1. Background

The existence of nonconfigurational (NC) languages, in which phrasal units above word level are not obviously well-defined, is a problem for formal theories with predominantly geometrical orientations; the work of Hale (e.g., 1983) and associates on Warlpiri (Australia) has raised this issue. NC languages are also problematic for functional theories when surface word order ceases to be controlled by considerations of topicality and focus. The present paper is addressed primarily to formalists, but the author is a functionalist and some efforts will be made to clarify functional interactions.

Suppose language $L$ has extensive zero anaphora (i.e., omission of overt argument NPs), free order, and frequent breakup of logical NPs into discontinuous segments. One option for analysis is to say that $L$ lacks the hierarchical phrase structure (PS) of configurational languages, a decision which entails suspension of the geometrically based principles and constraints of models such as Government and Binding (GB), as set forth in Chomsky (1981). The alternative is to claim that $L$ does have an underlying hierarchical structure but also has lower-level rules which produce freer surface ordering.

Hale and colleagues have experimented with different approaches, but Hale (1983) adopts the approach using underlying structure and reordering for Warlpiri. In particular, he adduces extensive evidence (with which we have no quarrel) from reflexive/reciprocal pronominal morphology.
and from syntactic control patterns which prove that Warlpiri subject NPs have properties like those of subject NPs in configurational languages. He thus argues for representations like (1) for transitive Ss at the pre-PS level of “Lexical Structure” (LS):

(1) \[ [v \text{ erg, } [v \text{ abs, VERB}]] \]

where the ergative subject is external to the phrasal unit containing the verb and the absolutive direct object. This corresponds to the familiar subject-VP division in languages like English.¹

In this paper I show that Nunggubuyu (spoken in Arnhem Land, coastal northern Australia, remotely related to Warlpiri) is more radically NC than Warlpiri, particularly in lacking clear evidence for a subject-VP split. The status of S (clause) as a well-defined unit is critically considered. The breakup of NP segments, which works much as in Warlpiri, is interpreted as a result of the autonomy of words and the freedom with which referentially identical or overlapping words may be juxtaposed. Nominal conjunction and possession are treated similarly. In additional sections I argue that the lexicon has adapted functionally to the NC syntax in several ways.

The morphology and morphophonemics of Nunggubuyu are extremely complex (far more than in Warlpiri, for example). Many affixes have no simple gloss; rather they combine with other affixes to produce composite categories. A simple verb form like ni-ya-ogi ‘he went’ would be glossed morphemically as 3MS\(_a\)-go-PAST\(_2\), where subscript \(_a\) indicates that the pronominal prefix belongs to the ‘a’ series, and subscript \(_2\) indicates that the inflectional suffix belongs to the second of two past tense categories. The combination of an ‘a’ series prefix and the PAST\(_2\) suffix means past continuous actual positive, but PAST\(_2\) suffixes also occur in other combinations (such as past potential negative, with aspect neutralized), and ‘a’ pronominal prefixes also occur, for example, in the future negative (aspect neutralized). Some nominal affixes, especially noun-class prefixes, are likewise involved in intermorphemic dependencies which make it impossible to gloss individual morphemes. Furthermore, many categories (especially for verbs) have several allomorphs which would likely confuse readers. For these reasons some of the examples below are given in a rough ‘English’ transposition like he-went to-the-sea, where each hyphenated string represents one Nunggubuyu word (Nunggubuyu word

¹ There is no comprehensive published grammar on Warlpiri to date. My information is based on the publications by Hale, Nash, and Simpson (see References) and on comments of NLLT referees.
order is preserved, but the hyphens shown usually do not correspond to Nunggubuyu morpheme divisions). Where the Nunggubuyu morphology is especially relevant, the full Nunggubuyu forms are given.

Readers wishing more data may consult Heath (1984), a grammar whose morphological and syntactic sections include thousands of cross-references to lines in a text collection (Heath, 1980); there is also a dictionary (Heath, 1982) with a thesaurus-like appendix which may be consulted for lexical structures.

2. Nonconfigurationality: NP

An initial diagnostic sign of possible NC syntax is the breakup of logical NPs into words which occur independently of each other; let us call them NP-segments. In contrast to languages like Basque with 'free' constituent order (often controlled by discourse factors) but with tight NP structures (fixed order for determiners, adjectives, and possessor nouns, sometimes just one occurrence per NP of gender and/or case marker), in both Warlpiri and Nunggubuyu NP-segments have no fixed order when contiguous and are often separated by pauses, intonation boundaries, or intervening words: the man, he, went the-big-one, 'the big man went'.

Since intonation plays such an important role in identifying phrasal units in English, a comment on Nunggubuyu intonation is in order here. There is a simple reason why intonation cannot be a reliable marker of NP boundaries in this language: the individual NP-segments are typically of three to six syllables each and each normally has its own independent intonation pattern. English that big man may be said to have a typical NP phrasal intonation involving slight differences in stress from one word to another (variations from the background norm are interpreted as contrastive in force). The corresponding Nunggubuyu sequence would be (2):

(2) nu:-'ba-gi(-yuŋ) na-ruŋgal-yuŋ na-wal-yi-n'yuŋ
    that           big       man

The stems of these three words are bisyllabic (underlyingly), and since very few noun stems are monosyllabic these words are of average or below average length; the affixal frames are also below average in number of syllables (we could add case suffixes, for example). There are many long noun stems like dhagarijgaba:ban'juŋ 'liana sp.'. As we would expect from such multisyllabic words, they normally have their own internal stress pattern, favoring word-penultimate stress but with long vowels also acquiring stress prominences (we omit details here). Even
when two NP-segments are contiguous, no clear phrasal prosody is observed. Moreover, pitch and even length rhythms are frequently neutralized by the overlay of special intonation patterns applied to discourse chunks (not corresponding to any specific syntactic phrasal or clausal unit), notably a 'list' intonation and a sustained high monotone (nearly falsetto) for discourse-backgrounded stretches.

The following types of NP-segment occur in Nunggubuyu:

(a) independent personal pronoun;
(b) demonstrative pronoun (DEMPRO);
(c) noun.

There are no article-like elements. Something like definiteness or indefiniteness can be expressed by nominal prefixes (choice among two series of noun-class markers, or omission thereof), while a clearer indication of discourse definiteness requires a juxtaposed DemPro, such as that in (2), above.

'Adjective' and 'adverb' are subsumed under noun. Within NPs, there is no morphological or syntactic difference between words translated as English nouns and those translated as adjectives. For example, in (2) the word na-rungal-yun could be translated as 'the (the) adult' or as 'big', and na-walyi-n'un can likewise translate as 'the (the) man' or as 'male'. English has a distinction between the big man and the male adult, but it cannot be reproduced in Nunggubuyu since there is no distinction between noun and adjective within NP.

A lexical distinction can be made between adjectival nouns (NAdj) and simple nouns, since the former stems can occur not only with nominal morphology but also with full or partial verbal morphology in an explicitly predicative form. By this criterion, both 'big' and 'man' in (2) are NAdj, since we can form ni-rungal 'he is/was big' and ni-walya 'he is/was male', with intransitive verbal pronominal prefix ni-. Virtually all Nunggubuyu nouns designating types of humans ('child', 'woman', 'boss', etc.) are NAdj in this sense; simple nouns include personal names, terms for flora and fauna, terms for implements, etc. Thus NAdj is much more inclusive than English 'adjective', and is defined differently. Since NAdj are distinguished from simple nouns only by their ability to occur in a particular predicative (non-NP) construction, NAdj have no special status within NPs. (For more on predications see section 5, below.)

An adverbial noun (NAdv) is likewise simply a type of noun which tends to omit nominal affixes, though it does permit them. (A noun-class
prefix becomes obligatory in the direct scope of NEG; see section 8, below.)

The case system is simple. Zero case is used regularly for subject and direct object; there is no ergative or accusative. Nonzero case suffixes include Allative-Dative, Instrumental (which is thus clearly distinct from transitive subject, unusual in Australia), Relative (including but not limited to possessive sense), and various spatial and adverbial categories. Nonzero case suffixes are often omitted 'sloppily'. When this happens, the virtual presence of a deleted case is often implied by use of a particular set of noun-class prefix forms, as in (3d):

- **wurugu** 'pond' (focus form with no noun-class prefix)
- **mana-wurugu** 'pond' (typical subject or direct object form)
- **ama-wurugu-wuy** 'to the pond' (Allative-Dative)
- **ama-wurugu** 'to/from/in/of the pond' ('sloppy' zero case)

For this noun class, **ama-** is the usual form with nonzero cases except Instrumental, hence **ama-** in (3c). Thus (3d) is usually interpreted as a nonzero case form despite omission of the case suffix, whereas (3b) and the focus form (3a) are usually subjects or direct objects. This is oversimplified but basically correct for positive utterances.

Case-marking in Nunggubuyu appears to apply separately to NP-segments rather than to complete NPs. Let \( X_i \) and \( Y_i \) represent co-referential NP-segments like 'big/adult' and 'man/male', as in (2). With implied or explicit nonzero case (e.g., 'I gave it to the big man'), all four of the following surface possibilities are found, regardless of ordering or contiguity:

- \( X_i \)-CASE \( Y_i \)-CASE
- \( X_i \)-CASE \( Y_i \)
- \( X_i \) \( Y_i \)-CASE
- \( X_i \) \( Y_i \)

Sloppy case omission occurs in the right member (4b), the left member (4c), or both (4d). There is thus no strong evidence in Nunggubuyu for a 'percolation' model by which case is attached first to the head of the NP and then spreads to other segments, and there is no possibility of a rule attaching case once to the whole NP. In Warlpiri, (4a) and (4c) are the only possibilities (assuming contiguity of \( X_i \) and \( Y_i \)), and case must be present when the two segments are noncontiguous. The two languages
are not very different, but Warlpiri does show some left-right asymmetry when $X_i$ and $Y_i$ are contiguous, suggesting at least a weak phrasal structure.

Independent personal pronouns often co-occur in Nunggubuyu with coreferential nouns, but they do not seem to cohere into phrases. Since pronominal categories of nuclear arguments are coded in prefixes to verbs, independent pronouns for subject and object are used chiefly to mark discourse status; they are usually initial or final within the S (or S-like sequence) and show only a weak tendency to be contiguous to coreferential nouns. Personal pronouns have a profusion of special Contrastive, Sequential, and Emphatic (focus) forms which do not permit overt case marking even when the coreferential noun is in a nonzero case, as in the schematic hei-CONTRASTIVE I-gave-(it-)-to-him, the-milk the-man- DATIVE ‘as for him, the man, I gave him the milk’. Personal pronouns thus appear to occur at the periphery of Ss and do not form tight phrasal units or even agree in morphology with coreferential nouns.

The only serious candidates for two-word NP units are sequences of demonstrative plus noun. DemPros range from purely deictic ones like nu:-'wa:gi ‘that one (MSg, Distant)’ to explicitly discourse-definite (anaphoric) ones like nu:-'ba-gi(-yuŋ) ‘that one (MSg, from preceding discourse or otherwise jointly known)’. In either event, DemPros often directly precede or follow a coreferential noun. Especially when they precede, there are some indications that a weak phrasal unit is present. Intonation is not of much use as an indicator since even the DemPro is usually of three to five syllables and has its own prosody. Case marking is also not reliable as a marker of phrasal status since sloppy omission of suffix may occur on either the DemPro or the noun (or both) in the same way as for two coreferential nouns. However, anaphoric DemPros (root ba- or medial -uba-) usually take suffix -yuŋ (which marks a kind of discourse definiteness) when syntactically independent, but frequently omit it in sequences like (5):

(5) nu:-'ba-gi(-yuŋ) na-walýi-n'yuŋ

‘that man’ (anaphoric)

Even this is not a rigorous argument, since -yuŋ is not obligatory with independent DemPro, and since -yuŋ is sometimes heard in sequences of the type (5). Omission in (5) is common in spoken texts, but in more self-conscious contexts (including slowed-down repetition of the same
spoken utterances while assisting the linguist to transcribe recordings) informants often insist on the presence of -yuŋ.

The most generous thing we can say, then, is that there is a sort of 'embryonic' NP structure in which two coreferential NP-segments (a DemPro and a following noun) show a tendency to join into a weakly marked NP unit. There is no sharp break even with these particular NP-segments between phrasal status and simple appositional juxtaposition, since there are no rigorous phonological, morphological, or syntactic tests available.

Demonstrative adverbs (DEMADV) behave much like DemPros in the patterns just described. DemAdvs with senses like 'there', 'thither (to there)', and 'from there' are used instead of corresponding case forms of DemPro. Schematically, 'from that man' is translated into Nunggubuyu as from-there from-the-man, where the DemAdv does not agree in gender/number/class with the noun but does seem to form a closely-knit appositional sequence which might be interpreted as verging on phrasal status.

3. LEXICAL PROPERTIES OF NOUNS

We have noted already that Nunggubuyu does not have a parallel to the noun versus adjective distinction of English NPs. This is the single most significant implication for the lexicon of the absence of a well-defined NP unit in the language.

There is one word-building construction which compensates in part for the lack of regular noun/adjective sequences. This is a compounding pattern represented by lhawu-wala:di 'word(s)-bad'. This pattern is of sharply restricted usage, however. While many NAdjs can at least potentially occur as second member, the first member must be one of a very limited set of basic nouns (e.g., 'grass', 'stone', 'word', 'behavior'), or a body-part noun. Some first members are bound stems which cannot occur by themselves, and there are many lexical irregularities in form and meaning. The overall text frequency of these compounds is low. Still, we could argue that their existence is a functional adaptation of the morphology to compensate for the absence of a regular noun-plus-adjective NP unit.

A further lexical feature of Nunggubuyu is the absence of numeral classifier stems like English loaf (of bread) and bar (of soap, candy, etc.). Such classifiers often contribute little semantically and seem motivated mainly by the need to have a stem filling a particular phrasal slot in the
NP (e.g., because the substance noun is a mass noun which cannot be directly quantified). The use of such classifier noun stems presupposes well-defined NP structures and would be out of place in a strongly NC language.

Likewise, Nunggubuyu lacks semantically empty noun stems like English way, behavior, and kind which generally require a descriptive, evaluative, or deictic modifier: the Navy way, good behavior, this kind. Nunggubuyu either has no counterpart ('way') or uses a bound compound initial ('behavior').

Nunggubuyu also lacks lexicalized multi-word NPs such as English the right stuff, the Big Apple, second cousin, and blue spruce. Such semantic domains as place names, kin terms, and flora/fauna taxonomy consist of single noun stems, usually with no clear internal segmentation. Thus Nunggubuyu has a relatively shallow hierarchy of levels in its folk taxonomies, in contrast to many other languages where adjectives and other modifiers are added to basic terms to create subcategories. Many studies of cross-cultural taxonomy have noticed important differences in the number of levels from one language to another but this has usually been explained in terms of contentious evolutionary schemes with no attention to the influence of syntax.

The structure of the nominal lexicon is not necessarily a prima facie argument for absence of underlying NP units, but it certainly points in this direction. Clearly, the lexical structures of English and Nunggubuyu are well-adapted to their respective syntactic systems, and this adaptation deserves mention in any discussion of NC languages.

4. Nonconfigurationality: VP and S

VP is problematic even in some otherwise configurational languages, notably those with VSO order. However, indirect arguments may be used to justify a subject-VP division at some level: reflexivization, imperatives, and/or obligatory-control and subordination point to a special external status of subject NPs. Some authors have also recognized more localized VP-type units including a verb and one or more preverbs or other satellites. For Basque, de Rijk (1978) recognizes a derived VP with verb or verb complex plus a preceding (focused) NP; Rebuschi (1983) has further discussion and a distinct proposal for other Basque dialects.

For Warlpiri, Hale (1983) and Bresnan and Simpson (1983) show that 'subject' is an important syntactic category, although it has no unitary expression in surface case morphology. In the Warlpiri AUX, which contains subject and object pronominals, reflexive/reciprocal is expressed
by using special forms of object pronouns, leaving the subject pronominal unchanged (somewhat as with English pronouns). Some types of infinitive clause have the subject NP bound to a particular upstairs NP. Neither of these arguments applies to Nunggubuyu.

Nunggubuyu inflected verbs are single words; there are no true multi-word verb complexes (even NEG markers, described in section 8, do not clearly join with verbs to form phrasal units). To the left of the stem (which may or may not include derivational affixes or a compound initial) there is a pronominal prefix (often internally segmentable), either intransitive or transitive. Each pronominal unit (e.g., ‘1Sg’ or ‘1Sg→2Sg’) has two forms, which we label the a-set and the b-set, and the choice between these sets helps distinguish some tense/aspect/modality/negation categories, thus *ni-wala-qi* ‘he arrived’ versus *ani-wala-qi* ‘he was about to arrive’, with 3MSg, and 3MSg, prefix, respectively. The main expression of tense/aspect/modality is through inflectional suffixes, hence *ni-wali-n* ‘he arrived (punctual)’, *ni-wali-* ‘he arrives’, *ani-wala-ŋ* ‘he will arrive (punctual)’.

In transitive pronominal prefixes, the ‘object’ pronominal is the indirect object (if present), otherwise the direct object. If the indirect object is obligatorily subcategorized by the verb (e.g., ‘give’), the ‘object’ pronominal can only be the indirect object and no derivational affixes are needed. If the indirect object represents an optional expansion of the verb’s argument structure, Benefactive prefix *-aG-* (subject to vocalic contraction and deletion of the stop archiphoneme G) is added to indicate that the ‘object’ is indirect. Contrast (6a) and (6b):

(6)a. ŋani- ya -n
3MSg→1Sg give PAST
He gave [it] to me

b. ŋani:-' ma -n
3MSg→1Sg BENEF get PAST
He got [it] from me

The preference for indirect object marking in the verb could be taken as an indication of structure within the underlying VP. However, there is a much better functional explanation; in constructions with subject, direct object, and indirect object, the direct object is statistically almost always third person, while subject and indirect object range across pronominal persons, so information is gained by specifying subject and
indirect object categories (and little is lost by dropping direct object marking). Moreover, when we look at Nunggubuyu syntax, we see that independent nouns for direct or indirect object are unaffected by the apparent relational reshaping in the verb. Thus (schematically): he, → him, gave the milk the man, -DATIVE 'he, gave the milk to the man,' where 'milk' has zero case (as direct object) and 'man' has Dative case.

We have mentioned that the pronominal prefixes, especially the transitive ones, are internally segmentable. This opens up the possibility that morphological evidence for 'subject' as a category will emerge from formal analysis, with a residual accusative form for objects, or alternatively that 'absolutive' (subsuming transitive object and intransitive subject) will show up with a residual ergative case for transitive subject. In fact, Nunggubuyu is neutral on this score, since what it actually has is a direct-inverse system in which the leftmost pronominal is the higher-ranking of subject and object on a pronominal scale. Since 1Sg is higher than 3MSg, the 1Sg morpheme qa- precedes the 3MSg morpheme -ni-/nu- both in 'I saw him' (qa-nu-na-n?) and 'He saw me' (qa-ni-na-n?). In the latter, qa-ni- is really qa-N-ni-/, including an 'Inverse' morpheme used when the order of pronominals is object-subject; the nasal archiphoneme -N- is seen more clearly in qa-N-gu-na-n? 'It saw me' (/qa-N-wu-.../). In such a direct-inverse system, neither nominative/accusative nor ergative/absolutive structure is present (except possibly in minor allomorph rules, but in Nunggubuyu even these give mixed results). While we need notions of 'subject' and 'object' to describe the transitive forms, there is no priority of one over the other, and no way to uniquely identify the single pronominal of intransitive prefixes with one or the other of the transitive pronominal categories.

Let us now consider more closely the syntactic evidence for a VP unit. As in Warlpiri, no such unit occurs on the surface. In transitive Ss, subject and direct object have about the same positional possibilities (even at the statistical level). If the verb, direct object, and possibly other non-subject words are provisionally called VP-SEGMENTS, subjects can freely intervene between such segments. There are no rules moving or deleting VP as a unit. There is no equivalent for English do or do so. There is an interrogative verb -yamingga- 'do what?'; but in addition to this formally intransitive stem there is a transitive variant -yamingga- jga- 'do what to (someone/something)?', so it does not have the same syntax as English do what? (which arguably corresponds to VPs).

However, Hale's strongest arguments for the subject-VP split in Warlpiri are indirect. The first argument concerns reflexive/reciprocal clauses, where object pronominals take special forms while the subject
pronominial remains unaffected. In Nunggubuyu, the only regular reflexive or reciprocal formations are intransitive derivatives of transitive verbs. There is a single surface argument representing the logical subject and (coreferential) object, as in the schematic reciprocal example theyi-stab-RECIP-PAST the-people{ij}, ‘the people stabbed each other’.

The reciprocal derivation in Nunggubuyu has various senses other than the usual one whereby the set of underlying agents overlaps with or is identical to the set of underlying patients (e.g., ‘theyi{ij} stabbed them{jk}’ where i and/or k may be null but j must be non-null). For example, Nunggubuyu has some reciprocals with unilinear collective sense like ‘they begot each other’ (referring to a patriline), and some based on intransitive stems indicating joint involvement as in the case of ‘they snored together’. There are also a few idiomatic, obviously lexicalized forms. The reflexive derivation is likewise by no means limited to cases where one or more agents apply the verbal action to themselves (‘he{ik} stabbed himself{ik}’). The reflexive form is commonly mediopassive in sense, as in ‘be shut off’ (agentless), and there are several cases of antipassive usage whereby the transitive patient is omitted – the reflexive form of -maga- ‘to tell (him)’ is -magi- ‘to tell’ (surface intransitive).

In view of the range of senses just described for reflexive and reciprocal, and the trend toward lexicalized usage, it is doubtful whether a syntactic derivation of these forms (using transitive inputs) is justified. But even if we recognize such derivations for at least some instances of reflexive and reciprocal, the form of the surface pronominals does not provide evidence for an asymmetry between subject and VP-internal NPs like direct object, since it simply amounts to detransitivizing a verb.

Hale’s other argument for VP in Warlpiri is based on the presence of obligatory-control structures in which a downstairs subject NP must be coreferential to some (controller) NP in the higher clause. As we will see in section 7, below, there are no comparable control structures in Nunggubuyu, so the test is inapplicable.

A test for a subject/VP split suggested to me by John Whitman is whether direct objects but not subjects are subcategorized by verbs. While many Nunggubuyu verbs have restrictions on direct objects, there are also quite a few with invariant subject and referentially variable object: -ambam-ba- ‘[headache] afflict X’ (cf. English ‘X has a headache’). -lili-galhara- ‘[liquid, usually water] bloat X’ (English ‘X feels bloated’), the tooth, it-overtakes-me ‘I have a toothache’, etc. There are also a number of active intransitive verbs with unique or sharply restricted subjects: if[ground]-splits ‘it dawns’, if[tide]-comes-in,
"il\[lizard\]-flashes 'lightning strikes' (with mythic allusion). It is hard to see how subcategorization patterns could be used in any rigorous way to argue for a subject-VP split.

For Dixon (1972), who championed the recognition of ergative (i.e., non-subject-based) syntax for some languages, there was still a universal bedrock of subject-based syntax found even in the most syntactically ergative languages. Minimally, this bedrock consisted of obligatory control structures (his 'jussive complements') and subject-based imperatives (Dixon, 1979). I have already pointed out that control structures of the relevant sort do not exist (see section 7). As for imperatives, Nunggubuyu differs strikingly even from genetically related neighboring languages in lacking an imperative form. The 'imperative' is simply one use of the future verb form (positive or negative). 'Imperative' is thus merely a convenient description of the function of some instances of the future, and in practice the future can range from statement to command (via suggestion, supposition, exhortation, etc.) with no clear boundaries. Moreover, even urgent commands need not have a second person or even first person inclusive subject. Thus ama-Iha-na-q 'it [car] will stop' was heard as a frantic command to a driver of a Jeep, and would have come out as *Stop the car!* in English.

There is actually a single truly imperative stem -ani- 'come', as in ba:-'ni-n' 'Come!(Sg)'. This is really a regular future form of a stem which happens not to be used in statements. It is always imperative in function and requires second person subject. It is compatible with Dixon's point, but since Nunggubuyu has no specifically imperative forms for transitive verbs we cannot demonstrate that 'subject' as such has any special syntactic status in imperatives. The fact that 'come' has a restriction on the person of its only argument does not suffice to establish a subject-VP split, which would require some syntactic difference between the subject (allegedly outside the VP) and the direct object or other allegedly VP-internal NP.

Thus, the available tests from a variety of theoretical perspectives for a subject-VP split are uniformly inapplicable to Nunggubuyu. I see no reason to recognize VP as a phrasal unit at any level of structure.

The status of S (i.e., clause) is much more solid than that of VP, but it is elusive at times. There are two basic problems in justifying S: (a) identification of a predicative nucleus (PN), and (b) specifying boundaries between Ss.

Boundary indeterminacy results from the frequent lack of close correspondence between prosodics (intonation, pausing) and S-like structures and from the weak case-marking by which subjects, direct objects,
and frequently other nouns lack explicit morphological marking of argument roles (which would assist in associating 'loose' nouns with a PN to the left or right).

The more serious problem is identification of PNs, since if we do not know how many PNs are present in a given stretch the question of S-boundaries is moot. In English, we may use tense inflection (INFL) as a point of departure for identifying PNs, with allowances for untensed complement Ss and possibly for conjoined structures. The use of the copula be and of dummy verb do produces surface verb stems to carry INFL in many Ss which might otherwise lack a verb.

In Warlpiri, an AUX complex likewise goes a long way toward defining S (as least for main clauses). AUX occurs initially or in second position in the S depending on the particular structure involved; it contains pronominals and often other grammatical markers. AUX is possible, though not obligatory, with 'nonverbal' Ss. Nonfinite Ss may be defined operationally by other criteria.

In Nunggubuyu, no such AUX occurs, but inflectional affixes on verbs carry similar information. As an initial approximation, we may define a PN in this language as a word carrying pronominal and tense inflection, thus prototypically a fully inflected verb. We may distinguish, however, a full inflection INFL₁, marking pronominals and the full set of tense/aspect/mood/negation categories (using prefixes and suffixes), from a more limited INFL₂ marking pronominals and only a minimal binary opposition among the other categories (using prefixes only). The former is characteristic of regular verbs, the latter of predicative forms of NAdj. INFL₁ is seen in ni-buri-Ø ‘he sat (Continuous aspect)’, INFL₂ in ni-rungal ‘he (is/was) big’. INFL₂ permits a binary distinction between the type ni-rungal for present or past positive actual using the a-set prefix, and the type ani-rungal ‘he (will be/would have been) big’ for past potential or future, using the b-set prefix, but allows no finer inflectional distinctions. Since both ni-buri-Ø and ni-rungal usually appear intuitively to be PNs, we tentatively allow either INFL₁ or INFL₂ to be taken as indices of PN status. A prototypical S may then be defined as a string containing one PN (with INFL₁ or INFL₂) and optionally one or more nonpredicative words such as nouns (whether arguments or basically adverbial) and particles.

When we look at running texts closely, though, we find many cases where an intuitive notion of which words are PNs fails to correspond to this definition. First, NAdj display lexically (or perhaps semantically) controlled variations in propensities to assume predicative form with INFL₂ as opposed to simple nominal form. Some like rungal ‘big’ often
retain nominal form even when plainly predicative in function: ruŋgal ana:-'ni 'this is big' (versus wu-ruŋgal with INFL₁). Others like -wula- 'two' strongly prefer predicative form with INFL₂ even when apparently functioning as nominal arguments for a juxtaposed verb, as in (7):

(7) wini- burj-∅ wini- wula-wa:

_they_(MDu) sat 3MDu₂ two DUAL_

The two [of them] were sitting.

The morphology would suggest a double predication 'they were sitting, they were two (in number)', but such a translation does not bring out the Nunggubuyu pattern of usage.

Other constructions which seem intuitively to constitute a single predication but which have more than one PN by the INFL criterion are those including an 'adverbial' verb like -yama- '(do) like that', and those involving repetition of verbs denoting the same event (sometimes flanking a noun): he-slept he-did-like-that ('he went to sleep thus'), he₁-got-up the-man, he₁-got-up ('the man got up').

On the other hand, there are plenty of apparent predications which contain no PN by the INFL criterion. DemPros have a basically predicative function when the noun-class prefix is missing: contrast prefixed na:-da-gi 'that one (MSg, nearby)' with unprefixed da-gi 'there he is'. In nonverbal Ss with a nonadjectival noun (or sometimes even a NAdj in nominal form), there is likewise no INFL: stone this ('this is a stone'). In nonverbal Ss with a nonadjectival noun (or sometimes even an NAdj in nominal form), there is likewise no INFL: stone this ('this is a stone'). In nonverbal Ss with a nonadjectival noun (or sometimes even an NAdj in nominal form), there is likewise no INFL: stone this ('this is a stone').

In section 5, below, I describe some lexical types with verb-like meaning but with the form of nouns or particles (lacking INFL), which often function intuitively as PNs.

Overall, then, there is a rather unreliable correspondence between the presence of INFL (no matter how INFL is defined) and any intuitively satisfactory notion of S. While we should not dispense entirely with S as a syntactic unit, we should regard it as loosely defined rather than as a fundamental, well-defined syntactic structure. Though S in Warlpiri is somewhat better defined, note that Hale (1983) recognises 'predicative' status for some nouns even in the presence of other PNs. The argument/predicate distinction in both Nunggubuyu and Warlpiri may really be gradient.

5. LEXICAL PROPERTIES OF PREDICATES

The lexicon appears to have adapted functionally to the loose relationship between INFL and syntactic or discourse units. I have mentioned
the absence of copula or *do*-verb, and the usage of verbs with adverb-like sense (\(-yama\) - 'do like that'). There are two types of words characteristic of Nunggubuyu which designate events or activities but which cannot take arguments and lack verbal INFL. They are: (a) abstractive nouns, and (b) root forms.

**Abstractives** are a set of ten or so nouns like *wupari* 'fight, fisticuffs' and *wungali* 'trade, exchange, barter'. They designate social transactions, typically symmetrical. Their overwhelmingly regular usage is as single-word Ss which condense a potentially complete S with INFL and arguments. The abstractives are normally unrelated in form to any inflectable verb stem. A typical example of usage is: *they-came-together, and fisticuffs* ('they came together and got into a fight'), where the abstractive has no overt arguments but where the context suggests who the combatants are. An abstractive may also be used in an apposition-like juxtaposition to a semantically similar (often reciprocal) inflected verb: *theyi-came-together, suddenly theyi-hit-each-other, fisticuffs*. However, abstractives may also be used in isolation: *fisticuffs!* (cried out by onlookers to alert the camp to an incipient brawl). Abstractives are thus syntactically simple, unexpandable substitutes for complete Ss. They differ significantly both from English -*ing* forms (*destroying*) and lexical nominalizations (*destruction*), both of which may act as heads of S-like structures and are morphologically related to inflectable verbs.

**Root forms**, about twenty-five in number, are interjection-like monosyllabic bisyllabic particles, generally designating punctual physical actions (‘jump’, ‘seize’, ‘escape’, ‘arrive’, ‘bite’, ‘stab’). While abstractives occasionally take noun-class prefixes (e.g., under NEG) and are morphologically nouns, the root forms are completely inert morphologically. They do not occur in phrases and thus cannot take arguments, nor may they be negated. Like abstractives, root forms function in discourse as substitutes for complete Ss, as in: *he-went-along and JUMP!* (‘he went along and jumped’). Also like abstractives, root forms may co-occur appositionally with synonymous inflected verbs: *he-went-along and JUMP!, he-jumped*.

Historically, most of the root forms were originally just bare roots related to augmented inflected verb stems. Thus *jalg!* ‘go past’ (root

---

1 A class of ‘action nominals’ in Warlpiri is discussed in Simpson (1983, pp. 207, 454ff.). They are primarily used as “argument-taking predicates” (p. 207); they readily form derivatives with suffix *-kara* - ‘having’ and case marker agreeing with subject of adjoining clause; they behave syntactically like nominalized verbs (suffix *-mija*), with which they are often conjoined. In every way the Warlpiri action nominals are syntactically unlike Nunggubuyu abstractives.
form) is historically related to the verb -yaldha- 'go past', the reconstructed forms being perhaps *jolk and *jolk'dhu', respectively. However, the root forms are now completely lexicalized and most of them are unrelated to semantically associated inflected verbs, or (as in this case) are related only by irregular phonological 'rules'. The root forms have evolved into a special set of unexpandable predicate-like elements.

The root forms of Nunggubuyu differ in usage from superficially similar forms in other Australian languages, which may be more productively related to inflected stems and sometimes permit adjuncts (pronominal markers, NEG, etc.). The Nunggubuyu forms are also quite unlike mimetic expressions in Japanese and Korean (kindly described to me by John Whitman and Ross King), which may form parts of larger structures and generally have a very different function in texts.

6. NOMINAL SYNTAX

6.1. Conjunction

In this section and the following one (on possession), I will try to clarify how the absence of clearcut multi-word phrasal units affects the expression of constructions which would seem a priori to demand tightly knit phrases. We will see that both nominal conjunctions and possessive constructions tend to take the form of apposition-like concatenations of autonomous words, though some phrase-like sequences are observed. Whether the data can be taken as primary evidence for underlying NC syntax is questionable, but they are broadly consistent with it and illustrate some possible ways of working out its ramifications.

Nunggubuyu does have a conjunctive particle mari 'and' which may be used to conjoin nouns (as well as verbs, Ss, etc.). We can thus have nominal conjunctions of the type X and Y. Intonation and pausing patterns indicate that mari is associated mainly with the second conjunct, here Y. (There is another 'and' particle, qa, used chiefly with verbs and demonstratives, which often but not always behaves as an enclitic to the first conjunct.)

The structure X and Y with two nouns is a candidate for a multi-word NP, and I will not rule this out. However, the phrasal structure is not tight, as we can see by some comparisons with English. In the latter language, there are many lexicalized conjunctive phrases, some of which may be treated as singular in concord (horse-and-buggy) and many of
which have more or less fixed order (*dollars and cents*). Articles and modifying adjectives often precede the whole conjunction, as do prepositions (*in the spring and fall, the rotten apples and pears*). Conjunction of pronouns is also common in English (*you and me, you and them*), compensating for the limited system of pronominal distinctions in the language (no inclusive/exclusive distinction for *we*, no number distinction for *you*).

In Nunggubuyu, the facts are quite different. The conjoined nouns retain their own complete morphological frames, including case suffixes: *of-the-turtle and of-the-dugong* 'of the turtle and dugong'. There do not appear to be any lexicalized conjunctive phrases, and the order of conjunctions is free. Conjunction of two pronouns is rare and awkward; the morphology takes care of the semantic nuances by maintaining a rich set of distinctions (e.g., eight first person categories).

It is true, however, that a nominal conjunction may be treated as a unit for purposes of concord (in a pronominal subject- or object-marker in the verb, or perhaps in a modifying NAdj or DemPro with both conjunctions in its scope). Thus we can have Ss like *he*-saw-*them* <sub>k</sub> *the-turtle* <sub>j</sub> and *the-dugong* <sub>k</sub>, where the object marker subsumes both conjunctions. However, in texts we typically find parallel sequences like *he*-saw-*it* <sub>j</sub> *the-turtle* <sub>j</sub>, and *he*-saw-*it* <sub>k</sub> *the-dugong* <sub>k</sub>, particularly when the conjunctions are nonhuman and belong to different noun classes (nonhuman nouns cannot take a plural concord, so a pronominal element referring to a conjunction like 'turtle and dugong' involving different classes must choose between these classes or adopt a neutral noun class, both possibilities being possible but apparently awkward).

In longer conjunctions (lists), *mari* 'and' may precede any noninitial conjunct, but is not required anywhere, so the surface structure is often a simple concatenation of nouns. The 'conjuncts' may in fact overlap referentially, so that the distinction between conjunction and apposition blurs. The end of a list (or a subsection of a list) is typically marked by a special demonstrative form which we may gloss 'all those', subsuming the preceding conjunctions. Both overlap and this demonstrative coda are exemplified by the following: *we*-ate-*them* <sub>k</sub> *fish* <sub>j</sub>, *catfish*, *barramundi*, *nailfish* <sub>k</sub>, *all-those* <sub>k</sub>. Another type of coda is formed by ending a list with an expression roughly translatable as 'all kinds' or perhaps 'you-name-it', indicating potential extensions of the list (cf. English *and so forth*, though the Nunggubuyu expressions subsume the preceding items as well as the unspecified additional ones). Although such conjoined sequences show hints of phrasal structure, the structure is very loose and displays a preference for simple concatenation which is consistent with the rest of
In configurational languages the relationship between possessor and possessum is handled by attaching a possessor noun with genitive case (or adposition) to the possessum noun (whose own case marking is unaffected), or sometimes by adding a possessive pronominal to the possessum, co-indexing a juxtaposed possessor noun. There are other variations (such as the use of compound-like constructions, as in Classical Arabic), but regardless of the details there is a well-developed phrasal structure with the possessum as head.

In Nunggubuyu, 'possession' must be broken up into several subsystems involving apposition-like concatenation. We will describe the most general type, with briefer mention of whole/part and kinship subsystems.

The most general type is $X$-$REL$ $Y$, with $X$ the possessor and $Y$ the possessum. $REL$ is the Relative suffix $\text{-yin'uŋ}$ (variant after pronominal stem: $\text{-n'ın'uŋ}$), so called because it is also used to form relative clauses (section 7, below). In the pattern $X$-$REL$ $Y$, the order of elements is free and the two words may be separated by pauses or other words, so there is an immediate resemblance to the pattern seen with other appositional NP-segments. Examples:

(8)a. ana-wumurŋ na-wałyi-n'unŋ$'$ $\text{-jìn'yuŋ}$
   $\quad$ house $M$ man HumanSg REL (with /y/ $\rightarrow$ [j])
   $\quad$ the man's house

b. ana-wumurŋ niga-wi $\text{-n'ın'uŋ}$
   $\quad$ house $he$ OBLIQUE REL
   $\quad$ his house

Conjunction of a noun and a pronoun is rarely of the type $X$ and $Y$ with conjunctive particle. Rather, it is of the form $\text{NOUN}_x$ $\text{PRONOUN}_{y_y}$, where the pronoun subsumes the referent of the noun. Thus 'John and I' comes out as $\text{John}_x \text{we}_{y_y}$, with first dual exclusive pronoun. Similarly, a conjunction involving two nouns and a pronoun is commonly built up by doubling of this construction, hence 'John, Sam, and I' comes out as $\text{John}_x \text{we}_{y_y}$, (and) $\text{Sam}_x \text{we}_{x_{y_z}}$, where the final pronoun is first plural (not dual) exclusive. This pattern is found in many Australian languages; Hale (1966) is an early reference, pointing out that the subsuming pronominal in certain languages requires specification of alternate-generation moiety harmony as well as number and gender!

6.2. Possession
If a phrase like (8a) or (8b) is the referent for a concord pronominal (e.g., if the phrase functions as an argument in a S), the concord is based on the noun class (and, for humans, number) of the possessum only. Thus, in *I-saw-it the-house, the-man*-REL ‘I saw the man’s house’, the object-marking pronominal in the verb agrees with ‘house’ (ANA class, one of the nonhuman classes). This is the best evidence for analysing the type (8ab) as phrases headed by the possessum nouns.

However, the situation is not clearcut, and there is another possible analysis involving apposition. While of course ‘house’ and ‘man’ in (8a) are not in apposition (since they are referentially distinct), one could argue that *man*-REL as a whole is a derived noun referring to the possessum (‘house’), so that *man*-REL is in fact in apposition to the (referentially synonymous) ‘house’.

This analysis would be secure if the noun-class prefix on the possessor noun were altered to match the class of the possessum. This is not the case, as (8a) shows; ‘house’ has ANA class prefix, while ‘man’ has its regular, lexical M (masculine) class. However, this does not disprove our appositional proposal, which can treat -REL as morphologically an outer derivational layer based on an already affixed inner word: [M-man-HumanSg]-REL.

The major evidence for the appositional analysis is from case-marking when the possessum is in a nonzero case category (i.e., other than subject or direct object). In this event, the possessor noun frequently (though not obligatorily) replaces -REL with a copy of the case suffix found on the possessum noun. The result is that the surface string has the appearance of an appositional juxtaposition: *he-went-to-me to-the-house* ‘he went to my house’. Moreover, in a sizeable proportion of actual textual examples, it is possible to construe the sense accordingly, hence here as ‘he went to me, to (my) house’ (a perfectly reasonable gloss if the speaker was in or near the house at the time). While a true appositional reading is ruled out in some contexts, it is possible sufficiently often to suggest that the syntactic asymmetry between possessor and possessum is blurry.

As with nominal conjunction, we might well conclude here that this portion of Nunggubuyu syntax reflects a somewhat unstable accommodation between two opposing factors: (a) a basic logical asymmetry between possessor and possessum favoring a head-modifier phrasal structure and possessum-oriented concord, and (b) the overwhelmingly

---

3 Nash (in press) describes Warlpiri case-spreading in possessive phrases. The possessor does not lose its possessive suffix (POSS), rather the case suffix agreeing with the possessum’s case is superimposed: *sister-POSS-PROP child-PROP ‘with my sister’s child’ (PROP = proprietive). The Nunggubuyu structure with -REL deleted is closer to a pure surface appositional structure, but does not differ radically from Warlpiri.
NC surface patterning of the language with its strong preference for loose juxtaposition (often appositional) of NP-segments.

Whole/part relationships (excluding most human body parts) use a different 'possessive' construction involving the use of derivational noun-class markers on the part term to make it agree in class with the term for the whole (which might be a plant, a spear, a canoe, or whatever). Thus 'belly' is a simple noun gulmuŋ with human reference, and has its own lexical noun class (the MANA class). When used to refer to a rounded appendage (bulge, hull, fruit) of a nonhuman whole, it produces derivatives like na-ŋu-gulmuŋ, u-ŋu-gulmuŋ, and ni-ŋu-gulmuŋ, depending on the noun class of the term for the whole. The part and whole terms often occur in surface juxtaposition:

(9) na- wunbun na- ni- ŋu-gulmuŋ
    NA paper wasp NA NA 0  belly

Here both nouns have na-, the outer (inflectional) noun-class marker for the NA class (a nonhuman class partially identical morphologically with human masculine). An appositional analysis is strongly suggested by the surface structure, and by the fact that whole/part relationships involve a partial referential overlap (wunbun, for example, really designates not only the wasps but also their nests, secretions, etc.). Moreover, concord patterns do not permit us to decide which noun in (9) is the referential head, since concord will always involve the NA class form regardless of which noun is chosen. (Recall that nonhuman nouns, hence here both whole and part terms, cannot be morphologically pluralized in this language.)

Kin terms have an elaborate and distinctive morphology. A category like 'father' normally has three basic stem forms depending on pro-nominal person of propositus ('possessor'), thus baba 'father1', nin'ara 'father2', and nin'ara-yuŋ 'father3' (each of these may also take masculine prefix na-). Kin terms are thus the only possessum nouns which have any morphological interactions with possessors, and this indexing of possessors is only skeletal. A possessor noun or independent pronoun may be added (with the usual free order). While this possessor may take -REL suffix, frequently it lacks -REL and adopts the same case (including zero) as the kin term:

(10) a-ji-ga nagaŋ na-nin'ara
    where-is? you(Sg) your-father

Where is your father?
The concord test does show that the kin term is the head of the phrase, so an appositional analysis cannot be pushed as far here as it can for whole/part expressions. Still, a strong tendency toward surface juxtaposition of NP-segments without phrase-internal asymmetries appears to be at work.\(^4\)

### 7. Complex Syntax: Subordination

In this section I will work out certain effects on subordination of the fuzziness of S (see section 4, above). Nunggubuyu lacks productive counterparts to the following:

- (a) infinitive or other nonfinite complement S;
- (b) gerundial S;
- (c) participles or agentive nominals;
- (d) abstractive nominalizations of verb stems;
- (e) *that*-complement or indirect discourse;
- (f) switch-reference.

Rather, Nunggubuyu has S types in which a subordinating suffix or particle occurs in what is otherwise an ordinary main S. If the PN is a verb, it has its regular inflected form. The major subordinators are these:

- (a) \(-maji\) ‘if’;
- (b) \(-magi\) ‘lest’;
- (c) *yamba* ‘because’;
- (d) case suffix in special sense, e.g., Ablative \(-wala\) ‘after’;
- (e) Relative \(-yin'ug\).

Although subordinated Ss differ only slightly in form from main Ss, the existence of subordinators gives us a possibility of refining the notion of S. This is because the subordinators appear to have something like S as

---

\(^4\) Broadly speaking, other Australian languages, including Warlpiri, often show apposition-like structures in possessive constructions. Hale (1981) describes apposition in Warlpiri whole/part expressions. Surface case agreement between possessor and possessum nouns is also widespread in Australia. The most distinctive feature of Nunggubuyu is the derivational noun-class harmony found in whole/part constructions, a further indication of the adaptation of the lexicon to NC syntax.
their scope. Moreover, subordinators in most languages occur either on PNs or at or near S boundaries, and if this is true of Nunggubuyu it could help us operationalize PN or identify S boundaries. Many languages also have second-position enclitics, which not only mark S boundaries but help operationalize the notion of constituent.

We begin with *yamba* 'because', which unlike other subordinators occurs chiefly in second position within the S. However, in 'because' clauses there is a clear tendency to put the verb or other PN clause-initially, so second position coincides with post-PN position in most textual examples, as in (11a). When a nonpredicative word is S-initial, *yamba* may follow it (especially if it is focal, i.e., highlighted new information) or it may occur later in the S, usually directly after the PN, see (11b–c).

(11)a. ṣi-ya-ŋgi yamba ṣi-ga
    *she-went because she*
    because she went

b. lhawuŋulŋ yamba ni-ŋu-ŋi
    *spear grass, because it(turtle)-ate-iti*
    because it (turtle) ate spear grass

c. aba ma-gu-ru ma-ya!i-n yamba
    *then it (MANA class) it-went-far because*
    because it (spear) went deeply (into the ground)

In (11b), the particular species of grass is significant and focal. In (11c), the S-initial *aba* 'then' does not count since such particles cannot be directly followed by *yamba*, but *yamba* still follows two other words (pronoun and verb). Clearly *yamba* is not a strict second-position enclitic. In fact, I have a few examples showing further positional variation (e.g., S-final after a nonpredicative word as in this case: now *today* it-~has-changed this, because ‘because things have changed nowadays’).

This positional variation is expectable in a language where PNs and S-boundaries are otherwise loosely defined. In general, textual examples of *yamba* confirm this fluidity. One might also guess that insofar as *yamba* does occur in second position before PNs, it might also reflect the fact that NP-segments are typically autonomous but that occasionally two of them show signs of forming a loose phrasal unit. There is a single textual instance where *yamba* follows a possessive phrase of type *X-REL Y* (possessor X, possessum Y). (Again, it is necessary to disregard
the particle *adaba* at the beginning of the S.) The example follows:

(12) adaba wara-munu- munaŋa -yin'ŋuŋ marya-wugij yamba
   now Pl REDUP white man REL food, only because
   ya:-ni nuru-ŋu -yi:
   this we eat it,

because nowadays we just eat white-man food

One cannot make any firm syntactic points from this single example, since *yamba* is elsewhere positionally unreliable, but it suggests that the semantic cohesiveness of the $X$-REL $Y$ phrase is responsible for the location of *yamba* after that phrase.

The suffixes *-maji*: ‘if’ and *-magi* ‘lest’ belong to a set of morphemes called ‘postpositions’ in Heath (1984), since they follow regular inflectional suffixes, but phonologically they are suffixes rather than enclitics. I will discuss only the first of these two similar forms since I have fewer examples of *-magi*. We find *-maji*: in hypothetical conditional clauses, whose PNs are usually verbs in future tense (much less often present tense) or NAdjs in forms compatible with future tense. The postposition may be added to the first word in the clause (disregarding inert particles which cannot take suffixes), or it may be added to a noninitial verb or other PN. Schematic examples are *you-will-reach-them*-maji: *the-people*, ‘if/when you reach the people’ (S-initial PN); *that-one*-maji: *he*-will-die, *he*-will-die-maji: ‘if that man dies, if he dies’ (S-initial DemPro, then repetition with just PN); *this-one*, *I*-will-spear-it*-maji: ‘if I spear this one’ (suffix on noninitial PN). Repetition of *-maji*: ‘if’ within what appears to be a single S is possible: *that-one*-maji: *he*-will-spear-him*-maji: ‘if he spears him.’ On the other hand, a single occurrence of *-maji*: may occur with a scope including two distinct propositions: *there*-maji: *he*-will-go from-there as-for-her, from-there she-goes ‘if he comes there and she too is coming (nearby)’ (apodosis is ‘they will come face to face’).

Another test of the scope of *-maji*: is morphological indexing of verbs and nouns, which applies to conditional protases in the same way as it does to Ss under the scope of NEG – see section 8. I will not present conditional data here, but it would show that when the protasis consists of two or more clauses, indexing may extend through the entire protasis sequence (even without repetition of *-maji*:), or it may peter out with later protasis clauses shaped just like simple main clauses.

Overall, study of the syntax of *-maji*: suggests that conditionals do require a structural division between protasis and apodosis, but that the
scope of an individual conditional operator in the protasis does not coincide neatly with the 'prototypical S' of section 4. Its scope sometimes extends over two complete propositions; on the other hand, its scope may be limited to a fragment of an S. The syntax of -majj: does not help reduce significantly the fuzziness of S.

Relative suffix -yin'Yu0, which we have already seen as a genitive with nouns, is a common subordinator as well. When -REL is added to an S, one interpretation (or translation) of the S is as a restrictive relative clause modifying a main-clause head noun (which may be covert). There is no relative pronoun, no restriction on case category of relativized noun (or head noun), and no explicit indication of which referent in the -REL clause is the one relativized. Thus with a transitive verb he-hit-him in the -REL clause, we have ambiguity in such constructions as I-saw-him, the-man, # he-hit-him-REL #, which can mean 'I saw the man, who hit him3' or 'I saw the man whom he hit'. (There are other examples in which the relativized referent is dative, possessive, or some other category besides subject and direct object.)

The restrictive relative reading is only one possible one. In cases like I-spoke # he,-hit-himj-REL # 'I spoke about his hitting him3', there is no coreferentiality from main to -REL clause, hence no possibility of a restrictive relative reading. There are also some cases where a -REL clause seems to express narrative backgrounding of a proposition, regardless of referential connections to neighboring clauses. This function is less common than in some other Australian languages (Hale, 1976) but does occur.

These facts suggest that -REL clauses are only loosely subordinated to main clauses, and their syntax does not depend on case categories (like subject) or binding. Positionally, they often occur before or after the whole main S, though occasionally (when interpreted in the restrictive relative sense), they occur medially inside this S.

Even in the restrictive reading, the coreferentiality involved may be 'sloppy'. The -REL clause may contain a plural referent strictly including the head noun: if-he,-will-grab-herj that-onej # theyj-sleep-REL # 'if he3 seizes that woman3 who they4 sleep (together)', i.e., 'if he3 seizes that woman3 who sleeps with him4'. Or the reverse may hold: # he,-was-in- front-REL # wej-broke-itk-off the-grassk 'the man in front and usj broke off the grass' (wej-subsum.es wej plus the referent of the -REL clause; see section 6.1 on noun-pronoun conjunction).

Let us now consider a possible analysis of -REL clauses as noun-like units, possibly in apposition to another noun (the 'head noun' in the standard analysis). I do not believe that this reinterpretation can account
nicely for all of the -REL clause data, but many examples are compatible with it and it is favored by the larger NC syntactic structure.

To begin with, many -REL clauses are in fact single-word units, as in several examples just given. These are fairly easy to regard as simple appositional words much like other NP-segments, including possessor nouns with the same -REL suffix. However, when a -REL clause contains two or more words we often find that the -REL suffix is added both to a non-PN word (a noun of one kind or another) and to the PN of the clause, as in (13):

\[(13) \text{mari} \# \text{o:-'wa-ga:-la-yin}^{\text{u}}\text{u} \text{ ga:-} \text{ya:rijgi:-ni} \quad \text{-yin}^{\text{u}}\text{u} \# \text{and from-there REL they} \text{i took them} \text{j REL} \text{and (the man} \text{j) whom} \text{i they} \text{j took from there.}\]

The translation given is based on analysing the two-word string between #s as an S unit resembling an English relative clause. One way to accommodate the morphological facts is to posit a spreading rule by which -REL is copied from the PN onto other words (here a DemAdv 'from there', formally a subtype of noun). Other similar examples involve argument nouns (generally direct objects; I have no good textual examples of subjects taking -REL, but then I have fairly few examples of -REL clauses with overt subject nouns so we cannot rule out spreading to subjects): \text{totems}(\ldots) \# \text{countriesj-REL they} \text{j-ma} \text{de-them} \text{j-REL} \# \text{'the totems which created our (clan) locations'.}

However, the fact that -REL with a noun can also be interpreted as a possessor (or other appositional) noun means that constructions like (13) are highly vulnerable to being interpreted as sequences of two distinct -REL forms in apposition to each other (rather than as constituting an S), or (perhaps) as in apposition to a 'head' noun. Thus our schematic example might be interpreted as a triple appositional juxtaposition: \text{totems}(\ldots) \text{[countriesj]-REL[theyj-ma} \text{de-them} \text{j]-REL}. A rough translation could be 'the totems, (the ones) of the countries, (the ones) who made them (countries)'. This is horrible English but is logically acceptable (bearing in mind that Nunggubuyu -REL is broader than English of or the English relative pronouns). This analysis is also in tune with the rest of Nunggubuyu syntax as already described.

Let us now complicate the matter by considering apparent restrictive -REL clauses where there is a head noun in a nonzero case (i.e., is other than subject or direct object) within the main S. What often happens in this event is that the relative clause shows, instead of -REL, a copy of the relevant upstairs case suffix. In (14) the relevant case suffix is \text{-wuy} (-guy...
after nasal) in allative rather than dative use:

(14)  war-uba-wi-yuŋ -guy  aðaba ≠ wuru-buri-∅-thoesi  ALLATIVE  then  theyi-sat
-wuy ≠
ALLATIVE

(theyi went) to those meni, whoi, were sitting

One way to analyse this construction is by positing another type of spreading rule, this time from head noun to -REL clause (with -REL suffix deleted in the process). However, again there are alternative construals. The form wuru-buri-∅-wuy could also be taken as an appositional NP-segment coreferential to ‘thosei’, in which situation the sharing of case suffix is reasonable without recourse to additional syntactic rules. Another variant on this is to take wuru-buri-∅-wuy as meaning ‘to where theyi, were sitting’, which would fit the context well.

8. Quantifiers and Negation

Quantifiers and NEG operate in many languages on phrasal or clausal units. Moreover, when a quantifier co-occurs with NEG we get different readings depending on their respective scopes. Jackendoff summarizes his analysis of English: “... S and VP negation differ in meaning exactly when there is a quantifier in the derived subject” (1972, p. 332). This formulation presupposes S, subject, and VP as basic grammatical units. Likewise, but from a different perspective, Givón (1984, p. 336) states that in SVO languages (which are diagnostically useful since they distinguish the position adjacent to a verb from clause-initial or clause-final position) there is “... overwhelmingly consistent evidence for the NEG-marker being a verbal (or VP) operator rather than a sentential one” (his italics), and he generalizes that negation ordinarily “... leaves the subject of the corresponding affirmative outside the scope of negation.” Having argued that S, subject, and VP are of doubtful status in Nunggubuyu, we must reexamine them in the light of quantifiers and NEG.

The basic NEG forms are these:

(a)  negative existential predicative NAdj -ari ‘[be] absent’;
(b)  interjection-like particle girjag! ‘nope!’;
(c)  scope-bearing NEG elements wa:ri and yagi.

NAdj -ari with pronominal prefix (intransitive series) indicates nonex-
istence or absence. Thus ma:-ri with MANA class prefix (e.g., referring to a particular vegetable) might mean ‘there is none’ or ‘it is not (here, there)’. The scope-bearing NEG element wa:ri is analysable as wa:-'ri ‘it (ANA class) is absent’; whether this segmentation is synchronically correct or merely etymological is a complex matter we cannot get into here. Particle girjag! is a single-word utterance, abbreviating a potentially fuller proposition, and cannot form phrases or clauses with other words.

I will concentrate on scope-bearing NEG elements wa:ri and yagi. The two are syntactically parallel, wa:ri negating present and past propositions (i.e., reals), yagi negating past potential or future (i.e., irreals), including imperative. I will gloss both elements as NEG. The data suggest strongly that the scope of NEG is a complete proposition, thus most often a prototypical S. There is no specific syntactic expression for singling out one word or constituent as the focus of the NEG (though of course semantically there often is such a focus). There is no distinction between subjects and other nouns (such as direct objects) in the syntax or semantics of NEG.

The NEG element must precede the PN (the only counterexamples are stylistic inversions in repetitions); this is one of the very few rigorous word-order rules in the language. NEG may either directly precede the PN, or may occur at or near the beginning of the S with one or more words intervening before the PN. Thus (15a–c) are good but (15d–e) are ungrammatical (except in the occasional stylistic inversion):

(15)a. NEG the-meat, he:i-ate-itj
   b. NEG he:i-ate-itj the-meatj
   c. the-meatj NEG he:i-ate-itj
   d. *he:i-ate-itj NEG the-meatj
   e. *he:i-ate-itj the-meatj NEG

There may be a statistical tendency for (15a) to be used when ‘the meat’ is the focus of the negation semantically (i.e., ‘he did not eat the meat, he ate the vegetables’). However, this is certainly not a rigorous focus structure. Thus one of my textual examples has the form NEG then the-fatheri he:i-looked ‘the father did not see’ (i.e., was blind). The particle aba ‘then’ is a proposition-introducer which cannot be focused, and ‘the father’ has been presented in the preceding Ss, so the only new (focal) material here is the verb (which happens to come at the end, far removed from NEG).
There is a remarkable aspect of Nunggubuyu negation which permits us to analyse scope relations more concretely. By a process which I will label NEG-INDEXING, all inflectable words (nouns and verbs) under the direct scope of NEG (wa:ri or yagi) are morphologically marked.

For verbs (and NAdj in predicative form), NEG requires a complicated set of changes in suffixal inflection (if present) and choice of pronominal prefix type (a-set versus b-set). I omit details but give representative forms for present, past, and future verbs in (16–18), below:

\[(16)\]
\[
\begin{align*}
\text{a. } & \text{ŋa-bura:-’} \\
& \text{I am sitting}
\end{align*}
\]
\[
\begin{align*}
\text{b. } & \text{wa:ri ŋa-ŋa-bura-ŋa-ŋ} \\
& \text{I am not sitting}
\end{align*}
\]

\[(17)\]
\[
\begin{align*}
\text{a. } & \text{ni-ŋa-n’y} \\
& \text{He went to sleep}
\end{align*}
\]
\[
\begin{align*}
\text{b. } & \text{wa:ri ani-ya-y} \\
& \text{He did not go to sleep}
\end{align*}
\]

\[(18)\]
\[
\begin{align*}
\text{a. } & \text{ani-ŋa-ŋ} \\
& \text{He will go to sleep}
\end{align*}
\]
\[
\begin{align*}
\text{b. } & \text{yagi ni-ŋi-ŋ} \\
& \text{He will not go to sleep}
\end{align*}
\]

For nouns and DemPros, NEG-indexing involves a sharp restriction on the form of the noun-class prefix. In positive utterances, for example, wurugu ‘pond’ may occur in any of three forms: wurugu (typically focused subject or object, or citation form), mana-wurugu (typically for non-focal, definite subject or direct object), and ama-wurugu (typically for Dative and spatial case categories). (The rules of usage are complex.) In the scope of NEG, the prefix must be mana- regardless of focus, definiteness, or case category. The forms shown are for the MANA class (a nonhuman noun class including many vegetables), but the basic rule applies to all nouns and DemPros. NEG-indexing is particularly striking for adverbial nouns, which rarely take nonzero prefixes except under NEG, thus agalgi ‘yesterday’ (under NEG ana:-’galgi), DemAdv (formally a noun) ba-gu ‘there’ (under NEG an-uba-gu). (NEG-indexing is thus a useful test of nominal status for otherwise apparently inert stems. The only stems unaffected by NEG are independent pronouns and a small number of particles.)
The dramatic effect of NEG-indexing on a complete proposition is shown in (19):

(19)a. arjambal ɲąŋgu-na-n'y agalgi a-ma.da-waj
    kangaroo, it-saw-me yesterday in-the-grass

A kangaroo saw me yesterday in the grass

b. wa:rį ana:-'rjambal ɲamburger-na-ni ana:-'galgi ana-ma đa-waj

(\(A/\)The) kangaroo did not see me yesterday in the grass

Each word is affected. This is perhaps an artificially extreme example but only because it contains a large number of inflectable stems. Incidentally, NEG-indexing does not just apply to words to the right of NEG on the surface. In the type (15c), above, where a nonpredicative noun ('the meat') precedes NEG, this noun must be NEG-indexed.

The scope of NEG is therefore a complete proposition rather than just the PN, or just some sub-S unit like VP. Moreover, the previously-noted fuzziness of S as a syntactic unit is evident in studying textual examples of NEG-indexing. For example, indexing emanating from a single NEG frequently extends over a stretch containing two PNs, particularly when they cohere semantically in some sense. Two textual examples follow, with \$ before each word that is NEG-indexed: NEG $they-cook-it, $they-cut-it 'they do not cook it or cut it up'; NEG $they-sit like-you, $like-white-men $like-white-men $they-sit, (\(\ldots\)) $they-die, NEG 'they do not just sit (there) and die like you white men, no' (with the final NEG reinforcing the first one in a resumptive fashion). The word translated 'like you' is a pronoun and is thus immune to indexing. Notice that the indexing is vital to correct reading of both examples. Thus, if 'they-cut-it' were not indexed, we would have to take it as outside the scope of NEG, giving a reading 'they do not cook it, (rather) they cut it up'; likewise, without indexing we would misinterpret 'they-die' in the longer example as a positive verb.

NEG-indexing, which to my knowledge does not occur in other Australian languages in the same broad fashion, may be considered a functional adaptation to the fuzziness of S boundaries. Since clausal subordination is loose (and can often be interpreted as single-word apposition in which S plays no role), S boundaries are usually not an important syntactic concern. However, it is essential that the scope of NEG (and hence the boundary between a negated string and a following positive one) be marked in some fashion. Direct morphological indexing
of all verbs and nouns (including 'adverbs') seems rather costly, but no obvious alternative is visible. This is one among several ways in which the morphology compensates for weaknesses in the syntax; others are the unusually rich noun-class system (linking NP-segments with each other), and the existence of subject- and object-concord in verbs (compensating for frequent null anaphora and the failure of case-marking to distinguish subject from direct object).

We now consider approximate Nunggubuyu equivalents to various quantifiers and their relationship to NEG. Some useful information is available, but I have not had access to information since 1977, I was not especially interested in quantifiers at the time, and of course I lack native-speakers' feelings for nuances.

(a) some

Nunggubuyu usually has no lexical equivalent to unstressed *some* as in *I ate some food*; the Nunggubuyu form is just *I-ate-it, food*, possibly with the noun in the focal form (without noun class prefix). There is, however, an adjectival noun corresponding to contrastively stressed *some* as in English *Some stayed but others left*. Nunggubuyu uses the stem *argi* (plural *muluŋ-argi*) for both members of the contrastive set. The best gloss is therefore 'certain (ones)' rather than 'some', since the former requires a referential interpretation while the latter does not (hence the ambiguity of English *I am looking for some strawberries*).

Because *argi* 'certain' must be referential, there is no possibility of a reading 'they do not soak any (part) of it'.

(b) all/each/every

There are no lexical stems with these meanings. There is a NAdj 'many, much' but it does not indicate exhaustivity or universality. The closest Nunggubuyu approximation is the Multiple derivational prefix (between pronominal prefix and verb stem), which may indicate multiplicity of an argument ('many, much') or spatial distribution ('all over'). While sometimes translatable as 'all' (or 'both'), it does not specify exhaustivity or universality.

When focusing on a nominal argument, the Multiple prefix is associated with the direct object (or semantic patient) of a transitive, or on
the subject of an intransitive. The two primary allomorphs of Multiple and their uses are shown in (20):

(20) **Multiple prefix allomorphs**

a. 

b. 

We have a number of doublets with intransitive verbs like 

\[ \text{-gara-} \text{bara-} \] ‘[group] arrive’ vs. 

\[ \text{-gara-} \text{wara-} \] ‘[group] arrive’; the former is used for humans, ghosts (deceased humans), and beings capable of rational thought, while the latter occurs in a text about the arrival of equipment for a work site and could also be used for other inanimates and lower animates.\(^5\)

Since Multiple occurs in the PN in a fixed location, while NEG operates on complete propositions, it appears that there is no possibility of varying scope interactions. So far as I know, NEG $they-$MULTIPLE-went can only mean ‘they (group) did not go’, with Multiple associated with a referential argument. The reading ‘not all of them went’ would be expressed indirectly by a contrastive sequence like certain-$PL_i$ they$_i$-went, certain-$PL_j$ they$_j$-stayed (using a form of argi).

Nunggubuyu counterparts of English each/every are likewise expressed by spelling out the component propositions, possibly with a summarizing plural proposition, as in: 

\[ \text{hei-} \text{went east, hei-} \text{went west, hei-} \text{went that-way, theyqk-MULTIPLE-went all-over} \] (i.e., ‘they each went in a different direction’ or ‘they scattered all over’). Since there is no lexical expression of each or every, no interesting scope problems arise.

(c) **any**

Nunggubuyu has no close parallel to this. Most cases of any are simply not translated lexically, and there is no partitive case. However, Nung-

\(^5\) The split between volitional/animate and nonvolitional/inanimate for intransitive subjects is suggestive of split-intransitive case systems familiar to typologists from languages like Choctaw (Amerindian) and some Caucasian languages. Relational grammar (Rosen 1984, for example) and other formal theories try to account for such splits by treating some intransitive subjects as underlying objects (unaccusative). However, 

\[ \text{-gara-} \] (20a) is not used in the texts for transitive subject, so it cannot be used to argue for an identity between active intransitive subject and transitive subject. Also, 

\[ \text{-gara-} \] (20b) does not always focus on a grammatical direct object or (unaccusative) subject. Furthermore, the fact that animacy value of intransitive subject is usually sufficient to determine choice of allomorph argues against a specifically syntactic (structural) approach.
gubuyu has an adverbial noun **arbidi** whose most syntactically revealing gloss is ‘freely, without restriction, indiscriminately’ (hereafter *freely* in schematic examples). Free translations in various contexts may include ‘anyway’, ‘any kind’, ‘anything’, ‘no matter what’, ‘whatever (you like)’, ‘(do) as you wish’, or ‘just’ (as in ‘he did not sort them, he just threw them together’).

In Nunggubuyu, **arbidi** is not part of a larger referential nominal argument. It is rarely if ever itself a grammatical argument (subject, direct or indirect object). It occurs almost invariably without nonzero case suffixes. (I have a single textual example with -REL suffix.) Examples like *freely now they-hear-voices* permit loose translations with ‘any’ (here ‘now anyone may hear the voices’), but in Nunggubuyu **arbidi** ‘freely’ is a nonargument adverbial noun. If NEG is added, **arbidi** is within its scope, and is ordinarily NEG-indexed (though occasionally it is treated as inert and thus not indexed), thus NEG *$freely $they-speak* ‘they cannot speak freely’ (i.e., they cannot divulge ritual secrets indiscriminately). No manipulation of scope relationships is possible.

(d) *somewhere/anywhere/nowhere*, etc.

English expressions with *some-*, *any-*, or *no-* plus a classifier (-where, -time, -how, -thing, -one) have no close Nunggubuyu counterparts. No morphological mechanism exists for attaching NEG to another stem, so there is nothing like English *nowhere, nobody*. ‘He went somewhere’ may come out as *whither? he-went*, ostensibly an interrogative but also usable as an indication of uncertainty (‘I wonder where he went’, ‘I do not know where he went’). To ensure a noninterrogative reading (so that no response is called for) a particle like **ari** ‘maybe’ may be added. Again, no interesting scope interactions with NEG are possible. There is no close translation equivalent of ‘He went nowhere’ (other than paraphrases like *he-stayed* or enumerative sequences like *NEG $he-went $east, NEG $he-went $west, . . .*).

While there are unresolved issues here, we can see that once again the lexicon appears to have adapted to the prevailing NC syntax. There are no quantifying stems which are added as modifiers to independent nouns in a manner requiring specification of scope with respect to phrasal constituents or S, and whose semantic relationship to a co-occurring NEG may be manipulated. ‘Subject’ has no special status with respect to NEG or quantifiers. The results mesh with our earlier observations about the lack of evidence of a subject-VP split, and the point that higher-level phrasal and clausal units are weakly developed.
9. Conclusion

One way to formulate the issues is in terms of an up-or-down decision on whether such units as NP, VP, and S exist in Nunggubuyu. My view is that there is no evidence for VP, that NP is generally best considered in terms of appositional concatenation (with the possible exception of some demonstrative-noun combinations), and that S is needed but that its relationship to PNs (and INFL) is somewhat loose. However, much depends on whether the burden of proof is on those seeking to prove that units like VP exist, or on those sympathetic to the opposite position.

Whether or not these syntactic units ‘exist’ in some sense, the syntax and lexicon are obviously sharply distinct from those of strongly configurational languages like English and the other European languages which have been the basis for all prominent formal theories. If it is decided that NP, VP, and S do exist in Nunggubuyu (using various fragments of evidence, or distinct modes of argumentation), then the challenge is to proceed to account for the various facts about syntax and lexicon reported above. If the underlying structures are like English, what is it that produces such unusual features as NEG-indexing (including subjects), case-spreading (from head noun to relative clause and within relative clauses from predicates to nouns), noun-class harmony in whole/part expressions, and so forth? Why are there no adjectives or adverbs (in the English sense)? Why do quantifiers take the unusual form they do?

Hale’s suggestion (1983) is that Warlpiri has a lexical Structure (LS) resembling that of configurational languages, but differs in the way this LS is projected onto phrase structure (PS). However, this model with its optional ‘nonconfigurationality’ feature does not seem capable of capturing the close relationship between lexicon and syntax in radically NC languages (where, moreover, the various available tests for a subject-VP split do not yield positive results).

Regardless of how we decide to model underlying structures in this language, NC syntax is a basic fact of observable surface structures. The various jobs that a grammar must do if speakers are to succeed in communicating must be carried out in this context. This includes the expression of complex concepts which are most easily handled by tightly knit phrasal structures, including possessor-possessum combinations, nominal conjunctions, and quantified nouns; there must also be some mechanisms for marking the scope of NEG and boundaries between main and subordinated propositions. Thus an alternative theoretical approach to NC languages is to accept the absence of tight multi-word
phrasal units as a point of departure, then work (one by one) through the ways in which the language resolves the conflict between NC structure and the functional requirements just mentioned. While we have seen some ways in which the lexicon, and the morphology may adjust to NC syntax, we know far too little about the cross-linguistic range of such possibilities (i.e., about the detailed typological ramifications of NC structure).

References

—and Joan Bresnan: 1983, ‘Control and Obviation in Warlpiri’, *NLLT* 1, 49–64.

Received 1 August 1985
Revised 25 February 1986

King Faisal University
POB 380 Al Khobar 31982
Saudi Arabia