

Offprint from:

Studies in Pacific Languages & Cultures

in honour of
Bruce Biggs

edited by
Jim Hollyman & Andrew Pawley



Auckland
Linguistic Society of New Zealand

PRELIMINARY REMARKS ON THE GRAMMAR OF PART-WHOLE RELATIONS IN WARLPIRI

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1. Introductory remarks.¹

In this brief essay, I will initiate an investigation into the grammatical characteristics of the favorite pattern according to which Part-Whole relations are expressed in Warlpiri, and I will suggest an initial hypothesis concerning the way in which this mode of expression is to be integrated into the grammar of Warlpiri. This is a necessary part of a larger lexicographic study of Warlpiri in which it has been discovered that the definitions of certain predicators - particularly verbs of motion, physical transfer, and impact and concussion - exhibit a recurring semantic theme according to which a part of an entity is, to a large extent at least, identified, or even equated with, the whole entity. Careful articulation of this theme will contribute directly to our efforts to formulate dictionary definitions in a maximally efficient, and at the same time accurate, manner. This essay, then, is an introduction to an important lexico-grammatical theme which functions in Warlpiri.

The favorite pattern is exemplified in sentences (1) through (5) below:²

- (1) *Maliki kalaka-nga kati-rni ngirnti nyuntulu-rlu.*
(dog AUX.ADMON-2s tread-NPST tail you-ERG)
'You (singular) are liable to step on the dog's tail.'
- (2) *Kurdu-ngku ka-ju rdaka-ngku paka-rni ngaju.*
(child-ERG.AUX.PRES-10 hand-ERG strike me)
'The child ^{is} ~~struck~~ ^{is} me with its hand.'
- (3) *Rdaka ka-rna yuka-mi ngulya-kurra ngaju.*
(hand AUX.PRES-1s enter-NPST burrow-ALL I)
'I am sticking my hand into the (goanna's) burrow.'

(4) *Ngaju O-rna-rla rdaka maliki-ki yamka-ja ngirnti-ki.*

(I AUX.PERF-1s-rla hand dog-DAT seize-PST tail-DAT)

'I grabbed the dog by the tail with my hand.'

(5) *Nama ka langa-kurra yuka-mi kurdu-kurra.*

(ant AUX.PRES ear-ALL enter-NPST child-ALL)

'The ant is crawling into the child's ear.'

In each of these sentences, there is a nominal expression denoting some entity (which I will refer to as the *WHOLE* term in the Part-Whole relation) and another nominal expression denoting some part of that entity (henceforth, the *PART* term). In sentence (1), for example, *maliki* 'dog' corresponds to the *WHOLE*, and *ngirnti* 'tail' corresponds to the *PART*.

2. Preliminary observations.

The *PART* and *WHOLE* terms in the favorite mode of expression illustrated above do not form a syntactic constituent. Moreover, it is the *WHOLE* term, not the *PART* term, which is syntactically 'active' - e.g., construes with person markers in the auxiliary (AUX) and may function as controller of an infinitival expression. Consider, for example, the following sentence:

(6) *Maliki-patu O-rna-jana jaka luwa-rnu pirli-ngki warlkurma-ninja-kurra.*

(dog-PL AUX.PERF-1s-333o buttocks pelt-PST stone-INST bark-INF-COMP.OBJ)

'I pelted the dogs in the buttocks, with stones, while they were barking.'

In both of these respects, the Part-Whole relation is to be distinguished sharply from the (alienable) possessive construction, rarely used for the Part-Whole relation, in which the entity possessed is syntactically active, the possessor being syntactically inert. For example:

(7) *Maliki nyuntu-nyangu O-rna luwa-rnu pirli-ngki warlkurma-ninja-kurra.*

(dog you-POSS AUX.PERF-1s hit-PST stone-INST bark-INF-COMP.OBJ)

'I pelted your dog with a stone while it was barking.'

And, as expected, it is the *WHOLE* term which functions as the (necessarily non-overt) controlled subject within an infinitive clause:

(8) *Nyuntu ka-rna-ngku nya-nyi lirra wantiki-jarri-nja-kurra.*

(you AUX.PRES-1s-2o see-NPST mouth wide-INCHOATIVE-INF-COMP.OBJ)

'I see you opening your mouth (lit., becoming wide mouth-wise).'

The grammatical characteristics illustrated by (1-5, 6, 8) extend to all relationships conventionally seen as involving a whole and a component part - e.g., a body and its parts (as illustrated in the sentences cited above); a plant and its parts (e.g., *wapurnungku* 'ghost gum', and *wurdamirri* 'bark'); an implement and its parts (e.g., *karli* 'boomerang' and *warda* 'handle (end)'); an entity and its name (where that is referred to by means of the word *yirdi* 'name'), or its sound (i.e., *linpa* 'sound' or *jaru, yimi* 'speech, language, species-characteristic sound'); an entity and its physical manifestation (*palka* 'body, physical form, presence'); an entity and its shadow (*yama* 'shade, shadow'); a part and its parts (e.g., *rdaka* 'hand' and *miyalu* 'palm (lit. stomach)', *purturlu* 'back'); a body and certain excretions, when not fully removed from the body (e.g., *minngarli* 'tear', *kurnpu* 'nectar, sap'); and others.

3. An introduction to Warlpiri grammar.³

I will, for the purposes of this discussion, assume the following phrase structure rules for Warlpiri:

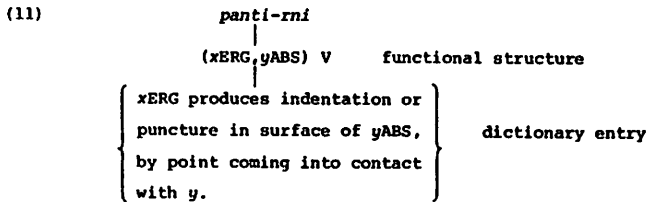
(9) $S \rightarrow \text{AUX } \bar{X}^* \text{ V } \bar{X}^*$

(10) $\bar{X} \rightarrow \bar{X}^* \text{ X}$

As a function of lexical insertion, which instantiates categorically the nodes in the configurations defined by (9) and (10), the sentences of Warlpiri will exhibit so-called 'free word order', while subsentential phrases will be nucleus final (but with pre-nuclear 'free word order'). The auxiliary (AUX) will be positioned in surface structure by means of a local movement rule belonging to the phonological component.

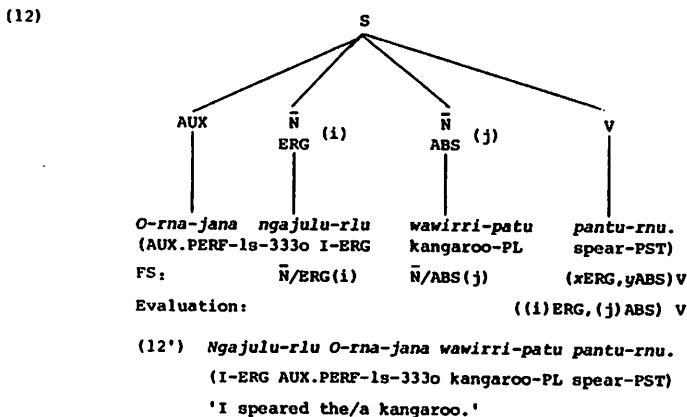
Each lexical item consists of a dictionary entry, giving the meaning of the item, and a functional structure, derived from the dictionary entry, by rules of varying generality. The functional structure defines the argument structure of the item and encodes the grammatical relations borne by the arguments. Each 'argument position' in functional structure is supplied with a 'linking register' indicating how that position is to be related to other constituents

of the clause (notationally, the linking registers are simply case labels). A sample verbal lexical item is set out below:



Although they are important in many ways, I will not be making use of the dictionary entries here. Accordingly, only the functional structure will be referred to in discussing examples.

Nominal items may function either as predicates or as arguments. When they function as predicates, they are supplied with an argument structure similar to that of a verb; when they function as arguments, they are supplied with 'evaluation indices' (parenthetic letters, notationally). These are utilized to notate the 'evaluation' of argument positions in predicate functional structures. In particular, the argument positions are evaluated (arbitrarily at first) by inserting evaluation indices in place of the variable symbols (x, y, z, ...). An evaluation is sanctioned if the linking register corresponds to the case of the evaluating nominal. The following sentence will serve to illustrate this:



This sentence can also serve to illustrate 'construal', or person/number agree-

ment, between the auxiliary and the predicator (verb in this case) sister to it. Construal consists in copying the person/number features of the subject and object markers into the subject (ERG, ABS) and object (DAT, ABS) positions in the predicate functional structure. The fully evaluated and construed verb of (12) above will appear (roughly) as follows:

(12") ((i)1ERG, (j)333ABS)V

Before continuing to integrate Part-Whole relations into the grammar of Warlpiri, we must introduce the process of 'predication' (more accurately, subsentential predication). The following sentence is ambiguous, its readings being roughly equivalent to those of the two English translations offered:

- (13) *Ngajulu-rlu O-rna-jana wawirri-patu pantu-rnu wiri-patu.*
 (I-ERG AUX.PERF-1s-333o kangaroo-PL spear-PST big-PL)
 (i) 'I speared the big kangaroos.'
 (ii) 'I speared the kangaroos, and they were big.'

The first reading I will term the 'merged' reading; the second will be termed the 'predication' reading. In the following, in which the string *wawirri wiri-patu* 'big kangaroos' is a syntactic constituent, a noun phrase, only the merged reading is possible:

- (14) *Wawirri wiri-patu O-rna-jana pantu-rnu.*
 (kangaroo big-PL AUX.PERF-1st 333o spear-PST)
 'I speared (the) big kangaroos.'

I will assume that there is, in the semantic form component of the grammar, a rule which merges separate nominal expressions, identical in case and number, into a single semantic expression.⁶ Applied to (13), this rule would apply to assign the merged reading - i.e., the reading corresponding to the sole reading of (14).

By contrast, I will assume that the predication reading is obtained by evaluating the subject argument position, so to speak, of the nominal predicate expression *wiri-patu* 'big-PL, are big' with the index which, in the verbal functional structure, bears the linking register corresponding to the case of the nominal predicate (ABS in this instance). And, in general, predication of this sort (i.e., subsentential predication) is effected in this manner. Thus, the subsentential predicate *wiri-patu* appearing in (13), on the predicate

reading, will have its subject argument position evaluated by the direct object - hence, the index (j):

(15) (j)_N

Notice, incidentally, that the subject in (14) is not overt. This is the regular way of obtaining the effect of pronominalization in Warlpiri. In such cases, I will assume, the corresponding argument position in the verbal functional structure is evaluated 'arbitrarily' - i.e., by the evaluation procedure already announced. An evaluated argument, not associated with an overt nominal argument expression, functions much the way a (definite) pronoun would.

I will not be discussing the grammatical process of control here, so it will suffice to say that control and predication are closely similar processes; they differ only in that the former is signalled by the complementizer (COMP) appearing on the infinitival (see (6-8) above for exemplification of the objective complementizer *-kurra* (COMP.OBJ)), rather than by case, which functions to signal subsentential predication.

4. The integration of Part-Whole relations into the grammar of Warlpiri.

I will assume that the relation between a PART and a WHOLE is one of predication, in the favorite pattern - the PART is predicated of the WHOLE. The WHOLE functions as an argument, while the PART is predicated of it.

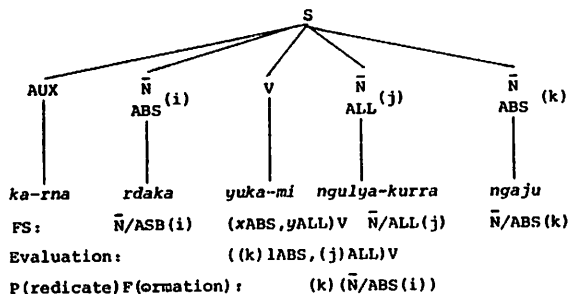
However, there is a basic, two-faceted, intuition which I would like to capture - namely this: The PART is identified with the WHOLE, in the sense that what is true of the PART is seen to be true of the WHOLE; but, at the same time, the PART is conceptually, and grammatically, distinct from the WHOLE, in that it can be alienated therefrom, and it can be independently qualified (by a modifying nominal, such as *wiri* 'big', *narntirnpari* 'curled', and the like).

In light of the above, I will take the position that a PART term nominal is, in the favorite pattern exemplified in (1-5) and elsewhere, basically an argument type expression - a 'name' - and therefore it is supplied with an evaluation index (rather than a 'subject' argument position, as it would if it were basically a predicate). Like any name, however, a PART name can itself function as a predicate. This will be accommodated by means of a rule of

predicate formation, which may apply quite generally to definite expressions (to get, say, 'I am the doctor', 'John, the doctor, ...', and the like).

The following sentence, and partial derivation, will serve to illustrate these remarks:

(16) (cf. (3) above):



The predicate formed from the PART nominal expression is predicated of the subject argument in the verbal functional structure, as indicated by the indexing above. This relates the PART to the WHOLE, but it does not yet express the nature of this relationship - i.e., that it is the Part-Whole relation, not, say, modification or attribution of the type represented by the predication reading of (13) above. I propose the following (tentative) rule of interpretation for the Part-Whole relation, wherever it is expressed in the favorite pattern:

(17) PW (The part-Whole Relation):

The relevant part of (α)CASE is (i), where (i) is the PART nominal expression predicated of (α)CASE.

In (16) above, PW would state the following:

(18) PW: The relevant part of (k)ABS is (i).

That is to say, the part of the entity denoted by the subject of sentence (16) which is relevant, i.e., which actually enters the burrow, is the hand of that entity (or forepaw, where the entity is a quadruped).

Additional derivations are given in the following paragraphs:

- (19) *Minngarli ka-rna karli milpa-ngurlu.*
 (tear AUX.PRES-1s flow.NPST eye-EL)
 'Tears are flowing out of my eyes.'
 FS: $\bar{N}/ABS(i)$ ((k)LABS, (k)EL)V $\bar{N}/EL(j)$
 PF: (k)($\bar{N}/ABS(i)$), (k)($\bar{N}/EL(j)$)
 PW: The relevant part of (k)LABS is (i), and of (k)EL, (j).
- (20) *Walu-ku O-rna-ju rdaka yarnka-ja ngaju.*
 (head-DAT AUX.PERF-1s-1o hand grab-PST I)
 'I grabbed my head with my hands.'
 FS: $\bar{N}/DAT(i)$ $\bar{N}/ABS(j)$ ((k)LABS, (k)LDAT)V $\bar{N}/ABS(k)$
 REFL: subject = object
 PF: (k)($\bar{N}/DAT(i)$), (k)($\bar{N}/ABS(j)$)
 PW: The relevant part of (k)LABS is (j), and of (k)LDAT, (i).
- (21) *Pirli O-ji yaarl-wanti-ja rdaka-ku.*
 (stone AUX.PERF-1o onto-fall-PST hand-DAT)
 'The stone fell onto my hand.'
 FS: $\bar{N}/ABS(i)$ ((i)3ABS, (k)LDAT)V $\bar{N}/DAT(j)$
 PF: (k)($\bar{N}/DAT(j)$)
 PW: The relevant part of (k)LDAT is (j).
- (22) *Jiri-ngki O wirliya-jarra pantu-rnu kurdu wita.*
 (thorn-ERG AUX.PERF foot-DUAL pierce-PST child small)
 'The thorn(s) stuck the two feet of the small child.'
 FS: $\bar{N}/ERG(i)$ $\bar{N}/DUAL/ABS(j)$ ((i)3ERG, (k)3ABS)V $\bar{N}/ABS(k)$
 PF: (k)($\bar{N}/DUAL/ABS(j)$)
 PW: The relevant part of (k)3ABS is (j).

The foregoing examples all illustrate the Part-Whole relation in which the PART term bears a direct (rather than oblique) grammatical relation in the functional structure of the verb. As (19) shows, however, the PART term may also bear an oblique relation. There are two patterns employed in this case - one corresponding precisely to the favorite pattern so far illustrated, in which the WHOLE and the PART are identically marked for case, and another pattern in which the WHOLE term appears in the dative case, while the PART appears in the appropriate oblique case. The ability of a verbal functional structure to take an 'adjunct' dative (having a variety of functions) is absolutely general in Warlpiri, and I will assume that the dative argument

appearing in the second pattern just mentioned is introduced by the general (lexical) rule - formulated, very approximately, as (23) below:

- (23) DI (Dative Insertion):
(xCASE, ...)V ↔ (xCASE,yDAT,...)v

Examples of both patterns follow forthwith.

- (24) *Nama ka langa-kurra yuka-mi kurdu-kurra.*
(ant AUX.PRES ear-ALL enter-NPST child-ALL)
'The ant is crawling into the child's ear.'
FS: $\bar{N}/ABS(i)$ $\bar{N}/ALL(j)$ ((i)3ABS,(k)ALL)V $\bar{N}/ALL(k)$
PF: (k) ($\bar{N}/ALL(j)$)
PW: The relevant part of (k)ALL is (j).

- (24') *Nama ka-rla langa-kurra yuka-mi kurdu-ku.*
(ant AUX.PRES ear-ALL enter-NPST child-DAT)
'The ant is crawling into the child's ear.'
FS: $\bar{N}/ABS(i)$ $\bar{N}/ALL(j)$ ((i)3ABS,(k)3DAT,(k)ALL)V
 $\bar{N}/DAT(k)$
PF: (k) ($\bar{N}/ALL(j)$)
PW: The relevant part of (k)3DAT(=(k)ALL) is (j).

- (25) *Kurdungurlu-rlu ka-lu wamulu yirra-rni kirda-ngka rdukurduku-rla.*
(Ku-ERG AUX.PRES-333s fluff put-NPST ki-LOC chest-LOC)
'(Members of the) *kurdungurlu* patrimoiety put decorative fluff on the chests of (members of the) *kirda* patrimoiety'.
FS: $\bar{N}/ERG(i)$ $\bar{N}/ABS(j)$ ((i)333ERG,(j)3ABS,(k)LOC)V
 $\bar{N}/LOC(k)$ $\bar{N}/LOC(1)$
PF: (k) ($\bar{N}/LOC(1)$)
PW: The relevant part of (k)LOC is (1).

- (25') *Kurdungurlu-rlu ka-lu-jana wamulu yirra-rni kirda-ku rdukurduku-rla.*
(Ku-ERG AUX.PRES-333s-333o fluff put-NPST Ki-DAT chest-LOC)
(Meaning as in (25))
FS: $\bar{N}/ERG(i)$ $\bar{N}/ABS(j)$ ((i)333ERG,(k)333DAT,
(j)ABS,(k)LOC)V $\bar{N}/LOC(1)$
PF: (k) ($\bar{N}/LOC(1)$)
PW: The relevant part of (k)333DAT(=(k)LOC) is (1).

5. Concluding remarks.

I have suggested here that the favorite mode of expression for Part-Whole

relations in Warlpiri is, within the grammar of the language, a special case of the general process of predication. In gross syntactic terms, it appears to be predication pure and simple. The semantic difference between the Part-Whole type of predication and the predication of a quality (as in (13) above) is effected by a special interpretive rule (formulated as (17) above). I must point out, however, that this treatment is still tentative, though I believe it to be on the right track. Its ultimate justification, however, will require a thorough examination of all patterns used in Warlpiri for the expression of Part-Whole relations. In particular, my understanding of the use of the Dative Insertion rule (23) is not complete, and my use of it here must be considered especially tentative.

NOTES

1. With great pleasure and gratitude, I dedicate this paper to Bruce Biggs, who first awakened my interest in modes of expressing Part-Whole relations and in various possessive constructions by introducing me to the grammar of *a(a)* and *o(o)* in Maaori when we were together at Indiana University. I only wish my paper were more definitive, more in line with Bruce's always careful work.

This work has been supported by a grant from NSF (BNS-7913950), under which aspects of Warlpiri lexicography are being studied. I am grateful to my colleagues in that project, David Nash, Mary Laughren, and Jane Simpson, for many fruitful discussions of the problem which is the topic of this essay.

2. Certain essential features of Warlpiri grammar are described in Hale (1973, 1979) and in Nash (1980). The structure and surface positioning of the auxiliary (AUX) are detailed there, as are aspects of word order and morphology. In the present paper, the perfective (zero base) form of the auxiliary (glossed AUX.PERF) is symbolized O. In reality, the person markers attached to that form of the auxiliary are enclitic to the preceding word.

3. This model of Warlpiri grammar has been influenced by the work of a number of other linguists, among them Bresnan (1980), Farmer (1980), Lapointe (1980), Nash (1980), Whitman (1979). The partial abandonment here of the so-called W-star conception of the Warlpiri base (Hale, 1979) is due in part to the influence of the above mentioned linguists and in part to recent considerations of the phrase structures of Japanese (Farmer, 1980; Hale 1980; Whitman, 1979) and Navajo (Hale and Perkins, forthcoming), whose grammars exhibit certain resemblances in general form to that of Warlpiri.

The symbols X and \bar{X} in rules (9) and (10) are to be thought of as phrasal nodes bearing the absolute minimum of categorial information. Quite possibly, the sole information these nodes bear is that defining the depth of structure (symbolized by the single bar, for the maximal projection in Warlpiri, and zero bar, for the lexical level). If this is true, then, prior to lexical insertion, these X-symbols simply register the configurational structure of subsentential phrases--one can think of them as 'empty brackets', awaiting

eventual feature specification for category. By lexical insertion, the lexical and phrasal nodes are categorially instantiated. Thus, if a lexical item of category N is inserted into the pre-lexical sub-tree



the latter is, by lexical insertion, converted to



For some discussion of this conception of the X-bar convention and its role in defining surface free word order, see Hale (1980) and Farmer (1980). For an exposition of X-bar theory, see Jackendoff (1977).

4. I am assuming here the modular conception of grammar of the so-called revised extended standard theory of transformational-generative grammar, as exemplified in Chomsky and Lasnik (1977) and in much other recent literature. My locution 'semantic form' corresponds to the component termed LF (suggesting 'logical form') in this literature.

5. The reader is invited to contemplate a potential problem which arises immediately in the system I have set out here. The nature of this problem can be seen by applying the dative insertion rule (23) to sentence (19) and continuing the derivation in a fashion roughly parallel to the derivations (24') and (25'). Such a derivation is suggested by the grammaticality of the following sentence:

Minngarli ka-ju karli milpa-ngurlu.
(tear AUX.PRES-1o flow.NPST eye-EL)
'Tears are flowing out of my eyes.'

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