Constraints on the Pre-auxiliary Position in Warlpiri and the Nature of the Auxiliary

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1. Introduction[1]

Warlpiri[2] finite clauses containing a verb have a word-like constituent made up of a complex of functional categories marking negation, modal, aspectual and temporal contrasts as well as subject and non-subject person and number features[3]. This complex constituent has been referred to as the auxiliary (AUX) and I will continue to use that term here although I will be arguing that AUX is not a basic category. In a language in which the ordering of case-marked phrases relative to the verb is totally unrestrained in finite clauses, AUX is remarkable for the constraints placed on it. Not only is its internal composition strictly ordered in a template-like structure (Nash 1986:58-62), but its position in the clause is also tightly constrained. AUX typically appears either in clause initial position (1a) or in Wackernagel's or second position (1b). (AUX is bolded in all examples.)[4]

(1) a. ***Kala=lu*** *warru-wapanjina-nu nyurru-warnu-patu kuyu-kupurda.*
PAST-3PL.S around-walk-PAST former-lot-PL:NOM meat-DESID:NOM

b. *Nyurru-warnu-patu* ***kala=lu*** *warru-wapanjina-nu kuyu-kupurda.*
former-lot-PL:NOM **PAST=3PL.S** around-walk-PAST meat-DESID
'The olden time people used to walk all around in search of game.'

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[1] I would like to thank Stephen Anderson and two anonymous reviewers for their helpful critiques of an earlier draft of this paper, but of course I take complete responsibility for any remaining errors. I have not been able to incorporate all of the material the reviewers would have liked, but plan to expand on several aspects of Warlpiri grammar touched on here in forthcoming work. The revision of this paper has been facilitated by the Special Studies Program of the University of Queensland.

[2] The Warlpiri data is drawn from a variety of sources including Ken Hale's Warlpiri fieldnotes from 1959-60 and 1966-7 (HN), my own fieldnotes, Warlpiri written and oral texts collected between 1975 and 1999.

[3] Finite nominal clauses have an 'impoverished' AUX consisting only of person/number features of Subject and non-Subject (see Hale 1982) realized as enclitic pronominals. The same constraints apply to AUX placement in finite nominal clauses as in finite verbal clauses described here.

[4] The following abbreviations are used in this paper: 1 = first person, 2 = second person, 3 = third person, ALLAT = allative case, AUG = auxiliary augment, AUX = auxiliary, CENTR = central coincidence, DAT = dative case, DESID = desiderative, DIR = directional, DU = dual, ERG = ergative case, FUT = future, INF = infinitive, IRR = irrealis, K = case, KP = case phrase, LOC = locative case, NEG = negative, NOM = nominative case, NPAST = non-past, O = object, PL = plural, POSS = possibility, POT = potential, PV = preverb, S = subject, SG = singular, SPEC = specifier.

The AUX in (1a) and (1b) consists of an element *kala* expressing a remote usitative past (in conjunction with the 'past' tense verbal suffix *-n u*) and the plural subject enclitic pronoun *=lu*. The constituents following the AUX *kala-lu* in (1a), namely the complex verb *warru-wapanjinanu*, and the nominative case phrases[5] (KP) *nyurru-warnu-patu* and *kuyu-kupurda*[6], can be placed in any order. Similarly any one of these constituents can occupy the pre-AUX position, but **no more than one**[7].

Various explanations have been given to account for the constraints on the position of AUX and the otherwise 'free' word order (Austin & Bresnan 1996, Brunson 1986, Hale 1967, 1968, 1982, 1983, Nash 1986, Simpson 1991). The earliest was Hale's (1967, 1968) formulation of the Warlpiri clause (S) as AUX -NP-VP, which accounted for the clause initial placement of AUX. To allow for one pre-AUX constituent, Hale proposed a movement rule (partially motivated by the phonological component) which placed a phrasal constituent before the AUX to serve as a host to which AUX could encliticize. In later works Hale (1982, 1983) continued to address this problem, accounting for the free and flat word order by delinking surface or phonetic structure from a deeper syntactic or lexical structure (his W* proposal), while accounting for the positioning of AUX by stipulating it in the phrase structure of the finite clause headed by V: VP $\rightarrow$ AUX XP* V XP* (Hale 1983:7).

Austin and Bresnan (1996) (henceforth A&B) propose a representation of the Warlpiri finite clause which reflects elements of Hale's earlier formulations. A&B (especially 224 (12) and 226 (14)) argue that AUX be equated with I(nflection) which heads an IP taking as its complement the category S. In their account, S dominates an unordered sequence of constituents: verb, NPs etc. Their IP may or may not have a SPEC[ifier]. Without a specifier, the clause is AUX initial; with a specifier, AUX is in second position.

Since SPEC is a position which only permits phrasal constituents (XPs) the prediction would be that V could not occupy this position. However, V initial sentences such as (2) are common in Warlpiri, as they observe.

(2) a. *Warru-wapaja* ***kala=lu*** *nyurru-warnu-patu.*
around-walked PAST-3PL.S former-lot-PL:NOM
'The olden day people used to walk all around.'

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[5] I am assuming that all case-marked phrases are a phrasal projection of the functional category case (K) in Warlpiri. The case-marked phrase, typically an NP occupies the SPEC position within the KP.

[6] While often referred to as a 'case', the desiderative suffix behaves like a derivational affix in Warlpiri, rather than a grammatical case in the sense of the Ergative, Nominative and Dative cases (see Nash 1986 and Simpson 1991 for a classification of Warlpiri 'cases'). The desiderative marked expression in (1) is in the nominative case, since it contrasts with the same expression in the Ergative case in a clause with a finite transitive verb.

[7] This statement of the constraint on pre-AUX placement will be shown to need some modification in §3.3, 4 and 5.

b. *Warru-wapaja* ***=lpa=lu*** *nyurru-warnu-patu.*
around-walked IMPF-3PL.S former-lot-PL:NOM
'The olden day people used to walk all around.'

To account for the verb in pre-AUX position, A&B propose a phonologically motivated movement rule by which an enclitic AUX requiring a host moves down to encliticize to the first phonological word dominated by S. While this may seem a reasonable explanation where the AUX fails to have the phonological properties required to constitute a phonological word as in (2b), or is perhaps lexically marked as an enclitic, this theory fails to account for the pre-AUX position of the verb in (2a), since, as seen in (1a), this AUX can constitute the clause initial element. The motivation for the placement of the verb before the AUX in (2a) cannot be the same as that proposed by A&B for the application of their phonological AUX lowering rule. Thus the motivation for the placement of the verb before the AUX in (2b) could have two sources: one phonological (which triggers an AUX lowering rule on A&B's account, or the preposing of a host to the enclitic AUX on Hale's account), the other thematic (which moves a constituent into focus in the pre-AUX position. In either case, the movement (or placement) affects the syntactic structure.

A further complication noted by A&B and others is the fact that a subcomponent of V, the preverb (PV), can also be placed before AUX in some circumstances. The PV, a type of adverbial nominal, which combines with a verbal stem to create a compound (or complex) verb has been assumed to be an X° category. (See Nash 1982 for the most complete description and analysis of Warlpiri PVs.) There may be more than one PV in a verbal complex. A&B (227) account for AUX in post-PV position and in post-V position in the same way. Their AUX-lowering rule encliticizes AUX (their I) to the first phonological word in the sequence of constituents dominated by S - be it PV or V. However, this rule fails to account for the positioning of AUX relative to the verb. Either a word corresponding to a morphologically basic verb V or a complex verb PV+V or a preverb PV, or a sequence of words in a verbal complex PV (PV) V or V PV or PV V PV, may precede AUX, so the lowering rule cannot be formulated in terms of 'phonological word' or 'syntactic word'. If a verb can occupy the pre-AUX position even when the AUX may legitimately occupy the clause initial position (compare (1a) and (2a)), and if this position can be occupied by other constituents, then the motivation for a phonological 'lowering' rule evaporates. This does not, however, exclude the possibility that one motivation for placing a constitutent in the pre-AUX position, may be phonological. However, if this position is a SPEC position, then only XPs should be able to occupy that position. I will argue that this is indeed the case in Warlpiri.

If any phrasal constituent can occupy the SPEC of IP (this position is not limited to a subject NP in the A&B model) then what prevents a VP consisting of V and its complements, specifier, and any adjuncts from occupying that position? This possibility is ruled out in the A&B model by the fact that there is no such constituent within S since V is not the head of a VP dominating NPs (or DPs) -

rather V is sister to the phrasal constituents immediately dominated by S[8]. In a syntactic model in which the dependents of the sentence-level category corresponding to A&B's S are organized into a hierarchically organized phrasal structure including a VP and its dependents, the problem of accounting for the absence of such a VP in pre-AUX position remains.

Another attempt to account for the facts of constituent ordering in Warlpiri, this time from a Government and Binding framework, is that of Brunson (1988). Brunson argues that AUX is realised in the C[omplementiser] position which accounts for why any NP (not just the subject NP) can be realized as its SPEC - a result of A-bar movement. (A&B (228) explicitly reject the possibility that AUX is in the COMP position.) Brunson's analysis must also account for why a VP consisting of the verb and its dependents cannot occur in pre-AUX position while either V or PV can.

Brunson accounts for the absence of VP in pre-AUX position by claiming that V in Warlpiri projects a degenerate V' level (dominating a complement, but no specifier) as its maximal projection (the same argument is made for I). Such a constituent cannot move to SPEC of C which only allows X" maximal projections (in other words, an XP dominating both complement and SPEC). Brunson analyses the verb in pre-AUX position as the incorporation of V into C, thus a case of syntactic head-to-head movement or raising via I (Brunson 1988:56). Brunson does not address the problem of how to analyse what I will refer to as 'AUX-straddling': PV-AUX-V or V-AUX-PV sequences.

Reviewing these and other accounts (e.g. Nash 1986, Simpson 1991) of the nature of the Warlpiri AUX and its part in the structure of finite clauses, I will briefly present evidence in favour of the following set of propositions:

(i) Pre-AUX V or PV is an XP in SPEC of the functional category heading AUX;
(ii) There is no need for exceptional 'defective' projections of the V' versus V'' kind as proposed by Brunson (1986);
(iii) The pre-AUX placement of the entire verbal complex must be distinguished from AUX straddling where only part of the verbal complex precedes AUX with the remainder in the immediate post-AUX position;
(iv) AUX is composed of three distinct categories (C, I, PRON), plus a category which includes negation;
(v) The templatic structure of AUX is the product of head-to-head raising of its component functional categories;
(vi) There is no single pre-AUX position: the immediate pre-AUX position which is the SPEC of the highest head of AUX must be distinguished from additional positions created by the projection of other categories such as propositional or evidential particles and conjunctions.

[8] Presumably what prevents S from moving to the SPEC of I position, so that AUX would be sentence final with all subconstituents of S in the preAUX position is the fact that S doesn't count as a phrasal constituent.

(vii) There is no need of a phonological lowering rule to account for V or PV in pre-AUX position.

2. Composition of AUX

2.1 Auxiliary base and bound pronouns

The AUX in (3) is made up of a central coincidence morpheme *ka* belonging to the category referred to by Hale (1967) as the AUX 'base' and a pronominal morpheme *=lu* marking the (third person) plural subject. The base form *ka* is only found in conjunction with a verb bearing a nonpast (NPAST) suffix; thus there is a dependency between the AUX base and the verbal inflection: *ka…* (V)-NPAST.

(3) *Wangka-mi* ***ka=lu*** *Yurntumu-wardingki-patu.*
speak-NPAST CENTR-3PL.S Y-habitant-PL:NOM
'The Yuendumu people are speaking.'

I will not have anything to say here about the pronominal[9] (PRON) component of AUX, apart from the fact that the bound pronouns always encliticize to the other AUX elements if present, otherwise to the immediate pre-AUX constituent as in (4).

The 'central' AUX base form *ka* in (3) contrasts with its absence in (4) where the act of speaking referred to is viewed as taking place subsequent to the utterance (see Hale (1986) for details of the semantic distinctions between AUX base forms).

(4) *Wangka-mi***=*li*** *Yurntumu-wardingki-patu.*
speak-NPAST=3PL.S Y-habitant-PL:NOM
'The Yuendumu people may/shall speak.'

If the verb is marked by either the irrealis or past tense suffix, then the AUX base may be null or it may be *-lpa*, as illustrated in (5): *lpa* …PAST or IRREALIS.

(5) a. *Wangka-ja***=*lu***.
speak-PAST=3PL.S
They spoke.

b. Wangka-ja**=lpa=lu**.
speak-PAST=CENTR=3PL.S
'They were speaking.'

c. Wangka-yarla**=lu**.
speak-IRR=3PL.S
'They should have spoken.'

[9] For full details see Hale (1973), Nash (1986) and Simpson (1991).

d. Wangka-yarla**=lpa=lu**.
speak-IRR=CENTR=3PL.S
'They should speak.'

These monosyllabic AUX base forms fail to constitute a phonological word in Warlpiri which minimally requires a foot containing two vowels. Furthermore, the consonant cluster in *=lpa* is not permitted at the 'left edge' of a phonological word. Where *ka* hosts a pronominal enclitic, the AUX may be clause initial, thus creating a marked emphatic structure in which contrastive focus is placed on the predicate, e.g., *Ka-rna ya-ni.* (CENTR-1SG.S go-NPAST) 'I am going'.

The possible combinations of AUX base forms and verbal inflections are summarized in Table 1.

Table 1. AUX base and verbal inflection combinations

AUX BASE	VERBAL INFLECTION	MEANING
ka	non-past	'present'
ø	non-past	'immediate future'
	past	'past perfective'
	irrealis	'past counterfactual'
	future	'future'
	imperative	'imperative'
	presentative	'presentative present'
lpa	past	'past imperfective'
	irrealis	'present counterfactual'

2.2 Augmented AUX

The AUX base, *ka*, *lpa* (or null) can be augmented by a member of another category which expresses both temporal and modal contrasts. Unlike the monosyllabic 'base' forms, these 'augment' forms, with one exception, are disyllabic, giving them the prosodic characteristics of a phonological word. As shown in Table 2, not all combinations of AUG and BASE are permitted.

The presence of the AUX augment does not alter the distribution of pre-AUX constituents except that it blocks AUX-straddling.

Table 2. AUX augment AUX base and Verbal Inflections

AUX AUGMENT	AUX BASE	VERB INFLECTION	MEANING
kuja	ø	past	'past'
	lpa	past	'past imperfective'
	ka	non-past	'present'
kaji	ø	past	'if/when/must past'
		non-past	'if/must future'
		future	'if/must future'
		irrealis	'if counterfactual'
	ka	non-past	'potential'
	lpa	past	'if/when past imperfective'
		irrealis	'if hypothetical'
yungu ~ yi~ yinga ~ yingi	ø	past	'past'
		non-past	'present/future'
		irrealis	'desire counterfactual'
		future	'future'
	ka	non-past	'present/immediate future'
	lpa	past	'past continuous'
		irrealis	'desire future'
kala	ø/ lpa	past	'customary past'
kala	ka	non-past	'potential'
kapu	ø	non-past/future	'future'
		irrealis	'counterfactual'

3. The pre-AUX position(s)

3.1 Phrasal Constituents

As noted by A&B and Brunson, the pre-AUX position is a focus position as illustrated by the examples in (6): interrogative nominative case phrase (KP) in (6a), a nominative KP bringing 'new' information in (6b) as the reply to (6a), an interrogative nominative case phrase (KP) in the scope of the propositional particle *mayi* in (6c) also a reply to (6a), an interrogative verb in (6d), and a verb expressing 'new' information in (6e), sollicted by (6d).

(6) a. *Ngana-patu* ***ka=lu*** *wangka-mi ?*
who-PL:NOM CENTR-3PL.S speak-NPAST
'Who are speaking?'

b. *Yurntumu-wardingki-patu* ***ka=lu*** *wangka-mi.*
Y-habitant-PL:NOM CENTR-3PL.S speak-NPAST
'Yuendumu people are speaking.'

c. *Ngana-patu mayi* ***ka=lu*** *wangka-mi.*
who-PL:NOM NOT:KNOW CENTR-3PL.S speak-NPAST
'I don't know who are speaking.'

d. *Nyarrpa-jarri-mi* ***ka=lu*** *Yurntumu-wardingki-patu?*
how-INCH-NPAST CENTR-3PL.S Y-inhabitant-PL:NOM
'What are the Yuendumu people doing?'

e. *Wangka-mi* ***ka=lu*** *Yurntumu-wardingki-patu.*
speak-NPAST CENTR-3PL.S Y-inhabitant-PL:NOM
'The Yuendumu people are speaking.'

Unlike English, in which interrogative phrases are restricted to the SPEC of CP or to a base-generated position ('echo' questions), Warlpiri interrogative phrases, while usually occupying the pre-AUX position, may also occupy the immediate post-AUX position as illustrated in (7) in which the pre-AUX position is occupied by a topic KP referring to information previously established in the discourse (to be further discussed below).

(7) *Pikirri=ji=**npa*** *nyarrparla-rla* *warungka-ma-nu-rnu?*
spearthrower:NOM=TOPIC=2SG.S where-LOC forget-cause-PAST-HITHER
'Where did you forget the spearthrower on your way here?'
[HN:0047]

No type of KP is excluded from the pre-AUX position. For example it may be occupied by a KP containing coordinated KPs (8a), juxtaposed coordinated KPs (8b), coreferent sequence of KPs (8c), a KP containing multiple NPs (8d), a KP containing a VP headed by an infinitival (or nominalized) verb (8e). Thus the immediate pre-AUX position is one that cannot be easily characterized in phonological terms but which can be simply characterized in syntactic terms as a position which can be filled by an XP.

(8) a. *Wati-ngki* *manu* *karnta-ngku* ***ka=lu*** *ngarri-rni.*
man-ERG and woman-ERG CENTR=PL.S tell-NPAST
'Men and/or women tell (him off).'

b. *Wati-ngki,* *karnta-ngku* ***ka=lu*** *ngarri-rni.*
man-ERG, woman-ERG CENTR=PL.S tell-NPAST
'Men and women tell (him off).'

c. *Ngulya-ngka* *jinta-ngka* ***ka=lu*** *paka-rni.*
burrow-LOC one-LOC CENTR=PL.S hit-NPAST
'They kill (them) in the same burrow.'

d. *Ngulya* *jinta-ngka* ***ka=lu*** *paka-rni.*
burrow one-LOC CENTR=PL.S hit-NPAST
'They kill (them) in one burrow.'

e. *Nalija(-ku-ngarnti-rli)* *jinta-kari(-ki-ngarnti-rli)*
tea(-DAT-PRIOR-ERG) one-other(-DAT-PRIOR-ERG)
purra-nja-ku-ngarnti-rli ***ka=lu*** *ngawu-ngawu* *nalija*
cook-INF-DAT-PRIOR-ERG CENTR=PL.S bad:NOM tea:NOM
warru-yinti-rni [...]
around-pour-NPAST
'Before making another (billy of) tea, they pour out the (old) bitter tea...'

It is important to note that a non-tensed or infinitival verb (V-INF) may only occupy the pre-AUX position if embedded in a KP as in (8e) (or if it occupies a PV position within a complex verbal constituent). While the tensed V fails to form a constituent which may occupy a pre-AUX position, along with its dependent KPs, the non-finite V can form such a constituent exemplified in (8e).

This difference in the syntactic behaviour of Warlpiri finite and non-finite verbs suggests that the finite verb is embedded within the projection of a functional category which differs from that governing its non-finite counterpart. This 'finite' category projects an XP which I will refer to as VtP (tensed VP). VtP enters into a syntactic relationship with the functional categories which underlie the AUX complex. The non-finite verb must also enter into the projection of a functional category in order to be syntactically active or interpretable, but since it has acquired 'nominal' rather than 'verbal' syntactic properties the functional category which selects it is K (case).

To account for the absence of any embedded constituent within the finite VtP, I must assume that overt argument expressions are not internal to VtP. While the person and number features of the Subject (and a non-Subject argument under certain conditions) must be expressed by enclitic pronominals in AUX, phrases containing 'open' class nominal categories are all optionally overt[10]. Like V-INF, these must be governed by a K.

Allowing that the finite verb represents a phrasal category VtP, then there is nothing special that needs to be said about its realization in pre-AUX position if this is a SPEC position which may host any XP (or phrasal) category in focus. If all pre-AUX XPs are in focus, we do not need any special non-syntactic rule to account for the verb initial clauses, although we *will* need to say something special about the AUX-straddling cases. If non-focussed XPs are found in immediate pre-AUX position (as suggested by (7)), we need to consider the possibility that the pre-AUX position may represent the SPEC of more than one category.

[10] Jelinek (1984) argued for a similar account where all KPs (or nominal expressions of a verb's arguments) are 'adjuncts', with only person/number features may occupy the 'argument' positions. Other proposals are found in Hale (1983 and elsewhere), Laughren (1989, 1992), Nash (1986) and Simpson (1991) among others. Baker (1996) provides extensive argumentation that overt argument expressions are external to the nuclear clause.

3.2 AUX-Straddling

AUX-straddling refers to sequences of the type PV-AUX-V or V-AUX-PV where V represents either a 'simple' or 'complex' verb. To be straddled, the AUX is limited to an AUX base element, including zero, and the appropriate PRON elements. The PV *yarda* in pre-AUX position in (9a) contrasts with the presence of the entire complex verb, PV-V *yarda -wangkami* in (9b). In (9c) the pre-AUX constituent V PV *kulpamirra pina* reverses the word order[11]. In (9d) the complex V *turnu-mani* is is in pre-AUX position, while the associated PV *m u k u* 'all' immediately follows the AUX. (9a&d) exemplify AUX straddling, while (9b&c) do not. (Relevant PVs in (9) are underlined.) Except for (9c) in which the PV *yarda* and verb *wangkami* constitute a prosodic unit which may be characterised as a compound word (or single prosodic phrase), the PVs and Vs in (9) constitute distinct words (or phrases).

(9) a. *Yarda* ***ka=lu=nyanu*** *wangka-mi.* [PV-AUX-V]
more CENTR=3PL.S=ANAPH talk-NPAST
'They are talking to each other again.'

b. *Yarda-wangka-mi* ***ka=lu=nyanu..*** [PV-V-AUX]
more-talk-NPAST CENTR=3PL.S=ANAPH
'They are talking to each other again.'

c. *Kulpa-mi=rra* *pina* ***kaji=ka=rna.*** [V-PV-AUX]
return-NPAST=THITHER back POSS=CENTR-1SG.S
'I might go back again.'

d. *Turnu-ma-ni* ***ka=jana*** *m u k u* [...] [V-AUX-PV]
gather-CAUSE-NPAST CENTR=3PL.O all
'It gathers them all (up).'

The word order freedom exhibited by certain types of PV relative to the other constituents of a complex VtP, and consequently relative to the AUX, parallels to some degree that of VtP and its nominal 'dependants' in finite clauses. This contrasts with the stricter syntactic relationship in non-finite clauses. PVs associated with V-INF can only precede the V. While V-INF **must** be case-marked, the case-marking **cannot** be extended to the associated PV (or PVs). Thus the structure appears to be that of an XP in which only the head (V) is case-marked. Relevant data is given in (10).

(10) a. *Yarda-ya-ninja-ku.*
again go-INF-K
'to go again'

b. **Yarda-ku ya-ninja-ku.*

c. **ya-ninja-ku yarda-ku*

[11] This order is extremely rare in pre-AUX position is our data base.

Another difference between the behaviour of the verbal complex in finite as opposed to non-finite clauses, is in the distribution of the directional deictic (DIR) enclitics (*=rni, =rra, =mpa, =yi*) (Hale 1986). This category only encliticizes to a constitutent of the verbal complex. In finite clauses, either the outermost PV (pre- or post-verbal) or the inflected V may host the enclitic as shown in (11)[12]. The prime examples in (11) include the AUX base *-lpa* in 'straddling' constructions, whereas the double prime examples prepose the entire verbal complex to AUX.

(11) a. *Yarda=**rni** ya-nu.* a'. *Yarda=**rni**=lpa yanu.* a''. *Yarda=**rni** yanu=lpa.*
again=DIR go-PAST

b. *Yarda-ya-nu=**rnu**.* b'. *Yarda=lpa yanu=**rnu**.* b''. *Yarda-yanu=**rnu**=lpa.*
again-go-PAST=DIR

c. *Ya-nu=**rnu** yarda.* c'. *Yanu=**rnu**=lpa yarda.* c''. *Yanu=**rnu** yarda=lpa.*[13]
go-PAST-DIR again
'He came again.'

I want to argue that the finite verb in Warlpiri is in fact a phrasal category which is the maximal projection of the DIR category in which VtP is embedded. Its SPEC must be filled by the VtP or a phrasal category dominated by the highest VtP node. Graphic representations of the structures underlying (11a-c) are given in Figure 1. AUX-straddling occurs when the PVP or VtP in the SPEC of DIRP raises to occupy the SPEC of CP, leaving a remnant DIRP in its wake[14]. The postpositional property of enclitic functional categories in Warlpiri is derived by phonological attachment of the functional head to its SPEC XP host. This is a general property of the language which extends to the DIR category as it does to AUX.

[12] Although a complex verb may contain more than one PVP, only the outermost PVP can raise to SPEC of DIRP, since it occupies the SPEC position which must serve as the 'escape hatch' from VtP to DIRP. Lower PVPs are thus blocked from raising because the (highest) SPEC within the maximal projection immediately dominating them is filled.

[13] (11c'') is somewhat rare.

[14] A subclass of PVs, the so-called 'dative adjunct preverbs', do not host DIR enclitics (Nash 1982). These are not considered in this study.

a. PVP raised to SPEC of DIRP b. VtP raised to SPEC of DIRP c. VtP raised to SPEC of DIRP

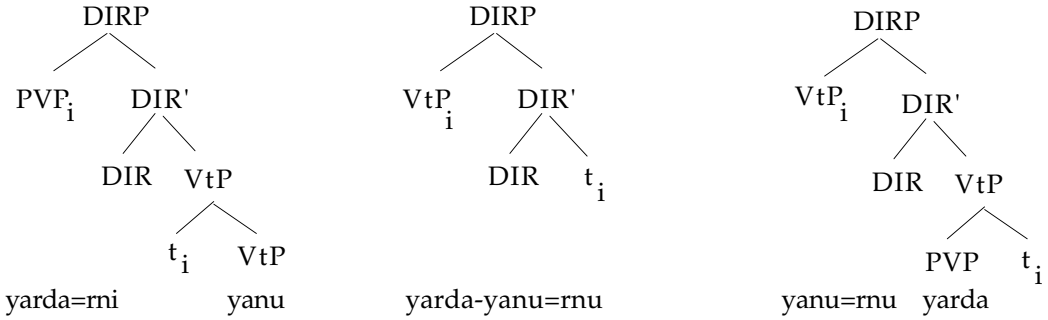

Figure 1. Structure of Directional Phrase (DIRP)

In non-finite clauses, only the PV may host the enclitic as shown in (12)[15].

(12) a. *Yarda=**rni** ya-ninja-ku.*
again=DIR go-INF-K
'to come again'

b. **Yarda-ya-ninja=**rni**-ki.*
again go-INF=DIR-K

While (11a-c) and (12a) may be realized in pre-AUX position, only the PV (*yarda*) or the PV=DIR (*yarda=rni*) accompanying a tensed verb may straddle the AUX. The fact that the PV associated with the non-finite verb cannot straddle the AUX, as shown by (13a), lends further weight to the claim that the PV-V-INF complex forms an XP which is governed by K. Only the uppermost PVP raises out of the VP to the SPEC of the Directional Phrase (DIRP), but can move no further - thus preventing AUX straddling. Movement out of the KP is not possible, although the entire KP can occupy the pre-AUX position as shown in (13c). The inability of *yarda=rni* to precede AUX in (13a) contrary to (13b) presents a further challenge to A&B's AUX lowering rule.

(13) a. **Yarda(=rni)* ***ka=lu*** *ya-ninja-ku* [...]
again(=DIR) AUX go-INF-K

b. *Yarda(=rni)* ***ka=lu*** *ya-ni.*
again(=DIR) AUX go-NPAST
'They are going/coming again.'

c. *Yarda(=rni) ya-ninja-ku* ***ka=lu*** *ngampurrpa nyina-mi.*
again(=DIR) go-INF-K AUX desirous be-NPAST
'They want to go/come again.'

[15] Like other PVs apart from Dative Adjuct PVs, non-finite verbs functioning as PV may host DIR, e.g., *ya-ninja=rni ya-ni* (go-INF=DIR go-NPAST) 'go along'.

The close relationship between the PV and V-INF reflected in their relative ordering and the fact that only the V-INF (the rightmost constituent) can be case-marked, parallels that between the kin-propositus NP-DAT and the NP expressing the kin term in kin nominal expressions of the type: *Jakamarra-ku jaja-nyanu-rlu* (Jakamarra-DAT granny-ANAPH-ERG) 'Jakamarra's granny'. This KP may occupy the pre-AUX position only if there is no variation in its internal word order and if no element, including AUX, intervenes between the dative-marked constituent and the kin NP. While a dative case-marked KP may freely occur in pre-AUX position, it cannot do so if embedded within an NP within a KP. Similarly PVs may straddle AUX, but not if embedded within a nominalized verbal expression embedded within a KP. (13a) must be treated in like fashion to (14a&b) in which AUX splits a complex KP, where K is only marked on the final constituent component.

(14) a. **Jakamarra-ku* ***ka=ju*** *jaja-nyanu=rlu* *paka-rni.*
J-DAT CENTR-1SG.O MoMo-ANAPH-ERG hit-NPAST
≠ Jakamarra's granny hits me.

b. **Wati* ***ka=ju*** *yalumpu-rlu* *paka-rni.*
man CENTR-1SG.O that-ERG hit-NPAST
≠ That man hits me.

If we assume that the AUX base is a functional category which projects an IP phrase which dominates the finite verbal complex (DIRP), while the AUG category is the functional category C which governs the IP, then, as Brunson (1988) argued, the pre-AUX position which focusses an XP is SPEC of CP. The fact that AUX-straddling is only possible in the absence of an overt C, raises a number of possibilities. One is that such clauses are IPs and not CPs and that the part of the verb complex preceding the AUX base (or I) is a phrasal category (VtP or PVP) which has raised to the SPEC of I leaving a remnant phrase as complement of IP. Another would be that the pre-AUX verbal constituent is an X^0 (PV or V) category which raises to the empty C. Unanswered, however, would be the question as to why the SPEC of C must remain empty. Acceptance of the first solution, leaves unexplained the mechanism by which the C category fails to be projected and how a clause which is underlying an IP differs from one which is a CP.

AUX straddling is a highly marked syntactic structure subject to a number of constraints which do not affect the placement of an entire KP or DIRP in pre-AUX position. The constraints are that the AUX straddling phrase must raise from a finite verb phrase (VtP) via the SPEC of DIRP and that the C position be unfilled so that I[nfl] can move to C. The remnant DIRP is in SPEC of IP. AUX-straddling is never phonologically motivated, only thematically. Further discussion of this structure is beyond the scope of this paper.

4. Other pre-AUX categories

4.1 Propositional particles in pre-AUX position

In previous sections we have characterised the pre-AUX constitutent as an XP in SPEC of CP. However, other elements may also occur pre-AUX. A propositional or evidential particle (Laughren 1982) with both semantic and syntactic scope over the clause, may occupy a pre-AUX position as in (15) and (16). (The particle is underlined.)

(15) *Kari* ***[ka=lu*** *wangka-mi].*
perceptually:evident CENTR=3PL.S speak-NPAST
'(I) can see/hear (that) they are speaking.'

A survey of the distribution of propositional particles indicates that these operate as heads of a functional projection which may take the CP as their complement, rather than occupying the C or SPEC of C position, since they may precede the C as in (16a&b) and a KP occupying the SPEC of C in (16c&d).

(16) a. *Kula-nganta* ***[kapu=npa=ju*** *yu-ngkarla].*
contrary-to-expectation FUT=2SG.S=1SG.O give-IRREALIS
'I thought [you would have given (it) to me (but you didn't)].'

b. *Kula-nganta* ***[kaji=npa*** *nyuntu* *pantu-rnu].*
contrary-to-expectation POSS=2SG.S 2SG 2SG.S spear-PAST
'I thought (wrongly) [that you must have speared it].'

c. *Kari* *[wiyarrpa-rlu* ***kala=ka=npa=nyanu***
perceptually evident poor_thing-ERG POT=CENTR=2SG.S-ANAPH
ngarrpangarrpa-ma-ni].
lie-CAUS-NPAST
'I can see that [you are probably telling lies].'

d. *Kari-nganta* *[miyi-wangu* ***ka=rna=lu=jana*** *yarnunjuku* *nyina].*
fact food-WITHOUT CENTR=1SG.S=PL.S=PL.O hungry sit:NPAST
'It's obvious that [we are waiting for them (here) hungry without food].'

What the positioning of the propositional/evidential particles in (16) shows, is that there is more than a one pre-AUX constitutent. The particle occupies a position which precedes and C-commands SPEC of CP.

4.2 Negative AUX

Finite clauses may be negated in Warlpiri by introducing the negative morpheme *kula* to the clause. It is an operator which must precede the constituents in its scope. In verbal clauses *kula* appears to occupy the C position. *Kula* may combine with any AUX base (our I) form; it cannot combine with an augmented AUX. However, unlike the pre-AUX position without *kula*, the pre-AUX position with *kula* is **not** a focus position. Interrogative KPs may **not** occupy this position,

nor may a verb (or any part of a tensed verb). The focus position immediately follows NEG-AUX. Interrogative KPs in this position are within the scope of negation. These facts are illustrated in (17). The focussed interrogative KP in (17f), in which COMP is filled by *kaji*, must be in SPEC of CP to receive the appropriate interpretation. If the interrogative KP follows the AUX, occuping SPEC of IP then the interpretation would be ' I might go somewhere'.

(17) a. *(Ngaju)* ***kula=ka=rna*** *ya-ni.*
(I) NEG-CENTR-1SG.S go-NPAST
'I'm not going/ don't go.'

b. **Ya-ni* ***kula=ka=rna*** *(ngaju).*

c. ***Kaji=ka=rna*** *ya-ni.*
POSS=CENTR=1SG.S go-NPAST
'I might go.'

d. *Ya-ni* ***kaji=ka=rna.***
'I might go.'

e. ****Kula=kaji=ka=rna*** *ya-ni.*

f. *Nyarrpara-kurra* ***kaji=ka=rna*** *ya-ni?*
where-ALLAT POSS=CENTR=1SG.S go-NPAST
'Where am I likely to go to?'

g. **Nyarrpara-kurra* ***kula=ka=rna*** *ya-ni?*

h. ***Kula=ka=rna*** *nyarrpara-kurra* *ya-ni.*
NEG-CENTR-1SG.S where-ALLAT go-NPAST
'I'm not going anywhere.'

Another property of *kula* which distinguishes it from the C constituents listed as AUX augments in Table 2, is the fact that *kula* may be used in a nominal clause to negate a proposition, as illustrated in (18). None of the other AUX constituents (other than the pronominals) may be found in nominal clauses[16].

(18) *Kula nyanungu.*
NEG him:NOM
'It's not him/her/it.'

It would seem then, that unlike the AUG and AUX base elements which are dependent on the finite status of the verb, *kula* is more independent of these 'verbal' categories. A tensed verb can never occupy a position such that *kula*

[16] (18) does not exemplify a gapped or eliptic structure as suggested by an anonymous reviewer. An analogous elliptic clause with a missing verb such as *Kaji ngurrju.* 'if (it had been) good', is not available in Warlpiri.

would be C-commanded by the verb. I conclude then, that *kula* occupies a higher position than C and that it governs the CP. It projects a phrasal category which takes CP as its complement and allows a limited range of XP categories in its SPEC position. I must further assume that *kula* can only be used where C is unfilled at D-Structure, and that whatever element is in I (AUX base) must raise to C. Thus the SPEC of C remains the site of focus.

At this point let us return to a consideration of (7) (repeated here for convenience as (19)) in which the topic of conversation, *pikirri* 'spearthrower' is in the pre-AUX position while the focussed interrogative KP *nyarrparla-rla* 'where-at' is in the immediate post-AUX position. In (19) the 'operator' position which *kula* occupies in negative finite clauses is not filled, (nor are C or I) so that PRON raises to the highest AUX position. The topic KP is in the SPEC of the operator position (as is *ngaju* 'I/me' in (17a), while the focussed interrogative KP is in the SPEC of CP.

(19) *Pikirri=ji=**npa*** *nyarrparla-rla* *warungka-ma-nu-rnu?*
spearthrower:NOM=TOPIC=2SG.S where-LOC forget-cause-PAST-HITHER
'Where did you forget the spearthrower on your way here?'
[HN:0047]

4.3 Conjunctions

Preceding propositional particles and negation, one can find conjunctions such as *manu/kapi* 'and' *kala* 'but' which may introduce a clause. Further research is required to tabulate all the possible and impossible combinations of forms within these categories and to establish the underlying structure of the 'maximal' finite clause.

5. Conclusions

The Warlpiri auxiliary is made up of distinct functional categories: (NEG) - C - I -PRON. The template-like structure of AUX derives from head-to-head raising or incorporation to the highest category, NEG (if present) or C. The pronominal person and number features may be realized in any finite clause including nominal finite clauses, whereas the I (AUX base) and C (AUX augment) forms are only found in finite verbal clauses. The I forms are distinct from the C forms in that they can be found in AUX straddling constructions whereas the C forms cannot. On the basis of its distribution, it is argued that the negative AUX morpheme *kula* does not belong to the C paradigm, but rather constitutes an additional AUX category realized at the leftmost edge of the complex. It can only be realized if C is not filled, allowing I to raise to C.

The immediate pre-AUX position in affirmative clauses is the SPEC of CP which permits any phrasal category irrespective of its internal structure or phonological form. A complex verb may straddle AUX if I can raise to C. This highly marked construction is subject to a number of constraints. Straddling differs from the pre-AUX positioning of the entire verb (=DIRP) in SPEC of CP.

In addition to the immediate pre-AUX position, additional SPEC positions are created in the phrasal projection of categories such as negation, evidential particles and clausal conjunctions. When C is not filled, I may raise to C and then into the operator position if unfilled by NEG *kula*. This allows a topic KP to precede AUX while the immediate post-AUX KP in SPEC of CP is in focus, as illustrated by (7=19).

I can find no evidence to support the need for a special movement rule to provide a host for an enclitic AUX, be it a syntactic raising rule as proposed by Brunson (1986) or a phonologically motivated rule of enclitic lowering as proposed by A&B (1996). The placement of an XP in the immediate pre-AUX position, analysed as the SPEC of CP, is always possible. The motivation for such a constituent to occupy that position has at least two sources - one is thematic since this position is favoured to focus XPs, while the other is phonological, ensuring the provision of a host for an enclitic AUX.

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