20 Word order in a free word order language: the case of Jiwarli

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1. Configurationality

The central Australian Aboriginal language Warlpiri has been made famous in the linguistic literature as 'non-configurational' as a result of the analysis of its morphosyntax arising from research by Ken Hale.[1] Hale (1980) proposed that Warlpiri showed no evidence of phrase structure organisation (i.e. no evidence for syntactic categories beyond the word level) and no evidence of transformational operations (see also Nash 1985, Laughren 1989, and Simpson 1983 and 1991). Warlpiri has a number of morphosyntactic characteristics that make it radically different from the conception of syntax deriving from the study of European languages such as English:

1. Word order at the clause level is free—any arrangement or rearrangement of words in Warlpiri clauses results in no change in linguistic meaning.[2] There is no 'syntactically neutral' ordering of subjects, objects, and verbs.

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[1] I take great pleasure in offering this paper in honour of Ken Hale, whom I first met in 1974 in Canberra. In 1978 he served as one of my PhD thesis examiners, clarifying for me points of Diyari grammar arising from brief fieldwork he had carried out in Alice Springs in 1959. He was my sponsor during my Harkness Fellowship at MIT in 1980 and has remained a friend and role model, especially in terms of the breadth of his interests and his lived example of truly collaborative relationships with native speakers of indigenous languages.

[2] The only exception in finite clauses is that non-null monosyllabic auxiliaries plus their associated bound pronominals must follow the first clause level constituent. Disyllabic auxiliaries (plus bound pronouns) can be clause-initial or follow the first constituent (see Hale 1982 and Swartz 1988:152). Word order is more strict in non-finite clauses.

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2. Elements which can be thought of as a single semantic unit (say nominal heads and their associated demonstratives and modifiers) can be, and often are, represented discontinuously within the clause. Warlpiri has a rich system of nominal case marking, and it is generally true that discontinuous nominal expressions with the same morphological marking can be interpreted as semantic units (so-called 'split NP syntax').

3. Nominals are freely omissible from Warlpiri clauses—missing nominals are interpreted as third person definite reference. Additionally, there are sets of bound pronominal subject and object markers affixed to the verbal auxiliary complex; the overt expression of free pronominal arguments in the clause is optional.

These three characteristics challenge some of the basic conceptions of government-binding theory (see Chomsky 1981, 1982 and 1986), particularly the projection principle, which requires that there be no syntactic 'gaps' and sanctions abstract 'empty categories' (namely NP-trace, wh-trace, PRO, and pro). It also requires the existence of syntactic movement, because lexical argument structure is projected onto surface structure and hence 'missing' surface elements must be analysed as sanctioned empty categories.

Cross-linguistic variation is seen in terms of setting of parametric constraints on universal grammar. One such is 'the configurationality parameter', i.e. whether or not a language exhibits phrase structure and movement (and consequent anaphor–antecedent binding asymmetries). Hale (1983) argued that this parameter should be couched in terms of the level of syntactic structure at which the projection principle holds: in configurational languages it holds at lexical structure (i.e. the level which reflects the theta-marking properties of lexical items) and surface structure, while in non-configurational languages it holds at lexical structure only. From this it follows that abstract elements like PRO, pro, and trace are not required in languages like Warlpiri (nor are movement rules). Theta-marking properties of verbs are represented by argument arrays at lexical structure, but not necessarily at the surface syntactic level. Thus, 'missing' elements are not necessarily empty categories.

Jelinek (1984:73) argues against Hale's approach, stating that for Warlpiri (and other languages termed by her 'W-type non-configurational') the argument positions of a predicate are filled by the bound pronominal clitics (subject and object, which obligatorily attach to the auxiliary). Free nominals, where they occur overtly in the clause, are taken to be adjuncts to the verb complex with its (morphologically) bound arguments ('adstructural elements'). Omission and free ordering of adjuncts is possible because essential argument information is represented in the clause by the pronominal agreement markers.[3] Speas (1990) and Baker (1991 and 1996) have developed variants of this approach, concurring with Jelinek in emphasising the role of the bound pronouns as licensing free word order and other non-configurational characteristics (see Austin and Bresnan 1996, and Bresnan 2000 for criticism of this view).

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[3]   The claimed correlation is not without exceptions, even in languages with bound pronouns. Blake (1983:144) observes that in Kalkatungu, "[w]here an auxiliary particle is used, . . . the cross-referencing forms are obligatory. In other instances the use of cross-referencing forms instead of or as well as free nominals is optional and not too frequent". Similarly, Bresnan and Mchombo (1987:742, fn.2) point out that "Jelinek's analysis of Warlpiri is itself problematic", as it relates to the relationship between the so-called pronominal arguments and the nominal adjuncts. They quote Simpson's (1983) study, which shows that Jelinek's analysis is not applicable to non-finite clauses, which have no auxiliary element and no bound pronouns, yet show the same lexically determined case-marking patterns for nominals as finite clauses (which do have auxiliaries and bound pronouns).

Note in passing that these ideas are neither unique nor original to Jelinek, but have appeared in the literature on 'free word order' languages a number of times. For example, Steele (1978:611) proposes a (unidirectional) implicational relationship between person agreement marking and word order freedom. Earlier sources include Boas (1911) and von Humboldt (1836:130ff.), neither of whom is mentioned by Steele, or Jelinek (or by Mithun 1986).[4] Similarly, Bresnan and Mchombo (1987) argue that in certain Bantu languages the bound pronominal markers are pronouns and function as arguments filling the verb's lexical requirements (Steele 1989:543 calls this the 'pronominal argument' view). Bresnan and Mchombo say this is always true for subjects and may be for objects.

Hale (1992:78) revised the analysis in Jelinek (1984) and Speas (1990), proposing that NP arguments are not directly governed by the verb, but by their (inflectional) case category, which serves to make the NP 'visible' for the assignment of thematic roles to it by the verb. He distinguishes between a lexical projection ("an unambiguous projection of the lexical category, say V, introducing its arguments in an asymmetrical arrangment of specifier and complement") and a functional projection ("the case-projection (or case-and-agreement projection), with parallel organisation of argument positions, each identified with the corresponding position in the [lexical] theta-projection"). The functional projection is not inherently asymmetrical and hence allows freedom of order, as well as exhibiting no evidence of subject/object binding asymmetries. For Hale, the difference between English and Warlpiri then is that English expresses arguments overtly within the lexical projection, while Warlpiri expresses them only in the functional projection. There would thus be no evidence for c-command or movement in a language like Warlpiri.

In summary, in all these accounts there are two types of typologically distinct languages: non-configurational which rely on person agreement morphology to express syntactic relations, and configurational, which rely on phrase structure.

2.   Pragmatically determined order

Alongside this generative syntax research, there has been interest in 'free word order' languages by typologically oriented linguists, such as Blake (1979, 1983 and 1987), Payne (1987) and Mithun (1986 and 1987), who have challenged the Greenbergian conception of 'basic' word order, arguing that there are languages with no 'basic' syntactically determined word order, but whose word order is pragmatically determined (see also Heath 1986 and Kilham 1987).[5] Mithun (1986 and 1987) has demonstrated clearly that pragmatic principles play a fundamental role in word-order determination in Coos, Cayuga, and Ngandi, the last from northern Australia. Summarising somewhat, her basic idea is the 'newsworthiness principle': the pragmatically most important items, those with the most immediate discourse impact because they are new or contrasting, come first in the clause, and the elements which follow are distributed in order of decreasing newsworthiness. Note here the apparent reversal of the traditional view (based largely on research on European languages such as Czech and Russian) that pragmatic principles favour a topic–comment or theme–rheme order where sentence constituents are ordered in increasing 'communicative dynamism', moving from the

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4   I am grateful to William Foley for bringing the Boas and von Humboldt references to my attention.

5   A point with which Jelinek would seem to agree; cf. Jelinek (1984:73 item 72c), although she does not make it clear precisely what she intends by the term 'pragmatic'.

known (topic or theme) at the beginning of the sentence to the unknown or new (comment or rheme) at the end.

Mithun is not alone in proposing this reversal of pragmatic prominence, nor is she the first to do so. Stute (1986) and Burgess (1986) (both originally written in 1976–77, according to Grimes' introduction to the volume that contains them) argue that similar principles apply in Gaviao and Xavante (see also Payne 1990). Similar ideas are found in the ordering principles proposed independently by Blake (1979, 1983 and 1987), who suggests that for some Australian Aboriginal languages the usual sentence order is: (focus) — topic — (rest of) comment.

Here 'topic' refers to what is being talked about, and 'comment' is what is said about the topic. 'Focus' is to be understood as: "the most important part of the comment, the essential part, that most resistant to ellipsis" (Blake 1983:153). Blake distinguishes focus from new topics, whereas Mithun does not;[6] however Mithun's test for 'most newsworthy constituent' is identical to Blake's for 'focus', namely that in question–answer pairs the "most important constituent of an answer will occur first" (Mithun 1987:304; Blake 1979:115, 1983:154 and 1987:156).

Swartz (1988 and 1991) has shown that Warlpiri too has pragmatically determined word order. He argues (1988:154) that initial position in the sentence in Warlpiri is pragmatically significant and that this is where prominent topical material is placed, and proposes that Warlpiri word order can be captured by the formula: (sentence topic) — [verb phrase — (remainder of comment)]. It seems that Swartz's concept of 'prominence' coincides with Mithun's 'most newsworthy' and Blake's 'focus'. Swartz (1991:42–43) concludes that "Warlpiri too is a pragmatically ordered language. By that is meant that there is no basic word order in Warlpiri from which all other orderings are variations". Hale (1992:76) has accepted Swartz's arguments here (along with Mithun's observations on the pragmatic ordering of Coos, Cayuga, and Ngandi).

Mithun (1986 and 1987) and Swartz (1991) stressed the apparent correlation between freedom of word order (i.e. pragmatic rather than syntactic determination of word order) and the presence of bound pronominal affixes on the verb or associated auxiliary element (see discussion above of the 'pronominal argument' approach of Jelinek 1984, Speas 1990, Baker 1991, and Baker 1996). Mithun (1986:15) (see also Mithun 1987:324) states this correlation explicitly: "[i]t appears that all languages with purely pragmatically determined rheme–theme order, establish core grammatical relations within their verbs, between verb stems and overt bound pronouns". If this view is correct, there cannot be languages with pragmatically determined word order (following the principles proposed by Mithun) which lack bound pronouns. In the following sections I show that such languages do exist and that Jiwarli, spoken in Western Australia, is one such. I will then address the issue of how grammatical and semantic functions in Jiwarli are expressed.

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6   Blake bases his account entirely on sentences where argument nominals are fully represented in the clause. Swartz (1988:154) criticises Blake for not considering non-elliptical sentences in his account. He states that "[b]y defining topic and focus as he has, Blake has excluded the possibility that this tendency to 'push to the front' is a unitary phenomenon. Would it not be preferable to be able to state that whatever motivates such fronting does so without necessitating the somewhat arbitrary labelling of topic and focus?".

3. Jiwarli

Jiwarli is an Aboriginal language traditionally spoken in the north-west of Western Australia, inland from the town of Carnarvon (see maps in Austin 1981a, 1988b and 1992b).[7] It is closely related to three neighbouring languages: Thiin, Warriyangka and Tharrkari (constituting the Mantharta subgroup—see Austin 1981a and 1988a), and less closely related to its western neighbours Payungu, Purduna, Pinikura, and Thalanyji (the Kanyara subgroup). The languages appear syntactically to be identical to Jiwarli in all major respects. Among Jiwarli's more distant relatives is Warlpiri, which, as noted above, has been claimed to be non-configurational.

Morphologically, Jiwarli shows a rich system of case marking of the split-ergative type (see Dixon 1979 and Silverstein 1976); formal marking shows syncretism according to inherent lexical content (animacy) of the marked nominal. The first-person singular pronoun *ngatha* (and optionally the second-person pronoun *nhurra*) syncretise on a nominative/accusative pattern, i.e. the forms for intransitive and transitive subject functions (abbreviated following Dixon 1979 as S and A respectively) fall together, while there is a different form (accusative) for transitive object (P) function.[8] Inanimate nominals and demonstratives syncretise ergative and absolutive, i.e. there is one form (ergative) for A function, but S and P functions are marked by a single form. All other nominals have three distinct forms for A, S, and P functions (see also Austin 1995).

Nominals in the examples below exemplify these various types of case syncretism.[9] Notice also that in Jiwarli all nominals bear case regardless of whether they are adjacent or separated (forming discontinuous expressions—see discussion of examples (11) to (13) below).[10] Case is formally marked locally depending on the animacy of the nominal referent.

In addition to these core cases, there are cases with semantic functions: dative, locative, allative, ablative, and causal (see Austin 1992a and 1992b for details). For all cases, morphological marking is assigned to each nominal of a single semantic constituent (corresponding to a notional noun phrase), not simply the last in a sequence of adjacent nominals, as in Warlpiri. Additionally, certain adnominal modifiers, especially possessives, are marked twice for case, taking both their own case (such as dative marking possession) and the case of the modified head nominal (see Austin 1995 for details).

Jiwarli and its neighbours have sets of first-, second-, and third-person pronouns and make great use of demonstratives for establishing third-person nominal reference. However, these languages have no bound pronouns or agreement markers, unlike the Western Desert

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[7]   Until 1978 the language was unrecorded; between 1981 and 1985 I worked intensively on it with the last fluent speaker, Jack Butler, who died in 1986. The corpus consists of some seventy texts (see Austin 1997) plus a large amount of elicited data, all of which is available for study at AIATSIS, Canberra. In the examples below, a source for each is given: **T** prefaces the text number, and **s** precedes the sentence number.

[8]   In Tharrkari both the first-person singular pronoun *ngadha* and the second-person singular pronoun *nhurra* obligatorily inflect according to a nominative/accusative pattern.

[9]   The case-marking pattern described here is that which applies in main clauses; different patterns apply in certain dependent clause types; see Austin (1988a) and (1995), and the discussion in §5 below for details.

[10]   Contrast this with languages such as Warlpiri (see Hale 1982) and Diyari (see Austin 1981b:94) where adjacent nominals forming a semantic unit typically bear case on the last element only. All can bear case when emphasised.

language and Warlpiri spoken to their east (see the maps in Blake 1987 and Dixon 1980:364 for the geographical distribution of bound pronominals in Australia). Like them, however, nominals are freely omissible in texts and it is relatively rare to find, for example, a transitive verb and its associated argument nominals all overtly expressed (see Table 1 below). There is thus widespread zero anaphora in discourse (so 'gaps' can be any person or number, as noted in Austin and Bresnan 1996). It is evident then that, at least as far as omissibility is concerned, the correlation with the presence of bound pronouns observed by Mithun and Jelinek does not hold for Jiwarli and its neighbours. In the following sections we will examine the word-order component of configurationality.

3.1 Word order

Even a cursory study of Jiwarli texts shows that word order appears to be free. Taking simple transitive clauses, we find examples in the text corpus of all possible orderings of subjects, objects, and verbs. Thus, in (1) we have A V P order:[11]

(1) *Pulhapayara-lu kanya-nyja pirru   ngunha.*
     [name]-erg   carry-past meat.acc that.acc
     'Pulhapayara carried that meat.' [T45s3]

Note that the ergative case is assigned to A while the P, being inanimate, is unmarked. The same ordering is seen in (2), but here A is unmarked and P takes an accusative suffix:[12]

(2) *Ngatha tharla-laartu ngurru-martu-nha   pirru-ngku.*
     1sg.erg feed-usit   old.man-group-acc   meat-erg
     'I used to feed the old men with meat.' [T47s99]

In (3) we have A P V order:[13]

(3) *Ngatha nhurra-nha murrurrpa   mana-ra.*
     1sg.erg 2sg-acc   cicatrice.acc get-fut
     'I will get you cicatrices.' [T50s7]

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[11] The Jiwarli transcription adopted here follows general Australianist principles: *th*, *nh* and *lh* represent lamino-dental stop, nasal and lateral, *j*, *ny*, and *ly* represent lamino-palatals, *rl*, *rn*, and *rl* represent apico-domals (retroflexes). The velar nasal is *ng*. The symbol *r* stands for a postalveolar continuant, and *rr* stands for a tap. In homorganic nasal–stop clusters, the digraph for point of articulation is written once only, thus *nh* plus *th* is *nth* (not *nhth*) and *rn* plus *rt* is *rnt* (not *rnrt*). Abbreviations used in the morpheme-by-morpheme glosses are: acc – accusative; allat – allative; caus – causative; comit – comitative; dat – dative; def – definite; erg – ergative; fut – future; imper – imperative; imperfDS – imperfective different-subject; imperfSS – imperfective same-subject; inchoat – inchoative; intent – intentive; loc – locative; perfDS – perfective different-subject; perfSS – perfective same-subject; pl – plural; pres – present tense; purpDS – purposive different-subject; purpSS – purposive same-subject; spec – specific; tr – transitiviser; usit – usitative. A dot separates non-segmentable morpheme glosses.

[12] Notice in this example the ergative case-marked nominal *pirru*, which has instrumental function.

[13] In this example we have inalienable possession, which is coded in Jiwarli by placing the possessor and the possessed nominal in the same grammatical function and marking each accordingly. The possessed body part is inflected as an inanimate nominal (and hence bears no case suffix in this example), while the animate possessor bears an accusative case suffix.

Initial P is seen in the next three examples. In (4) we have P A V order (additionally P is 'split' so that the demonstrative is initial and the head nominal and the possessive are final in the clause—see below for further discussion):

(4)   *Yinha   nhurra   parlura-rni-nma   payipa   nganaju.*
      this.acc   2sg.erg   full-caus-imper   pipe.acc   1sg.dat.acc
      'You fill up this pipe of mine!' [T61s11]

Example (5) shows P V A, as does (6); notice the difference in case marking in these two examples due to animacy differences:

(5)   *Yawarnu   wantha-rrartu   ngatha.*
      windbreak.acc   put-usit   1sg.erg
      'I used to put down a windbreak.'   [T61s40]

(6)   *Piji-nha   mantharta-nha   wanka-rla-rninyja   ngulu-pa   martaru-lu.*
      many-acc   man-acc   live-make-past   that.erg-spec   gum-erg
      'That gum has cured many people.' [T52s16]

Verb-initial transitive clauses also appear in the texts, as in (7), which is V A P:

(7)   *Jimpingka-rninyja   ngatha-thu   wirta-nyjarri-nha.*
      carry-past   1sg.erg-def   boy-pl-acc
      'I carried the boys on my back.' [T47s121]

and (8), which is V P A:

(8)   *Warri   nhanya-ra   ngatha-nha   ngunhi-pa   kajalpu-lu.*
      not   see-fut   1sg-acc   there-spec   emu-erg
      'The emu will not see me there.' [T51s11]

For clauses with intransitive verbs, both S V and V S orders occur. Example (9) is S V, and (10) is V S:

(9)   *Wuru   ngunha   panyji-nyja   martura-rru.*
      stick.nom   that.nom   break-past   middle-now
      'The stick broke in the middle.' [T45s13]

(10) *Ngurnta-ja   ngunha-pa   kurlkanyurri-ngu-rru.*
      lie-past   that.nom-spec   think-imperfss-now
      'He lay down thinking.' [T45s15]

These examples are quite typical and illustrate common word orders. I have chosen them in order to show that constituent order is not sensitive to the grammatical status of subjects and objects, nor to agent/patient semantic roles, nor to the morphological patterns of case marking. In elicitation, speakers allow free reordering of sentence constituents without any change in linguistic meaning.

In addition to this, Jiwarli demonstrates other characteristics typically associated with non-configurational languages. Thus it allows quite freely so-called 'split-NP' constructions (see Hale 1982; Nash 1985; Dahlstrom 1987; and Blake, this volume); it is possible and not uncommon to find nominal constituents which are semantically related (say as head-modifier or possessor–possessed) separated by other sentence constituents. Consider the following example (in contrast to example (3) above), where a possessor and its possessed body part are separated by the verb (for further discussion see Austin 1995):

(11) *Juru-ngku ngatha-nha kulypa-jipa-rninyja   parna.*
      sun-erg   1sg-acc   be.sore-tr-past   head.acc
      'The sun made my head sore.' [T21s3]

Also, it is possible for demonstratives, head nouns, and modifiers to be separated (see also (4) above), as in:

(12) *Kutharra-rru ngunha   ngurnta-inha   jiluru.*
      two.nom-now   that.nom   lie-pres   egg.nom
      'Now those two eggs are lying (there).' [T51s9]

(13) *Karla wantha-nma-rni   jarnpa   juma.*
      fire.acc give-imper-hence light.acc small.acc
      'Give me a small fire light.' [T61s15]

These examples are quite typical of Jiwarli, and, it seems, many other Australian languages (see Blake, this volume). Thus, Dixon (1977:269), commenting on split NPs in Yidiny (north Queensland) observes that "one word will occur before the verb . . . and the remainder after the verb", with the early word being a generic or deictic and the later being a specific noun or adjective. See also McGregor (1989) for further relevant discussion of splitting in Gooniyandi.

The final non-configurational characteristic of Jiwarli is frequent omission of argument nominals. In texts, it is relatively common to find clauses consisting of just verbs (both transitive and intransitive) or of transitive verbs with just one (but not both) of their arguments. Examples of such 'incomplete' clauses are the following. Firstly, we have a transitive clause with a P nominal (*karla* 'fire') but no A:

(14) *Papa-ngka   tharrpa-rninyja   karla.*
      water-loc   insert-past   fire.acc
      '(He) put the fire in the water.' [T43s73]

and secondly a transitive clause with an A but no P:

(15) *Yalha-ngka wantha-rrka   nganthurra-lu   marrungku-lu.*
      ground-loc   put-fut   we.pl-erg   for.ever-erg
      'We will put (them) in the ground for ever.' [T44s21]

Sentences consisting of a verb without any overtly expressed arguments also occur, as in this transitive clause:

(16) *Wirntupinya-nyja-rru.*
      kill-past-now
      '(They) killed (him).' [T42s25]

An intransitive example is:

(17) *Nyajurri-nyja parlirri-rarringu-rru.*
      turn-past   come.back-intent-now
      '(He) turned (and) came back.' [T43s77]

Clearly, Jiwarli shows the full range of typical non-configurational characteristics. It is also clear that word order is not syntactically determined, either by categorial status, grammatical functions, or thematic roles. What it is that influences the relative ordering of constituents is the focus of the next section.

3.2 A text study

An examination of Jiwarli texts reveals interesting patterns in the distribution of the alternative word order patterns. A study of one long traditional text (Text 43 in Austin 1997) gives the figures in Table 1 (similar figures obtain for other narrative texts in the corpus).

Table 1: Text count — Willy Wagtail text

Clause type
  Intransitive

	number	%	% (discounting V alone)
S V	25	61	71
V S	10	24	29
V	6	15	—
	41	100	100

Transitive

Complete		**Incomplete**	
A V P	5	V P	10
P A V	3	P V	6
A P V	2[14]	V A	1
P V A	1	A V	1
	11	V	4
			22

These figures are comparable to those given in Swartz's (1988) study of word order in ten written and five spoken Warlpiri texts (Swartz's data, reorganised and with per cent frequencies calculated by the present author, are in Appendix 1). As Swartz (1988:159) remarks, "I would be reluctant on the basis of this data to posit any order as basic for Warlpiri".

We may ask then what occasions the patterns of S V vs. V S for intransitive clauses and (A) V P vs. P (A) V for transitive clauses in Jiwarli? In order to answer this question we will examine extracts from two traditional mythological narratives (Texts 45 and 43) in some detail.

It will be evident in examining the text extracts that positions early in the clause, and especially initial position, are pragmatically important in Jiwarli. Initial position is particularly prominent since it serves a number of functions—it is where we find:

1. Temporal adverbs such as *kuwarti* 'now, today' occur, serving as scene setters.

2. Connectives such as *parru* 'and then' and *ngurnuparnti* 'after that'.

3. Exclamations and vocatives.

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[14] Both instances occur in the question 'Who fire will get?'.

4. New topics of a piece of text are introduced initially. Typically, Jiwarli text episodes are bounded by the introduction of new topics in sentence-initial position; these topics continue as agents or actors in subsequent sentences but are left unexpressed in these sentences. This accounts for the majority of incomplete sentences which contain just intransitive verbs or contain transitive verbs with a P (but no A).

5. Significant new information is introduced, including new or important actions or events contributing to the main story line, new locations where events take place, and new non-topics (typically new transitive object nominals). The placing of new information in initial position accounts for the high number of V S intransitive clauses and for the numbers of P V and V P transitive clauses (non-expression of A in such clauses relating to topic continuity).

6. Topics are re-established (or reintroduced) after a period of retirement or being placed in the background. This is especially clear where a text involves interchange between two or more participants (see the extract from Text 43 discussed below). Note that where a topic is being re-established (typically as an A in a transitive clause) and at the same time a new action or event occurs, then the new participant or event outranks the old topic. This accounts for most P V A and P A V sentence types.

7. Contrast is made. To contrast location, action or event, or agents, the relevant verb or nominal participant is placed sentence initially.

To illustrate this consider first the following extract from Text 45, which is a traditional myth explaining the origins of the Emu constellation. In line 3 the main protagonist, the mythical being Pulhapayara, is introduced, and a series of actions involving him begin. The new topic appears in initial position, followed by the action he carries out—the resulting sentence has A V P word order. Line 4 introduces a new event, the stealing of the emu carried by Pulhapayara from the fire where he had intended to cook it. The agent in this sentence is unspecified and a V P order results.[15] Notice that the unspecified agent cannot be Pulhapayara (i.e. it is not the case that the A is unexpressed for reasons of topic continuity) because it does not make sense that he would steal his own emu after cooking it.

In line 5 Pulhapayara is reintroduced by means of the initial demonstrative *ngunha*, and then what follows is the new action in the story line (giving an S V clause). In the following sequence of five lines, all have a missing subject (S or A) who must be interpreted as the topic, Pulhapayara.[16] In line 8 an important location and participant (the ashes) is introduced, as is the stick which is significant later. Notice that the order within the P nominals in this clause is 'top' (modifier), 'that' (demonstrative), and 'ashes' (head), with 'stick' intervening between the last two. Sentences like this illustrate the P V clause type.

In line 9 the stick (introduced in the previous line as an instrument) becomes a topic and is placed in initial position. The A continues to be unexpressed (and hence can be interpreted as the continuing agent Pulhapayara) and the sentence has P V order. Notice the string of locative expressions at the end of the sentence. Lines 10 and 11 continue with the unexpressed agent, but in 12 the stick is revived as a topic (in S function) in initial position and the sentence is S V. Line 13 repeats line 12 for emphasis, adding the modifier 'middle' at the end. In line 14 the topic shifts back to Pulhapayara, who is reintroduced by the initial

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[15] Jack Butler could not remember the name of the protagonist who stole the emu and so he is left unexpressed throughout the text.

[16] Notice that the person who steals the emu is the same as the one who cooks it—this is coded through the same-subject switch-reference marker attached to the perfective dependent verb (see also below).

demonstrative; the new action by him in 15 is placed initially and the demonstrative follows, giving V S order.[17]

Extract from Text 45 — Emu

3   *Pulhapayara-lu   kanya-nyja   pirru   ngunha.*
     [name]-erg   carry-past   meat.acc   that.acc
     'Pulhapayara carried that meat.'

4   *Mujiya-rninyja   kajalpu   ngarri-ngka   kampa-rninyjalu.*
     steal-past   emu.acc   ash-loc   cook-perfss
     '(Someone) stole the emu after cooking (it) in the ashes.'

5   *Ngunha   yana-nyja   ngurnta-nhu-rru   kumpa-yi.*
     that.nom go-past   lie-imperfss-now   sit-purpss
     'He went to lie down.'

6   *Kururri-rarringu.*
     wake-intent
     '(He) woke up.'

7   *Yana-rarringu   ngurlu-pa   ngarri-rla.*
     go-intent   that.allat-spec ash-allat
     '(He) went to those ashes.'

8   *Yirrara-thu   ngunha   wuru-ngku   ngarri   kala-rni-rninyja.*
     top.acc-def   that.acc stick-erg   ash.acc   like.this-caus-past
     '(He) made the ashes on top go like this with a stick.'

9   *Wuru   ngunha   tharrpa-rninyja   ngarti-ngka   kajalpu-la*
     stick.acc that.acc insert-past   inside-loc   emu-loc

     ngarri-ngka   ngurnta-iniya-la.
     ash-loc   lie-imperfds-loc
     '(He) inserted the stick inside the emu lying in the ashes.'

10   *Jikalpa-lkarringu-rru.*
     lift-intent-now
     '(He) lifted (it).'

11   *Pampa-rru   kumpa-ja   jikalpa-rnu.*
     cannot   sit-past   lift-imperfss
     '(He) couldn't lift it.'

12   *Wuru-thu   ngunha   panyji-nyja-rru.*
     stick.nom-def that.nom break-past-now
     'The stick broke.'

13   *Wuru   ngunha   panyji-nyja   martura-rru.*
     stick.nom that.nom break-past   middle.nom-now
     'The stick broke in the middle.'

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17   One of the functions of the verb suffix glossed as 'intent' in lines 6 and 7 (and 10) is to indicate a series of actions in sequence by a single agent. Verbs marked by this suffix typically do not have an overt subject (see also Austin 1992b; the construction is also discussed in Austin 1992a).

14   *Ngunha-pa-thu   warni-nyja   yarnara-rru.*
       that.nom-spec-def   fall-past   on.back-now
       'He fell on his back.'

15   *Ngurnta-ja ngunha-pa   kurlkanyurri-ngu-rru.*
       lie-past   that.nom-spec   think-imperfss-now
       'He lay down thinking.'

This example illustrates a common discourse organisation in Jiwarli with a single main protagonist. In texts where there are two main participants, the topical interchange between them is signalled by their placement in initial position; new actions by the same agent involve the non-expression of the subject (S or A) as we have seen. Here is an instance from a text on the stealing of fire by Willy Wagtail (this section tells of when the people send Peregrine Falcon to the place where Willy Wagtail is camped in order that he might get the fire back):

69   *Kaji   nhurra   yana-ma   mana-ngku   ngurlu   karla-rla.*
       try   2sg.nom   go-imper   get-purpss   that.allat   fire-allat
       'You try to go and get the fire.'

70   *Nganthurra-ju   wirntu-rri-rarringu   nyirnta   kamu-nyjarri.*
       we.pl-excl.nom   dead-inchoat-intent   here   hungry-pl.nom
       'We hungry ones could die here.'

71   *Kurukurura   ngunha   ngarlpurri-nyja.*
       peregrine.falcon.nom   that   run-past
       'Peregrine Falcon ran.'

72   *Jintijinti-lu   nhanya-nyja-rni   ngunha   nhuku-rru.*
       willy.wagtail-erg   see-past-hence   that.acc   near-now
       'Willy Wagtail saw him close by.'

73   *Papa-ngka   tharrpa-rninyja   karla.*
       water-loc   insert-past   fire.acc
       '(He) put the fire in the water.'

74   *Kurukurura   ngunha   yana-nyja   thanarti-la   ngula.*
       peregrine.falcon.nom   that   go-past   sea-loc   that.loc
       'Peregrine Falcon went out to sea.'

75   *Jintijinti-lu   parru-nthu-rru   jikalpa-rninyja.*
       willy.wagtail-erg   and.then-again-now   hold.up-past
       'Willy Wagtail held (it) up again.'

76   *Kurukurura   yijarra   yana-nyja.*
       peregrine falcon.nom   past   go-past
       'Peregrine Falcon went past.'

77   *Nyajurri-nyja   parlirri-rarringu-rru.*
       turn-past   come.back-intent-now
       '(He) turned (and) came back.'

78   *Ngarlu-ngka   yana-nyja-rni   papa-ngka-thu   nhukuwila-rri-ngu-rru*
       stomach-loc   come-past-hence   water-loc-def   close-inchoat-imperfss-now
       '(He) came on the surface of the water, getting closer.'

79   *Jintijinti-lu   jikalpa-rninyja karla.*
     willy.wagtail-erg hold.up-past   fire
     'Willy Wagtail held up the fire.'

80   *Kurukurura-lu   jarnpi-rninyja-rru   karla.*
     peregrine.falcon-erg snatch-past-now   fire.acc
     'Peregrine Falcon snatched the fire.'

81   *Parlirri-rarringu   kurukurura   ngurlu   wirripuka-rla-rru*
     come.back-intent   peregrine.falcon.nom   that.allat   many-allat-now

     karla-wu   thintirni-rnu-rru
     fire-dat   knock.together-imperfss-now
     'Peregrine Falcon came back to the mob, knocking the fire together.'

82   *Wirripuka   mangkapurtu-rri-nyja-rru.*
     many.nom   glad-inchoat-past-now
     'The mob were glad.'

83   *Tharla-rninyja-rru kurukurura-nha   thurnti-ngku.*
     feed-past-now   peregrine.falcon-acc vegetable.food-erg
     '(They) fed Peregrine Falcon with food.'

In line 69 Peregrine Falcon is implored by the people to try to go and get the fire. The particle *kaji* 'try' is initial, followed by the second-person address pronoun *nhurra* and the imperative verb *yanama*. In line 70 the people explain that 'we' (topic) might die here—notice that the modifier 'hungry' is placed at the end of the sentence: it is old information and relates to the topic 'we'. Line 71 has Peregrine Falcon as topic (and S V order), while line 72 introduces Willy Wagtail (and has A V P order). Line 73 relates to continuing action by this same topic and introduces the new location, the water, into which he inserts the firestick. In line 74 focus switches back to Peregrine Falcon (S V again), and in 75 back to Willy Wagtail (A V, but no P—the firestick having been established in line 73). Attention switches back to Peregrine Falcon in 76, who continues as topic in 77 and 78 (neither of which has an overt subject). In line 79 the other protagonist is in initial position, and in 80 Peregrine Falcon is contrasted with him through an exactly parallel sentence construction (A V P). In 81 the new action of returning is placed in the position of prominence (V S order results), while the locational goal and subsidiary information follow. In 82 the 'mob' becomes topic and is continued (unexpressed) in 83, which is a V P (incomplete) sentence. This completes this particular section of the narrative.

It is clear then that Jiwarli demonstrates a set of properties that show it both to be non-configurational and to have pragmatically determined word order. It does not however have the bound pronominals that it is typologically predicted to have in order for verb argument structure to be unambiguously expressed and interpreted. In the next section we examine what the significance of this is.

4. Jiwarli from a typological perspective

As we have seen, Jiwarli seems to have the required characteristics of syntactically free word order that is requisite for non-configurationality, but does not have bound pronominals. I believe that the discussion to date in the syntactic literature has overlooked languages like Jiwarli because it has focused exclusively on languages of the head-marking type (Nichols

1986). Jiwarli, however, is a thoroughgoing dependent-marking language and this, together with a number of other morphosyntactic characteristics that it demonstrates, enables the pragmatic use of word order. We examine these characteristics in turn.

4.1 Dependent-marking

As we noted above, Jiwarli has a split-ergative case marking sytem which clearly distinguishes between nominals bearing various grammatical relations (S, A, P and so on). All elements which form a 'semantic constituent' carry case. Such 'affix congruity' is a feature of all Jiwarli morphology—non-case affixes (such as number marking, comitative ('having'), privative ('lacking') etc.) also appear on all semantically linked nominals. An example from Tharrkari showing agreement for the comitative is:

(18) *Ngunha   yana-ca   yurnu-warri   kutharra-arri   mura-arri.*
      that.nom   go-past   this.dat-comit.nom   two-comit.nom   son-comit.nom
      'The one with those two sons went.'

Additionally, dependents agree in case with the semantic head that they modify— comitatives and genitive adnominal modifiers carry the case of the modified head; adverbs and adjuncts take ergative case in transitive clauses also (see Austin 1992a and 1995).[18] The following is an example of genitive double case marking (see Austin 1995 for further details):

(19) *Parru-nthu-rru   ngunha   yanga-rninyja ngulu-pa*
      and.then-again-now   that.nom   chase-past   that.erg-spec

      jarntira-wu-lu   thuthu-ngku.
      old.woman-dat-erg   dog-erg
      'That old woman's dog chased him again.' [T18s1]

Case marking also varies for clause type. The case-marking system described above applies in main clauses; however, in nominalisations and various sorts of dependent clauses transitive object marking involves suspension of the main clause split-ergative system and its replacement with dative or allative case (see Austin 1992a). Because of this, objects of dependent clauses can be separated from their verb and even 'mixed' with main clause nominals. Consider the following example, where dative case marks the object of an imperfective-same-subject verb:

(20) *Minga-nyjarri-yi-rru nhurra   thika-rnu   kumpa-ma.*
      ant-pl-dat-now   2sg.nom   eat-imperfss   sit-imper
      'You sit down eating ants!' [T40s29]

Notice the word order in this example: the first word *minganyjarriyirru* is in the dative case because it is the transitive object of the dependent imperfect-same-subject verb *thikarnu.* The second word *nhurra* is the subject of the last word, the verb *kumpama,* since it is inflected for intransitive subject function, not ergative as would be required if it were the

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18   Head-marking is found only with a set of four bound personal possessive suffixes added to kinship terms, e.g. *kurta-ju* 'elder.brother-my'. All other affixation is added to the dependent rather than the head.

subject of the dependent transitive verb. The dependencies between verbs and their arguments cross; however the dependencies are recoverable because of the case marking.

4.2 Transitivity

Jiwarli verbs are strictly subclassified into one of four lexical classes: intransitive (taking just an S nominal subject), extended intransitive (taking S and dative case-marked complement), transitive (taking A and P), and ditransitive (taking A and two P nominals). Verbs also fall into four morphologically determined conjugations (which do not correlate exactly with transitivity). There are only a handful of homophonous transitive and intransitive roots, but even for these the difference in transitivity relates to a difference in verb conjugation. For example, *tharrpa-* 'to enter' is an intransitive root of the *yi* conjugation, whereas *tharrpa-* 'to insert' is a transitive root in the *ru* conjugation. It is thus possible to tell from the inflected verb form whether the verb is transitive or intransitive. This also means that although the split-ergative case marking formally underdetermines syntactic function for most nominals (collapsing S and P for all non-animates etc.), the function is disambiguated in combination with the lexical class of the verb in the clause (thus a transitive verb will rule out S, for example).

4.3 Switch-reference

Jiwarli has a system of switch-reference: dependent verb affixes that signal (non-) coreference of subjects across clauses. In switch-reference clauses, subject argument functions are unfilled—such 'missing subjects' are understood to be coreferential with arguments in the controlling clause. Case is marked on the dependent verbs following the switch-reference morphology, and it is possible to calculate how the argument positions of the dependent clause are saturated and what interclausal semantic (anaphoric) relations hold. Consider the following example of an imperfective-different-subject clause (marking relative present tense). The presence of the accusative case suffix on the dependent verb means that its missing subject must be understood as coreferential with ('controlled by') the transitive object in the main clause:

(21)   *Tharla-nma yinha   julyu-nha   kamu-rri-ya-nha.*
       feed-imper   this.acc old.man-acc hunger-inchoat-imperfds-acc
       'Feed this old man who is becoming hungry!' [T15s1]

The interactions between the switch-reference morphology and case marking are discussed in more detail in Austin (1992a); however, it will be clear even from this example that the inflectional morphology of Jiwarli plays an important role in signalling grammatical functions.

5. Conclusions

Jiwarli is a language which has all the prototypical non-configurational features, with freedom of word order serving pragmatic functions. However it is different from other non-configurational languages discussed in the literature to date in being thoroughly dependent marking. Published claims that there is a correlation between syntactically free word order

and bound pronominal marking (a characteristic of head-marking languages) are proven false by the Jiwarli data.

It is important to see that freedom of word order to serve pragmatic functions is orthogonal to head- vs. dependent-marking. It is necessary to take a wider syntactic perspective on the issue and to recognise that in thoroughgoing dependent-marking languages such as Jiwarli and its relatives a central role in signalling grammatical functions is played by the system of inflectional morphology (including case-marking and switch-reference; see Nordlinger (1998) for an approach that constructs functional representations from case morphology). This, together with strict lexical transitivity, means that predicate-argument relations, thematic roles, and interclausal anaphoric relations can be determined from the shapes of words, leaving their order to serve pragmatic purposes in organising discourse.

Appendix: Warlpiri word order (from Swartz (1988:158), reorganised and with per cents calculated by Peter Austin on the basis of five oral texts (344 clauses)

Clause type

Intransitive	number	%	
SV	73	35	
VS	39	19	
V	91	44	
SVS	5	2	
	208		

Transitive			
Complete	number	% of complete	% of total transitive
AVP	16	56	41
PVA	7	21	5
APV	3	9	2
VPA	3	9	2
VAP	2	5	1
PAV	0		
	34		

Incomplete	number	% of incomplete	% of total transitive
V	32	31	24
PV	16	16	12
VP	38	37	28
PVP	5	5	4
VA	5	5	4
AV	3	3	2
AVA	3	3	2
	102		

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