The alternative historical account takes into consideration the impact of areal features and diffusion in the Lake Eyre basin.

4.2 Areal features and diffusion

It is not clear whether the patterns of development we have been describing here can truly be described in genetic historical terms, i.e. developments arising from a common ancestral stage. It is possible that the similarities we have observed across the several language groups are due to areal features and diffusion from one group to another. It may be that the alignments we have outlined have arisen independently in each language as a result of areal pressures.

There is a great deal of linguistic and non-linguistic evidence to support areal features and diffusion in this region of Australia. The issue is examined in detail in Austin 1989b; we can summarise the main findings here.

The peoples originally inhabiting the Lake Eyre basin shared a large number of cultural and linguistic features in common. These shared features cut across linguistic groupings and show a geographical rather than genetic distribution. A listing of the shared features is as follows:

- a) SHARED CULTURAL FEATURES - Elkin discusses in a number of papers the socio-cultural features of the eastern Lake Eyre peoples (see Elkin 1931-2, 1934-5, 1936, 1938-9) and points out that the Aboriginal groups to the east of Lake Eyre had a number of cultural features in common, and that these features were not shared with the groups living further west. The following cultural characteristics are the main features common to the tribes of this group” (Elkin 193 1-2:15):
 1. *moiety organisation* - each group was divided into two “named matrilineal moieties each of which consists of a number of totemic clans” (Elkin 193 1-2). An example is the division of the Diyari into *matharri* and *kararrhu* moieties, each of which comprises thirteen *mardu*, **or** matrilineal social totemic groups (see Austin (1981:11 for a listing).
 2. *kinship* - the eastern Lake Eyre groups all have a similar kinship system, with four lines of descent. Elkin (193 1-2) notes that there are ‘certain features of their kinship

system, which distinguish them from those of the western groups and from the Aranda, especially the use of one term for fa.mo.bro. [father's mother's brother] and mo.bro.son [mother's brother's son], and one term, frequently the same one, for fa.mo. [father's mother] and mo.bro.daughter [mother's brother's daughter]".

3. *ceremonial totemism* - Elkin (1931-2) notes "the possession, at least by all the northern tribes of the group, of a patrilineal totemism of the increase type, and in nearly all cases, combined with this, a matrilineal totemism of the same kind".
 4. *sex and dream totemism* - sex totems are called *ngampu* and these are two plants, one for each sex. Elkin 1936 says that this is "a 'play' type of totemism only". Dream totems are referred to as *ngapija*. This is the plant, animal or object which a person is represented as in dreams.
 5. *mythology* - Elkin (1931-2) notes that the groups share "a type of mythology in which the heroes are called Mura-mura". Hercus (1972:302) notes that "[t]he study of Arabana and Wangganguru mythology shows an intricate network of 'histories' which binds together the whole area (e.g. the Whirlwind History belongs to Arabana and Dieri, the Black Grinding Stone History to the Wangganguru, Arabana and Gujani).
 6. *ceremonial* - the initiation ceremonies were shared among all the tribes east of Lake Eyre. Especially notable is "the wilyaru rite, the highest stage of initiation, the outward sign of which is a particular pattern of cicatrization, consisting of two vertical rows of short parallel scars" (Elkin 193 1-2). The groups also shared other important ceremonies such as the *mindiri* celebrating the mythological emu.
- b) SHARED LINGUISTIC FEATURES - work by several researchers, especially Hercus, has demonstrated that there are a number of linguistic features which cross-cut the apparent genetic groupings east of Lake Eyre and which appear to have been distributed by linguistic diffusion. Among the features which have been identified are:
1. *prestopping and consonant length* - nasal and lateral consonants have particular phonetic realisations after the first (stressed) vowel of words. In the west of the region nasals and laterals are prestopped (see Hercus 1972, Austin 1981:18), while in the east they are lengthened. This phonetic feature has a complex distribution which suggests borrowing.
 2. *initial consonant loss* - Hercus 1979 points out that we find weakening and loss of initial consonants (primarily laminals and velars) in some words in some of the languages of the region. She shows that this points to borrowing.
 3. *'r' - sounds* - all the languages of this region have a contrast in intervocalic position between three 'r'-sounds: an apico-alveolar tap, an apico-alveolar trill and a post-alveolar continuant. This is a quite widespread geographical feature of central Australian languages.
 4. *stop voicing* - phonemic voicing of stops is found in all the languages east of Lake Eyre, but it has a limited distribution in them all. None of the languages has the contrast inter-vocalically for apico-alveolar stops and the way the contrasts are spread suggests areal diffusion (see Austin 1988e).
 5. *kinship-based pronouns* - languages in the region have special series of pronouns whose usage is determined by kinship categories. These pronouns are found to varying degrees in the different languages, showing their greatest development in the south (Hercus and White 1973).

All of these features point to the Lake Eyre region being a complex of interacting groups sharing and borrowing linguistic and cultural features over an extended period of time.

In a large number of Aboriginal languages of central Australia there are verb affixes which code what Koch 1984 terms “the category of associated motion”. Typically, these affixes signify that motion took place before, during or after the event indicated by the main verb root (the head of the construction). Wilkins (1987) (also quoted in Tunbridge, 1988:267) states that in Mparntwe Arrernte of Alice Springs there are three clear associated motion categories:

1. *prior motion* - go and do, come and do
2. *concurrent motion* - do coming, do back to speaker, do downwards, do upwards
3. *subsequent motion* - do and go, do and return

Similar meanings are found in Adnyamathanha (Flinders Ranges, South Australia - see Tunbridge 1988), and the Arandic languages Kaytej (Koch 1984), and Alyawarra (Yallop 1977:61-6). The category of concurrent motion is quite widespread in eastern Australia, being found in Yidiny (Dixon 1977), Margany (Breen 1981:322), Pitta-Pitta (Blake 1979:204, 225) and Gunya (Breen 1981:330). The last language also seems to have a prior motion *affix*. Breen (1981:331) describes a suffix *-ya-/-yi-* in Gunya which he says indicates “[a]n intended continuing action”. The examples he gives (ex. 175, 177, 179), however, all have a reasonable interpretation with prior motion (for instance, in example 177 *thala-ya-ngki-ya* ingest-motion-fut-1sg is translated by Breen “I’m going to have a drink”).

Thus, the SEMANTIC CATEGORIES we have seen coded through compound verbs or verb phrases in the eastern Lake Eyre languages are widespread in central and eastern Australian languages and are a further example of an areal feature. As this feature spread throughout central Australia, it is quite possible that different languages coded it morphologically in different ways. Some languages, such as Diyari, Ngamini and so on, elected to use verb word compounding to code the category, while other such as Yandruwandha and Wangkumara chose verb stem compounding. It is thus not necessary to hold that the latter derives historically from the former (contra the discussion in 4.1 above). In fact there are a number of reasons for rejecting a phrasal origin for the eastern language systems:

1. there is no evidence in either Wangkumara or Yandruwandha for the former presence of the participial inflection (cf. the phonological evidence presented for Adnyamathanha by Tunbridge 1988);
2. neither Yandruwandha nor Wangkumara shows an affix functionally similar to the participle in the western languages. Neither has a similar non-finite inflection;
3. there are some compounding affixes which DO NOT correspond to verb stems (see Table 3 and 2.3.2). It seems doubtful then that compound verb phrases can be the origin for ALL these constructions;
4. Yandruwandha allows multiple compounding of stems while the western languages only ever allow ONE root to follow the main verb in a compound VP;
5. the western languages allow only INTRANSITIVE verbs to participate in compound VPs, while Yandruwandha has compounding stems that are identical in shape to both intransitive and transitive verbs.
6. there is a general lack of COGNATES in the common categories marked across the different languages. Apart from *-thika-/-dhika-* which all the languages show evidence of, there is no commonality in the way the categories are marked in the eastern and western languages. This suggests that the semantic category of associated motion and

direction has been subject to area! spread but the way that it is marked varies in the different language groups.

These six reasons, taken together with the evidence of diffusion, seem to be strong arguments against the proposed reanalysis account argued above.

5. Conclusion

At first blush the systems of verb compounding in eastern Lake Eyre languages look like prime exemplars of the sorts of morphological reanalysis that it has become fashionable to discuss in the recent linguistic literature. I argue however that verb stem compounding probably did not arise out of phrasal compounding, and that further, phrasal compounding did not arise out of complex sentence reanalysis. Rather, the different language groups share an areal semantic feature which they instantiate morpho-syntactically in a range of different ways. There has not been morphologisation of earlier syntactic constructions but independent innovation using the internal resources of each language group. As Anderson (1988:338) puts it (see also Hock, 1986:617):

“[u]nfortunately, it is impossible to identify all of ‘today’s morphology’ with ‘yesterday’s syntax’. For one thing, not all affixes have a (relevant) source in syntactic material.’

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