1. Introduction

This chapter will open with a brief review of questions with which the Polyvalence group has been concerned, especially the nature and universality of word classes and their relation to syntagmatic types. We will then discuss these issues in with reference to some relevant phenomena from Ku Waru, a Papuan language of the New Guinea Highlands, treating them both from the viewpoint of adult Ku Waru and from developmental viewpoint based on longitudinal data from two children aged between twenty and thirty seven months. We then return to the comparative issues about polyvalence and draw out some conclusions for them from our findings regarding Ku Waru.

The typological-comparative question around which the Polyvalence group has pivoted is: is it appropriate to make a division into word-classes in Yucatecan along traditional lines, or could it be instead that there should not be a division along traditional lines (in order to avoid cumbersome issues of derivation)? Once forms are inflected and placed in a syntactic string, their differential function as N and V is clear. There is no doubt that one requires both N and V categories to describe the language. The question is how thorough-goingly they apply, and at what grammatical level; and whether it is economical or otherwise useful to treat the mentioned large Nominal/VIntr class as polyvalent, that is, inherently flexible, and neither N nor V.

The proposal has been made (Lois and Vapnarsky 2003) that 'some roots in Yucatecan could be regarded as neither inherently belong(ing) to V nor N word classes, but as polyvalent'. In our view the most useful way to formulate the phenomenon of 'polyvalence' for comparative-typological purposes is in terms of the category 'flexibles', as developed by Luuk (2009). Examining different notions of predicate-argument structure – logically, and in natural languages with input from psychology, neurobiology and other fields -- Luuk concludes that logical predicate-argument structure is not the same as that of natural languages, basically because natural language systems have more open conversion possibilities for expression of one function in terms more typically associated with the other. In language systems, though there are strong correlations between nouns and linguistic arguments, and verbs and linguistic predicates, the set of linguistic arguments and predicates is not restricted to nouns and verbs, nor one function to just one class. Members of either noun and verb classes may appear in either function, under given conditions. There are also many natural language forms that appear to be ambiguous with respect to the noun-verb distinction.

Luuk argues that the most parsimonious hypothesis for such forms is that they are neither nouns nor verbs but 'flexibles', i.e. that they can function either linguistic arguments or predicates depending on their marking. Assuming an inventory of lexical classes, together with the axiom that all languages have at least one lexical class that can maps to argument and at least one that can map to predicate, the following five logically possible language types emerge: (1) noun/verb/flexible, (2) noun/flexible, (3) verb/flexible, (4) noun/verb, and (5) flexible. After analyzing evidence for each of these types, Luuk proposes that type (1), noun/verb/flexible, is by far the most common, if not the only one present among the world's languages, with type 5, flexible, ranking next in probability. He argues that the category ‘noun’ may be
more basic than verb, a debatable proposition. Treated according to the Lois-Vapnarsky scheme, in Luuk's terms Yucatec might be considered to belong to type (2).\(^1\) In many languages nouns can be predicative, but they can also be arguments, making them ‘flexibles’.

More generally in Luuk’s terms, we can rephrase the Polyvalence group's main research questions as follows. To what extent do ‘flexibles’ appear to exist in other languages, under what conditions, and with what other typological correlates? The argument has long been made, for many languages, that at least some of their lexical roots or stems are what Luuk would call flexibles. English has many word pairs that are respectively N and V, e.g., ‘dance’ (N) and ‘dance’ (V), ‘run’ and ‘rung’; ‘boat’ and ‘boat’, and so on. What have been thought to be the grounds for treating these as belonging to separate word classes? This leads to other questions; including: What are the grounds for positing particular derivational processes and directions? (regularity of process, semantic regularity in the process; etc.) Is there anything to be achieved by regarding at least some such items as flexibles and thinking of their assignment to word classes as occurring as they are placed in syntactic context?

Obviously our problem has had centrally to do with the question of word classes, how word classes relate to syntagmatic functions, and apparent oddities in that relation. Everyone assumes that all languages have ways of realizing argument and predicate functions. It is also often noted that the same form can occur in both functions (’The man is here’, in which ‘man’ is an argument; but following the copula construction, ‘He is a man’, realizes a predicative function).

It is also taken as commonplace that languages can differ significantly in their realizations of predicative and argument functions; but that there is an overall strong correlation such that forms we recognize as verbs (by their inflectional possibilities, etc.) typically occur in predicative function, while forms we recognize as nouns are prototypical arguments; and that to make either capable of filling the opposite function may require forms of derivation, formal-semantic change. It is also recognized, as in the English example above, that either predicate or argument function may be filled by non-prototypic word-class types in particular constructions. Languages differ, in short, in the extent to which predicate and argument functions may be filled by forms definable as nouns and verbs; i.e., in the strength of the relation between recognizable word classes and predicate-argument functions of syntagms.

It might be said of the Mayan data that there we have a form of this more general problem of the relation between word classes and syntagmatic types, i.e., the extent to which forms having inflectional and other attributes of arguments (or indistinguishable from forms capable of functioning as arguments) are capable as functioning as parts of predicating constructions in (part of) the verbal paradigm. The Mayanists remind us that any noun may form a stative predicate (with person marking, and bearing an initial TAM-marker. Does this amount to a claim that Yucatecan has only flexibles in Luuk’s terms, and no N or V?

Danziger (2007) examines the question of word classes as one of possible relevance to child language acquisition, in terms of the notion of bootstrapping. All bootstrapping theories of lexical acquisition rest on a postulate that there is a natural link between semantic meaning and syntactic function (Danziger 2007:32), and that this generally maps onto N-V distinctions. But in Mopan (as in Yucatecan), meanings that elsewhere appear to belong within what is elsewhere an ‘action’ (verbal) category, the problematic forms concerned (‘run’, ‘fly’ etc.) are argument-like: they have nominal form, and can only occur (in order to make a complete clause) with another form inflected for person, and aspect-mood (auxiliary-like verbs translatable as ‘happen’, ‘be’). Does this constitute a disparity between expected semantic-syntactic relationships such that acquisition of these is more difficult, and purely semantic bootstrapping not a plausible acquisition model? Do children regularly make mistakes, in using the noun-looking forms, and try to inflect them directly as they would a verb? And while the child may be able to learn such forms, a syntactic view of bootstrapping (that the child acquirer moves from form to meaning) might
posit that the child would not attribute to them Action semantics. Do such forms, then, not designate `action’ in the minds of speakers (2007:38)? Danziger suggests that child language acquisition might be seen as a crucial testing ground for the nature (and universality) of noun-verb distinctions and their regular relation to Object-Action semantics.

Ku Waru does not present the same meaning-form disparity as Yucatec Mayan, and therefore does raise exactly the same kind of question of relationship of word class to syntagmatic types. There are, broadly speaking, quite definable N/V word class types in Ku Waru. Yet there are particular issues in certain major formal construction types of adult speech that raise questions about indeterminacies of word class types, and how children acquire the major kinds of structures used (mainly) in predicative function. In this chapter we will examine the class of roots which are indeterminate between N and V. Drawing on Luuk (2009), we will classify some of them as flexibles.

In the rest of this paper we will, first describe and exemplify the word classes of noun and verb, and two other classes which are intermediate between the two: Adjunct and flexible. This will be done by way of a discussion of two distinct multi-word verbal constructions: the adjunct+verb construction and the serial verb construction. The adjunct position in the adjunct+verb construction is the main one in which the class of flexibles is found, so a description of that construction requires consideration of the criteria by which nouns and verbs are defined in Ku Waru, in order to show that: 1) some words which occur in adjunct position are ones which also occur in other syntactic positions where they display characteristics of nouns; and 2) those characteristics are never displayed when they function as adjuncts. The comparison between adjunct+verb and serial verb constructions also allows us to show that there is a general correspondence between the paradigmatic contrast among verb, Adjunct/flexible, noun, and the clause-level syntagmatic positions final, penultimate and antepenultimate respectively, and an even closer correspondence between predicate function and final position.

Having described these features of adult Ku Waru we then turn to consideration of the version of the language that is spoken by and to young children, between the ages of 20 and 37 months. Examining the children's utterances of two or more words in length, we assess the extent to which these show the same overall mapping as in the adult language between verb, Adjunct/flexible and noun, and final, penultimate and antepenultimate positions respectively; and between final position and predicate function. We show that there is a close correlation in both respects, but that there is a proportionally greater use of flexibles by the children, insofar they make much more frequent use of adjunct+verb constructions than of serial verb constructions, whereas in adult speech the opposite is true.

We now turn to the description of the two different kinds of multi-word verbal constructions in Ku Waru, beginning with the adjunct+verb construction.

2. Ku Waru adjunct+verb constructions

These constructions consist of an inflecting verb root immediately preceded by another word which functions as what in the Papuanist literature is called an 'adjunct' or 'verbal adjunct'. Examples are:
All of the inflecting verbs that are used in these constructions can also be used without an adjunct, in which case their meanings are lexically more specific than when used with them. This can be seen in examples 1-4, in which we have glossed the verbs with the meanings that they have when used without adjuncts. As in many languages of the world with two-word or 'compound' verbal constructions, the non-inflecting member of the pair – in this case the adjunct – carries most of the lexical meaning, while the inflecting members carries most of the grammatical information, including person, number, and tense-aspect-mood.

There are somewhere between 80 and 100 inflecting verb roots in Ku Waru. All of them can occur without adjuncts, but only a small minority of them ever occur with adjuncts, and all of the ones that do are among the roots that also occur most frequently as inflecting verbs unaccompanied by adjuncts. Moreover, among the roots that are used as adjuncts, there is considerable asymmetry among them in the number of different adjuncts they occur with. Among the 685 adjunct+verb combinations that we have examined with respect to this question, 80% of them involved only seven inflecting roots, and even among those seven there were large differences in the number of different words that combine with them as adjuncts. Those roots are listed below in order of the number of they combine with in adjunct position. The gloss which is given for each root shows the sense it has when occurring without an adjunct:

- 198 with `hit'
- 108 with `do'
- 104 with `say'
- 45 with `put in place, be put in place'
- 40 with `take'
- 33 with `give'
- 18 with `stay/sit'

With respect to the question of word classes and polyvalence, it is these inflecting roots which are most clearly and unequivocally classifiable in Ku Waru as verbs. There are regular grammatical processes by which nouns may be derived from them, the most productive being the addition to the root of a nominalizing suffix -iyl / -uyl, the vowel of which replaces the final vowel if the root if there is one, e.g. `hit' + -iyl > tiyl 'doer', 'that which is done'; `hit' + -uyl > tuyl 'hitting', 'hitter', 'that which is hit'. The same suffix can be used to derive nominal expressions from adjunct + verb constructions. Examples based on the pairings shown in (1) and (4) above are nok 'cough' to-uyl > nok tuyl '(a) cough', 'cougher'.
apu 'carry on shoulder' to-uyl > apu tuyl 'act of carrying on one's shoulder', 'person who carries on his/her shoulder', 'person or thing carried on someone's shoulder'. (Compounds to the same extent that the verbal constructions are).

The existence of such a derivational process of course does not call into question the basic verbal status of the roots to which it applies, but rather provides further evidence in support of it, and for a clear-cut distinction in Ku Waru between verbs and nouns. In order to establish the latter point, and as part of the background for our consideration of the status of 'Adjunct' as a word class below, we will now introduce some of the criteria by which a class of nominals (including both nouns and pronouns) may be distinguished in Ku Waru:

i. Nominals may realize arguments which control person and number marking on the verb. This is illustrated by example sentences 1-4 above, in which there is person and number agreement between the inflected verb in each sentence and their respective subjects kang-ayl 'the boy', kolya 'place', na 'I', and olyo 'we'.

ii. Nominals can occur with any one of the following suffixes: Definite -yl ~ -aly; Indefinite –ti; Dual -sil, Collective –ma; The Definite suffix is illustrated in (1) and (6) and the collective suffix in (5).

iii. Nominals can occur with any one of a number of case postpositions including -nga Genitive, -d Dative and –n(i)Ergative/Instrumental'. The ergative case is exemplified in (3), (4). As indicated by the parentheses around it in those sentences, it is 'optional' in the sense that for any clause in which it occurs, there is a corresponding, semantically more-or-less equivalent clause without the ergative marker that it is fully grammatical in some discourse contexts. The same marker is used in an instrumental function, which is formally distinct from the ergative one in that instrumental-marked NPs do not control verb argument. Case marking postpositions can cooccur with the suffixes listed in ii, in which case they always follow them. Example 5 illustrates both of these points.

(5) kukalagu-ma-n langi no-ly-molu
molar-COL-INST food eat-HAB-1pl
We chew food with our molars.

Within the class of nominals, one of the criteria for distinguishing nouns from pronouns is:

iv. a noun may occur in construction with a preceding nominal in the genitive case, with the second word referring to the something possessed and the first one to the possessor. Examples are 6 and 7.

(6) yi-yl-nga el
man-DEF-GEN bow and arrow / fight
the man's bow and arrow, or, by metonymic extension, the man's fight

(7) na-nga numan
I/me-GEN mind
my mind

Having given criteria for defining verbs, nominals, and nouns in Ku Waru and having exemplified them in (1)–(7), we now turn to the question of word class as it pertains to verbal adjuncts. At least in its Ku Waru application the Papuanist notion of verbal adjunct does not correspond so much to a word class as to a functional slot within a kind of verbal construction – the adjunct + verb construction. The kinds of words that can be used in that slot are diverse. By dictionary count, the majority of them are words that
can only occur in the slot. Examples include all of the adjuncts in sentences 1 - 4 above: nok, 'cough', si 'be/become crowded', odi 'pour', apu 'carry on shoulder'. But there is also a sizable number of words used in that slot that are homophonous with semantically related words that are clearly classifiable as nouns according to the criteria developed above. These include the head words in (6) and (7) above, to which compare (8) and (9) respectively.

(8)  el te-ki-mil
    fight do-PPr-3pl
    They are fighting.

(9)  yab paike kung no-k numan si-ly-meli
    people all pig eat-NF-2/3 mind give-HAB-3pl
    Everyone likes eating pork. (lit: All people eating pork mind-give.)

The semantic relation is patent between el when used as a noun in (6) and a verbal adjunct in (8). There is also a clear connection between numan 'mind' as a noun in (7) and as a verbal adjunct in (9), although it is somewhat more idiomatic in that numan when used as an adjunct with si- only ever predicates a positive state of mind, i.e. enjoyment.

While the senses of el and numan when used as adjuncts as in (8) and (9) are clearly relatable to their nominal ones, these words are formally distinguishable from nouns in such sentences, not only on the positive ground that they occur in combination with inflecting verb roots, but also on the negative grounds that none of the formal features specified above in i - iv are possible when these words are used as adjuncts. For example, there are no grammatical cognate clauses to (8) and (9) in which the verbs take 3sg subject marking in agreement with el or numan instead of 3pl 'they' or 'everyone'; or in which either el or numan takes one of the suffixes or postpositions listed in ii or iii, or a preceding possessor nominal marked with the genitive postposition.

Among Papuanists the term adjunct is often used both for the relevant structural position in the adjunct+verb construction and for a class of words that occur in it. There would be no problem with such a usage if the all of the words that occur in that position occurred only there. But in Ku Waru as we have shown above, that is not the case. Accordingly, in this paper when referring to the structural position we spell the word as 'adjunct' in lower case, and when referring to the class of words that can occur only in that position we spell it with a capital 'A', 'Adjunct'. Following Luuk (2009), for the class of words that can occur either in that position or as a noun we use the term flexible.

Summarizing this section, there are clear criteria for defining formal classes of 'noun' and 'verb' in Ku Waru. There are also grounds for defining a distinct class of Adjuncts and one of what Luuk (2009) calls 'flexibles': word stems which may occur as full-fledged nouns or nominals, and in related senses as adjuncts. Given the strict verb-final syntax of this language, and the fact that the roots of inflecting verbs do not have corresponding nominal counterparts, the paradigmatic opposition in Ku Waru between full verbs and other word classes maps on to the syntagmatic relation of final vs non-final elements in the clause. Moreover, given the fact that Adjuncts or flexibles occur immediately before inflecting verbs and therefore necessarily later in the clause than any nouns it may contain, there is an overall left-to-right mapping along the classes noun-Adjunct/flexible-verb.
3. Ku Waru serial verb constructions and multiply-inflecting verbs

As in many other Papuan languages, in addition to the adjunct+verb construction Ku Waru also has a
diverse set of processes of verb serialization. This is the regular expression of verbal meanings by putting
together a number of distinguishable verb roots, and sometimes also other word types, in regular but
partly flexible constructions. Forms can be recognized as verbal roots because they must be marked by
either a non-final or final person-number suffix. Only verbal roots can be non-finally and/or finally
inflected. As illustrated below, some more complex strings can contain sequences of verbal roots, and
verbal roots preceded by adjuncts with which they combine. Adjuncts (and most semantically adverbial
words) are distinguished from verb roots by the fact that they cannot take non-final or final inflections.
Serial strings, whether containing only verbal roots in combination, or also adjuncts plus their verbal
roots, combine in ways that produce particular lexical meanings.

To illustrate the combination of verbal roots only: as in many Papuan languages, the meaning ‘bring’
consists of the string bear + come (me- + o-). The first verbal root me- occurs by itself meaning ‘bear’ in
two principal of senses: (1) give birth to, have child; (2) carry. However, to produce a meaning fully
equivalent to English ‘bring’— with its semantics of both ‘carry’ and goal orientation (to a location), it is
necessary to combine ‘bear’ with ‘come’. And to express the meaning English ‘take’, one must combine
‘bear’ (me-) with ‘go’ (pu-)

Such regular combinations have a fixed ordering which is an inherent component of their combinatorial
semantics. In this case, me- must occur before o-; reversing the order does not produce a meaningful
string. (Sometimes it does, but not the same meaning). In such combinations the first root must take a set
of person/number-marking endings which we call ‘non-final’ (‘NF’), that is, they occur in this position in
the string only. They are not identical to, but certain ones have some morpho-phonological similarities
with, the set of ‘final’ person-number endings which must occur on the final verb root in the string. An
example is 10:

(10) na langi mar me-b o-ku-r.
    I food some bear-NF:1 come-PPr:1sg
    ‘I am bringing some food’.

The first person non-final ending -b here in construction with 1sg present progressive final ending -kur
yields the requisite nonfinal-plus-final combination of me- and o- respectively. Though most nonfinal
markers are distinct as between singular and nonsingular persons, (e.g. 3sg –pa, 2/3NSG –k), it so
happens that nonfinal -p (/-b)also serves to mark first person nonsingular non-final. But in that case in
construction with first person plural or dual marking on the final verb the distinct meaning of the
combination is clear. Examples are 11 and 12.

(11) (olyo) langi mare me-b o-ku-mul
    (We) food some bear-NF:1 come-PPr:1pl.
    ‘We are bringing some food’.

(12) yu langi mare me-pa o-ku-m
    S/He food some bear-NF:3sg come-PPr:3sg
    ‘He/she is bringing some food’.

This system of ‘nonfinal’ plus ‘final’ marking in a string of verbal roots is linked to a number of other
properties of these languages. Among them is the possibility of putting such strings into longer stretches
of discourse in which same-subject is retained over several such strings as me- plus o-.
remains same, all the verbal roots in the sequence except the final one are non-finally marked. This produces `paragraph'-like shapes of the sort `cooking the food, thinking to give it to everybody there, hoping to make a big splash, he brought it' - where all the verbal meanings in this chain would be non-finally marked including me- before the finally marked o- of `bring'. This amounts to the possibility of using non-final marking to enchain a whole series of verbal meanings in a single narrative sequence, a preferred mode of talking among Ku Waru people. Thus we can say that the nonfinal - final contrast functions at the level of the single, albeit complex, verbal string; and at a higher level of discourse formation.

The serialization of verbal roots is a common way of constructing many verbal meanings in this and related languages. Other examples are:

- me- pu- `bear + go'= `take';
- nyi- `say'+ pilyi- `sense'= `think';
- kelke- `let go, leave'+ pu- `to go away, to leave';
- li- `get'+ kalk- `cook'= `to reproduce, multiply, become plentiful',
- no- `eat'+ pilyi- = `taste';
- nosi- `put'+ pe- `sleep' `to look after, mind' (as child);
- kana- `see'+ lensi- causative of le- `lie, be'= `to find', and many others.

As the final example shows, derived causative roots also function as members of these strings. While most adverbial meanings are expressed by independent, particle-like words, some are expressed by nonfinally-marked inflecting verb roots. For example, synchronically, the trisyllabic verb root takite- `always' occurs as nonfinal verb root in strings which mean `to always do X'. An example is 13.

(13) yu langi takite-pa me-pa o-ku-m.
      He food always-NF:3sg bear-NF:3sg come-PPr:3sg
      He always brings food.

(Historically it seems clear that takite- can be analyzed as containing te- `do' as its final element, thus probably this verb is historically the composition of an adjunct + verb root).

The meaning `to straighten, to correct, make good' is composed of te- + kayi-te- where the first te- is non-final, the second in this sequence can be finally marked (and kayi is recognizable as an adjectival root meaning `good'). An example is 14.

(14) te-pa kayi ti-m
    do-NF:3sg good do-Prf:3sg
    'He/she made it good, corrected it'.

That construction as a unit can be non-finally marked on both occurrences of te-, and combined with another verbal unit to express another action which one corrected, or did well. An example is 15.

(15) te-(pa) kayi te-pa kas manya mai-na moki to-pa nos-um
    Do-NF:3sg good do-NF:3sg cards down ground-LOC distribute hit-NF:3sg put-Prf:3sg
    He straightened the cards and distributed them on the ground'.
In addition to strings of verb roots inflected nonfinally and finally as required, many verbal meanings are made which may include combinations of adjunct/s with serialized verb roots combinations. This means that many meanings are expressed by combinations which may have three (or more) elements,\(^9\) e.g.:

\[
\text{nyi- } \text{`say'} + \text{ama to- } \text{`dig out'} \text{ (adjunct + verb)} = \text{`to remember'}
\]

An example is 16.

> \begin{verbatim}
> (16) nu deka to-k ola lyi-n-i
> \end{verbatim}

You(sg.) raise to-NF:2/3 up take-Prf:2sg-Q

Did you lift it?

Here two adjunct + verb root combinations, or rather one adjunct plus verb and one adverb (ola `up’) plus semantically compatible verb, combine to produce the meaning `lift up’. Either could be used separately but together they produce a series that expresses more fully `lift up’, raise from a lower position to a higher in a way that realizes a lifting. Adjunct and Adverb are generally distinguishable from each other and may co-occur in a string.

One can perhaps begin to see that while there are many specific combinations of verb root + verb root and/or adjunct that produce distinctive lexical meanings, there is also a large spectrum of flexibility in which speakers may combine existing combinations in ways that produce distinctive nuanced meanings; that is, a large area of interplay between more-or-less lexicalized multi-word combinations and larger semantic-syntactic ones that enter into discourse to express many conventional as well as situationally tailored meanings. Consider (17).

> \begin{verbatim}
> (17) nyi-b-kin kele-p dangadanga nyi-k me-k p-ai
> say-NF:1 leave-1:NF quietly say-NF:2/3. bear-NF go-IMP:pl
> \end{verbatim}

And we end by saying, take it away quietly.

The sequence \textit{nyi-kelk} - `say’+ `leave’ is a standard combination which means `to end a speech, talk’. Here is it followed by adjunct + verb \textit{dangadanga nyi} - `to do something in a quiet, unobtrusive way’ and thus capable of adverbially modifying many combinations designating kinds of action; followed by the standard pairing \textit{me} `bear’+ \textit{pu} `go’= `take’.

As shown by 17, what is expressed by pairs of verb roots, and more extended combinations such as this, appears more or less mappable as different moments or parts of a verbal `process’. The combination \textit{nyi-kele} - `to end by saying’ seems to express something in which the different verbs can be mapped onto a process structure. Verbal meanings (`take + come’ = `bring’), range semantically from more integral to more narratively sequenced meanings. There are some combinations in which the form-meaning relationship is highly standardized (like \textit{me-pa} to mean `carry’+ `go’ = `take’) and where the understood verbal meaning appears to be as integral as English `take’; and others where a good deal of flexibility, substitution of non-final stems, is possible, and where each verb may be understood as making a more independent contribution to meaning.

Analyses have posited more integral versus more sequenced semantics, differing in their assessment of whether sequences express a single semantic event, or more differentiated processes. Some analysts argue that the relationships expressed in many languages through morphological derivation or complex predicates can be realized by serial verb constructions involving combinations of Vs (Andrews and Manning 1999:90). Minimally one can say that a range of these structures, from more tightly integrated to more extended ones, show agreement with a single subject; and may vary from having the intonational
and other properties of a clause, to long and extended discourse structures such as are favoured in this and many other Papuan languages.

4. Verbless copular clauses

In addition to the two types of clauses exemplified above, to attribute qualities, or to express identity or equivalence between two terms, instead of using a copular verb such as 'be' or 'être', as in with many other languages of the world, Ku Waru speakers do so with verbless clauses in which the two terms are simply juxtaposed. In such clauses, the theme or subject of the clause always comes first and the rheme or predicate always comes last. Examples are 18 and 19.

(18) na Kopia yi-yl
     I/me (tribe name) man-DEF
     I am a Kopia man.

(19) wil yi lku na-nga
     up there house I/me
     The house up there is mine.

5. Nouns, verbs, Adjuncts and flexibles in Ku Waru Child Language

The speech that will be considered in this section comes from three recordings made of two children, each at three stages between the ages of 20 and 37 months. This is a key period to examine for studying the development of verbal constructions and the role that is played in them by Adjuncts and flexibles, because it is the period at which the children are progressing beyond the two-word stage and in the process of making their first use of multi-word verbal constructions. For example, the 45-minute transcript of Enita's speech at 20½ months includes no instances of them even when she is prompted with them, whereas the one made at one at 23½ months includes 11 unprompted instances and 2 prompted ones.

Examples of multi-word verbal constructions in unprompted utterances by the children are shown in 20-26.

<table>
<thead>
<tr>
<th>Utterances by Jesi Pawa Onga with adjunct+verb constructions at 21 months</th>
<th>Equivalents in adult speech as provided by our language assistants</th>
</tr>
</thead>
<tbody>
<tr>
<td>(20) na <strong>pi tap</strong></td>
<td>na <strong>bi</strong> to-bu</td>
</tr>
<tr>
<td>I write/name hit-FUT:1sg</td>
<td></td>
</tr>
<tr>
<td>I want to write. (Jesi Pawa, 1;09)</td>
<td></td>
</tr>
<tr>
<td>(21) ape <strong>uta pem</strong></td>
<td>wapi uru pe-ki-m</td>
</tr>
<tr>
<td>(woman's name) sleep be/lie-PPr-3sg</td>
<td></td>
</tr>
<tr>
<td>Wapi is sleeping. (Jesi Pawa, 1;09)</td>
<td></td>
</tr>
<tr>
<td>(22) na nong <strong>pepe tebo</strong></td>
<td>na <strong>pekpek</strong> ti-d</td>
</tr>
</tbody>
</table>
I shit do-Prf:1sg
I have already shat.
(Jesi Pawa, 1;09)

(23)  mapo tam ui-o
marbles hit:OPT-1pl come:Jus-VOC
Come, let's play marbles. (In response to pabiyl ui-o, 'Come, let's go together'.
(Jesi Pawa, 1;09)

Utterances by Enita Don with multiword verbal constructions at 1;11,3

adjunct+verb constructions

(24)  papa ku tu
papa kur to-ku-m
daddy spirit/sickness hit-PPr-3sg
Daddy is sick.
(Enita Don, 1;11,3)

(25)  e papa ko te
papa kodu te-ki-m
Daddy sorry do-PPr-3sg
Daddy I'm sorry for you.
(Enita Don, 1;11,3)

(26)  e no pota ne
no pora nyi-m
water finish say-Prf:3sg
The water is finished.
(Enita Don, 1;11,3)

serial verb construction

(27)  das no mom
gras no-ba molu-r-um
grass eat-NF:3sg be/stay-RP-3sg
It (the cow) was eating grass
(Enita Don, 1;11,3)

As between these two types of multi-word verbal constructions, it is the adjunct+verb one that the children acquire earlier; the serial verb construction occurs much less frequently in the speech of children in this age range. This is illustrated by the tables 1 and 2, which show the results of a search that we have done through the transcripts of speech by the two children and their interlocutors at various stages during the ages of 1;08 to 3;01.
Table 1. Incidence of adjunct+verb vs serial verb constructions in six samples from Enita Don

<table>
<thead>
<tr>
<th>Age of child</th>
<th>Sample length (approximate)</th>
<th>adjunct+verb constructions: tokens</th>
<th>adjunct+verb constructions: types</th>
<th>serial verb constructions: tokens</th>
<th>serial verb constructions: types</th>
<th>Ratio of adjunct+verb to serial verb tokens</th>
<th>Ratio of adjunct+verb to serial verb types</th>
</tr>
</thead>
<tbody>
<tr>
<td>1;08,2</td>
<td>45 min</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1;11,3</td>
<td>45 min</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>82% / 18%</td>
<td>60% / 40%</td>
</tr>
<tr>
<td>2;01</td>
<td>45 min</td>
<td>14</td>
<td>7</td>
<td>20 (18 of one type)</td>
<td>3</td>
<td>41% / 59%</td>
<td>70% / 30%</td>
</tr>
<tr>
<td>2;04</td>
<td>25 min</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>63% / 37%</td>
<td>50% / 50%</td>
</tr>
<tr>
<td>2;09</td>
<td>38 min</td>
<td>11</td>
<td>5</td>
<td>16</td>
<td>14</td>
<td>41% / 59%</td>
<td>26% / 74%</td>
</tr>
<tr>
<td>3;01</td>
<td>38 min</td>
<td>10</td>
<td>6</td>
<td>19</td>
<td>18</td>
<td>34% / 66%</td>
<td>25% / 75%</td>
</tr>
</tbody>
</table>

In what follows we will discuss these results in two broad age ranges: 1) from one year and eight months to two years and one month; 2) from two years and four months to three years and one month.

5.1 From 1;08 to 2;01

This age range is represented by the first three rows of each table. The first thing to notice about it is how rarely either of these two constructions occurs in the speech of either of the children over the course of the approximately four hours of interaction that is represented by the transcripts for the two children within this age range. Far more commonly at this stage, child use single verbs. Nonetheless, for both children, the figures attest to a clear pattern whereby the adjunct+verb constructions outnumber the serial verb ones at first, both in the number of different ones the children use, and in the overall number of uses, with the incidence of SVCs then beginning begin to catch up with that adjunct+verb constructions by the age of 24-25 months. Indeed, in Enita’s case the numbers of SVC tokens at 24 months actually exceeds that of adjunct+verb ones in the sample. But note that 18 of those tokens are instances of a single expression *to-mud* ‘throw’, mostly in a fit of enthusiasm when she was asking her interlocutor to throw a pen to her. Similarly, in the sample for Jesi at 24 months, of the 23 instances of SVCs, 15 are of a single expression *kel-pu* ‘Go away’. Up to 25 months, neither child had produced any non-final form formally marked as such, though Enita by 23.5 months produced expressions which, though not marked as non-final, were clearly functionally such (e.g. das no mom ‘it is eating grass [das]’, where no is equivalent to non-final noba, but not so marked).11
To provide a fuller view of the kinds of SVCs and adjunct+verb constructions used by the children, here is the complete set the ones used by Jesi in the sample of his speech at 24-months (broad transcriptions here remain faithful to the child forms of these words rather than the adult ones in some respects):

<table>
<thead>
<tr>
<th>Construct Type</th>
<th>Child Form</th>
<th>Adult Form</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>adjunct+verb</td>
<td>mapu to-</td>
<td>'play marbles'</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>pikhet te-</td>
<td>'be a bighead'</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>pu te-</td>
<td>'put'</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>koka te-</td>
<td>'cry'</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>pi to-</td>
<td>'leave alone'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ku to-</td>
<td>'be sick'</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>alye te-</td>
<td>'be cold'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>apu to-</td>
<td>'piggyback'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>utu pe-</td>
<td>'sleep'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>kata te-</td>
<td>'play cards'</td>
<td>3</td>
</tr>
<tr>
<td>SVC</td>
<td>kitek te-</td>
<td>'straighten'</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>kek pui-/kek pa-</td>
<td>'go away'</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>kek si-</td>
<td>'give (up) to'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>pu te nosa-</td>
<td>'put down'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>lyi sa-</td>
<td>'get &amp; give to'</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>kek si-</td>
<td>'give (up) to'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>pu te nosa-</td>
<td>'put down'</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>lyi sa-</td>
<td>'get &amp; give to'</td>
<td>2</td>
</tr>
</tbody>
</table>

In addition to multiword verb constructions children at this stage in appropriate contexts continue to make regular use of verbless copular clauses of the kind exemplified from adult speech in 18 and 19, always with the subject/argument NP in initial position and the predicate NP in final position, as in the adult language. An example from Jesi is:

(28) i na popa
     This I/me-Gen paper
     Th is is my paper.
     (Jesi Pawa, 2;00)

Perhaps drawing on the model provided both by these verbless clauses and by adjunct+verb constructions such as 20-26 above, children at this 20-25 month stage sometimes (albeit rarely) use the Adjuncts or flexibles by themselves (i.e., with accompanying verbs) as full predications. An example is:

(29) e popa bi
     now paper-DEF write hit:OPT-1sg
     Now I'll write on the paper
     (Jesi Pawa, 2;00)

And very occasionally the children use nouns as full predications which are glossed by our assistants not as copular clauses but as ones involving an action. An example is:

(30) na kaka
     I sweet potato eat-PPr-1sg
     I am eating sweet potato. (In response to nabolka nokun 'What are you eating?')
     (Jesi Pawa, 2;00)

Let us now compare these patterns from Ku Waru child language with our findings regarding clause structure and word classes in adult speech. The first thing to point out is that there is that there is complete agreement between adult and child language in one respect, namely, the predicates always come last in the clause, and arguments come before them. In adult speech, this means that the final element in
the clause is almost always either a verb or, more rarely, a predicate nominal in a copular clause. Where flexibles or Adjuncts are used in adjunct+verb constructions, they form part of the predicate, and always precede an inflected verb. In two-year olds' speech there is wider latitude, in that, as we have seen, Adjuncts or flexibles are occasionally used in final position as full predicates, and nominals are occasionally used in final position as actional predicates. But in both child language and adult speech, if there are one or more verbs in a clause, the final position is always occupied by one of them. Likewise, in both child language and adult speech, if the clause contains both an Adjunct or a flexible and a verb, the verb always occurs after the Adjunct or flexible and the two of them after any argument NP(s) that may occur in the clause.

A striking *difference* between child and adult speech is in the relative frequency of serial verb constructions vs adjunct+verb ones. In adult speech serial verb constructions are three times as frequent as adjunct+verb ones. In the children's speech on the other hand, the latter greater outnumber the former during the 21-23 ¾ month period and continue to outnumber them greatly in productivity (i.e., in the number of lexical different constructions that are used) during the 24-25 month period. We submit that both this dissimilarity and the commonalities we pointed to in the previous paragraph may be understood in terms of the two fundamental patterns that we have described in the discussion of adult Ku Waru above, namely: 1) a strict mapping of the functions predicate and argument onto the clause positions final and non-final respectively, and 2) an overall left-to-right mapping of the word classes verb, Adjunct/flexible, and noun onto the positions final, penultimate and antepenultimate respectively. (The latter pattern is, as should be clear from our discussion, an implicational one, specifying where words of a given class will appear *if they appear at all*, rather than a constitutive one which stipulates what a clause *must* contain).

These two templates account for the similarities between child and adult speech because they are consistently found in both, suggesting that they are one of the most fundamental aspects of Ku Waru grammar. They also account for the differences between child and adult speech in that a sequence of (NP-)Adjunct/flexible-verb comprises a more straightforward realization of both templates than does the sequence (NP-)verb-verb, in at least two respects. First, it fills the Adjunct/flexible slot in the noun-Adjunct/flexible-verb template with an Adjunct or flexible, and fills the verb slot with a single verb. Second, it fills the predicate slot in the argument(s)-predicate template with a single element, an adjunct+verb collocation that is easier to process as a single constituent of the clause than is any serial verb construction, since the words that occur in the adjunct slot are invariant in form and more regularly combined with a single, specific verb root (or small of alternative ones) than are any of the verbs that enter into serial verb constructions.

5.2 From 2:04 to 3:01.

The following trends are evident over this age range:

A. *Rise in the proportion of serial verb constructions used* by the child relative to Adjunct+V constructions (considered both as types and tokens, the relation between which tends to remain quite steady for each category, that is, new types of lexical form emerge continuously, and the number of tokens only slightly exceeds the number of types at any given sampling date) (see the Tables for details of change)

Above we said that children use `bare’ verbs earliest – that is, clearly predicative, often imperative or declarative forms used as `bare’ forms that are not `correctly’ inflected either for person or tense from the point of view of the adult language target. Secondly, we observed up to approximately two years for Jesi
Pawa, and two years and four months for Enita Don, that Adjunct+V types and tokens remain preponderant while Serial Verb constructions are proportionally fewer. Certainly by around 32 months this proportion has changed for Enita Don, and (though there are not currently enough analysed data for Jesi Pawa at 32 months) by 36 months the proportion has also dramatically shifted for him: Serial constructions preponderate in the children’s expression of predicate meanings.

B. In the Serial Verb constructions, many non-final forms remain 'bare', that is, not explicitly inflected with the relevant non-final verb ending as might be done in fully-fledged adult speech. It has to be said, however, that adults often omit a proportion of non-final endings in fluent speech, making the degree of difference between children and adults somewhat difficult to measure. Examples are 31-34.

(31)  ep tos to mudab  ekepu tos to-p mud-ab
Now torch hit-NF:1 throw-OPT:1sg
Now I’ll flash (direct) the torch.
(Jesi Pawa, 3;01)

(32)  na paji mukbu  na paji-p mulu-bu
I put-NF:1 stay-FUT:1sg
I’ll keep it’ (i.e., not give it to you).
(Jesi Pawa, 3;01)

(33)  bikhet te kudu naa uni  bikhet te-k lku-d naa ui
disobedient do-2NF house-DAT not come:JUS
You are being disobedient so don’t come into the house.
(Enita, 2;09)

(34)  na noba to nos  na no-ba mo to-k nos-a
me eat-FUT:3sg hide hit-2NF put-IMP
It might eat me, so hide it.
(Enita, 3;01)

However, appropriately inflected non-final verbs occur regularly by three years. By 36 months, in Jesi Pawa’s speech appeared ‘correct’ 1Sg, 3Sg, 1NSg, 2Sg and 3NSg non-final forms, e.g.:

(35)  nob porasab  no-b pora-ns-ab
Eat-NF:1Sg finish-CSV-OPT:1Sg
I want to finish eating it.
(Jesi, 3;01)

(36)  mek uring  me-k u-r-ing
bear-NF:3pl come-RP-2/3pl
They brought it.
(Jesi, 3;01)

(37)  ilyi i te-p  ilyi i te-p pora-ns-ab
this this do-NF:1 this do-NF:1 finish-CSV-OPT:1Sg
Doing like this, doing like this, I want to finish it.
(Enita, 2;09)
The children do not ever attempt to put non-final endings on Adjuncts (such as wa in wa lyi- `steal’). This, together with the formal appearance of a significant number of non-final inflection types and tokens by around three years, indicates that the children practically command the word-class difference between Adjuncts and non-final verbs.

C. One of the strongly emergent Serial constructions by three years has the structure V + mol- where mol- is aspectual in meaning. In construction with V (which may include either an inflecting root, and or Adj+V), here mol- gives the aspectually continuous meaning ‘to be doing X’). An example is (38) from Enita above. A longitudinally earlier example from Jesi is:

(38) deti ku pansi\textbf{pa} molmal deti ku pansi-\textbf{pa} molym-ayl
Daddy money hold in container-3sg:NF stay-HAB-DEF
Daddy is holding the money [in his wallet].
(Enita, 3;01)

This construction type, used to express this perhaps very basic kind of meaning (e.g., ‘doing (now)’and or continuously doing at some time) has come in quite strongly by three years, accounting for 4 of the 38 tokens of Jesi Pawa’s tally at that time (though example 39 is even earlier). However, the forms were considered different ‘types’ if their lexical meanings differed, e.g. nyi- mol- `to be talking’, abul- mol- `to be holding’ were tallied as two different ‘types’. Given the clear emergence of mol- in this function, perhaps at this stage these might all be considered instances of a single aspectual ‘type’, V+mol- = VContinuous, as a sub-category of Serial construction which expresses a grammatical meaning.

D. By 33-7 months a performative or ostensive type of meaning has come in as a Serial construction type, that which might be glossed as meaning ‘do thus in order to/and V’. An example from Enita at (2:09) has already been presented in (37) above. An example from Jesi at 3;01 is:

(40) i te-\textbf{p} i te-\textbf{p} kayi te-\textbf{p} te-mul
this do-NF:1 this do-NF:1 good do-NF:1 do-FUT:1pl
Doing (like) this and doing (like) this we’ll fix it’. [Jesi Pawa; also good adult form]
(Jesi Pawa, 3;01)

Related at least in part to the productivity of Serial construction types in general is also the fact that by 36 months strong language conventions of framing utterances by the verb of saying (nyi-), and by other verbs of cognition (e.g. ‘think, suppose’) have come in quite clearly.

As to the former, in Jesi Pawa’s speech the commonest framing verb of saying is in the first person, and typically occurs in response to a question or to an indication from his interlocutor of not having heard/understood. An example is 41.

(41) we pu-ru-bul nyi-ki-r
For nothing go-RP-1du say-PPR-1sg
We just went, I’m saying’. More literally: ‘I say we went for nothing, for no reason’.
(Jesi Pawa, 3;01)
Note that the framing verb has the correct adult 1sg present tense ending (as used in the flow of adult speech to frame in the current speech situation, though the action being framed here is past).

These performative self-framing constructions are not attested in any of the samples from Enita. Given that they are more common in the speech of Ku Waru men than women, the difference between Jesi and Enita at 37 months of age may be significant in this respect, although more evidence would be needed in order to establish this.

After 1sg framings, the most common are 3sg `He said…’ typically Past tense, and used in answer to questions about what happened, which are frequently cast as reports of what was said. There is a relation between the emergence of such framings and Serial constructions in that, e.g., the common verb of cognition `think, suppose’ is Serial nyi- pilyi-. Thus by slightly more than 36 months we have a form from Jesi Pawa (also acceptable as an adult form):

(42) masis-ayl lyi-p main mudu-bu nyi- pilyi-d
Matches-DEF get-NF:1 down throw-FUT:1sg say hear-Prf:1sg
I thought I was going to lose the matches.
(Jesi Pawa, 3;01)

As Serial verb types proliferate, some of the standard problems which we discussed concerning them begin to emerge, e.g. the ‘scalar’ quality of the tightness of linkage between verbs in construction, some of them (like me- pu- `take’, or to- mudu- `throw’) clearly, due to frequency and consistency of meaning, definable as corresponding to a single lexeme; others regularly combined, but perhaps definable as combinations of two semantically more independent predicate meanings (e.g. koi- si- `to roast and donate, to present (roasted) meat’, entailing that meat that is presented is roasted).

Thus the emerging preponderance of Serial construction types over Adj+V ones also instantiates an increasingly flexible and network-like set of ways of making predicative meanings, ranging from expression of complex lexical meanings which appear to combine several elements of verbal action deriving from the Vs in combination; to tightly-linked lexemes; and also relates to the expansion and usage of discursive framing devices which put the child well on the way to talking like an adult.

6. Conclusions

As amply attested elsewhere in this volume, in many languages there are reasons to question the clarity of word classes and word class boundaries. Word classes (we focus here on N and V) have traditionally been defined by notions of their prototypical function within syntagms in argument and predicate function, respectively. Also definitional are ideas of semantic prototypy and naturalness, or the range and kinds of meanings that forms belonging to particular word classes are likely to have.

In some of the Mayan languages, certain forms that can function as arguments can also function (in the same shape) as predicates, problematizing traditional understandings of the relationship between word classes and syntagmatic types. Some of the meanings expressed by such U (=undetermined) forms seem to fall more naturally into an ‘action’ verbal category, problematizing the relation between word classes and semantic types.

A crucial characteristic of those languages seems to be their extensive inflectional morphology and internal shape-changes on root forms. While (in Yucatec) there are some roots that occur only as nominals, there is also a large number of CVC roots with some elements that remain invariant – the two
CC’s – and internal V that undergoes variation, producing from (what we would call) the root, stem classes directly linked to syntactic possibilities of occurrence and argument structure. We find it terminologically useful to think of the internal vowel changes, not as phonological, but as the play of discontinuous and non-segmental features to do what, in many other languages, is mostly or completely done segmentally: producing of different stem-classes. Tone, length and height changes within these roots are morphophonological – determinant of different values for transitivity, and thus kinds of possible argument structures as well as possibilities of syntagmatic deployment. Lois and Vapnarsky (2006) propose designating roots capable of verbal deployment ‘U-roots’, that is, undetermined; as opposed to those that are ‘N-roots’, only nominal. Within the U-roots Lois and Vapnarsky distinguish a class of ‘Multivalents’ from other classes, including the ‘verbal-action nouns’ which in incomplete aspect look like nominal forms in construction, as in the following example, with a TAM marker:

(43) \[ \text{tan-Ø in-ts'iib} \]
\[ \text{PROG-B3 A1-write(ing)} \]
\[ \text{“I am writing”, lit. “my writing is happening”} \ (\text{Itz.17}) \]

In all Mayan languages, there is some shared nominal and verbal inflectional morphology (e.g., sets of person markers used on both); but potentials of participant structure are correlated with stem-classes. (For Tzeltal, Brown 1998 reports that children are caused no acquisition difficulty by the commonality of inflectional markers). As different as the Mayan languages are from Ku Waru, there are nevertheless some broad systemic features that can be compared in terms of the framework developed by Luuk (2009) as described above.

Ku Waru presents some interesting questions of word class squish but of a rather different sort from Yucatec. To the same extent that the (Yucatecan) Mayan category squish is highly interrelated with its morphophonological processes of stem-class formation, category indeterminacy is strongly associated with aspects of the configurality of Ku Waru. One major difference from the Mayan material is that in Ku Waru a category of verb is clearly necessary. But what else is?

As we have shown, in Ku Waru there is a strict mapping of the functions predicate and argument onto the clause positions final and non-final respectively, and an overall left-to-right mapping of the word classes verb, Adjunct/flexible, and noun onto the positions final, penultimate and antepenultimate respectively. Given the latter mapping there emerges a clause-medial functional space, filled (not solely, but largely) by Adjuncts and/or flexibles, and by admissible verbal constructions which in adult speech may be combined in various ways, and which in any case have to wind up being concatenated with ‘final’ verbs. (Recall that while not all predicators are verbs, where there is a verbal predicator, it occurs last. This is one way in which children language acquirers quickly begin to follow adult patterns.

We have also shown that it is in the ‘middle’ space between argument(s) and predicate that we find what we have called ‘Adjuncts’. We have said that they are not a well-defined word class, but rather that by ‘adjunct’ we mean a functional type associated with specification of largely verbal meaning, but also having what look like ‘nouny’ properties in many cases. The adjunct may specify verbal meaning by adding something which is understood as filling out the ‘action’ nature of the verb, or by designating something which may be the medium, or roughly, the object of the verb. For example, there are dozens of Adjuncts and flexibles that occur with nyi- that are understood to specify more fully the semantics and modalities of ‘soundings’, making noises, types of statements, utterances, and so forth. And there are flexibles like uru ‘sleep’ which can occur in a variety of construction types and with a number of predicatives (like na uru pekir ‘I’m sleeping’, na uru okum ‘I’m getting sleepy’, etc.) that are not the most classifically ‘verb-like’ action predicatives.
In beginning to explore our Ku Waru child language data, and taking into account certain features – the apparent multi-word complexity of the verbal constructions, the serial aspect of verb constructions, but also noting the strongly configurational nature of the language which does not immediately lend itself to obvious interpretation in terms of a simplicity or difficulty metric – we have begun by taking an observational interest in the relationship between types of constructions used by children that, ultimately, will correspond to these adjunct + plus verb and serial verb constructions. We have found, so far, that: (1) they employ single verbs largely in certain ‘types’ (imperatives, the admonitives etc.), and most declarative verbs without ‘adult’ inflection, the first to be regularly represented the 3SG past; (2) that in our children of 17 months onwards, the adjunct + verb type of construction is clearly detectible earlier and more frequently than any serial verb constructions, although by 21+ months we begin to see small numbers of these too, in specific contexts, that are relatable to adult serial verb constructions.

Having taken a general frame of comparison of Mayan and Ku Waru as relevant, we will now briefly consider some issues from the perspective of child language acquisition, and the part played in it by semantic vs syntactic bootstrapping. For Ku Waru it seems clear that the notion of syntactic bootstrapping is largely though not entirely sufficient to account for most or all children’s acquisition of adult-like assignments of words into the classes of verb, noun, Adjunct, and flexible. This can perhaps be best related to the strongly configurational nature of Ku Waru clause structure, with distinct syntagmatic positions associated with each of these classes. Mayan languages differ greatly from Ku Waru in this respect, with somewhat freer word order and far greater head-domination, with more of the clause-level grammar packed into the verb (typically clause-initial in Yucatec). This might lead us to expect that semantic bootstrapping would play a proportionally greater role in the acquisition of word classes in those languages, in the absence of clause-level syntactic positions with which they are as closely associated as they are in Ku Waru. But, as pointed out by Danziger (2007), some Mayan languages, especially Mopan and Yucatec, would also seem to provide special obstacles to semantic bootstrapping, in the form of those wide disparities between prototypical function and word class which are of central concern to the Polyvalence project. Based on her work on the Mayan language Tzeltal, Penny Brown (1998) argues that a number of formal, semantic and cultural factors make that language ‘verb-friendly’ for children, i.e., explain the fact that children appear to acquire forms interpretable as verbs early, without great difficulty, and more readily than nouns. These factors, she suggests, include the language’s patterns of morphological regularity of verbal stems; radical argument ellipsis that often leaves verbs the only element in an utterance; specificity of verbs such that a considerable number are differentiated according to features of their arguments (e.g., different verbs meaning ‘to eat’); and the fact that there is little cultural emphasis on pointing out or getting children to name ‘things’, with the exception of body parts. This would seem to open up many questions of a comparative sort.

The strong configurationality of Ku Waru, together with its patterns requiring the distribution of verbal meaning and morphosyntax over a number of sequenced word forms, produces a space following possible referring forms and before (final) verb, in which gradations of nominal and verbal features inhabit some of these medially-positioned words. Our analysis so far has been limited to data from children under the age of 37 months. We plan to fill in more data from that age period (from other children), but also extend our investigation of the acquisition of verbal constructions up until about age 6, at which point our casual observation, as well as recording, has shown us that children have mastery of certain Ku Waru narrative genres which we plan to analyse closely.

Up to the point we have taken our analysis, the 37-month stage, we might contrast the two verbal construction types upon which this paper has focused as providing speakers with means for lexical specificity in the case of Adjunct + V, and as oriented both towards lexical specificity but also overall discursive framing in the case of V+V. In other words, by this stage the Adjunct + V construction enables the expression and differentiation of specific meanings, but is not (or, is no longer) the principal
kind of predicative structure underpinning the kinds of discursive `paragraph-like' flows characteristic of adult competence in Highland Papuan languages such as Ku Waru. In its diversity, the V + V kind of structure has become the framing predicative structure not only at the level of smaller (clause-) level stretches of speech, but its characteristic non-final plus final template also serves as the flexible means for linking larger stretches of discourse together. In other words, at a certain point in child language acquisition we can see the V+V structure becoming capable of `rank-shifting’ and the basis for larger discourse structuring, while Adjunct+V remains a system of lexical specificity materialized through the combination of flexible, nominal- and verbal elements in co-construction.

The Adjuncts of Ku Waru are comparable in some ways to the UV (uninflecting verbs) discussed by Schultze-Berndt in her chapter on Jaminjung. She shows that besides their principal usage in UV+V verbal constructions, the UV have some functional capacity in subordinate structures, and in the rendering of expressive and performative meanings. But it is suggestive that both UVs in Jaminjung, and Adjunct + Vs in Ku Waru, are limited in their broader syntactic-discursive functions. This suggests, more than anything else, a certain tendency towards polarization in these verbal systems between semantic specificity and broader predicative possibility of occurrence, a kind of dynamic that might help us in thinking about the many language systems in which this kind of tension occurs in varying combinations. For example, there are numerous systems in which the number of inflecting verbs (those that can be inflected for tense-aspect-mode and other verbal categories) is very limited, perhaps as few as one or two dozen. Semantic specificity in such languages is achieved by UV-like structures in co-occurrence with those Vs; but this opens up interesting questions as to ways in which the limitation of fully-functioning predicative forms may correlate with variations in wider syntactic and discourse systems.

Notes

1 Since we examined Luuk’s scheme late in the piece, the question how Mayan language/s might be categorized in his terms was not thoroughly discussed in the group at large.
2 A question was raised whether any elements may be introduced between the Adjunct and the verb, to which the answer is ‘yes’; e.g., the negative particle (naa); qualifiers of intensity, amount, and others.
3 For details concerning these and other Ku Waru case postpositions, see Merlan and Rumsey (1991, Appendix B).
4 For a survey of languages from around the world with 'optional ergative marking' and defense of that rubric as a valid and useful one for linguistic typology, see McGregor forthcoming. For evidence concerning the status of –n(i) as an optional ergative marker in Ku Waru, see Rumsey 2010).
5 By way of comparison, in English the lexemes 'fight' and 'mind' also have both nominal and verbal variants, with a similar degree of transparency vs idiomaticity: in the case of 'fight' there is a complete or near complete match in the senses of the nominal lexeme and the verbal expression, whereas in the case of 'mind' there are what the dictionaries list as several distinct verbal senses with more or less idiomatic semantic specificities in relation to the nominal sense. In one of them – the sense it has in – 'Do you mind if I leave early' – in contradistinction to the Ku Waru case, 'mind' can only predicate a negative mental state. On another matter, the question was raised whether the combination in (9) of no-k (non-final) with numan si- constitutes a serial expression. It does if one considers all combinations of non-final plus final verb to be serial. More frequently the question has been put whether such non-finals as no-k and the Adjunct+V combination should be considered to be in one clause or two. There appears to be a cline of tightness of connection among such co-occurring forms.
6 We wish to thank Richard Carter for helping us to clarify the way we had been using the terms 'adjunct' and 'flexible' in an earlier version of this paper that we presented at a meeting of the Polyvalence group on 26/11/09.
7 This is of course not to say that all non-final elements in the clause are nouns – only that any nouns that occur in any given clause will be non-final unless it lacks a verb.
The difference syntactically between transitive and intransitive constructions in this language is somewhat difficult to distinguish in some clauses, though the addition of causative morphological always increases apparent clausal transitivity.

Whether such expressions are lexicalized, or not, is clinal – some clearly are, while other patterns of co-occurrence appear more occasional.

By 'unprompted' we mean that the child's interlocutor did not use the same collocation in the immediately preceding turn. We recognize there are degrees of evident and possible influence of earlier previous turns, but our as-yet relatively small sample size precludes taking account of them in a statistically rigorous way.

These remarks on the age at which non-final forms become overtly marked will be dealt with in the later, conference version of this paper as we now have more data on this.

The sample of adult speech from which we have derived the ratio of SVC to adjunct+verb constructions comes from a transcript of a dispute which has been published in Merlan and Rumsey (1986). For understanding the development of these two constructions in children's speech it is important to note that in the child-directed speech used by Enita's and Jesi's adult interlocutors, the ratio of SVC to adjunct+verb constructions is quite a bit lower than in the adult-directed speech in our sample from Merlan and Rumsey (1986) – but not as low as the in the children's speech. For example, in the transcript for Jesi at 21 months, in a sample of the adults' speech to him, the adults used adjunct+verb constructions 13 times and SVCs 5 times, whereas Jesi used the former 20 times and the latter not at all.

This is not true across all Mayan languages.

References


Rumsey, Alan. 2010 ‘Optional’ ergativity and the framing of reported speech. Lingua 120:1652–1676.
<table>
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<tr>
<th>Abbreviations</th>
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