Towards a Typology of Configurationality

Rob Pensalfini, University of Queensland

School of English, Media Studies, and Art History

University of Queensland

Brisbane, Qld 4072

Australia

electronic mail: r.pensalfini@uq.edu.au

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Abstract

This article examines a variety of languages which have been called 'nonconfigurational', and introduces new material from the Australian language Jingulu, to show that there is a wider variety of types of nonconfigurationality than has been assumed in previous analyses within the Principles and Parameters framework. It is argued that Baker's (1996a, b) approaches are essentially correct in their analysis of 'how' various nonconfigurational languages establish relationships between overt elements, but that they fail to capture the 'why' of nonconfigurationality. This source, it is argued, is a restriction on what positions in the clause are able to host encyclopedic information (as opposed to formal features, which are always permitted in core predicate and argument positions). These restrictions drive a language to employ various of the mechanisms proposed by Baker in his work. This analysis is then extended to a variety of language types. Finally, a continuum of (non)configurational types is established among some Australian languages.

1. Overview of the model

The model of configurationality used in this paper depends on several key notions. The term *nonconfigurationality* has a chequered history, having been used in different ways (and more or less discriminatingly) over the past few decades by scores of authors. Without giving a history of the term (for which interested readers are referred to Marácz and Muysken 1989 or Nordlinger 1998), it can be stated that there are two general camps with regard to nonconfigurationality: those who believe that nonconfigurational behaviour stems from a radically different organisation of the base structure of language than is seen in configurational languages (a macro-parameter, as proposed in Baker 1996a), and those who believe that surface nonconfigurationality arises through interactions of a number of smaller parameters (Hale 1989). This article stands somewhere between those camps in arguing on the one hand that various behaviours canonically associated with nonconfigurationality are independent properties, but on the other hand that there are radically different ways in which languages can relate information that might best be seen as referential or encyclopedic to elements that are required by the computational system of the language faculty.

Linguists commonly distinguish between *communication* and *language*, considering them to be independent phenomena. Furthermore, formal syntacticians, particularly those of the generative schools, distinguish crucially between *language* and

grammar. Within syntax , there has also long been a distinction made between *functional* or *grammatical* items and more referential *lexical* items, with the most clearly articulated theory making use of this distinction in recent times being Distributed Morphology (Halle and Marantz 1993, Marantz 1996). In Distributed Morphology, items which have traditionally been called *functional* are said to be composed of formal features alone, that is features which are directly manipulated by the computational system of the language faculty (following Chomsky 1993, 1995). These loosely correspond to closed class items and inflectional and category-changing elements. On the other hand, *lexical* items are typically composed of both formal features and encyclopedic features. Encyclopedic features are those which give an element its status as a Saussurean sign, and allow it the possibility of referring to items or events in the world. Open class words typically consist of both encyclopedic and formal features. Distributed Morphology (particularly Marantz 1996) holds that open class words are composed of at least two component morphemes, an encyclopedic component and a purely formal component, with the 'word' being constructed in the syntax via the regular operations of the computational system.

Marantz 1996 thus paves the way for the analysis proposed in this article, whereby some languages (those traditionally called *nonconfigurational)* do not allow encyclopedic referential elements to combine syntactically with formal-feature-bearing morphemes in certain core syntactic positions in certain types of clause. 'Core'

syntactic positions are those occupied by the syntactic predicate and its syntactic arguments.

The syntactic systems of language have two major functions: computational and referential. The computational function of syntax is what makes human language distinctly and uniquely human. It allows speakers to combine and recombine conventionalised referential signs into an infinity of novel utterances. The referential function of language is what makes the computational system worth having – it allows us to use syntax to make reference to our environment (past, present, future, or imagined). This is not the same as the distinction between form and function, I am talking here purely about form. Nor is it correct to argue that recent Minimalist approaches to syntax by Chomsky and his colleagues seek to study only the computational function: pronominal reference, anaphora, perhaps even selection of arguments by a predicate are all elements of the referential function of language. Co-indexation of co-referent elements by subscripts is a prime example of autonomous indication of the referential function of syntactic elements within formal syntactic theory.

In English in particular, and in the 'better-studied' languages of formal syntax, the computational and referential functions are inextricably bound together in words, with most items having both computational and referential relevance. A subject noun phrase, for example, is both the element occupying the computational position of subject and the noun phrase referring to an entity; a (non-auxiliary) verb is both the computational predicate and the element

referring to situation type. What this paper argues is that so-called nonconfigurationality arises where a language separates out the functions into separate sub-systems of syntax, where (for example) distinct elements occupy the roles of computational subject on the one hand, and referring nominal on the other. This aspect of the approach in this article owes a lot to earlier work on nonconfigurationality by Jelinek (1984) and Baker (1996 a, b), whose work is discussed in section 2.1.

However, saying that the computational and referential functions of syntax can be separated and fulfilled by distinct elements is not the same as the claim made in modular theories of grammar, wherein different functions of syntax or grammar are given completely independent representations. The analysis proposed in this article fits into the transformational school of 'Chomskyan' syntax, whereby these functions are fulfilled within a single representation. Modular approaches have had some success in dealing with nonconfigurationality, and while these fall outside the theoretical ambit of this article, some of them are briefly touched on in section 2.2.

2. Some previous approaches to nonconfigurationality

2.1. Principles and Parameters

The issue of nonconfigurational languages has vexed linguistic theory at least since Hale's (1980) exposition of Warlpiri, a central Australian language which displays free word order, multiple non-adjacent co-referent nominal elements (so-called 'discontinuous NPs'), and dropping of overt arguments. Since 1980, languages from all over the world, from a wide variety of language families and geographic regions, have been labeled 'nonconfigurational' for one reason or another (see, for example, Marácz and Muysken 1989). For the purposes of this paper, it will be essential to exclude scrambling languages from the mantle of nonconfigurationality. A scrambling language is one like Japanese or German which exhibits a high degree of freedom of word order within the clause, and even some apparent discontinuity of NPs, but for which an analysis involving movement from an underlyingly configurational base is most successfully argued for. Scrambling languages tend to lack the complete freedom of constituent order demonstrated by truly nonconfigurational languages, their freedom being restricted by the types of movement that elements are allowed to undergo from a unique base position (see, for example, Saito 1989 or Webelhuth 1989).

Setting aside scrambling languages, there appear to be two extreme kinds of truly nonconfigurational language, as identified by Baker (1996b, but also mentioned in Baker 1996a). The first kind is what Jelinek (1984) called the "pronominal argument" type, characterised by head-marking[1]: morphemes within the clausal predicate-word encode properties of the clausal arguments (person,

number, possibly gender, animacy etc.). Mohawk is a particularly clear example of the pronominal argument type:

(1) a. Shako-núhwe'-s (ne owirá'a).
m.sgS/3plO-like-HAB NE baby
He likes them (babies). (Baker 1996a, p. 21)

b. (Owirá'a) Shako-núhwe'-s.

c. Wa'-ke-tshʌ̄ri-' kíkʌ káhure'.
FACT-1sgS-find-FACT this gun
I found this gun. (Baker 1996a, p. 41)

d. *Káhure' wa'-ke-tshʌ̄ri-' kíkʌ .

The optionality of noun phrases and the freedom of constituent order is demonstrated by (1a-b). Note the appearance of argument marking in the predicate word. The ungrammaticality of (1d) as compared to (1c) shows that NP discontinuity (or more than one NP per argument) is not freely permitted.

It is this type of language that Baker's (1996a, p. 17) Morphological Visibility Criterion (henceforth MVC) is designed to account for:

(2) The Morphological Visibility Criterion[2]

A phrase X is visible for θ-role assignment from a head Y only if it is co-indexed with a morpheme in the word containing Y via:

(i) an agreement relationship, or

(ii) a movement relationship

In a Mohawk sentence like (1), the agreement morpheme(s) in the verbal word (which appear in order to satisfy the MVC) absorb the case features which would otherwise be assigned to overt NP arguments (in much the same way as passive morphology absorbs accusative case features according to Baker, Johnson, and Roberts 1989). The argument positions in the clause must therefore be occupied by null elements, since overt NPs are ruled out by the Case Filter. There are, in principle, two ways of satisfying the Case Filter here: the argument position may be filled by *pro*, or else an overt NP may be generated in the argument position and moved to a clause boundary (leaving a trace in the argument position). In Mohawk, the first option is realised as dislocation, and the second is observed in *wh*-questions. Dislocated NPs may be construed with *pro* in argument positions so long as these NPs are referential (and therefore able to enter into such relations with pronominals). Dislocation gives rise to free constituent order, since arguments can be either left- or right-dislocated, and can appear in any order with respect to one another. All apparent NP discontinuities in Mohawk can be explained in terms of floating off of D(eterminer)-like

elements, so there is no need to posit the generation of more than one NP for any given argument position.

At the other extreme of nonconfigurationality is the dependent-marking nonconfigurational language, typified by Jiwarli (Austin 1993, Austin and Bresnan 1996). Jiwarli lacks the morphological representation of arguments within the predicate-word, but like pronominal argument languages displays the highest imaginable degree of word order variation and extensive dropping of arguments. Overt nominals bear case affixes indicating their relationship to one another and to the clausal predicate. Unlike Mohawk, discontinuities in Jiwarli do not always involve the separation of D-like elements from other items that could be argued to be in the same NP. Instead, it appears that any number of fully NP-like elements (such as the boldfaced elements in (3)) may be linked to a single argument position.

(3) a. Juru-ngku **ngatha-nha** kulypa-jipa-rninyja
sun-ERG *1sg-ACC* *be_sore-TRANS-PST*
parna.
head
The sun made my head sore.

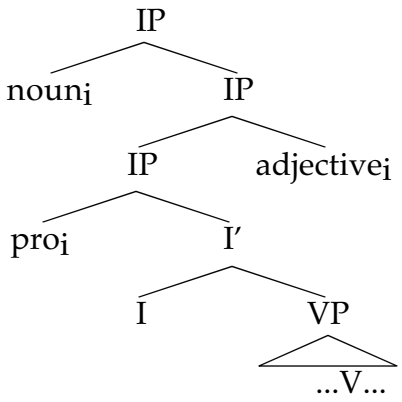
b. **Kutharra-rru** **ngunha** ngurnta-inha **jiluru**.
two-now *that* *lie-PRES* *egg(NOM)*
Now those two eggs are lying there.

c. **Karla** wantha-nma-rni **jarnpa** **juma**.
fire *give-IMPV-hence* *light* *small*
Give me a small fire light. (Austin 1993)

These languages clearly cannot be subject to the MVC, as θ-assigners do not appear in words that contain morphemes able to be co-indexed with argument positions (there is neither agreement nor incorporation). Baker (1996b) suggests that Jiwarli-type languages represent a non-polysynthetic type of nonconfigurational language, one which does not obey the MVC and in which overt NPs are linked to argument positions via secondary predication. Argument positions in these languages are always occupied by *pro,* which is licensed by the same mechanism that licenses *pro* in configurational pro-drop languages (whatever that may prove to be). In Jiwarli-type languages, unlike configurational pro-drop languages, the appearance of *pro* is mandated because the θ-assigner is unable to assign (or check) case, and so overt NPs in argument positions would violate the Case Filter. Because overt NPs are licensed by secondary predication on *pro* in argument position, not only are they free to occur in any order with respect to one another, but there is also no limit on the number of overt NPs which may be predicated on a given *pro,* hence the appearance of apparently discontinuous NPs.[3] According to Baker, the overt case-marking found on these NPs serves to indicate the argument position upon which the NP is predicated.

A note is in order here about the nature of the relationship existing between overt nominal adjuncts and *pro* in argument positions. While Baker (1996b) characterises this relationship as secondary predication, it is clearly different from the predication relationship discussed by Williams (1980) and generally understood by the term *predication.* Williams noted that a predicate must be c-commanded by and c-subjacent to its (NP) subject, while in the structure proposed by Baker, characterised in (4), there is mutual c-command between the overt nominal 'predicate' and the *pro* that it is predicated of.

(4)



In addition, the relation between overt nominals and *pro* in argument positions does not display any of the restrictions on secondary predication observed in English. However, like the kind of predication that Williams discusses, more than one predicate is permitted on a single 'subject'. I will continue to use the term 'secondary predication' to refer to this relationship for the time being, because it expresses the idea that overt nominals are

predicated of *pro* in addition to the V or VP being predicated of *pro*, but it should be understood that I am not claiming that the relationship is like secondary predication in English (depictive or resultative) in any other respect. On the surface of it, it appears that Jiwarli-type languages allow a kind of predication that is not allowed in English, and that this therefore represents a further parameter which must be factored in to an account of (non)configurationality.[4] Recent research by Mary Laughren (2002) suggests, on the other hand, that the relationship between case-marked nominals and the gaps in the core IP (empty argument positions) might involve movement, rather than base-generated predication. The exact formal nature of this relationship is an important topic for future research.

Nordlinger (1998a, pp. 40-41) provides arguments against Baker's analysis of dependent-marking nonconfigurational languages. The strongest of her arguments are (i) that overt nominals are sometimes obligatory in the dependent-marking nonconfigurational language Wambaya, (ii) that Kayardild appears to be a Jiwarli-type language in all respects except that it does not allow discontinuous constituents (multiple secondary predications on *pro* arguments), and (iii) that Kayardild also has a class of nominals that can function only as secondary predicates and cannot be construed with argument positions.

Objections (ii) and (iii) above fall away if it can be shown that Kayardild is not nonconfigurational in the sense intended by Baker, for which a variety of so-called nonconfigurational properties must

cluster together. Pensalfini (1992) demonstrates that Kayardild is unusual among Australian languages which allow free constituent order, in that it does not allow free ordering of syntactic elements within NP, nor does it allow discontinuous constituents. That is, it shows a strongly configurational NP structure. In Pensalfini 1997, I make a case for considering Kayardild to be discourse-configurational, along the same lines argued for Hungarian by Kiss (1995), based on data found in Evans 1996. In brief, non-argument NPs in Kayardild do not appear to be freely ordered with respect to the verb, and ordering of argument NPs with respect to the verb and one another may be attributable to discourse roles such as Topic and Focus. Therefore the only apparent nonconfigurational property that Kayardild shows, free constituent order, may be attributable to discourse-driven syntactic movement.

Objection (i) is addressed in section 4.4 (and mentioned in section 3.1). Wambaya does indeed seem, at first glance, to be a counter-example.

On the other hand, viewing the appearance of overt nominals in dependent-marking nonconfigurational languages as instances of predication does provide a further insight into the behaviour of these languages that does not directly follow from the analysis proposed by Nordlinger (1998a). Baker (1996b) notes that these languages are unusual in collapsing the categories of adjective and noun into a single distributional and morphological class of nominals, case bearing elements which appear freely ordered with respect to one another and the verb. These elements have the

syntactic distribution of adjectives rather than of nouns – that is they cannot appear in argument positions and rather appear predicated of true (null) arguments. As a result, any number of them may be construed with a single null argument, and they need not be adjacent.

By contrast, other languages which do not make a three-way category distinction between verbs, nouns, and adjectives generally group adjectives with verbs, as predicates. Polysynthetic languages such as Mohawk, for instance, generally have adjectives which are sentential heads, inflecting in accordance with the MVC just like verbs. In these languages nouns are able to form NPs in the usual way, but these NPs must be dislocated from argument positions due to their inability to receive case there.

In Jingulu, as seen in section 3, nouns and adjectives show some syntactic differences when they are used as sentential heads, with nouns taking Ergative case-marked subjects and adjectives taking Absolutive (unmarked) subjects. Thus, there is a syntactic difference between nouns and adjectives when used as matrix predicates, but this distinction is collapsed when they are used as secondary predicates linked to *pro* arguments. To foreshadow the discussion in section 3, the fact that adjectives and nouns can be distinguished in Jingulu on formal grounds, but not when they are construed with arguments suggests that the nonconfigurational behaviour of Jingulu nominals cannot simply be linked to their categorial status as adjectives, as Baker (1996b) suggests.

2.2. Other formal approaches

This article is couched in the terms of the Principles and Parameters framework, which is why so much space was devoted to these approaches in the previous section. It should be noted, however, that research in other frameworks has provided great insights into the question of nonconfigurationality and how it should best be treated formally. Each of these approaches, like the approach presented here, has its drawbacks as well as its successes, and it is not my intention to argue for any one framework over another. However, a brief discussion of some key points of two other approaches is appropriate here.

The greatest challenge for the Principles and Parameters approach with regard to nonconfigurational behaviour is in accounting for an apparent absence of structure within a transformational theory wherein grammatical functions are defined by structural positions. Modular frameworks, most notaby Autolexical Syntax (AS, Sadock 1991) and Lexical Functional Grammar (LFG, Austin and Bresnan 1996, Nordlinger 1998), propose treatments that would appear to be more straightforward than those outlined in the previous section. Both of these approaches neatly capture the long-standing observation that in some languages morphology identifies the major clausal constituents, while in other languages word order and phrase structure do so.

AS separates syntactic, semantic, and morphological structure (among many other systems) into separate modules. Nonconfigurational languages are those in which the morphological module bears the responsibility for identifying grammatical functions while in configurational languages the syntactic module fulfils this responsibility. Argument-predicate relations and relations of reference would be defined at the level of semantic structure rather than constituent structure in nonconfigurational languages. While AS has not dealt directly with Australian nonconfigurational languages such as Warlpiri, Sadock (1994) makes such a case for VP-less constituent structure in West Greenlandic.

In the LFG approaches mentioned above, grammatical roles can be constructed in the phrase structure, by the morphology, or by the two in combination. Nordlinger 1998a represents the pinnacle of LFG work on (non)configurationality.

What these approaches do not account for is that even the most highly nonconfigurational languages show some evidence of structural determination of grammatical functions. Control, inter-clausal binding, and idioms all show subject-object asymmetries of the kind familiar from configurational languages. Manning and Sag (1999) have shown that, within modular theories of syntax, some of these asymmetries can be accounted for without reference to phrase structure, but some phrase-structure related phenomena remain: incorporation hierarchies, such as the one discussed in section 4.6 for Mayali (following (29)) imply configurational clause structure,

and there also exist restrictions on word order which would appear to defy any but a configurational analysis. Warlpiri, for example, the original 'nonconfigurational' language from Hale 1980, does not allow free ordering of constituents in non-finite clauses, but demands a strict OV ordering with no discontinuity permitted. Furthermore, NPs construed with arguments in these clauses do not show the same case-marking as in (nonconfigurational) main clauses (Laughren 1989).

Mary Laughren (2002) has suggested that this is evidence for case-marking (in Warlpiri) being associated with non-occurrence of arguments in argument positions in regular matrix clauses. Further evidence for this hypothesis comes from Yir Yoront, a language of Western Cape York, which has a fairly rigid SOV order in subordinate clauses (but quite free constituent order in main clauses). In these subordinate clauses, case marking on overt nominals is not found (Barry Alpher, personal communication).

Nordlinger's (1998a) LFG analysis of dependent-marking configurationality might propose that in these dependent clauses, it is phrase structure position, and not morphology, that constructs the grammatical functions, but there is no reason why structural determination of grammatical function should not co-occur with case-marking in these instances. The fact that it does not suggests that overt case morphology is marking a relationship between the nominal and its predicate that is not present in the 'configurational' clauses of the language. I believe that case morphology is marking, not constructing, the relationship between an overt nominal and an

argument position. Whether this relationship is derived by movement, as Laughren (2002) has suggested, or by secondary predication of the kind outlined by Baker (1996b), is a matter for further research.

3. Jingulu

3.1. A typological hybrid

Baker's analyses suggest a very clear-cut linguistic typology. Languages are either polysynthetic, observing the MVC, or they are not. Among those that are non-polysynthetic, there are languages in which θ-assigners (or functional projections associated with them) are able to assign/check case (configurational languages, including scrambling languages) and there are languages in which θ-assigners can do no such thing (nonconfigurational languages of the Jiwarli type). The designation 'nonconfigurational', as hitherto used, actually cuts across both polysynthetic and non-polysynthetic languages.

Jingulu, a non-Pama-Nyungan language of central Australia, however, displays a combination of properties of polysynthetic and Jiwarli-type nonconfigurational languages, yet is even more extreme in apparently also allowing verbs to be dropped freely. Like both Mohawk and Jiwarli, Jingulu displays free constituent order. All Jingulu examples in this paper are drawn from my field notes,

and most of them appear in my grammar of Jingulu (Pensalfini in press). The sentences in (5) were generated by me (a non-native speaker) in elicitation sessions but accepted as perfectly good Jingulu equivalents for one another by native speakers, while the sentences in (6) were produced by native Jingulu speakers.

(5) a. Uliyija-nga ngunja-(Ø-)ju karalu. [SVO]
sun-fERG burn-(3sg-)do ground
The sun is burning the ground.

b. Uliyijanga karalu ngunjaju. [SOV]
c. Ngunjaju uliyijanga karalu. [VSO]
d. Ngunjaju karalu uliyijanga. [VOS]
e. Karalu uliyinanga ngunjaju. [OSV]
f. Karalu ngunjaju uliyijanga. [OVS]

(6) a. Ngayirni binjama-nga-(Ø-)ju babirdimi. [SVO]
1sgERG grow-1sg-(3O-)do yam
I grow potatoes.

b. Nyinda-bili-rni bundurru ukukbili-wunya-nu.
DEM(m)-dl-ERG food wrap-3dl-did
Those two wrapped the food. [SOV]

c. Nganya-(Ø-)(Ø-)marriyimi marlarluka-rni
sing-(3sg-)(3O-)DIST old_man(pl)-ERG
kujika-rni.
song-FOC
[VSO]
The old men used to go singing initiation songs.

d. Darra-(Ø-)(Ø-)ju kardakarda warlaku-rni.
eat-(3sg-)(3O-)do bone dog-ERG
The dog's chewing a bone. [VOS]

e. Kurrubardu marlarluka-rni nangka-(Ø-)(Ø-)marri.
boomerang old_man-ERG chop-(3sg-)(3O-)DIST
The old folk would make boomerangs. [OSV]

f. Kijurlurlu wiki-wurru-(Ø-)ju wawa-la-rni.
stone gather-3pl-(3O-)do child-pl-ERG
The children are picking up stones. [OVS]

The subject and object agreement markers following the verbal root are obligatory (note that agreement with third person singular subjects and all third person objects is null), which might lead us to

conclude that Jingulu is a language that obeys the MVC. However, contrary to the predictions of the MVC, free word order is also found with nominal predications, where there are no morphemes in the clause which can be linked to arguments of the predicate. The sentences in (7) were checked with native speakers and found to be acceptable equivalents, and equivalent orders of nominal predicate, subject, and modifier of subject are found in texts.

(7) a. Ngarri-na-rni kirda ngunbuluka.
1sgGEN-m-ERG *father* *doctor*
My father is a doctor.

b. Ngarrinani ngunbuluka kirda.
c. Ngunbuluka ngarrinani kirda.
d. Ngunbuluka kirda ngarrinani.
e. Kirda ngarrinani ngunbuluka.
f. Kirda ngunbuluka ngarrinani.

A functional approach to free word order has been proposed, for example by Mithun (1987) and Blake (1983), wherein alternative word orders represent ordering of elements in accordance with pragmatic prominence. However, Jingulu has a morphological marker of discourse prominence whose appearance on an element is completely insensitive to that element's linear position (Pensalfini 1997, 1999b), as well as a *bona fide* dislocated topic

construction (discussed below), so ordering of nominals cannot be put down to pragmatic principles alone.

As in both Mohawk and Jiwarli, Jingulu permits dropping of any or all NPs construed with arguments:

(8) a. Jama-rni warlaku-rni dajba-narna-nu.
that(m)-FOC dog-ERG bite-3sgS1O-did
That dog bit me.

b. Banybila-nga-nu ibilka karrinbiyi
find-1sg-did water tree_water
I found tree water.

c. Kirdbaja-nga-nu.
break-1sg-did
I broke it.

d. Umbuma-narna-nu.
sting-3S1O-did
It stung me.

e. Bijbulaka-ardi angkurla maya-nya-ardi
jump-HAB NEG hit-2sg-HAB
kurrubardi-rni-warndi kuwarrku.
boomerang-FOC-INST nothing
It jumps up and you can't hit it with a boomerang or anything.

In (8a) there is no overt nominal corresponding to the object, while in (8b) it is the subject that is not represented overtly. Both subject and object are left unexpressed (by overt nominals) in (8c-e).

Nordlinger (1998a, b) notes that in Wambaya, the closest surviving relative of Jingulu, there are certain cases in which the object cannot be dropped. Dative-marked objects of semi-transitive verbs such as *wait for* and *seek* cannot be omitted in Wambaya (this is discussed further in section 4.4). In Jingulu, equivalent verbs are found with objects that are marked Dative only if they are non-pronominal; these elements appear in the Accusative if they are pronominal. As with other objects, null anaphora is permitted with these verbs in Jingulu (compare (9a) to (9b)).

(9) a. Jaja-mi ngarru!
wait-IRR 1sgACC
Wait for me!

b. Ngini-mbili jaja-mi!
this(n)-LOC wait-IRR
Wait for me here![5]

Nordlinger also notes that non-singular object NPs cannot be dropped in Wambaya. Like Jingulu, Wambaya agreement does not distinguish number for objects. In Wambaya, the object is always interpreted as singular if no overt non-singular NP is present. However, in Jingulu an object may be singular, dual, or plural when there is no overt NP object, despite the lack of distinction in the agreement forms. The translations of the Jingulu sentences in (10) were the only ones available given the context of the utterances.

(10) a. Jimi-rna ngunya-ana-ngku ngayarni.
that(n)-FOC give-1O-will_come 1sgERG
I've come to give this to us.[6]

b. Jama-bilarna-rlu wirlingki-wunya-ana-nu
that-dl(ANIM)-ERG scold-3dl-1O-did
jama-bilarna-rlu marluka-yarla
that-dl(ANIM)-ERG old_man-dl
yukulyarri-rni-ngkami.
goat-FOC-ABL
Those two old people told us off for chasing goats.

Assuming that the facts presented by Nordlinger regarding obligatory objects do in fact represent grammatical requirements, and not simply preferences enlisted for the purposes of disambiguation as they are in Jingulu, Wambaya appears to be a serious counter-example to the general approach to nonconfigurational languages pursued by Jelinek and Baker. In section 3.2.6 I consider the possibility that pronouns may occur in argument positions in some languages which do not permit other overt nominals to occur there. In section 4.4, returning to Wambaya, I suggest that dative objects might be considered non-object complements.

Another property of Jingulu which distinguishes it from MVC-observing languages is the appearance of apparent discontinuous NPs (multiple non-adjacent co-referent nominals). This is a property of secondary predication languages like Jiwarli (see (3)). The boldfaced nominals in each of the sentences of (11) refer to the same entity.

(11) a. **Mardilyi** karrila **jamarniki-rni**!
sickly(m) leave_it(IMPV) this(m)-FOC
Leave this old sickly fellow alone!

b. **Ngamurlu** ngayi-rni **jurrkulu-rna**
big(n) *1sgNOM-FOC* *creek-DAT*
ambaya-nga-yi.
speak-1sg-FUT
I'm telling you about the big creeks.

c. **Ngunu** maja-mi ngarru **darrangku**.
DEM(n) *get-IMPV* *1sgACC* *stick*
Get me that stick.

d. **Murrkulyi** miyi-ngirru-nu **karruji**.
three *kill-1plExc- did* *spider*
We killed three spiders.

e. **Darduwala-rni** maja-ni-ngurru-ju **wajbala-rni**.
mob-ERG *get-INV-1plInc-do* *whitefella-ERG*
Lots of white people took photos of us.

f. **Jiminiki bikirra nyambala** kurdarlyurru ka-ju
this *grass* *DEM(n)* *green(n)* *3sg-do*
bikirra-rni.
grass-FOC
The grass is green.

See also (7b) and (7f).

The most natural analysis for these constructions is one which involves multiple predications on *pro* arguments, as Baker (1996b) argues for Jiwarli, rather than generating the nominals within a single NP. More than one demonstrative referring to a single argument is not only permissible, but is in fact an extremely common strategy (see (10b), (11f) and (12)). It is also common to find a pronoun with the same reference as an overt nominal (12e) or a nominal repeated in a clause (11f). This makes it unlikely that these words were generated together within a single NP and somehow split up at a later stage in the derivation (such as by scrambling). Once again, words referring to the same entity in the sentences of (12) are given in boldface.

(12) a. **Jama-rni** **nginininiki-rni** bulurukuji.
that(m)-ERG *this(n)-ERG* *bee_bush* [7]
This is a bee bush.

b. **Jamaniki-rni** ibilka-rdi **nyambala** kurranjiyaji.
this (m)-FOC *water-HAB* *DEM(n)* *shallow*
This water is shallow.

c. **Jimi-rna** **nyambala** warrka-nu balarrjuwa-nu.
that(m)-FOC *DEM(n)* *fall-did* *smash-did*
It fell and smashed.

d. **Nyambala** banybili-ngirri-marriyimi
DEM *find-1plExc-DIST*
arduwa-nama **nyambala**.
careful-time *DEM*
We used to find that if we were careful.

e. Nyami-nga nayu-nga ngaba-ju **kunyaku**
DEM(f)-fERG *woman-fERG* *hold-do* *2dlACC*
kujkarrabilarni **bayiny-bila**.
two(m) *man-dl(ANIM)*
That woman has you two men.

As previously mentioned, this behaviour is more typical of a Jiwarli type (secondary predication) language.[8] However, pronominal-like agreement elements within the word containing the θ-assigner are not the only similarities between Jingulu and Mohawk-type polysynthetic languages. While free nominals most commonly bear overt case markers (as in Jiwarli), Jingulu optionally allows nominals in clause peripheral positions to appear in default case (nominative for pronominals, absolutive (unmarked) for other nominals), irrespective of the argument they represent (as in (13)). These nominals are usually set off from the rest of the clause by an intonation break.

(13) a. **Dilkurni nginaniki**, kakuwi darra-ardi.
kite this(f) fish eat-HAB
The white-breasted kite eats fish.

b. Lamurrangkurdi darra-ardi, **ngindi barnibukarri**.
stinking_turtle eat-HAB that(m) hawk
The hawk eats stinking turtles.

c. **Jama-bili-rna**, birri-wunya-ana-miki
that-dl(ANIM)-FOC visit-3dl-1O-came
marluka-yili-rni.
old_man-dl-ERG
Those two old people came to see me yesterday.

The boldface nominals in (13a-c) are expected to appear with ERG suffixes, referring as they do to animate subjects of transitive predicates, but instead appear in the unmarked ABS form.

d. **Kunyuurlu**, nyambala-nayi miyi-wurru-nyu-ju
2dlNOM DEM(n)-INDEF hit-3pl-2O-do
kunyaku.
2dlACC
You two, they hit you two as well.

e. **Kurraala**, dajba-ni-kurru-nu murrkunbala.
2plNOM bite-INV-2pl-did three_people
It's bitten you three.

The pronominals in (13d-e) refer to objects of transitive verbs and therefore are expected to appear in the Accusative, but instead appear in the Nominative (note that the object in (13d) is also referred to by pronouns in Accusative forms).

f. **Nginda**, duku-nga-rriyi ibijinku-ngka.
DEM(m) sit-1sg-will_go shade-ALL
I'm going to sit in that shade.

g. Lilingbi-nga-ju ngininiki-rni linku-mbili, **mangarli**.
hurt-1sg-do this(n)-FOC chest-LOC chest
My chest hurts here.

h. Kalyurrunga-rni-mbili kibardka-nga-rriyi,
water-FOC-LOC swim-1sg-will_go
kalyurrunga.
water
I'll have a swim in the water.

In (13f-h) the unmarked nominals are construed with elements that are in non-core (semantic) cases. In each of these cases the

appearance of the nominal in an unexpected case is dependent on its being clause-peripheral.

These facts suggest that dislocation of NPs, such as Baker has proposed for Mohawk, is also an option in Jingulu. The appearance of dislocated nominals in default case (NOM for pronouns, ABS for other nominals in Jingulu) is exactly as we find for dislocation structures in English:

(14) a. **Him**, I think he's the one who sang last night, Pavarotti.
b. Who's there? - **Me**!
c. [You and **them**] can all go together.

A dislocated pronoun in English (14a) bears Accusative case. This is the default case in English, as can be seen from single word utterances and coordinate NPs like (14b-c). In Jingulu, as in most other languages, the default case is Nominative/Absolutive; the case of a single word utterance is always NOM/ABS (except for Vocatives).

Dislocated nominals appear at clause boundaries, outside the positions occupied by secondary predicates, most likely in [Spec, CP] given that dislocation and *wh*-questions seem to be mutually exclusive (Pensalfini 1997). Dislocation is assumed to involve an operator-variable relationship between the dislocated nominal in clause-peripheral position and *pro* in the argument position. A *pro* that enters into such a relationship with a dislocated nominal can

still have nominals predicated of it by what I have called "secondary predication", following Baker (1996b). The sentences in (13c-e) give examples of both a dislocated nominal and additional nominals predicated of the *pro* with which the dislocated nominal is construed.

It would appear, then, that Jingulu uses a combination of dislocation and secondary predication structures in order to express overt nominals that are construed with null arguments. The co-occurrence of these licensing strategies in Jingulu has serious implications for a theory of nonconfigurationality: the choice of licensing strategy cannot follow directly from a difference between case properties of θ-assigners or adherence to the MVC. In the next section, I argue that these strategies are not the source of nonconfigurationality per se, contra Baker (1996b), but are options available to a nonconfigurational language in marking construal of overt elements with null arguments.

A further property of Jingulu, and one that neither the MVC nor secondary predication analyses predict, is that it allows the verb root to be left out of a clause. This root, best viewed as a co-verb, is the element which precedes agreement marking in the verbal word, and which expresses the information that English speakers would associate with a verbal head (Chadwick's (1975) "stem"). This root, however, is entirely optional, the only compulsory elements of a verbal clause being the agreement markers and the final morpheme of the verbal word which encodes tense, aspect, mood, and directionality (Chadwick's (1975) "final").

Compare the clauses which contain roots (in boldface) in (15) to those without roots in (16).

(15) a. **Jirrkiji**-mindu-wa.
run-1dlInc-will_go
You and me will run (off).

b. **Ngaja**-nya-ana-ju.
see-2sg-1O-do
You can see me.

c. **Anikiya**-nya-ju.
do_what-2sg-do
What are you doing?

Root-less clauses are primarily used to express coming and going (16a-b), or in tandem with nominal or adverbial words to create clauses with predictable meanings (16c-e), but they can also be used when the root meaning is understood, in root ellipsis constructions (16f-i).

(16) a. Ya-ardu kardarda ya-jiyimi.
3sg-go always 3sg-come
He's always coming and going.

b. Ya-angku.
3sg-will_come
He will come.

c. Kara-mbili nga-ju.
fog-LOC 1sg-do
I'm in the fog.

d. Jangu wurru-ju.
nothing 3pl-do
They're doing nothing.

e. Nam wunyu-ju.
stuck 3dl-do
They're stuck together.

f. Ajuwara manyan nya-nu? - Ngindi-mbili nga-nu.
where sleep 2sg-did DEM-LOC 1sg-did
Where did you sleep? I did it there.

g. Marlarluka ya-marriyimi.
old_men 3sg-DIST
They did (it) in the old days.

h. Ngini-mbili **mankiya**-nga-yi, ngawu-nu nga-yi.
here *sit-1sg-FUT* *home-did* *1sg-FUT*
I'll stay here, I will (stay) home.

i. Ngindaniki-rni marlarluka-rni ya-marriyimi
this(m)-FOC *old_men-ERG* *3sg-DIST*
janbara-mbili.
nest-LOC
In the old days people would perform tree burials.
[literally: Olden people did (them) in nests]

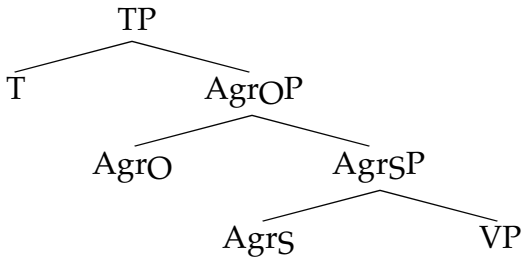
The final example, (16i), shows an ERG-marked NP occurring without a root.

Jingulu root ellipsis can be distinguished from VP-ellipsis in more familiar languages like English on three major grounds. First of all, note that sentences like (16a-e) are the only ways of expressing these meanings. There are no lexical roots in Jingulu with meanings *come, go, be, do*. Secondly, unlike VP-ellipsis, root ellipsis does not require a linguistic discourse antecedent. Sentence (16g), for example, was uttered on seeing a picture (in a book) of women grinding grass seeds, where no previous discussion of the topic had taken place (*marlarluka* in this sentence refers to 'the old days', not to the subject). English requires the use of the demonstrative *that* with focus*(They did THAT in the old days / #They did it in the old days)* under such circumstances, while Jingulu does not require the use of a demonstrative (though it does allow one). Finally, VP-

ellipsis requires the omission of internal complements as well as the verb, while Jingulu root-drop does not, as (16h) shows.[9]

Baker (1996a) notes that in head-marking languages, the configurational structure apparently lacking in the clause is found (reflected) in the morphological constituency of the head word. This is basically a revision of the observations that led to the formulation of the Mirror Principle (Baker 1985).[10] Jingulu inflection, however, appears on the surface to be contrary to these observations. Under Chadwick's (1975) analysis of the Jingulu verb-word as stem+subject_marker+object_marker+final, the Head Movement Constraint (Travis 1984, from which the Mirror Principle effect derives) drives us to an underlying structure like that in (17), wherein the subject (external argument) is closer to the verb than the object (internal argument) is, violating a supposed universal principle of grammar.

(17)



An alternative analysis, discussed at length in the next section, posits the true syntactic verb in Jingulu as Chadwick's (1975) "final" (the tense-bearing final morpheme), with the root being viewed as a category-less element. Under this analysis, the verb-word consists of the optional category-less root followed by a verb with agreement

prefixes (as opposed to the more traditional view of the word as a stem with inflectional suffixes for agreement and tense/aspect/direction). This insight allows us to propose an alternative source for Jingulu's nonconfigurational behaviour.

3.2. A different source for nonconfigurationality

In this section, I propose an analysis of Jingulu morphosyntax which utilises Marantz' (1996) insights into the structure of the lexicon and vocabulary. This approach preserves the Head Movement Constraint, a restricted base structure for all languages, and Baker's insights into the mechanics of Polysynthetic languages, as well as suggesting a possible source for variation in surface clause types cross-linguistically.

The analysis laid out in this section is essentially that in Jingulu, no encyclopedic material is permitted in the core clause, and that only material which is directly relevant to the computational system (formal features) is permitted here. The core clause consists of that part of the phrase marker dominated by the maximal projection of the highest functional element (depending on which version of Government and Binding or Minimalist phrase structure one uses, this could be IP, AgrP, or TP). This projection dominates all core argument positions as well as that of the syntactic predicate-head (prototypically V).

Thus Jingulu maintains a 'clean' core syntax, untainted by encyclopedic information, with the computational system manipulating only 'light' elements containing purely formal features. Encyclopedic information is encoded in peripheral NPs and adverbial elements, and is construed with the light elements in the core positions via a variety of referential systems such as morphological case.

The analysis proposed for Jingulu will be extended to other languages exhibiting nonconfigurational behaviour in various degrees in section 4.

3.2.1. More on Jingulu verbs

As mentioned in section 3.1, the element traditionally glossed as a tense/aspect marker (T/A) in Jingulu (Chadwick's (1975) "final") encodes not only inflectional properties such as tense, mood, and aspect, but also distinctly verbal notions such as direction of motion or activity. These elements fall into three broad classes, corresponding to the English verbs *come* (18), *go* (19) and *do/be* (20). As can be seen from (18)-(20), these forms are fully suppletive, there is no way to predict a form of these elements given the rest of the paradigm. For the full paradigms see Chadwick 1975 or Pensalfini (in press).

(18) a. Ya-**jiyimi** bininja.
3sg-come *man*
The man is coming.

b. Ya-**ngku** ngurrarrungka.
3sg-will_come *tomorrow*
He'll come tomorrow.

c. Ya-**miki** murdika-mbili.
3sg-came car-LOC
He came in a car.

(19) a. Nga-**ardu**.
1sg-go
I'm on my way.

b. Nga-**rriyi**.
1sg-will_go
I'll go.

c. Nga-**rruku** idajku.
1sg-went *yesterday*
I went (there) yesterday.

(20) a. Wayabij nya-**ju**.
tired 2sg-do
You are tired.

b. Ngindi-mbili nga-**nu**.
here-LOC 1sg-did
I did it here.

c. Wurraka-na ya-**yi**.
3plGEN-m 3sg-FUT
He'll do it for them.

d. Yukulurrubi ya-**marri** nginimbili.
grass_species 3sg-DIST here
Yukulurrubi used to be here.

The claim is not that these boldfaced elements are devoid of real-world meaning, but rather that their real world meaning is highly schematic (to borrow a term from Cognitive Grammar) and is extracted from formal features alone. The notion of schematicity will be addressed in more detail later.

Equivalents of other English verbs in Jingulu are constructed by combining a co-verbal root with one of these final elements to form a verbal word which includes the agreement markers (as can be seen from any sentence which contains a root in the verb-word).

Different combinations of root and final element can yield different English verbs in translation, as illustrated in (21).

(21) a. Ngaba-nga-ju karnarinymi.
hold-1sg-do spear
I have a spear.

b. Ngaba-nga-rriyi karnarinymi.
hold-1sg-will_go spear
I'll take a spear.

c. Ngaba-jiyimi karnarinymi.
hold-come spear
He's bringing a spear.

In (21a-c) the root /ngab-/ 'hold' is combined with three different final elements to yield the translations *have, take,* and *bring*.

d. Ngarukbaka-nga-rriyi.
dive-1sg-will_go
I'll dive down.

e. Ngarukbaka-nga-yi arduku.
dive-1sg-FUT carefully
I'll submerge (something) carefully.

In (21d-e) the choice of final element affects the transitivity of the clause.

3.2.2. Will the real verb please stand up?

My analysis of Jingulu verbs appeals to the notion of encyclopedic knowledge outlined by Marantz (1996). A lexical item, Marantz notes, following late GB and Minimalist assumptions, encodes three distinct kinds of features: phonological, formal, and (real-world) semantic. Formal features are exactly those which the computational system makes use of in deriving sentences from bundles of features (or in Minimalist terms, deriving LF representations from Numerations). According to Marantz, the computational system has access to only these features, and is therefore unable to distinguish, for example, *cat* from *dog*, *walk* from *run*, as these distinctions are properties of encyclopedia entries, wherein real world semantic features are stored.[11] Marantz claims that the domains of encyclopedic and formal features are distinct and that words which are generally considered 'verbs' consist of two nodes, a root node comprising encyclopedic features, not possessed of a formal syntactic category, and a categorial node consisting of the head's formal features. Evidence for this claim is not as readily apparent for English as it is for languages where verbs and nouns have distinct morphological forms, but Jingulu provides an extreme example in its verbal system, where formal and

encyclopedic features of verbs are separated from one another by other material (the agreement markers).

In Jingulu, the co-verbal root, or initial element in the verbal word, contains all the encyclopedic features of the predicate, while the formal features (category, tense, aspect, mood, direction of motion, argument structure) are found within the final element in the verbal word. While the root is what English speakers might recognise as a verb, it is really a category-less element modifying the syntactic verb (hence the appellation *co-verbal).* The final tense-bearing element is what the computational system recognises as the true syntactic verb.[12]

The split is motivated by a complete ban on encyclopedic knowledge in core syntactic positions (the verb and its arguments) in Jingulu, such that the verb position can only ever be filled by the three encyclopedically blanched syntactic verbs *come, go,* and *do/be* (inflected for tense, mood and other grammatical properties) and argument positions can only be filled by encyclopedically vacuous *pro.* Overt nominals, laden as they are with encyclopedic features, must occur outside of the core IP in adjoined or dislocated positions.[13] This analysis also lies at the heart of the explanation of Jingulu vowel harmony given in Pensalfini 2002.

3.2.3. Category-less roots and nominals

By parity of reasoning, as pointed out by an *NLLT* reviewer, one would hope to argue that nouns also consist of a category-less root plus a category-bearing element. The structure of Jingulu nominals is indeed supportive of such an analysis, with nominal roots able to take a variety of gender suffixes which can be seen to function as nominal heads:

(22) a. kunyarrb-a kunyirrb-irni
dog-m *dog-f*

b. mamambiyak-a mamambiyik-imi
soft-m *soft-v*

Nominal words occurring in the sentence periphery are therefore not devoid of formal categorial information. They are syntactically nominal (NP).

Gender endings are unique among nominal affixes in that they, and only they, trigger vowel (height) harmony in the root (for a fuller discussion of Jingulu harmony, see Pensalfini 2000, 2002). Unstressed affixes are not expected to be able to phonologically dominate a word in this manner (see, for example, Beckman 1995), but this seems more reasonable if they are in fact the head of the word.

The problem now arises that if both nominal and verbal roots are devoid of formal category information, they should be interchangeable. Some roots, notably those associated with stage-level predicates, can appear freely in either nominal or verbal words (23a). In other cases, however, they are restricted to appearing in only one category of word (23b-c).

(23) a. Marliyi-rni nga-ju.
sick-f *1sg-do*
I am sick. [ego: female]

Marliya-nga-ju.
sick-1sg-do
I am sick. [ego: anyone]

b. Ngunbuluka wurru-ju.
doctor *3pl-do*
They are doctors.

*Ngunbuluku-wurru-ju.
doctor-3pl-do
They are doctors/doctoring.

c. Jirrkiji-wurru-ju.
run-3pl-do
They are running.

*Jarrkaja wurru-ju.
Run 3pl-do
They are runners.

A solution to this problem may be found in considering more closely the distinction between formal and encyclopedic information. Category features such as [±N, ±V] are formal features, but the encyclopedia entry for a root may specify that it has reference to, say, a kind of entity, or a particular type of activity. A root which specifically refers to a kind of person (e.g. *ngunbuluka*) is incompatible with the formal feature [+V]. Of course, it is well-known that not all nouns are 'names of things' nor all verbs 'doing words', but it is precisely in this area of indeterminacy, where a root refers neither clearly to entity nor action, that Jingulu does allow a root to combine with either a nominal or verbal head, as in (23a).

A more formal version of this account might propose that what are traditionally called *nouns* and *verbs* are actually combinations of formal categorial features (such as [±N, ±V]) with formal features which specify sub-classes of the major category, such as the distinction between individual and stage-level (see Levin 1999, Pustejovsky 1995 for ideas along these general lines). Jingulu roots, then, might be said to contain the latter, while the final elements (the true verbs) contain only the former. A root's ability to combine with either verbal or nominal heads is therefore restricted by the compatibility between its own formal features and the

categorial features of the head to which it attaches (this account does not claim that *only* encyclopedic features are found outside the core clause, just that *all* of them are).

In effect this account says that every construction which involves a verbal root is Jingulu is akin to a light verb construction (LVC, like the Australian English *Give it a look/listen/try/burl/feel/shot),* with the final verbal element functioning as the light verb. Of course, the English LVC has as its contentful element a noun in argument position, not an adjoined category-less root as in Jingulu, but this can be seen as a result of Jingulu's ban on encyclopedic knowledge in argument positions.

3.2.4. Motivating the restriction on encyclopedic features

The obvious question at this point is why a language would mandate that no encyclopedic information can be contained in the clause's core, but rather relegates it to the periphery. Chomsky's (1995) notion of a computational system which manipulates formal features to create new compositional objects requires no encyclopedic information. A truly minimalist approach would argue that the computational system is in fact driven to operate on elements that contain only such formal features, and it is a kind of economy to relegate encyclopedic information to the periphery of the system, where it doesn't clutter up the computation. This would lead us to view the 'nonconfigurational' stripped-down

computational system as appears in Jingulu to be the most economical kind of syntactic engine.

However, language is used with real-world reference, and there has to be some kind of system for associating real-world encyclopedic knowledge with the machinations of the computational system of the language faculty. One solution to this problem is to integrate encyclopedic information with the formal elements manipulated by the computational system – the configurational solution adopted by languages like English. The cost here is a clausal core laden with computationally irrelevant material.

The alternative solution, that adopted by the so-called nonconfigurational languages, is to use morphological reference-tracking systems (such as case morphology) to construe encyclopedically-rich elements in the periphery of the clause with the elements manipulated by the computational system. The cost of having such a sleek pared-down core is that other systems must be employed in order to render language usable.

3.2.5. Defining formal features

The issue now arises of what kinds of information are to be considered formal. I have already suggested that formal information includes category, tense, aspect, mood, gender, and, contra Chomsky (1995), argument structure. This would extend to case, number, and

animacy with little disagreement from most quarters, I would think. I would argue that all such primarily inflectional features are formal. However, there are properties that I would consider formal that others will undoubtedly disagree with: for instance location/motion with respect to discourse participants ([proximal] versus [medial] versus [distal] location; [centripetal] versus [centrifugal] motion), whatever distinguishes psych from non-psych Vs, and anything that can have an effect on morphosyntax. Where a language has a single V meaning *perceive*, I would argue that this is distinguished from other Vs by formal features, but the distinction between *see* and *hear* is an encyclopedic one.

Perhaps formal features can only be defined negatively, as being those features which are not encyclopedic. Encyclopedic features are those used to distinguish signs in the Saussurean sense, and it seems to be a property of natural language that suppletion applies only to formal features, not to (Saussurean) signs. Marantz (1996) predicts that suppletion should only ever be found in purely syntactic positions (those positions in which only formal features are allowed), observing that cross-linguistically, it is only verbs with meanings like *do, be, go* and *come*, and nominals with meanings like *person* or *thing* or pronouns which have suppletive forms. [14] As seen in the discussion of (18) through (20), Jingulu's semantically bleached syntactic Vs are fully suppletive, while the encyclopedically rich co-verbal roots never are, and nor are nominal roots. [15]

As we will see in section 4.7, it may not be possible to set out universal guidelines in this regard. It may be that some languages

treat certain features as formal while others do not (gender, for instance). On the other hand, these distinctions may in themselves be universally formal, but not every language encodes the distinction morphosyntactically, or distinguishes the notions in its vocabulary. It may instead be useful to talk about these differences in terms of the SCHEMATICITY of core elements. Elements which are bleached of encyclopedic meaning are considered more schematic than those which are rich in real-world reference, and schematicity can be seen as a cline. A verb like *move* can be considered more schematic than one like *crawl*, but less schematic than *go*. The most highly schematic verbs of all in English are those which are used as auxiliaries, the schematic action verb *do*, the schematic existential verb *be* and the schematic verb of association *have*. In Jingulu, only the three highly schematic series *go* (motion away), *come* (motion towards) and *do*/*be* (motion-neutral) are allowed to occupy the core V position. In section 4.7 we will discuss other languages with schematicity requirements on core Vs, but in one of these languages, Kalam, the degree of schematicity required seems to be more relaxed than in Jingulu.

3.2.6. Pronouns

There remains a question regarding free pronominals. It might be argued that pronouns represent bundles of features which are devoid of encyclopedic content, and so should be allowed to occupy

argument positions. In support of such a view, bound agreement markers in many Australian languages have forms which are clearly related to the free pronouns, and in split-ergative languages, pronominals generally follow bound agreement forms in having NOM and ACC forms (though some languages, like Jingulu, have a three-way case distinction, NOM, ERG, ACC, for free pronouns, while free nominals occur in unmarked (ABS) versus ERG forms). If pronouns do in fact occupy argument positions, we would expect them to turn up adjacent to the verb, rather than freely ordered with respect to other nominals (which are adjoined to the core IP). A survey of the Jingulu corpora that I collected shows that Accusative pronouns do in fact show an overwhelming preference for immediate post-verbal position, occurring here in 90% cases (5% in immediate pre-verbal position and 5% elsewhere in the clause).[16] Object nominals, which appear in the unmarked or ABS case, appeared immediately following the verb-word in only 48% of cases (45% in immediate pre-verbal position, 7% elsewhere in the clause).[17] Ergative pronouns, however, do not show such disparity: 78% of Ergative pronouns (49% immediately pre-verbal, 29% immediately post-verbal) and 77% of ERG-marked nominals (51% immediately pre-verbal and 25% immediately post-verbal) were found immediately adjacent to the verb word. Nominative pronouns were not counted because it was impossible to distinguish Nominative function from default NOM case resulting from dislocation. These results show that overt ACC pronouns are far more likely to occur adjacent to the verb than other overt nominals,

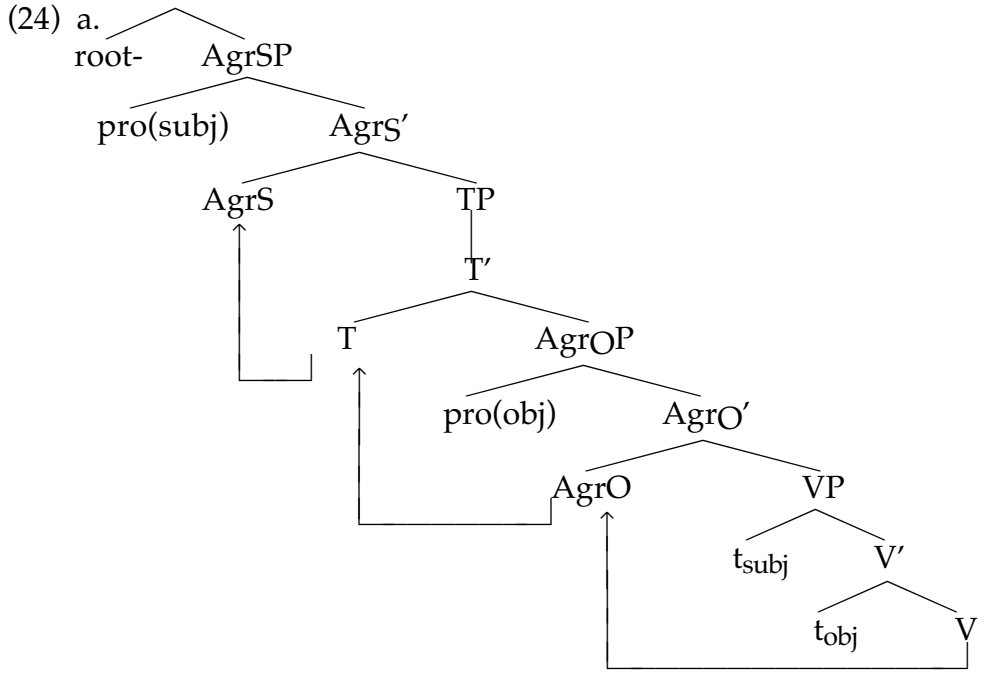
but the results are not striking enough to conclude that overt pronouns occupy argument positions in Jingulu. It is possible that they are permitted but not required to occupy argument positions, which would in turn explain the disparity between pronouns and other overt nominals with respect to ordering preferences, but then we would expect a difference in case marking on pronouns occupying argument and adjunct positions (this proposal resembles the Austin and Bresnan (1996) proposal mentioned in footnote 3, and suffers from the same drawbacks). We are also left with no explanation for the disparity between ERG elements on the one hand, and objects on the other. We return to the possibility of pronouns occupying argument positions in the discussion of Wambaya in section 4.4.

It should be pointed out that Austin and Bresnan (1996) argue convincingly against treating free pronouns differently from other NPs, showing that in Warlpiri and Jiwarli at least, pronouns show the same nonconfigurational properties as other NPs. However, the statistical distributional disparity between pronouns and other NPs indicated in the previous paragraph appears to be indicative of something (though, as one *NLLT* reviewer points out, these could be due to functional/pragmatic differences between the categories in question).

3.2.7. Derivation of Jingulu clauses

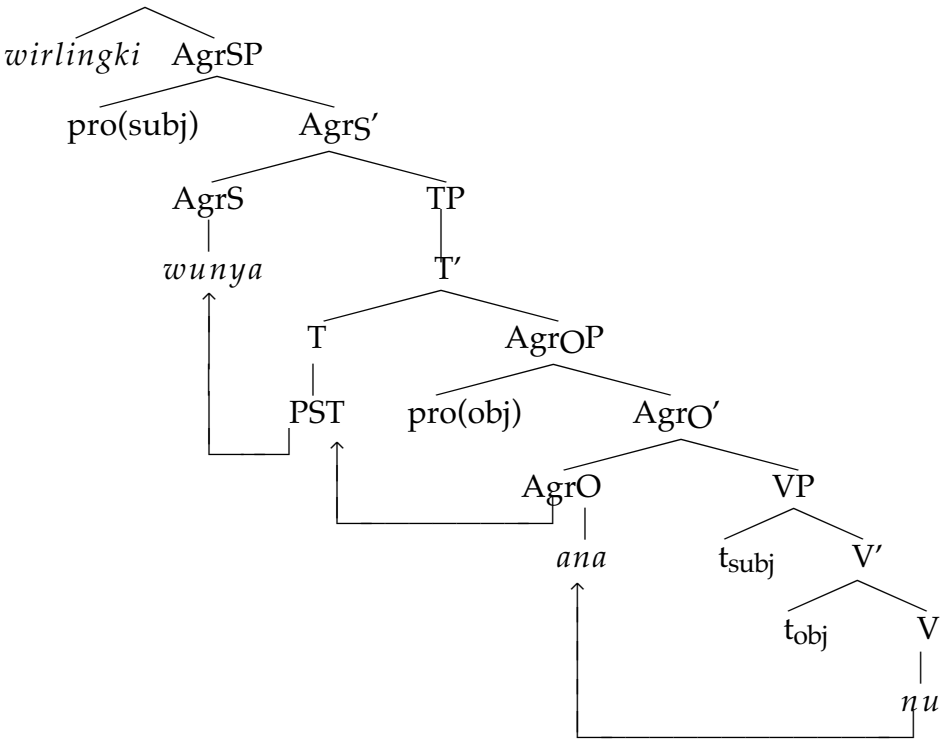
The co-verbal root in Jingulu is therefore syntactically deficient, containing encyclopedic knowledge but no grammatical features. In order to appear in a sentence it must be phonologically prefixed to a syntactic clause, which contains the true verb and the agreement markers. Syntactically, the category-less root merges with a clause to create a verbal clause (as in (24a), based on the universal clause architecture proposed in Chomsky 1993, with a concrete example given in (24b)). Being devoid of syntactic verbal features, a root which fails to merge with an IP complement will not meet LF interface conditions and a derivation containing such an unmerged root will crash.

(24) a.



The core V raises to AgrO, creating a complex head [AgrO-V], then this new head adjoins to T, where the V features of Tense (and possibly Aspect and Mood, though I remain agnostic as whether these require their own functional heads) are checked. Finally the complex head [T-AgrO-V] raises and adjoins to AgrS. This inflected verb merges into a phonological word with the adjacent category-less root. The verbal, tense, aspectual and mood features are spelled out on the suppletive core verbs, while the agreement features on the head are spelled out by the agreement markers. Tense is able to cause allomorphy in the core V because T governs V within the inflectional complex (as required by Halle and Marantz 1993).

b. wirlingki-wunya-ana-nu
scold-3dl-1O-did
They scolded us (from (10b))



If the combination of a particular clause (argument structure) with a particular root (θ-grid) yields an uninterpretable result, the sentence crashes at the interpretive interface (LF). In practice, there are very few such uninterpretable sentences. The sentences in (25) demonstrate that Accusative objects are possible even with predicates that would translate as intransitive in English as long as there is an interpretation available. Where there is no feasible interpretation, as in (25d), the sentence is rejected by speakers as "making no sense".

(25) a. Dardu-nama ya-jiyimi **ngarru**.
many-time 3sg-come 1sgACC
They all came to me.

b. Ya-marriyimi, marlarluka-rni wanyma-marriyimi
3sg-DIST old_men-ERG walk-DIST
ngarnu, dunjuwa-kaji ya-marri, warrijki-rni.
3sgACC burn-through 3sg-DIST ghost-FOC
The people would take him and cremate him, the deceased one.

c. Nginarni-rni ngarru ya-ju.
DEM(f)-ERG 1sgACC 3sg-do
She does (it to) me.

d. */# Bininja manyan ka-ju **ngarru**.
man sleep 3sg-do 1sgACC
The man is sleeping (at) me.

That even root-less clauses display a variety of argument structures suggests that Jingulu verbs are vague with respect to case assigning properties, rather than that roots somehow affect the argument/case properties of verbs (see also (16i)).

3.2.8. Nominal predicates

Sentences such as (7) show that nominals can be used as predicates. Recall that nominal predicates in Jingulu require their subjects to take ERG case, which is usually required only of subjects of transitive clauses. It could be argued that nominal predications of this type actually involve a null syntactic V (the most schematic V of all) with the (apparent) predicate construed with its internal argument and the ERG-marked element construed with its subject. Alternatively, these constructions might best be viewed as constituents other than IP (as they systematically lack inflection of any sort), and the ban on encyclopedic knowledge extending to predicate-heads of IPs only.

3.2.9. Morphological case

Overt NPs, which I have argued, following Jelinek (1984) and Baker (1996a, b), occupy adjunct positions, are able to be construed with certain null arguments in many Australian languages by means of case morphology. Nordlinger (1998a) has argued that in these languages the case morphology itself constructs the grammatical function with which the NP is construed. However, in order to make this claim, Nordlinger (following Austin and Bresnan 1996) has to conflate case form with case function, treating all instances of subject case (whether the null NOM or the visible ERG) as NOM and all instances of object case (whether the morphologically visible ACC or the null ABS) as ACC. While I do not address case specifically in this article, I note that realisation of morphological case on NPs in Australian languages shows great variation, with split case systems being very common. The splits in these case systems, as Silverstein (1976) convincingly argues, are based on encyclopedic properties of the NPs themselves, and the splits do not carry over into the core syntax as evidenced by the agreement systems. According to the analysis proposed in this article, morphological case on NPs is a part of the referential system of syntax, which operates alongside the computational system which deals purely with formal features.

4. A typology of configurationality

In this section, I develop a typology of (non)configurationality based on the analysis for Jingulu outlined in the previous section. The basic thrust of this analysis, recall, is that nonconfigurational languages bar computationally irrelevant material (encyclopedic information) from certain core positions, but the ban on encyclopedic information in argument positions is distinct and independent from the ban on encyclopedic information in predicate-verb positions[18]. This predicts a four-way distinction with respect to the domains of encyclopedic information. We shall see that all four types are in fact attested. As languages may employ a variety of strategies for encoding encyclopedic information when such information is banned from certain core positions, we should not expect that languages which share a cell in Table 1 will share a great number of properties. The configurationality parameters proposed here interact with other parameters to produce a variety of surface types. Therefore, there is no single nonconfigurational type.

A typology of configurationality:

INSERT TABLE 1 HERE

Note that languages strictly obeying the MVC are found among configurational (Hopi) as well as nonconfigurational (Mohawk, Mayali) languages, and languages of all types are free to choose whether they employ head-marking (Hopi, Mohawk, Mayali),

dependent-marking (Japanese, Jiwarli), or some combination of these strategies (Jingulu, Warlpiri). The morphological strategy employed to identify referents filling argument positions is independent of the syntactic restrictions on what kind of features may occur in core positions.

Nonconfigurational languages differ as to how overt NPs are related to argument positions (as per Baker 1996b) and as to how predicates are represented in the structure. Languages which allow incorporation of material from outside the core (e.g.: Mohawk) may force incorporation of a verbal predicate in order for verbal features (tense/aspect) to be realised because they lack vocabulary items corresponding to purely formal feature bundles, while languages like Jingulu have separate morphological domains for the formal and encyclopedic properties of what we call 'verbs' in English.

The typology above does not disallow, in principle, a language which is nonconfigurational, but neither head- nor dependent-marking. Such a language would have free word order, but neither case marking nor agreement to distinguish subject from object (though the context of utterance would disambiguate in most cases). I would not expect such a language to exist, for pragmatic reasons, with para-linguistic constraints on communication ruling out certain logically possible manifestations of the language faculty.[19]

In the following subsections, the languages of Table 1 are discussed to show how their properties follow from a combination of choices: which positions can bear encyclopedic information, and morphological strategy for linking encyclopedic information to core

positions. Following this I propose a possible typological continuum between the nonconfigurational language types found in Australia.

4.1. English, Japanese and Hopi

Both English and Hopi are configurational languages, with fairly fixed constituent order and highly restricted splitting of constituents (see Jeanne 1978 on Hopi). The differences between them are that Hopi adheres to the MVC while English does not. In English, arguments must be overtly present in every clause as separate constituents (cases involving controlled *PRO* excepted, and these are restricted by configuration), whereas in Hopi arguments can be incorporated into the head word with great productivity (Gronemeyer 1997, based on work by Hill et al. 1997), and argument dropping is not free but depends on syntactic processes (such as incorporation) and configuration. Japanese differs from both English and Hopi in that it is a pro-drop language. Like English, but unlike Hopi, Japanese is not an MVC language.

4.2. Jiwarli

As discussed in section 2, Jiwarli makes use of dependent marking alone (marking of secondary predicates) to link overt nominals to *pro* in argument positions. Encyclopedic information is barred from

argument positions, but permitted in core verbal positions, so that the encyclopedic and syntactic features of verbal predicates surface in the same word, which corresponds to a verb in traditional Indo-European descriptions.

4.3. Warlpiri

Warlpiri is basically a V-2 (verb-second) nonconfigurational language, with the second position AUX complex in matrix clauses created by obligatory I to C movement (along the lines proposed by Bittner and Hale 1996). Agreement markers are suffixed to the auxiliary element. Encyclopedic features are allowed in the core verb position, and the auxiliary particle is a Complementizer linked to the core V (Bittner and Hale 1996). When this C is phonologically either null or a suffix, some element within the clause is required to undergo A'-movement to clause-initial position in order to provide a phonological host for the complex in C (Hale 1980, Simpson 1983, illustrated in (26)).

(26) a. Nyuntulu-rlu ka-npa-ju ngaju nya-nyi.
2sg-ERG PRES-2sgS-1sgO 1sg(ABS) see-NPST
You see me. (IAD 1990)

b. Nya-nyi ka-npa-ju.
see *PRES-2sgS-1sgO*
You see me.

c. Nyuntulu-rlu kulaka-npa-ju nya-nyi.
2sg-ERG *NEG-2sgS-1sgO* *see*
You don't see me.

d. *Ka-npa-ju nya-nyi.

e. Kulaka-npa-ju nya-nyi.

f. *Kulaka-npa-ju.
(You don't do it to me.)

Because verb stems host both formal and encyclopedic features (that is to say, because they are truly syntactic verbs), the stem cannot be dropped as it is in Jingulu (26f). As in Jingulu, *wh*-words regularly front to [Spec, CP] (the pre-AUX position in Warlpiri).

Encyclopedic information is not permitted in argument positions within the clause, however, with the result that only *pro* can occupy these positions. Pronominals are treated on a par with other nominals, being freely ordered with respect to other words in the clause. Under the analysis for nonconfigurationality proposed here, it is not immediately apparent why pronominals should not qualify as purely syntactic, though as mentioned in sections 3 and

4.4, pronouns seem to occupy argument positions some of the time. The classification of pronouns in this regard appears to be a language specific property, and Warlpiri treats them as encyclopedia entries. To invoke the notion of schematicity, independent pronouns are less schematic than *pro*, and Warlpiri permits only this most maximally schematic nominal element in core argument positions in finite clauses.

Warlpiri exhibits both head (agreement) and dependent (case) marking, but the relationship between overt nominals and (null) arguments seems to be primarily expressed by case-marking, as in Jiwarli. Austin and Bresnan (1996) point out that Warlpiri clauses are nonconfigurational whether or not agreement is present, which indicates a Jiwarli-style dependent-marking strategy. Laughren (1989), however, shows that certain non-finite clauses lack regular case-marking as well as agreement, and do not exhibit nonconfigurational behaviour.

4.4. Wambaya

Wambaya is also a V-2 nonconfigurational language in the same respect as Warlpiri, except that in Wambaya agreement markers are prefixed (rather than suffixed) to the auxiliary element, and the resulting complex is always a suffix phonologically, so that A'-movement of some word in the clause to [Spec, CP] is always mandated (see (27)). While the auxiliary elements in the second

position (C) cluster can encode directionality, these elements are not syntactic verbs as they are in Jingulu. The Wambaya Verb encodes syntactic along with encyclopedic features and cannot be omitted. Nordlinger (1998b) reports that coming and going are always represented by an independent lexical verb, and use of the directional particles in the second position complex is not obligatory even with these senses. Wambaya differs from Jingulu in these respects.

(27) a. Yardi gini-ng-aji ngirra
put(NFUT) 3sgMA-1O-PSTHAB 1plExcACC
magi-nmanji.
camp-ALL
He dropped us off at camp.

b. Yardi gini-ng-aji magi-nmanji.
put(NFUT) 3sgMA-1O-PSTHAB camp-ALL
He dropped me off at camp.
#He dropped us off at camp.

c. Daguma wurlu-ng-a alag-uli-ji.
hit(NFUT) 3dlA-1O-PST child-dl-ERG
Those two boys hit me.
#Those two boys hit us.

d. Bungmaji g-a yandu nganga.
old_man 3sgS-PST wait(NFUT) 2sgDAT
The old man waited for you.

e. *Bungmaji g-a yandu.

As mentioned earlier, Nordlinger (1998a, b) reports that non-singular pronominal objects cannot be omitted (27a-c), nor can Dative arguments (27d-e). There are two possible answers within the analysis proposed here. The first, which I find least satisfactory, is to argue that, in these constructions, the argument positions are actually filled by overt pronouns. Wambaya would therefore differ from Warlpiri in that it considers pronouns sufficiently schematic to occupy argument positions. Supporting this view, these obligatory objects always seem to occur in immediate post-verbal position (unless the verb or object is the word that has been moved to [Spec, CP] in order to host the AUX complex). However, a problem for this analysis is raised by sentences like (27f), where the object is a lexical (encyclopedic) nominal and not a pronoun.[20]

f. Juwa-nka gi-n ayani babanya.
man-DAT 3sgS-PRES look_for sister
My sister is looking for a man.

g. *Ayani gi-n babanya.
look_for 3sgS-PRES sister
My sister is looking for him.
(Nordlinger 1998b, and personal communication)

A preferable analysis, certainly for 'Dative-object' verbs, makes use of the distinction between an object, which is a true argument, and a non-object complement (such as the DAT-marked NP in (27g)). It could be argued that Wambaya bans encyclopedic information in true argument positions (subject and object), but not in non-object complement positions. Jingulu, on the other hand, appears to ban encyclopedic information in all of these positions.

(28) Bungmaji iniyaga, bajijurndu gini-ng-a
old_man that(m) bring_up(NFUT) 3sgmA-1O-PST
ngawurniji.
1sgACC
That old man brought me up.

Dislocation is an available strategy in Wambaya, as it is in Jingulu, and causes the nominal in question to appear in default (ABS) case, without any marker of secondary predication such as the ERG suffix (28).

4.5. Jingulu

Jingulu syntax is discussed at length throughout this paper. The relevant properties are discussed in detail in section 3. Other non-Pama-Nyungan languages with root ellipsis, such as Jaminjung, might belong in the same category as Jingulu.

4.6. Mayali and Mohawk

Mayali, spoken in Northern Australia's Arnhem Land, is a Mohawk-type language (discussed in section 2), with overt referential nominals construed with arguments permitted only in dislocation constructions, restricted discontinuity explicable in terms of syntactic movement, and pro-drop. There is an Ergative case marker, but it is quite optional and Evans (1994) claims it is probably a calque from neighbouring Dalabon. In these languages the verb is allowed to express both encyclopedic and formal features, but argument positions are not. Lexical incorporation is permitted (Mayali examples in (29c-d)). These languages differ from Warlpiri, Wambaya, and Jiwarli in that they utilise a different morphological strategy to link overt nominals to null arguments and obey the MVC.

(29) a. Bakki gan-wo!
tobacco 2sg/1sg-give(IMPV)
Give me some tobacco.

b. Al-wanjdjuk al-bininjgobeng ga-ma-ng
II-emu II-spouse 3/3NP-marry-NPST
na-buyiga bininj al-wanjdjuk.
I-other man II-emu
The emu wife marries another male emu.

c. (An-barndadja) ngarri-mim-bo-wo-ni.
III-owenia_vernicosa 1A-fruit-water-put-PI
We used to put the fruit (of Owenia vernicosa) in the water.

d. An-barndadja (an-mim) ngarri-bo-wo-ni.
III-owenia_vernicosa III-fruit 1A-water-put-PI
We used to put Owenia vernicosa (fruit) in the water.

e. * An-barndadja gu-wukku ngarri-mim-wo-ni.
III-owenia_vernicosa LOC-water 1A-fruit-put-PI
(Mayali, Evans 1994)

Lexical incorporation in Mayali follows a strict argument hierarchy. Where a verb has both a direct and indirect object (such as *put* in

(29c-e)), both objects may be incorporated (29c), or else just the indirect object may be incorporated (29d). It is not possible to incorporate the direct object alone (29e). This is akin to the Mirror Effects noted by Baker (1985), in that the indirect object position is closer to the verb than the direct object position (in current theories of VP structure in the Principles and Parameters framework), and therefore incorporation of the latter depends on the preceding incorporation of the former. This is a strong argument for syntactic configurations between arguments holding in nonconfigurational languages of this type.

4.7. Basque and Kalam

The typology presented in Table 1 leads us to expect that some languages will allow encyclopedic information to occupy argument positions but not core verbal positions. What might such a language look like? First of all it would appear to be configurational by many of the standard tests: (relatively) fixed constituent order and restricted discontinuity of nominal expressions (pro-drop is not a relevant consideration, since many clearly configurational languages such as Japanese and Chinese allow null arguments). However, we expect to see the position of the verb in verbal clauses restricted to a small set of elements which express formal, computationally-relevant features, with encyclopedic predicates expressed by using lexical material in conjunction with these

syntactic verbs to create encyclopedic predicates (as in Jingulu). In such a language, as in Jingulu, every verbal clause would be akin to a light verb construction. Such languages can be described as having obligatory periphrastic verbal constructions.

Basque is just such a language, but is even more restrictive than Jingulu, generally allowing only two schematic verbs, the auxiliaries *ukan* 'have' and *izan* 'be' to inflect for tense and agreement.[21] Basic constituent order is demonstrably SOV, with variations due to discourse-motivated scrambling. Basque allows subject and object pro-drop (and not only when there is overt agreement). So far, Basque looks much like many familiar languages except that its auxiliaries are obligatory rather than optional. However, there is further evidence that makes Basque a candidate for this 'nonconfigurational verb' type. There is a group of approximately ten highly schematic verbs (with meanings such as *stay, go, arrive,* and *know)* which do not take auxiliaries, but themselves inflect for tense and agreement. Therefore it is not accurate to say that Basque requires an auxiliary verb in every tensed clause. It is more accurate to say that only the most schematic verbs can inflect, and therefore only these verbs can occupy the core V position.

The Papuan language Kalam provides another excellent example of this type, with a set of syntactic verbs so restricted that Pawley (1980) was quite rightly moved to observe that the traditional notions of 'verb' and 'word' were simply not adequate to describe the language. Because published data on Kalam is rather

more scarce than that on Basque, I will devote some space to Kalam here.

There are apparently some ninety-five "generic verbs" in Kalam, but only about twenty-five are used commonly, these having highly schematic meanings such as *do, control, transfer control, destabilise, impinge on a surface, perceive, exist* and *(make) sound.* Kalam is otherwise fairly strictly SOV with pro-drop permitted, as (30a, b) show.

(30) a. Balws mnm ag-e-k nng-b-yn.
plane noise it_sounded I_perceived
I heard the plane roar.

b. Nad agl ñag tk yok-an!
you arrow shoot severe you_displace
Shoot the arrow clear!

c. mnm ag-
speech sound-
speak

kmap ag-
song sound-
sing

sy ag-
weeping sound-
weep

mnm jwj ag-
speech basis sound-
explain

	wk ag-	esek ag-
	laughter sound-	*deception sound-*
	laugh	lie
d.	ñb nng-	d nng-
	consume perceive-	*hold perceive-*
	taste	touch
	ag nng-	d ap-
	sound perceive-	*hold come-*
	ask, request	bring
	d am-	am d ap-
	hold go-	*go hold come-*
	take	fetch

(Pawley 1980)

The Kalam compound verb constructions in (30c-d) are similar to Jingulu constructions involving concatenation of roots or root+light verb complexes (in fact Jingulu expresses *bring* and *take* by combining the pre-verbal root *have/hold* with the syntactic core verbs *come* and *go,* just as Kalam does, as illustrated in (21a-c)).

It is immediately evident that Kalam, with its twenty-five or so schematic verbs, has a greater inventory of syntactic (light) verbs than Jingulu, with only three. In formal terms, this can be explained by saying that Jingulu light verbs do not distinguish all of the

formal (computationally relevant) features that can be distinguished, leaving this for the encyclopedia entries to do, while Kalam encodes more formal distinctions in its vocabulary entries. The subset principle of Distributed Morphology's vocabulary insertion rules (Halle and Marantz 1993) makes such differences between languages entirely plausible. For example, Kalam has separate vocabulary entries for syntactic verbs corresponding to [centripetal], [centrifugal], [perceive] and [sound] while Jingulu only has [centripetal], [centrifugal] and (default) [V], so that any collection of verbal features that do not correspond to centripetal (motion away) and centrifugal (motion towards) are spelled out in Jingulu as the motion-neutral *do*/*be*.

In less formal terms, the schematicity requirement for elements occupying the syntactic V node appears to be more relaxed in Kalam than it is in Jingulu, resulting in a higher number of distinguishable (core) verbs. This sliding scale of schematicity also gives rise to some of the enormous variation in verbal systems which is found in the northern Australia, among the non-Pama-Nyungan languages.[22] Many of these languages display a highly restricted number of inflecting verbs, with richness of predicational meaning achieved through the use of co-verbs and adverbials as in Jingulu. Where these languages differ is in the number of schematic inflecting syntactic Vs, from Jingulu's paltry three through to a dozen or so. While many of Australia's non-Pama-Nyungan languages use obligatory LVCs, all those which I have examined also have nonconfigurational NP syntax (of either of Baker's (1996b)

types), and therefore have more in common with Jingulu than with Kalam and Basque, as mentioned in section 4.5. Another example of the Basque/Kalam type might be Welsh (Jerrold Sadock, personal communication), though I have not examined this language in detail.

4.8. A Typological Continuum for Australian nonconfigurationality

The analysis of nonconfigurationality set out in this article suggests that certain Pama-Nyungan languages (such as Warlpiri and Gurindji) may be not too dissimilar structurally from the non-Pama-Nyungan prefixing languages of Northern Australia, with Jingulu representing a plausible typological (if not genetic) missing link.

This section proposes a typological continuum from dependent-marking to head-marking, using the languages of Northern and Central Australia discussed in sections 4.2 to 4.6 as examples. This should not be taken as arguing for an actual historical shift from one type to the other, though this is a possibility (and remains to be rejected or verified by research in comparative syntax). This exercise is merely an attempt to show how minor changes could theoretically transform one type into another, and is necessarily speculative at this stage. It cannot be stressed enough that no diachronic claims are being made here, and

that the proposed 'shifts' fly in the face of established knowledge about how these languages got to be the way they are – this section is merely intended to illustrate how structurally close, synchronically, these different languages may be.

Beginning with Jiwarli (discussed in sections 2 and 4.2), an example of a pure dependent-marking (secondary predication) language, the first step would be to create clitics out of free pronouns by truncation. Pitjantjatjara and other Western Desert languages have a set of second position clitics, used in only certain kinds of clauses (for instance enclitic to conjunctions), which look like truncated forms of the free pronouns of the language. The next step would be a language like Warlpiri (section 4.3), which has expanded the clitics to a full Auxiliary agreement system by introducing a system of compulsory cliticisation to a complementizer, and the clitics become agreement markers. Other grammatical aspects of the Jiwarli type are retained entirely. Thus is the V-2 nonconfigurational type born.

Wambaya (section 4.4) differs from Warlpiri not only in prefixing rather than suffixing its agreement markers, but also (according to Nordlinger 1998a, b) in demanding that certain kinds of objects be represented overtly when agreement marking in the AUX complex alone does not provide the necessary information. Note that neither Jiwarli nor Warlpiri seem to show any concern with the amount of syntactic information that can be gleaned directly from the clause alone (in Jiwarli, for example, a verb inflected solely for tense could be understood to have arguments of

any person and number). This difference between Wambaya and Warlpiri shows that the agreement markers are more deeply grammaticalised in Wambaya, with head-marking the more important morphological strategy for linking overt nominals to argument positions. Wambaya also allows dislocations wherein the topicalised elements appear in default case.

Jingulu (section 3) represents a further step on the road to head marking, with extensive use of dislocations in default case. Jingulu represents a stage in which case suffixes are obligatory in certain positions, but extensive use of a dislocation construction suppresses the use of case suffixes in many environments. The diminished dependence on case-marking for linking overt nominals to null arguments may have made possible the recent development of grammatical case markers to express discourse prominence in addition to case (see Pensalfini 1999b).

In (31) are some Jingulu examples where the boldfaced nominal appears in the Nominative case and this cannot be attributed to dislocation, as the elements in question do not appear at clause boundaries, but rather within case-marked secondary predicate NPs. There are only about five clear examples of this type among some three and a half thousand sentences, and so I assume these represent movement towards the loss of grammatical case distinctions altogether.

(31) a. Arrkuja-narna-nu **ngaya** kardayi-rni.
scratch-3msgS1O-did *1sgNOM* *cat-ERG*
The cat scratched me.

b. Wurrjiya-narna-yi **ngaya** jamarniki-rni.
shave-3msgS1O-FUT *1sgNOM* *this(m)-ERG*
He will shave me.

All examples of this type involve the first person singular pronoun in its Nominative form, /ngaya/. While Jingulu has and generally utilises Ergative and Accusative forms of this pronoun, it should be noted that the related language Wambaya makes no distinction among cases for the first and second person singular pronouns (Nordlinger 1998b).

Mayali (section 4.6) takes the shift even further, with grammatical case marking optional and almost entirely absent. The strategy has shifted entirely to head-marking and dislocation, with the result that discontinuous nominal expressions (a result of the predication and case-marking strategy) are not permitted. Mohawk (section 2) represents the purest form of an MVC-obedient head-marking nonconfigurational language.

There is preliminary evidence that such speculation as I have engaged in here may have some roots in diachronic reality. Ken Hale (personal communication), notes that in Yanyuwa and the Kunwinykuan languages (of which Mayali is one), prefixing languages of Northern Australia, there are pre-agreement elements

which appear to be cognate with Warlpiri AUX. Consider the following, where the element in question is the morpheme /ka/:

(32) a. Ka-rna-wingka.
KA-1sg-go
I go. [Yanyuwa]

b. Ya-ni ka-rna.
go-NPST PRES-1sg
I go. [Warlpiri]

In both cases /ka/ precedes the first person singular subject marker. Hale suspects that the AUX+Agreement complexes became prefixed to the verb in Yanyuwa and the Kunwinykuan languages at some stage, and that prefixing languages may well have developed from suffixing proto-languages in this manner.

There are additional similarities in the structure of verbal inventories between Jingulu and its non-Pama-Nyungan relatives like Jaminjung on the one hand, and the Ngumpin-Yapa languages (which include Warlpiri, Mudburra and Gurindji) on the other. The use of encyclopedically rich co-verbal category-less elements in conjunction with syntactic verbs is common to all of these languages. Jingulu represents an extreme, with only three sets of syntactic verbs and many hundreds of co-verbal roots (Kalam, as we have seen in section 4.7, is almost as extreme, with some 25 commonly used syntactic verbs). Gurindji has probably only about

100 syntactic verbs while Warlpiri has some 200 (Nash 1980), with other encyclopedic distinctions being made by using co-verbal elements in conjunction with syntactic verbs (again suggesting that these languages may only differ with respect to the degree of schematicity required for an element to appear in the core V position).

Gurindji, in fact, often places the AUX+Agr complex between the co-V and the core V, with the co-V in clause-initial [Spec, CP] position. If such a practice became grammaticalised, so that the language became strictly V-initial, the sequence co-V+Agreement+V would become a phonological word with the exact same structure as the verbal word in Jingulu. The differences between the more northerly Pama-Nyungan languages and the more southern non-Pama-Nyungan ones start to look like differences of degree rather than type, suggesting that this long-standing genetic boundary is ripe for re-examination.

Conclusion

I have argued here for a broader typology of nonconfigurational languages than has been suggested previously within the Principles and Parameters literature. The numerous types are seen to result from an interaction of several properties, including (i) what sorts of features a language allows in core clausal positions and (ii) how encyclopedic material outside these core positions is construed with

syntactic markers in the core. When Australian nonconfigurational languages are viewed in this manner, a continuum is seen between them, suggesting that the wide differences in surface syntax that these languages show are really the results of minor differences in deep syntax.

FOOTNOTES

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Abbreviations used in glosses:

1, 2, 3	first, second, third person
sg, dl, pl	singular, dual, plural number
Inc, Exc	inclusive, exclusive reference
A, S, O, Obj	transitive subject, subject (any), object, object
m, f, n, v	masculine, feminine, neuter, vegetable gender
NOM, ACC, ERG, DAT, GEN	nominative, accusative, ergative, dative, genitive case
LOC, ALL, ABL	locative, allative, ablative role/case
FOC, EMPH	discourse prominence (focus), emphasis

ANIM	animate
INDEF	indefinite
DEM	demonstrative
PRES, FUT, PST, DIST	present, future, past, distant past
NFUT, NPST	non-future, non-past
HAB	habitual
IRR, IMPV	irrealis, imperative
INV, REFL	inverse, reflexive/reciprocal morpheme
THRU, NOML	intensifier/adverbialiser, nominaliser
FACT	(Mohawk) Factive/Realis
NEG	negation
TRANS	transitive

[1] The terms HEAD MARKING and DEPENDENT MARKING, used throughout this paper, are due to Nichols (1986). Essentially, a head marking language is one in which formal features of core participants are marked on the predicate-head, typically by agreement, while a dependent marking language marks the elements referring to the participants themselves in order to signify the grammatical role they play, typically by case-marking.

[2] In the MVC Baker conflates polysynthesis with non-configurationality. The upshot of his analysis of free constitutent order in Mohawk is that languages which are polysynthetic (observing the MVC) should have no barriers to being non-configurational in the sense of having free constituent order and extensive pro-drop. However, there is evidence to suggest that polysynthesis and non-configurationality do not go hand in hand. Hopi (see Gronemeyer 1997) would seem to fulfil the MVC and yet displays a wide array of configurational properties including fairly rigid head-final order. It would also appear that Baker predicts the MVC to able to be satisfied by either agreement or movement in any language which selects it. Jingulu,

however, discussed in section 3, does not show any evidence of MVC satisfaction via movement, mandating agreement in all (main) clauses.

[3] Approaches to Jiwarli-type languages, such as that of Austin and Bresnan (1996), which hold that one of the overt NPs is actually the argument and that other coreferent NPs are somehow linked to it distinguishing the argument NP from secondary NPs by stipulation. When multiple non-adjacent demonstratives are linked to a single argument position, as is possible in Jingulu, there does not appear to be any good reason for choosing one NP over any other as the argument.

[4] Thanks to an *NLLT* reviewer for pointing this out.

[5] Irrealis constructions in Jingulu never occur with overt subject or object agreement. It is proposed that the syntactic V head in these constructions does not contain the features for Agr projections. For a full treatment of this, see Pensalfini 2002.

[6] The verb-word in this sentence shows some interesting properties. First of all, the tense-bearing element appears in the future, yet the translation is in the perfective. This translation was gleaned from the context. The speaker had already arrived. The final element glossed WILL_COME refers in tense to the action of giving, which had not yet occurred at the time of utterance. Also, there is no subject agreement marker in the verb word, though the independent 1sg pronoun is in the Ergative. A combination of 1sg subject agreement and 1Obj agreement is ruled out, and the Reflexive morpheme is inappropriate as the subject and object are not completely co-referent (the object includes the subject). The only strategy available under these circumstances is to drop one of the agreement markers.

[7] Masculine demonstratives are permitted with nominals of all genders. For an analysis of this and related phenomena in Jingulu, see Pensalfini (1999a).

[8] Demonstratives in such languages are NPs in their own right and therefore translate *as this one/that one.* A literal translation of (12c), for instance, would therefore be *That one, that one, fell and smashed.*

[9] Thanks to an *NLLT* reviewer for pointing out that this is held to be a requirement of VP-ellipsis constructions.

[10] This observation, and Baker's work following from it, is in a sense an attempt to formalise the long-standing observation that some languages are morphologically driven while others are syntactically driven. Within LFG, as discussed in section 1.2, this idea has been formalised by saying that in some languages, argument information comes from the morphology while in others it comes from the syntax (see, for example, Nordlinger 1998, Nordlinger and Bresnan 1996). The two formal approaches differ in that Baker's general approach, by positing just one level of morphosyntactic representation, seeks to explain Mirror Effects by saying that the order of morphemes in a word generally derives from the relative positioning of syntactic heads and general principles of syntactic movement and incorporation. In theories which give phrase structure and word structure complete autonomy, Mirror effects must be seen as accidental.

[11] The term "real world semantic" is used to distinguish these features from formal semantic features which enter into the computation and which are relevant in deriving LF representations from numerations of lexical items.

[12] In the terms of Autolexical Syntax (Sadock 1991), the syntactic verb and the semantic verb are not one and the same element. While the analysis in this article is couched in Principles and Parameters, rather than Autolexical, terms, the distinction between syntactic (formal feature-bearing) and semantic (encyclopedic feature-bearing) verb may be a useful way to think of this split.

[13] Jingulu appears to lack encyclopedically bleached nominals like *thing* or *one* (other than the numeral *one)* altogether.

[14] See Pensalfini (1997, p. 135) for a discussion of apparent counter-examples to this claim.

[15] Verbal roots exhibit entirely predictable harmony in non-singular persons. Among nominals there is a semantically coherent class of nominals which forms its plural by internal reduplication. Neither of these cases involves suppletion.

[16] The Jingulu corpora at the time of writing consisted of some sixty hours of taped conversations, elicitation, and narrative. A variety of speech styles and contexts were included, but the most common types were explanation in narrative and elicited descriptions of vocabulary items.

[17] Nothing can be drawn from the low figures for occurrence of nominals in positions other than adjacent to the verb-word, as the potential for occurrence in these positions is low, given the high incidence of null anaphora.

[18] While a novel idea within the formal Principles and Parameters approach to syntax, this analysis is reminiscent of Payne's (1993) functionalist account of nonconfigurationality. Payne claims that there is a distinction between nonconfigurationality in nominal phrases and in verbal phrases. However, this account in no way represents a formalisation of Payne's analysis.

[19] Suprisingly, however, Elisa Steinberg informs me that Yucatec Mayan works precisely in this way (personal communication).

[20] Thanks to an *NLLT* reviewer for pointing these examples out.

[21] Thanks fo Beth Levin for suggesting I look at Basque in this light. Claims about Basque derive from Saltarelli 1988.

[22] Notably Jaminjung, which has been claimed to be distantly related to Jingulu (Chadwick 1984), and many Kimberley and Daly languages.

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Rob Pensalfini

School of English, Media Studies, and Art History

University of Queensland

Brisbane, Qld 4072

Australia

electronic mail: r.pensalfini@uq.edu.au

TABLE 1, p. 59

		Encyclopedic features in V?	
		Yes	No
Encyclopedic features in argument positions	Yes	English, Hopi, Japanese	Kalam, Basque, Welsh?
	No	Mohawk, Jiwarli, Mayali, Warlpiri, Wambaya	Jingulu