John Benjamins Publishing Company

Complex predicates and bipartite stems in Skou*

Mark Donohue

Linguistics Program, Monash University

I examine a range of complex predicates, searching for ones that might be called 'bipartite stems' in Skou, a language of New Guinea. First I draw a tentative distinction between serial verb constructions and N+V predicates on the one hand, and 'true' bipartite stems on the other, while pointing out some complications involved in making this division. Following this I examine the range of stems that can possibly be called 'bipartite stems', and those that certainly can be, concluding that the label is not a useful one in describing Skou, which shows more complexities than a simple '±bipartite' dichotomy can capture. A survey of 'bipartite' phenomena in related and geographically close languages follows, with the conclusion that prosodic factors at least as much as morphological ones, and the possibility of an infixal analysis, rob the label 'bipartite' of much of its useful content when applied outside the domain for which it was originally devised.

1. Stems, verbs, and predicates

In this paper I shall discuss the different ways in which a predicate in Skou can be complex, excepting only regularly derived predicates, such as those that have applicative suffixes.[1] That is, I shall examine the ways in which the lexical entry for a predicate can be complicated. Along the way I shall discuss some problems arising in the categorisation of these different predicate types, showing that while there are definite archetypes that we can, and should, recognise, there is also considerable 'overlap' between these archetypes, partly as a result of grammatical opacity due to phonological complications. As a consequence of the data that emerges from this, I point out that the term 'bipartite stem' is not a useful one in Skou, and will possibly prove not to be useful in other languages once we have carried out a detailed examination of complex predicates. This detailed examination necessarily involves a somewhat philological, and definitely historical, examination of the data.

The idea that a predicate can consist of more than one stem, word or phrase is not a new one, with examples of various kinds of complex predicates shown in

(1)–(8) (see Alsina et al. (1997) for a number of treatments of complex predicate phenomena in a range of languages). In (1)–(8) we can see examples of verb serialisation, N+V predicates, Adj+V predicates, small clauses, and any number of derived applicative, causative, passive, etc. constructions.

Mandarin: V+V complex predicate *jìn-lái* 'enter'

(1)   *Tā   jí-jí-máng-máng-de cóng wài-mian pǎo **jìn-lái.***
      3SG hasty-RED-MOD   from out-side   run enter-come
      'He ran in hurriedly from outside.'

Hindi: N+V complex predicate (Mohanan 1997: 432)

(2)   *Raam-ne Niinaa-kii **madad kii.***
      Ram-ERG Nina-GEN help   do-PF-FEM
      'Ram helped Nina.'

Tamil: N+V complex predicate (adapted from Vijayakrishnan 1994: 264)

(3)   *Avan   aasiriyar-e   **kaakaa piɖi-tt-aan.***
      3SG.M teacher-ACC crow   catch-PAST-3SG.M
      'He sucked up to the teacher.'

English: N+V complex predicate

(4)   *They **had a drink**.*

English: adjectival small clause secondary predicate

(5)   *They **pounded** it **flat**.*

Dutch: Adj+V complex predicate

(6)   *De deur even **dicht doen** alsjeblieft!*
      the door a.bit close do   please
      'Close the door please!'

Tukang Besi: applicative, causative, and passive (Donohue 1999)

(7)   *No-**to-pa**-kede-**mi**=mo   na   kadera te   ana.*
      3R-PASS-CAUS-sit-LOC.APPL=PF NOM chair   CORE child
      'The chair was where the child was made to sit.'
      (very loose translation)

(8) a. *No-**pa**-kede te   ana.*   b. *No-**to-pa**-kede   na   ana.*
         3R-CAUS-sit CORE child   3R-PASS-CAUS-sit NOM child
         'They made the child sit.'   'The child was made to sit.'
     c. *No-kede-**mi**   na   ana.*   d. *No-**to**-kede-**mi**   na   kadera.*
         3R-sit-LOC.APPL NOM child   3R-PASS-sit-LOC.APPL NOM chair
         'The child sat on (it).'   'The chair was sat on.'

While those complex predicates involving bound morphology must be recognised as resulting in single words in the syntax, many of these complex predicates form quite a loose structural unit, even if they are semantically very closely tied. For example, the verb *pounded* and the (resulting) adjective *flat* in the English example do not form any unique constituent. In the Dutch example, arguably also involving a small clause, alternative phrasings reveal the non-contiguity of the two elements: **Doe de deur eens dicht!** 'Close the door!'

Another type of complex predicate involves a stem that is apparently split into two elements, a *bipartite* stem. Typically the stem is recognised as such by the lack of any compelling evidence for identifying one element in the predicate as a stem and the other as an affix (Jacobsen 1980). An example is given in (9), from the Tibeto-Burman language Limbu (van Driem 1987: 352). Here the predicate 'understand' consists of two parts, here *kusiŋ- -ni·tt*, and these two elements are separated by the negative marker *-mɛ-*. Neither of the two elements is itself sufficient to be a complete predicate, yet inflectional material intervenes, showing clearly that the predicative stem consists of two elements, which are not adjacent when negated.

(9)   … gɔˑ   re·diyo·-lle pa·tt-u-bɛ-n   **kusiŋ**-mɛ-**ni·tt**-u-n, …
        then radio-ERG say-3P-NOML-ABS understand-NEG-understand-3P-NEG
        '… she did not understand what the radio was saying.'

A more extreme definition of 'bipartiteness', adopted by Bickel and Nichols (to appear) and Hildebrandt (2005), requires that there be the possibility of the stem being segmentable into two (or more) parts by intrusive material as a result of some morphological processes, and yet behaving as a single stem for other purposes; generally, the (two) elements of the predicate are not independently attested. We may talk about a series of criteria that have been accepted as necessary for determining bipartite status, from the essential to the desirable.

Some criteria used for determining that a predicate involves a bipartite stem:

(10) 1. two predicate elements, neither the head
      2. the two elements not occurring independently of a bipartite stem construction
      3. the possibility of (inflectional) material intruding between the two elements

Clearly the presence of all three of these criteria is the most convincing demonstration of a bipartite stem. Nonetheless, even if there is no intrusive inflectional material the fact that the two predicative elements can be identified as such, and neither of them identified in another construction or as subordinate to the other in

some way, might be enough evidence to lead us to recognise that something other than a simple predicate was involved.

Bipartite stems are prevalent across the world, with most reporting concentrating on western North America, the Himalayas and the Caucasus (see Jacobsen 1980, De Lancey 1996a, Bickel and Nichols to appear, Nichols 2004, Hildebrandt 2005).

In the following section I shall quickly sketch the agreement system of Skou, necessary for the discussion that follows, and point out some phonological and syntactic complexities in the realisation of this marking. Section three begins with a description of simple N+V complex predicates in Skou, similar to the predicates already seen in this section from Hindi, Tamil and English, and then leads into some more complex cases that skirt the borderline of N+V constructions and bipartite constructions. In section four I discuss some additional cases of what might be thought of as N+V constructions, but which show considerable complications, tending more and more to be 'bipartite'-like. Section five introduces the clearest instances of bipartite stems, cases in which the predicate is composed of two elements that necessarily allow for inflectional material to intrude between the two stems. The section continues with a discussion of less clear cases of what might be the same construction, showing that the independently-motivated phonological restrictions seen in Section 2 complicate the issue considerably. The section concludes with a summary of the different construction 'types' observed. Section six presents an overview of bipartite(-like) constructions in languages genetically or geographically close to Skou, and section seven discusses the variation we have observed, and the terminology and hedges necessary to discuss the data with a single cover term, 'bipartite'.

2.   The verb in Skou

The verb in Skou occurs following all arguments in the SOV clause, and typically shows doubly marked agreement for subject, by prefix (which shows considerable phonological merger with an initial consonant in the verb stem) and by proclitic (which is universal for all verbal predicates and which shows no phonological changes). The same agreement markers are used regardless of tense, aspect or modality. The most regular paradigms for verbs with various different initial consonants can be seen in (11), where six verbs representative of the different conjugational classes are shown, inflected for different person and number combinations of the subject.[2]

(11)

Subject:	vocalic	bilabial	alveolar-*l*	alveolar-*r*	velar	glottal
1SG	*nì=e*	*nì=wé*	*nì=lú*	*nì=re*	*nì=ká*	*nì=ha*
2SG	*mè=me*	*mè=pé*	*mè=pú*	*mè=me*	*mè=bá*	*mè=ma*
3SG.NF	*ke=ke*	*ke=wé*	*ke=lú*	*ke=ti*	*ke=ká*	*ke=ka*
3SG.F	*pe=pe*	*pe=wé*	*pe=rú*	*pe=te*	*pe=wá*	*pe=wa*
1PL	*ne=ne*	*ne=wé*	*ne=rú*	*ne=ne*	*ne=ká*	*ne=na*
2PL	*e=e*	*e=wé*	*e=lú*	*e=re*	*e=ká*	*e=ha*
3PL	*te=te*	*te=wé*	*te=rú*	*te=te*	*te=já*	*te=ya*
'go east'	'get.F'	'release'	'go'	'hit'	'walk'	
Verb root	*e*	*wé*	*lú*	*re*	*ká*	*ha*

This information in (11) can be distilled into the proclitics and apparent prefixes shown in (12). The underlying forms of the prefixes are most transparently reflected in the vocalic paradigm, where there is no initial consonant to interfere with their phonological realisation. The underlying prefixes are related to what can be reconstructed for proto-Western Skou, shown in the final column of (12) (see Donohue 2003b). A small number of verbs, such as *ā* 'eat' and *hū* 'drink', take *k-* in the 1SG, an irregularity that is also found in neighbouring languages (with the same cognate lexemes). One verb, *ø̃ e* 'refuse, not want', inflects for 1SG with *n-*.[3] The two underlying forms of the 3PL prefix, observable in the 3PL forms of the verbs 'go east' and 'walk', illustrating the *t-* and *y-* conjugations respectively, reflect different proto-Western Skou conjugation classes, being reconstructible as *d- and *y-. The proclitic forms are transparently related to the free pronouns shown in the left column, differing only in the fact that their vowel may be reduced to [ɜ] ~ [ə] preceding a consonant, an option that is not a feature of the free pronouns.

(12)

	free pronoun	proclitic	underlying prefix	historical prefix
1SG	*nì*	*nì=*	Ø-, *k-*, *n-*	*ŋ-
2SG	*mè*	*mè=*	*m-*	*m-
3SG.NF	*ke*	*ke=*	*k-*	*k-
3SG.F	*pe*	*pe=*	*p-*	*p-
1PL	*ne*	*ne=*	*n-*	*n-
2PL	*e*	*e=*		
3PL	*te*	*te=*	*t-*, *y-*	*t-, *y-

We can see, then, that in addition to compulsory proclitic agreement marking, each verb is also subject to prefixal agreement. Unlike proclitic agreement, prefixal agreement is very tightly bound to the verb root, showing complex interactions with any root-initial consonant. Furthermore, many consonant types do not display any prefixal agreement at all, with fully eight out of thirteen onsets in Skou not

showing any agreement according to the prefixal paradigm given in (11) and (12). (In contrast to the inflecting onsets seen in (11), *w l r k h* and Ø, the non-inflecting onsets are *p b m f t n y* and *j*, as well as those occurring in some lexically-stipulated roots that are suitable phonologically for inflection, such as 'board' in (13) and the roots in (119).) While this might seem to imply that prefixation has only a small role to play in the inflectional system, the fact that fully 85% of all known verb roots either lack an onset (that is, are vowel-initial) or else begin with an inflecting onset (*w l r k* or *h*) means that prefixation is the norm, not the exception.

In addition to this phonological conditioning, some verbs that could, on strictly phonological grounds, belong to the vocalic, bilabial, alveolar, velar or glottal sets described in (11) do not, exceptionally, show agreement. An example of this is *e* 'board, climb (on to)', shown in (13). This verb is very likely related historically to *e* 'go east', whose meaning also includes 'climb (mountain), ascend', but which synchronically shows a very different paradigm.[4]

	Inflection of 'go east, climb, ascend' (< (11))		'board, climb (on to)'	
(13)	*nì=e*	*ne=ne*	*nì=e*	*ne=e*
	mè=me	*e=e*	*mè=e*	*e=e*
	ke=ke	*te=te*	*ke=e*	*te=e*
	pe=pe	*pe=e*		

Finally, some verbs show vowel alternations in their paradigm. We have already seen an irregularity in the 3SG.NF form of the verb *re* 'go' in (11); some further examples, with prefixing and non-prefixing verbs, are shown in (14).

	Inflection of 'shave'		'see'	
(14)	*nì=lóe*	*ne=róe*	*nì=fue*	*ne=fue*
	mè=póe	*e=lóe*	*mè=fue*	*e=fue*
	ke=lóe	*te=rí*	*ke=fue*	*te=fi*
	pe=rú		*pe=fu*	

Donohue (2003b) shows that these vowel alternations are the relic of an earlier series of object agreement suffixes, with only the high front qualities of the 3PL and the high back rounded qualities of the 3SG.F suffixes being preserved in the vowel alternations found in modern verbs. (*Re* 'go' in (11) displays different irregularities; it is the sole *r*-initial verb.) These vowel alternations play only a minor part in the discussion of bipartite stems that follows.

Two final pieces of information about verbal inflection are required, concerning agreement and aspect marking. In serial verb constructions perhaps the most common agreement strategy is for each individual verb to appear with its agreement marked by its prefixal or suppletive form, and for the whole complex to take a single clitic, on the first verb, as in (15).

     CL=[pref-v   pref-v   pref:v]

(15) *Pe* ***pe**=w-a*   *p-o*   *te*   *báng.*
   3SG.F 3SG.F=3SG.F-walk 3SG.F-seawards 3SG.F.go beach
   'She walked to the beach.'

It is also possible for any contiguous series of verbs (starting from the left) to each display a clitic. Thus, in addition to (15), we also have the grammatical variants shown in (16) and (17).[5]

(16) *Pe **pe**=wa **pe**=po te báng.*   CL=[pref-v] CL=[pref-v pref:v]

(17) *Pe **pe**=wa **pe**=po **pe**=te báng.*   CL=[pref-v] CL=[pref-v] CL=[pref:v]

This means that strings involving clitics appearing on non-contiguous verbs, or only on verbs other than the first in the series, are ungrammatical, as shown in (18)–(21).

(18) *⃰Pe wa **pe**=po ti báng.*   pref-v CL=[pref-v pref:v]
(19) *⃰Pe wa po **pe**=ti báng.*   pref-v pref-v CL=[pref:v]
(20) *⃰Pe **pe**=wa po **pe**=ti báng.*   CL=[pref-v] pref-v CL=[pref:v]
(21) *⃰Pe wa **pe**=po **pe**=ti báng.*   pref-v CL=[pref-v] CL=[pref:v]

In serial verb constructions involving an object, however, the subject agreement clitic may only appear once, at the beginning of the sequence of verbs, to the exclusion of forms analogous to those given in (16) and (17), as seen in (24).[6]

(22) *Pe* *taíngbe=inga **pe**=wé* *r-ung*   *ke.*   CL=[pref-v pref-v]
   3SG.F money=the 3SG.F=get.F 3SG.F-F.give 3SG.NF
   'She gave him the money.'

(23) *⃰Pe taíngbe=inga [ ] wé **pe**=rung ke.*   [pref-v] CL=[pref-v]
(24) *⃰Pe taíngbe=inga **pe**=wé **pe**=rung ke.* CL=[pref-v] CL=[pref-v]

The intentional aspect is marked by a combination of main-verb reduplication and auxiliary. The reduplication is usually found on the first verb in a serial verb construction, as in (25) and (27), but it can also be found on the last element, as in (26). In (28) the reduplication applies to the second of the two auxiliary verbs as well as the main verb, with reduplication on the main verb marking intentional aspect.

     V-RED   V   V

(25) *Pe* *pe=w-a-**wa***   *p-o*   *te*   *báng.*
   3SG.F 3SG.F=3SG.F-walk-RED 3SG.F-seawards 3SG.F.go beach
   'She will walk to the beach.'

(26) *Pe pe=wa po te **te** báng.*   V V V-RED

	V-RED		V		AUX	AUX

(27) *Ke*   *ke=k-a-**ka***   *ti*   *báng*   *i*   *li.*
       3SG.NF 3SG.NF=3SG.NF-walk-RED 3SG.NF.go beach be   do
       'He wants to walk to the beach.'

(28) *Ke ke=ka **ka** ti báng i li **li**.*   V-RED V AUX AUX-RED

Reduplication can, rarely, apply to both the first and last elements of the serial verb construction, but cannot apply to any 'medial' verbs in the series. This is illustrated in (29)–(33) with examples analogous to (25) and (26), but is equally true of examples with auxiliaries, after the manner of (27) and (28).

(29)   *Pe pe=wa **wa** po te **te** báng.*   V-RED V V-RED
(30) * *Pe pe=wa po **po** te báng.*   V V-RED V
(31) * *Pe pe=wa wa po **po** te báng.*   V-RED V-RED V
(32) * *Pe pe=wa po **po** te báng.*   V V -RED V-RED
(33) * *Pe pe=wa wa po **po** te te báng.*   V-RED V-RED V-RED

The same variable placement of aspectual reduplication applies to serial verb constructions with objects, such as (34), as readily as it does to monovalent clauses such as (25) (unlike the case with proclitic agreement placement, seen in (22)–(24)). In (35) we see that reduplication for aspect-marking purposes is as grammatical on the final verb as reduplication on the first verb. (36) shows that both the initial and the final verb may appear reduplicated in the same clause. (37)–(42) present a selection of ungrammatical sentences involving reduplication applying to a 'medial' verb in the series.

	V-RED		V	V	V

(34) *Móe*   *ne=r-oe-**roe***   *n-á*   *moe*   *toe*   *bàme.*
       fish   1PL=1PL-get.PL-RED   1PL-carry return 1PL.come village
       'We will take the fish and bring them back to the village.'

(35)   *Móe ne=roe ná moe toe **toe** bàme.*   V V V V-RED
(36)   *Móe ne=roe **roe** ná moe toe **toe** bàme.*   V-RED V V V-RED
(37) * *Móe ne=roe ná **ná** moe toe bàme.*   V V-RED V V
(38) * *Móe ne=roe ná moe **moe** toe bàme.*   V V V-RED V
(39) * *Móe ne=roe **roe** ná **ná** moe toe bàme.*   V-RED V-RED V V
(40) * *Móe ne=roe **roe** ná moe **moe** toe bàme.*   V-RED V V-RED V
(41) * *Móe ne=roe **roe** ná **ná** moe **moe** toe bàme.*   V-RED V-RED V-RED V
(42) * *Móe ne=roe **roe** ná **ná** moe **moe** toe **toe** bàme.* V-RED V-RED V-RED V-RED

The factors that govern these alternations in agreement positioning and the locus of reduplication are not well understood, and any meaning differences associated with the alternations are unknown. These data on inflectional possibilities in verbs

will become relevant both for the consideration of those constructions in Skou that are the most promising candidates for the label 'bipartite', and also of those constructions which are most problematic. The next section, however, presents a direct challenge to this simple model of the single-stem predicate.

3. Complexities with nominals

Some complex predicates in Skou are undeniably N+V items. In these cases both the verb and the nominal are independently attested outside the collocation, with the template for the predicate uniformly being that shown in (43). The verb takes all the inflectional material, both clitic and (if appropriate) prefix, as well as real-ising any reduplication required by aspect. The nominal is a phonologically and grammatically separate word, albeit one that stands in (very) close constituency with the verb.[7]

> N+V complex predicate
(43) Nominal   Clitic=prefix-Verb

An example of an N+V complex predicate can be seen in (44). Here *kóeng* 'tooth' combines with an inflected form of the verb *ká* 'hit' to form 'bite', which can take an independent object. The fact that the combination does not mean 'hit (a/the) tooth' shows that it has non-compositional semantics, and must be lexically listed.

(44) *Naké=fuea ke*   ***kóeng** ke=**ká**.*
      dog=that   3SG.NF tooth 3SG.NF=hit
      'That dog bit him.'

(45) and (46) present examples of *kóeng* and *ká* used independently of each other, while (47) shows the inflection of *ká* for different persons.[8,9]

(45) *Nì=ku   re, kóeng bangtue.*
      1SG='fall' go tooth break
      'I fell over, and some (of my) teeth broke.'

(46) *Naké mè=b-á-bá!*
      dog   2SG=2SG-hit-RED
      'Hit the dog!'

> Agreement paradigm for *ká* 'hit'
(47) *nì=ká*   *ne=ká*
      mè=bá   *e=ká*
      ke=ká   *te=já*
      pe=wá

The verb *ká* 'hit' is also found with other nominals, such as *lí* 'festival' in (48), or *yong* '(sago) pith' in (49). In this second example we might even argue that there is no complex predicate, only a somewhat semantically bleached verb and a nominal object. The fact that an instrument can intrude between *yong* and the verb *te já*, as shown in (50), or that *yong* can be modified, as in (51), implies that it is indeed an object, since a 'true' N+V complex predicate does not allow for interruption (for examples, see (53) and (54)).[10]

(48)   (*Te*) **Lí**   *te=j-á*   *e*   *ti.*
         3PL festival 3PL=3PL-hit 3PL.be 3PL.do
         'They're holding a festival.'

(49)   *Te   **yong** te=j-á*   *e*   *ti.*
         3PL pith   3PL=3PL-hit 3PL.be 3PL.do
         'They're squeezing [sago] pith (to make sago flour).'

(50)   *Te   **yong** nò-tè=te=pa*   *te=j-á*   *e*   *ti.*
         3PL pith   hand-3PL.GEN=3PL.DAT=INSTR 3PL=3PL-hit 3PL.be 3PL.do
         'They're squeezing [sago] pith with their hands.'

(51)   *Te   **yong-pè=pe**   **nawò=a=ra**   *te=j-á-já*   *ti!*
         3PL pith-3SG.F.GEN=3SG.F.DAT much=PROM=also 3PL=3PL-hit-RED 3PL.do
         'They're going to be squeezing lots of her [sago] pith as well!'

In the following sections I shall present case studies of instances of possibly N+V predicates that are less clear in their interpretation.

3.1   Cases like *hò pi* 'tie roofing'

With some predicates requiring adjunct nominals, the nominal is sometimes treated as the object of the clause, and sometimes treated as an adjunct nominal without object properties. In the following sentences *hò* 'roof, roofing materials' is arguably the object of the clause, and we are not (necessarily) dealing with an N+V construction. The fact that possessive marking and adjectival modification may be found, as in (53), makes it clear that an entire NP is present as the object of *nì=pi*.

(52)   *Hò   nì=pi   i   li.*
         roofing 1SG=tie.roofing be do
         'I'm tying roofing materials (together to make a roof).'

(53)   [NP *Hò-mè=me*   *nawò*] *nì=pi*   *i   li.*
             roofing-2SG.GEN=2SG.DAT many 1SG=tie.roofing be do
         'I'm tying lots of your roofing materials (together to make a roof).'

The same nominal, *hò*, with the same verb, *pi*, is also found with a separate independent object in the clause: in this construction the nominal *hò* can only be interpreted as functioning as the nominal in an N+V predicate, and not as a full NP object.[11] The non-NP status of *hò* in (54) can be tested by attempting to modify *hò*, which results in an ungrammatical clause when it is found the presence of a different NP serving as object, as seen in (55).[12]

(54) *Pá-nì=ne*   *hò*   *nì=pi*   *i li.*
      house-1SG.GEN=1SG.DAT roofing 1SG=tie.roofing be do
      'I'm roofing my house.'

(55) **pá-nì=ne*   *hò-mè=me*   *nì=pi*   *i li.*
      house-1SG.GEN=1SG.DAT roofing-2SG.GEN=2SG.DAT 1SG=tie.roofing be do
      'I'm roofing my house with your roofing materials.'

In connection with this we should note that *hò* is also found as an argument of other verbs (and in non-verbal clauses), as the following examples illustrate.

(56) *Te*   *hò=inga*   *te=r-í*   *y-ú*   *toe*
      3PL roofing=the 3PL=3PL-get.PL 3PL-carry.on.head 3.come
      pá-nì=ne.
      house-1SG.GEN=1SG.DAT
      'They carried the roofing materials to my house.'

(57) *Hò-mè=me*   *ko*   *tue*   *fuea.*
      roofing-1SG.GEN=1SG.DAT be.at 3SG.F.do there
      'Your roofing materials are over there.'

These examples show that the same independently occurring nominal, *hò*, may be found with the same non-independent verb (*pi* is only used to refer to tying roofing materials, and can only take *hò* as its object) in two different functions. In clauses such as (56) it functions as the object of a different predicate, while in (57) it appears as the subject of the clause.

3.2 Cases like *ku li* 'give birth'

Many N+V constructions involve the generic light verb *li* 'do, make'. Some examples are shown in (58)–(62). While *hòe li* in (58) may be thought to be a clause with a simple predicate (the *li* verb) and a normal object, which combine in a somewhat non-compositional manner, the ungrammaticality of an instrument intruding between the nominal and the verb in (59) shows that it is in fact an N+V construction just like *hò pi* 'tie roofing' in (54).[13] Similar constraints apply to the other collocations listed here, showing that *pí li*, *pung li* and *tanghang li* must be thought of as N+V complex predicates and not object+V collocations.

(58) *Te **hòe** te=**ti**   e   ti.*
      3PL sago 3PL=3PL.do 3PL.be 3PL.do
      'They're cooking sago.'

(59) ** Te **hòe** ní=pa   te=**ti**   e   ti.*
      3PL sago stirring.spoon=INSTR 3PL=3PL.do 3PL.be 3PL.do
      'They're cooking sago with a sago stirring spoon.'

(60) *Te **pí**   te=**ti**   e   ti.*
      3PL language 3PL=3PL.do 3PL.be 3PL.do
      'They're speaking.'

(61) *Pe   mè pung pe=tue.*   (*tue* is a form of *li*, see (63) below)
      3SG.F 2SG liver 3SG.F=3SG.F.do
      'She likes you.'

(62) *Nì tanghang nì=li.*
      1SG face   1SG=do
      'I'm dizzy.'

The paradigm for *li* 'do' is erratic (though it does follow regular principles), and is shown in full in (63). This verb, also used in the auxiliary complex, plays a large role in the next part of the exposition of N+V complex predicates.

      Agreement paradigm for *li* 'do'
(63) *nì=li*   *ne=ti*
      mè=pi   *e=li*
      ke=li   *te=ti*
      pe=tue

In the case of *ku li* 'give birth', shown in (64), we have a predicate that lexically does not allow for instruments in the clause, and so we lose one of the tests used earlier to evaluate the complex predicate versus object+verb analysis. It is not felicitous, or semantically very easily interpretable, for *ku* in (64) to appear with possessive marking, and other modification, such as an adjective, is ungrammatical.[14] This suggests that an N+V interpretation is best. Again the verb *li* is used but the 'nominal' *ku* is problematic. The root *ku* is found in the words *angku* 'child', where the first part of the compound is the *ang* found in *ke=angleng* 'unmarried man, bachelor' and *pe=angúe* 'unmarried woman' (*leng*: male, *ue*: woman), and *kulílong* 'twin, triplet', where *lilòng* is elsewhere unattested. When uncompounded, however, *ku* cannot refer to the child of a human in modern Skou, but can only be used to refer to the young of animals (eg., *naké ku-pè=pe* dog 'child'-3SG.F.GEN=3SG.F.DAT 'puppy'), or God's son (*Táta ku-ké* grandfather 'child'-3SG.NF.GEN 'Jesus', also heard as *Táta u-ké*).

(64) *Pe   ku   pe=tue.*
      3SG.F 'child' 3SG.F=3SG.F.do
      'She gave birth (to a child).'

(65) **Pe   ku-nì=ne   pe=tue.*
      3SG.F 'child'-1SG.GEN=1SG.DAT 3SG.F=3SG.F.do
      'She gave birth to my child.'

(66) **Pe   ku   bápáli pe=tue.*
      3SG.F 'child' big   3SG.F=3SG.F.do
      'She gave birth to a big child.'

In terms of existing categories it is wisest, then, to still treat this as an N+V construction, but only if we are willing to allow for a degree of fluidity in what we regard as a (synchronic) nominal, and so what may be regarded as being the 'N' of an 'N+V' predicate.

3.3 A cline: *lú* 'release'

We can best illustrate the cline between clear N+V constructions and less clear ones in (67)–(68), in which the verb *lú* 'release' is combined in not entirely predictable ways with various independently-attested nominals. In (67) we can see *lú* used with the object *wùng* 'stone' with completely predictable, combinatorial semantics.[15]

(67) *Wùng nì=lú=ko   nì=lú   hí   naké.*
      stone 1SG=release=OBV 1SG=release throw dog
      'I threw a stone at the dog.'

(68), involving the verb *pìng lú* 'shoot', shows a similar construction, except that we may note two important differences. First, *pìng* refers to a bow, not to the arrow which is actually released; nonetheless *pìng lú* can only refer to the action of firing an arrow, not that of throwing a bow. The semantics of the entire predicate are thus not combinatorial, as they were with *wùng lú*. Secondly, in addition to *pìng* there is another nominal in the clause, *táng* 'bird', which can more legitimately claim to be the object of the clause.

(68) *Nì   táng pìng nì=lú.*
      1SG bird bow 1SG=release
      'I shot a bird.'

In (69) we have a case that is intermediate between the definitely grammaticised (68) and the clearly compositional (67). Here the only grounds for a claim of non-compositionality is the fact that, in kicking, the leg is not actually released in the same sense that a stone is when thrown. Quite likely this simply reflects either

a wider semantic range of the Skou verb, or else a different semantics than that shown in the gloss. In this regard we should note that *làng* is not the free form of the word 'leg', which is regularly *tánge*. *Làng* is, however, found in various compounds such as *lánghùe* 'calf', *làngbi* 'knee' and *lángòe* 'ankle', and is used as a lexeme referring to 'foot'. The situation is, thus, similar to that involving *ku* discussed in 3.2. When translating sentences that use *làng* and *lú* together, however, speakers invariably translate *làng* as 'leg'.[16] Related to this is the use, in (70), of *lú* in the collocation/idiom 'stretch out'.[17]

(69)   *Nì   làng-nì=ne*   *nì=lú=ko*   *mè=wí.*
       1SG leg-1SG.GEN=1SG.DAT 1SG=release=OBV 2SG=get
       'I kicked at and hit you.'

(70)   *Nòe-é   nì=lú.*
       body-bone 1SG=release
       'I stretched myself out.'

A clearly idiomatic reading is found in (71), in which the putative object of *ì lú*, *ì* 'complaint', is not attested outside this construction. It is true that the verbal part of the collocation behaves identically to instances of *lú* seen in other examples, but while *wùng*, *pìng*, *làng* and *nòeé* are all independent morphemes, *ì* is not.

(71)   *Nì   nòeng lelang e   tue,   ì   nì=lú   i   li.*
       1SG body cold   3SG.F.be 3SG.F.do 'complaint' 1SG=release be do
       'I feel sick, I've got a chill, I'm complaining.'

In (72) we face a different dilemma. The presence of *lú* as the second part of the serial verb construction *te=ta rú* (root forms: *ha lú*, see (73)) is not in question, but the first part of the collocation, *ha*, while verbal (as evidenced from the prefixal agreement), is attested clearly only in this collocation.

(72)   *Te=inga tang te=wí   te=t-a   r-ú   tí   e   ti.*
       3PL=the canoe 3PL=get.F 3PL=3PL-'pull' 3PL-release sea 3PL.be 3PL.do
       'They're heaving the canoe into the sea.'

We might want to analyse the *ha* 'pull' of *ha lú* as being the same verb root that is found in *ha híng* 'push' (*híng* is not found anywhere except in this one predicate). Compare (72) with (73).

(73)   *Te   tang te=wí   t-a   j-íng   me   báng.*
       3PL canoe 3PL=get.F 3PL-'push' 3PL-'push' PL.return beach
       'They pushed the canoe up onto the beach.'

This would, a priori, appear to be semantically plausible, but does have some difficulties. While very similar (see (74)), the inflectional choices in the 3SG.F and 3PL

parts of the paradigms of the two verb roots are not completely the same. While they can show identical forms, 'pull' also allows for forms with vowel alternation in these cells of the paradigm, while 'push' does not: for 'push', a 3SG.F inflection of the form *pe=pu wíng* would be ungrammatical, and similarly a 3PL form *te=tu jíng* is not acceptable. This shows that the verb stems are not identical. (75) shows an alternative version of (72), while (76) shows that using those verb forms in an adaptation of (73) is not grammatical.

Inflection of 'push'   Inflection of 'pull'

(74) *nì=ha híng*   *ne=na níng*   *nì=ha lú*   *ne=na rú*
      mè=ma míng   *e=ha híng*   *mè=ma pú*   *e=ha lú*
      ke=ka king   *te=ta jíng*   *ke=ka lu*   *te=ta rú / te=**tu** rú*
      pe=wa wíng   *pe=wa rú / pe=**pu** rú*

'pull' with vowel alternations (compare with (72))

(75) *Te=inga tang* *te=wí*   ***t-u***   *r-ú*   *tí.*
      3PL=the canoe 3PL=get.F 3PL-PL.'pull' 3PL-release sea
      'They heaved the canoe into the sea.'

'pull' with attempted vowel alternations (translation as (73))

(76) * *Te* *tang* *te=wí*   ***t-u***   *j-íng*   *me*   *báng.*
      3PL canoe 3PL=get.F 3PL-'push' 3PL-'push' PL.return beach
      'They pushed the canoe up onto the beach.'

The different constructions with *lú* thus range from clear object+verb combinations to clear N+V complex predicates. Somewhere in this range we find collocations involving two verbs, such as is seen in the predicate 'pull'. This involves at best a very semantically bleached sense of 'release', and at worst a completely lexicalised use of the verb stem (or one phonologically identical to it) preceded by an otherwise non-occurring verb root, *ha*. It is the 'pull'-type of combination, involving two inflecting verb roots, that is the subject of Section 5. In the following section I shall examine further complexities in the analysis of N+V predicates, in which there appears to be some degree of recategorisation going on, before discussing a set of clearer V+V predicate types in Section 5, where the ambiguity of the whole categorisation is revealed, and a summary of predicate types (distinguished on the basis of inflectional possibilities) is presented.

4. Beyond simply N+V

The predicate 'sleep' might seem to be a classic case of an N+V complex predicate, consisting of an apparent nominal *lú* 'eye' and the uninflecting verb *weng*.[18]

(77)   lú   weng
       'eye' 'sleep'
       'sleep'

(78)   *Rángpang=pa lú   nì=weng.*
       night=INSTR 'eye' 1SG='sleep'
       'At night I sleep.'

Some details of the analysis must be addressed before we can accept this predicate wholesale as an N+V complex predicate. The form *lú* is not found independently meaning 'eye'. The meaning 'eye' is expressed as *lúto*, an etymon which probably employs the *lú* that is under investigation and the same *-to* that is found in *ríto* 'seed', composed of *rí* 'tree, wood' and *-to*, as well as *páto* 'candlenut', *rángto* 'cervical vertebrae, nape'. Despite this, the root *lú* is found in enough compounds, with the sense 'eye', to make the etymology ultimately unproblematic, though it is synchronically covert (this is similar to the situation for *ku* in 3.2 and *làng* in 3.3). For example, nominal compounds such as *lúfo--ngfong* 'eyelid', *lúbi* 'eyebrow, temple', and complex predicates such as those seen in (79) and (81) imply that *lú* is the form assumed by *lúto* in compounds or other complex lexical items; forms such as **lútofongfong* or **lútóbi* are unacceptable.[19]

(79)   *Nì lú   fá-poeng.*
       1SG 'eye' 'FA'-thick[20]
       'I'm sleepy.'

(80)   ** nì lúto fápoeng*

(81)   lú   pong-pong ya   li.
       'eye' closed-RED thing do
       'pray'

(82)   ** lúto pongpong ya li*

Even allowing for the loose etymology of *lú*, further complications very quickly arise. First, the stem for 'sleep', *weng*, is not independently attested, and does not inflect prefixally, making its status as an independent verb hard to confirm. Secondly, the proclitic for the predicate is not positionally fixed, and can appear attached either to *weng* or to *lú*. Since the proclitics are verbal proclitics, this casts doubt both on the verbal status of *weng* and on the unambiguous nominal status of *lú*. Finally, this predicate can optionally show vowel alternations for 3SG.F and 3PL subjects, but the vowel alternations are found on the *lú* element and not with *weng*, and only if the proclitic precedes *lú*. An example of a clause with a vowel alternation on the predicate is shown in (83); the other collocations listed above for *lú* do not show any vowel alternations.

(83) *Ke=ang-leng=fuea*   *te=lé*   *weng tangfà.*
      3SG.NF=unmarried-male=that 3PL=PL.'eye' 'sleep' men's.house
      'The unmarried men sleep in the men's house.'

In (83) the predicate takes a single proclitic that precedes both *lú* and *weng*, and the vowel of *lú* appears fronted (and unrounded) in accordance with vowel alternation conventions for plural arguments (see (14) in Section 2). The two alternative inflectional paradigms for 'sleep' are shown in (84).

Inflection of 'sleep':

(84)	*nì=lú weng*	*ne=lú weng*	or	*lú nì=weng*	*lú ne=weng*
	mè=lú weng	*e=lú weng*		*lú mè=weng*	*lú e=weng*
	ke=lú weng	*te=**lé** weng*		*lú ke=weng*	*lú te=weng*
	*pe=**ló** weng*			*lú pe=weng*	

The vowel suppletion in (84) is evidence that we must regard *lú* as verbal, or at least as part of a complex verbal predicate (this is most certainly true when the proclitic precedes both syllables of the predicate). When the proclitic precedes the second syllable alone we have evidence that *weng* is verbal. Given the lack of other evidence, and the apparent analogies with the examples seen in Section 3, we would probably assume here that the first syllable, *lú*, is the nominal part of an N+V predicate — although, as we shall see below, the assumption that *lú* is a nominal is not easily defended.

(85) a. [PRED clitic=[V *lú weng*]]   b. [PRED [N? *lú*] clitic=[V *weng*]]

Clearly there is ambiguity between the two different constructions. This most likely reflects the fact that the construction has been caught in the process of change, with the structure in (85b) possibly representing the older (original?) form, and (85a) showing the younger, more innovative reanalysis.

From a purely synchronic perspective, however, what we find is simply a construction in which we must acknowledge two separate pieces of predicate material, *lú* and *weng*, which in at least one case ((85a)) appear, inflectionally, to both be part of a single verbal 'complex', showing unambiguously verbal inflection on the first element and nothing separating the two roots.

Since neither *weng* nor the vowel-alternating 'verb' *lú* is attested elsewhere in the language, and since no material can intrude between the first and second syllables of the predicate when it is certain that *lú* is behaving verbally, it is tempting to treat *lúweng* as a single disyllabic stem, with bipartite behaviour. But this does not stand up to closer examination. The fact that the *lú* of *nì=lú weng* 'I sleep' is at least etymologically the same as the *lú* of *lúto* and, more importantly (given the transparency of the relationship between the two paradigms given in (84)), the

same as the *lú* of *lú pe=weng*, is an argument that *lú* is not simply the first syllable of the disyllabic stem for 'sleep', and so *lú weng* cannot be taken as an example of a bipartite stem. The fact that elements of both paradigms in (84) are given, often intertwined, when eliciting or checking the paradigm of 'sleep', and that native speakers assert complete identity of meaning, along with the separability of *lú* and *weng* in *lú pe=weng*, further argues against an analysis that treats *lúweng* as a single stem.

A similar state of affairs is found with the predicate *hue fèng* 'be annoyed at, be sick of, be angry'. This predicate is composed of the two independently attested lexemes *húe* 'stomach' and *fèng* 'bad', noun and adjective respectively. They are shown together in the complex predicate 'be annoyed at' in (86), and independently in (87) and (88).

(86) *Ke   ne=hue   fèng.*
      3SG.NF 1PL=stomach bad
      'We're sick of him.'

(87) *Ánì-nì=ne   húe-pè=pe   bápáli.*
      mother-1SG.GEN=1SG.DAT stomach-3SG.F.GEN=3SG.F big
      'My mother's stomach is large.'
      (ie., she's pregnant)

(88) *Fongtà=ing   ke=bà   fèng,*
      green.tree.lizard=DEIC 3SG.NF=ANIM bad
      te=bà   kóeng ke=jí   i   li.
      3PL=person tooth 3SG.NF=3SG.NF-hit.PL be do
      'Green tree lizards are bad, they bite people.'

It is clear that some degree of lexicalisation has taken place in the formation of the predicate *hue fèng*, since a single LHL tone melody applies over the two lexemes, and the lexical H associated with *húe* 'stomach' is overridden, showing the behaviour expected in compounds. More interesting is the fact that with a 3SG.F subject the first element of the predicate shows vowel alternations, as was seen with *lú weng* when it occurred with a 3SG.F or 3PL subject ((83) and (84)).

(89) *Pe=inga   ke   pe=ho   fèng.*
      3SG.F=the 3SG.NF 3SG.F=F.stomach bad
      'She's sick of him.'

Unlike *lú* in *lú weng*, there is no vowel alternation for a 3PL subject with *hue fèng*. The complete paradigm for *hue fèng* is shown in (90).

Agreement paradigm for 'be annoyed'

(90) *nì=hue fèng*   *ne=hue fèng*
      mè=hue fèng   *e=hue fèng*
      ke=hue fèng   *te=hue fèng*
      *pe=**ho** fèng*

Here we have a somewhat different set of circumstances than those found with *lú weng*. In this predicate both elements are transparently related to independently attested lexemes, and there is never any intrusive material between them. The two stems are clearly phonologically fused in terms of tonal assignment domains, but they still show the characteristics of two separate stems.

The following sections present other, similar, predicates for which the analysis is complex, varying to some degree between an N+V analysis and a complex, bipartite analysis, motivated by the clear possibility of interrupting the forms.

4.1 'N' + (be) do with variable clitic placement.

Numerous additional predicates can be cited which show a variable placement of the proclitic, though the vowel alternations that are so striking in *lú weng* and *hue fèng* are rare. The predicate 'remember', *oeng i li*, is made up of an otherwise unattested word, *oeng*, and the 'auxiliary' verbs *i* 'be, lie down' and *li* 'do'. In this predicate the clitic may either precede the entire predicate, as in (91), or else occur following *oeng*, as in (92). In the 3SG.F and 3PL inflections we find vowel alternations, but only when the clitic precedes the entire predicate, as shown in (93).[21]

(91) *Ke   mè=m-oeng   me   pi   nà?*
      3SG.NF 2SG=2SG-'remember' 2SG.be 2SG.do Y/N
      'Can you remember him?'

(92) *Ke   oeng   mè=me   pi   nà?*
      3SG.NF 'remember' 2SG=2SG.be 2SG.do Y/N
      'Can you remember him?'

      Inflection of 'remember':

(93) *nì=oeng i li*   *ne=oeng ne ti*   *oeng nì=i li*   *oeng ne=ne ti*
      mè=moeng me pi   *e=oeng i li*   *oeng mè=me pi*   *oeng e=i li*
      ke=koeng i li   *te=eng e ti*   *oeng ke=i li*   *oeng te=e ti*
      *pe=**ong** e tue / pe=**plong** e tue*   *oeng pe=e tue*

The fact that there are vowel alternations in the left-hand paradigm of (93) implies a degree of lexicalisation of *oeng* with the two auxiliaries. The fact that the two auxiliaries are transparently the same words found in numerous other predicates makes this combination a less likely candidate for bipartite status than *lú weng*.

With *péngpèng li* 'sneeze', similarly, the fact that *li* 'do, make' is independently attested means that the case for *péngpèng li* being treated as a bipartite stem is weak. The variable placement of the clitic, and the lack of independent occurrence of *péngpèng*, mean that the bipartite analysis cannot be instantly dismissed, but it does not find much support.

Inflection of 'sneeze':

(94) | *nì=péngpèng li* | *ne=péngpèng ti* | or | *péngpèng nì=li* | *péngpèng ne=ti* |
mè=péngpèng pi	*e=péngpèng li*		*péngpèng mè=pi*	*péngpèng e=li*
ke=péngpèng li	*te=péngpèng ti*		*péngpèng ke=li*	*péngpèng te=ti*
pe=péngpèng tue			*péngpèng pe=tue*	

4.2 Nonindependent elements with variable clitic placement

With *è na* 'try' we have a predicate composed of two elements which can be separated by the proclitic, and neither of which is attested either independently or in other constructions. This is a predicate which appears to display bipartite behaviour at least part of the time, as seen in the left-hand paradigm in (95), but which is not completely unambiguous, since the inflectional clitic can intrude between the two elements, as seen in the right-hand side of (95).

Inflection of 'try':

(95) | *nì=è na* | *ne=è na* | or | *è nì=na* | *è ne=na* |
mè=è na	*e=è na*		*è mè=na*	*è e=na*
ke=è na	*te=è na*		*è ke=na*	*è te=na*
pe=è na			*è pe=na*	

The next example, with *ong fa*, is complicated by the fact that *fa* is possibly a free verbal lexeme, 'carry an inanimate object'. In other collocations in which the putative verb *fa* is found it must be marked with the agreement clitic directly, whereas in *ong fa* the agreement clitic can optionally be placed preceding the whole complex, as seen in the contrast between (96) and (97). In this case both elements appear to be predicative, with verb-like behaviour, and neither element is easily assignable to other independently-occurring lexemes.

(96) *Ong   nì=fa   ko   tue   te=Óeti.*
      'deception' 1SG='FA' be.at 3SG.F.do 3PL=Wutung
      'I fooled those Wutungs.'

(97) *Nì=ong   fa   ko   tue   te=Óeti.*
      1SG='deception' 'FA' be.at 3SG.F.do 3PL=Wutung
      'I fooled those Wutungs.'

The inflectional possibilities for *ong fa* are shown in (98), while (99) gives the possibilities for *kúeta fa* 'have a beard'. We can see that *kúeta* never shows verb-like behaviour, in that the proclitic cannot appear to the left of *kúeta*, being only found preceding *fa*. This removes the possibility of an analysis of *fa* as an incorporating verb root such as have been reported in, for instance, Niue (Seiter 1980) or Greenlandic (Sadock 1980). While the origin of the *fa* in *ong fa* is probably the same derivational element *fa* that is found in *kúeta fa*, in *ong fa* a degree of grammaticalisation has taken place, and we are left with an unanalysable complex predicate.

Inflection of 'deceive, lie, cheat':

(98)   *nì=ong fa*   *ne=ong fa*   or   *ong nì=fa*   *ong ne=fa*
      è=ong fa   *e=ong fa*   *ong mè=fa*   *ong e=fa*
      ke=ong fa   *te=ong fa*   *ong ke=fa*   *ong te=fa*
      pe=ong fa   *ong pe=fa*

Inflection of 'have a beard':

(99)   * *nì=kúeta fa*   * *ne=kúeta fa*   *kúeta nì=fa*   *kúeta ne=fa*
     * *è=kúeta fa*   * *e=kúeta fa*   *kúeta mè=fa*   *kúeta e=fa*
     * *ke=kúeta fa*   * *te=kúeta fa*   *kúeta ke=fa*   *kúeta te=fa*
     * *pe=kúeta fa*   *kúeta pe=fa*

4.3 The case of *lú* 'cough'

We face a somewhat different problem with the predicate *lú* 'cough', though the results are similar. With 'cough' there are two coding choices, either as a simple predicate, *lú*, that inflects by clitic but not by prefix, or as a predicate made up of two parts, *lú* and *fi*. The first option is shown in (100), and the second in (101). *Lú* is not attested outside this collocation (unless we wish to associate it with the *lú* of 'eye', or *lú* 'release'), while *fi* might be related to the *fí* that means 'bump into; meet', though this latter lexeme has a high tone, not a low tone. (Analysing *lú* 'cough' as being related to *lú* 'release' is semantically tempting, but since *lú* is the more nominal-like element of *lú fi*, in terms of both position and the inability to inflect by prefix, this analysis is not well supported.)

The evidence of (100) is that we should treat *lú* as an independent verb. The evidence from (101) is that *fi* should be treated as a verb, though it is not clear that it is an independent verb. In (102) we have a predicate that has two elements, *lú* and *fi*, that together take a single proclitic.

(100)   *Pe=lú.*
      3SG.F='cough'
      'She coughed.'

(101)   *Lú   pe=fi.*
        'cough' 3SG.F='cough'
        'She coughed.'

(102)   *Pe=lú   fi.*
        3SG.F='cough' 'cough'
        'She coughed.'

The full paradigms for the three versions of the predicate 'cough' are shown in (101). If only the monosyllabic predicate version appeared we would have no hesitation in declaring that *lú* was a monosyllabic verb root which irregularly did not show agreement by prefix. This would be irregular, but, as we saw in the case of the verb *e* 'board' in (13), not unprecedented.[22] On the other hand, if we were to consider only the variant in which *lú* is combined with *fi* we would want to consider *lú* to be a nominal, and *fi* a verb (regularly non-prefixing, because of its phonological shape). Given that we have both paradigms to analyse, an analysis of *lú fi* as a bipartite stem verb seems to be sustainable.

        Inflectional paradigms for 'cough'
(103)   *nì=lú*   *ne=lú*   or   *lú nì=fi*   *lú ne=fi*   or   *nì=lúfi*   *ne=lúfi*
        mè=lú   *e=lú*   *lú mè=fi*   *lú e=fi*   *mè=lúfi*   *e=lúfi*
        ke=lú   *te=lú*   *lú ke=fi*   *lú te=fi*   *ke=lúfi*   *te=lúfi*
        pe=lú   *lú pe=fi*   *pe=lúfi*

4.4 Cases like *na lu* 'pound'

With the predicate *na lu* 'pound (tubers)', while there is no variability in the placement of the clitic, there does exist a synchronic irregularity that has a diachronic explanation, similar to the preceding cases. In Skou the monosyllable *lu* is not found independently on its own or in any compounds. The monosyllable *na* exists as a noun, meaning 'fruit', but this is not a likely etymology for the *na* of *na lu*, since fruit is not pounded. (*Nà*, with a falling tone, is attested as the lexical item for 'left' (opposite of 'right'), but this is an even less likely etymology for the *na* of *na lu*.) Most relevantly, *na* is not the generic word for taro, the most typical object of a *na lu* action: a popular dish in Skou villages is a loose cake made of pounded taro (and coconut), *lang*. While any tuber can be used, taro is the tuber of choice.[23] The word for taro in Skou is *manúa*; this is unusual, since all the close relatives of Skou show *na* or *hna* for 'taro'.[24] Skou does have the term *nále*, referring specifically to the particular species of taro that produces short, round tubers, but not to taro in general. It is thus very likely that the term *na* was historically the word for 'taro' in Skou as well, but has since become specialised in the compound *nále*.[25] This specialisation probably took place following the borrowing of *manúa* 'taro' from

an unrelated (and so far unidentified) language; the fact that Skou people have extensive social contacts with their linguistically unrelated western and southern neighbours, more so than with their linguistic relatives to the east, means that a non-proto-Skou source for *manúa* is likely, but unproven. At the same time **na* 'taro' is the nominal form used in complex words, including both compounds and complex predicates.

(104) *Nàle-lang*   *pe=na*   *ru.*
      taro-pounded.tuber.dish 3sg.f='pound' 3sg.f-'pound'
      'She pounded taro.'

(105) *Nàle pe=tue.*
      taro 3sg.f=3sg.f.do
      'She pounded taro.'

      Agreement paradigm for 'pound (tubers)'

(106) *nì=na lu*   *ne=na ru*   ** na nì=lu*   ** na ne=ru*
      mè=na pu   *e=na lu*   ** na mè=pu*   ** na e=lu*
      ke=na lu   *te=na ru*   ** na ke=lu*   ** na te=ru*
      pe=na ru   ** na pe=ru*

If we wish to regard *na lu* as being composed of both a noun (the historical root for taro, **na*) and a verb (the otherwise unattested root *lu*), we have to provide an account for the fact that the clitic agreement appears preceding the *na* element.

4.5 The non-N+V cases

Thus far we have seen that a large number of predicates initially appear to be instances of the N+V predicates seen in Section 3, but show, to varying degrees and in varying ways, evidence of being complex verbal predicates.

Even with the verb *ká* 'hit', introduced in Section 3 as the verbal component of a clearly N+V predicate, we can find some 'murky', intermediate cases, in which the putative nominal is not independently attested, and a bipartite analysis is tempting. In (107) the word *ráue* is clearly separate from the verbal stem *ká*, and is not attested anywhere else. To assume that it is a nominal is simply to assume an N+V analysis of the predicate without any evidence of the N status of *ráue*. It might be that, as in the case of *na* in *na lu*, there was historically a root **ráue* which is now no longer attested as a free nominal in the language. This is, however, pure speculation, not analysis, and is unsupported by any contemporary language facts. Since we do not know of any convenient cognates for *ráue* in related languages, all we can do is note the possibility (and cross-linguistic semantic plausibility) of an N+V analysis; but we must also note that the construction could equally be a bipartite

stem, in which the second element, *ká*, has grammaticised from an extension of the (regular, and elsewhere attested) verb *ká* 'hit' (see (11) for the full agreement paradigm of *ká*).

(107) *Ku   ke   nì   **ráue**   ke=**ká**   i   li.*
      child 3SG.NF.ERG 1SG 'laughter' 3SG.NF=hit be do
      'The child laughed at me.'

With 'accuse', *hèng ká*, in (108) we have perhaps a better case for the nominal status of *hèng*. In Skou itself we have the verb *héng* 'ask', which is semantically, if not morphosyntactically, plausible as a source for, or at least a relative of, *hèng*.[26] Alternatively, looking further afield, the root **(k)ɛ̄du* 'hand', attested in Nyao and Wutung, might provide a possible cognate, though perhaps more likely is *-hɛŋgɛ*, attested in Puare *nɛhɛŋgɛ* 'eye'. If a previous stage of Skou had this lexeme (neither the lexeme itself nor any likely reflexes of it are attested in the modern language, barring the putative reflex in *hèng*), then 'eye+hit' might well be a plausible combination making up accuse.[27]

(108) *Ke   hang   **hèng**   ke=**ká**   i   li.*
      3SG.NF coconut 'accusation' 3SG.NF=hit be do
      'He made accusations concerning (his) coconuts.'

If we accept this historical scenario, positing an even greater time depth than that required for *na* in *na lu*, then we can declare *hèng ká* to be an N+V complex predicate. But synchronically this analysis is extremely arbitrary, and, given the complete lack of contact between Skou speakers and Puare speakers, very unlikely to represent any degree of psychological reality. The most realistic analysis must posit *hèng ká* as a bipartite stem, though admittedly one in which there is a synchronic relationship between the second element and the independent verb stem *ká* (a relationship that is recognised, or at least suggested, by speakers themselves).

   We have seen that split-stem predicates in Skou are anything but simple, and that those cases which can be loosely categorised as being N+V complex predicates show varying degrees of 'bipartite' behaviour. In Section 5 I shall examine evidence from a morphologically different kind of predicate which is unabashedly bipartite, and yet which, paradoxically, calls into question the categorisation of stems as 'bipartite' and 'non-bipartite'. The section concludes with a comparison of these results with those of the preceding three sections, yielding an integrated view of Skou verbal predicate types.

5.   Complex, bipartite

Some predicates are undeniably bipartite stems, in the sense that both elements in the predicate are non-nominal and neither is attested elsewhere. An example of this can be seen in the predicate 'count', shown in (109). The predicate consists of two components, *há* and *hi*, neither of which is found independently elsewhere.

(109)   *Te=angku=inga móe te=y-á   y-i   e   ti.*
        3PL=child=the fish 3PL=3PL-'count' 3PL-'count' 3PL.be 3PL.do
        'The children are counting the fish.'

Here both predicate elements are inflected by prefix, with the whole taking a proclitic; the full paradigm is shown in (110). It is not plausible to suppose that either element is a nominal, since both show verblike behaviour in their inflection.

        Inflection of 'count':
(110)   *nì=há hi   ne=ná ni*
        mè=má mi   e=há hi
        ke=ká ki   te=yá yi
        pe=wá wi

Possible etyma for *há* (based on phonological matches) include 'nose' and the verbs 'stand up', 'pound, beat' and 'be from'. 'Nose' is unlikely to be relevant to the etymology of the inflecting verb; noses are not used in counting by Skou speakers. Of the verbs the first, 'stand up', has a *t-* for third person plural, and so belongs to the wrong conjugation for 'count', which clearly is in the *y-* conjugation. Of the remaining two verbs 'pound, beat' is plausible, but unconfirmed, as a source for the first inflecting element. For the second element, *hi*, the only independent roots that match the phonology are 'faeces' and 'go westwards'. 'Faeces' is not likely to be the source of the verb, and 'go westwards' does not inflect by prefix in the 3PL (a lexical irregularity), and so does not match the second element in 'count'.

        Inflection of 'stand up':   'beat' / 'be from':   'go westwards':
(111)   *nì=há   ne=ná*   *nì=há   ne=ná*   *nì=hi   ne=ni*
        mè=má   e=há   *mè=má   e=há*   *mè=mi   e=hi*
        *ke=ká   te=**tá***   *ke=ká   te=yá*   *ke=ki   te=**hi***
        pe=wá   *pe=wá*   *pe=wi*

Accepting, then, that the two syllables of *háhi* are not attested elsewhere, and certainly not with the meaning 'count' collectively found in *háhi*, we should consider a serial verb analysis. If the two verb roots had become lexicalised as a serial verb construction specialised with the meaning 'count', then the inflection on both syllables would not be surprising. This analysis, however, will not account for the facts of proclitic placement. Recall from Section 2 that aspectual reduplication is

usually found on the first verb in a serial verb construction, may also be found on the last verb in the construction, and also has the possibility of appearing on both the first and the last verb.

Predictions for the realisation of reduplication on 'count' (shown in 3PL inflection)

		If serial verb construction:	If single (bipartite) stem:
(112)	First element:	√, *te=yá-yá yi*	*
	Last element:	√, *te=yá yi-yi*	√, *te=yáyi-yi*
	First and last:	√, *te=yá-yá yi-yi*	*

The fact that the only reduplication that is allowed with *háhi* involves reduplication of the second syllable implies that the predicate is not a serial verb construction, but rather a single bipartite stem (see (34)–(36) for an example of the behaviour of reduplication in a lexicalised serial verb construction, and (25)–(28) for examples of reduplication on a simple monosyllabic verb).[28]

The possibilities for pronominal clitic placement in *háhi* represent another area in which it does not behave like a serial verb construction. Recall from Section 2 that while proclitics are normally found on the leftmost verb in a construction, they may also spread rightwards. This is not possible in a clause headed with *háhi*, as can be seen in (113).

Predictions for the positioning of proclitics on 'count' (shown in 3PL inflection)

		If serial verb construction:	If single (bipartite) stem:
(113)	First element:	√, *te=yá yi*	√, *te=yáyi*
	First and second:	√, *te=yá te=yi*	*
	Second element:	*	*

Again, the fact that proclitics can only be found attached to the first syllable, as predicted under the bipartite stem analysis, and not the first and the second syllable, implies that we are not dealing with a serial verb construction.

Other predicates that show similar behaviour to that of *háhi* 'count' are not hard to find. (114) shows the inflectional paradigms of *lélúe* 'annoy' and *lohí* 'hit with hand', to which we could also add *ha híng* 'push' and *ha lú* 'pull', seen earlier in 3.3. In all cases we have prefixal inflection on both syllables, and a single clitic to the left of the two stem elements.

	Inflection of 'annoy'		'hit with hand'	
(114)	*nì=lélúe*	*ne=térúe*	*nì=lohí*	*ne=roní*
	mè=pépúe	*e=lélúe*	*mè=pomí*	*e=lohí*
	ke=lélúe	*te=térí*	*ke=lokí*	*te=rojí*
	pe=tóerúe		*pe=wowí*	

5.1 Complex, bipartite?

There is another set of predicates, well-illustrated by *nalùng* 'teach', for which we can make a good case for bipartite behaviour. A sentence illustrating the use of this predicate, and the complete paradigm for this verb, can be seen in (115) and (116).

(115) *Nì   te=Óeti   pí-te   nì=na   lùng.*
      1SG 3PL=Wutung language-3PL.GEN 1SG='teaching' 'teach'
      'I teach the Wutung language.'

      Inflection of 'teach':
(116) *nì=nalùng   ne=narùng*
      mè=napùng   e=nalùng
      ke=narùng   te=narùng
      pe=narùng

With 'teach' we have a predicate with:

– two stem-like elements, *na* and *lùng*;
– prefixal agreement only on the second element;
– no possibility of inflectional proclitics intruding between the two elements: proclisis applies only to the predicate as a whole, not to the individual parts: *te=narùng*, and not **te=na te=rùng* or **na te=rùng* 'they teach';
– the two elements not being independently attested elsewhere;
– aspectual reduplication limited to the second syllable, not the first: *te=na rúng-rùng*, **te=na-na rùng* 'they will teach'.

This meets all the criteria for classification as a bipartite stem, and not an N+V complex predicate or a serial verb construction, as outlined at the beginning of Section 5. The only difference between this example and the examples such as *há hi* 'count' presented in the preceding section involves the fact that with 'count' we have prefixal inflection on both syllables of the predicate, making them both appear to be verb stems. Other predicates showing the same sort inflectional pattern as 'teach' are easy to find, and some examples are given in (117). In both *nà hi* 'hate' and *kalèng* 'look for' the first syllable of the predicate is invariant; with 'hate' we would not expect to observe any prefixes on a nasal-initial stem, but with the *k* of *kalèng* some prefixation would be possible (compare with the inflection for *ká* 'hit' in (11)). Nonetheless, the first syllable is invariant, while the second syllable shows regular prefixal agreement, and the whole disyllabic complex takes a single agreement clitic.

(117)

	Inflection of 'hate':		'look for':	
	nì=nàhi	*ne=nàni*	*nì=kalèng*	*ne=karèng*
	mè=nàmi	*e=nàhi*	*mè=kapèng*	*e=kalèng*
	ke=nàki	*te=nàji*	*ke=kalèng*	*te=karèng*
	pe=nàwi		*pe=kawèng*	

5.2 The floodgates…

If we accept predicates such as *nalùng*, *nàhi* and *kalèng* as being bipartite stems, despite there being no variation in the forms and no prefixal agreement on the first element, it becomes very difficult to exclude the sorts of predicates shown in (118) from a bipartite analysis as well. Here we have what might be thought of as disyllabic verb stems; in each case the first syllable shows prefixal agreement, while the second syllable is of a phonological shape that makes it ineligible for prefixation. The agreement clitic occurs preceding the first syllable. Each of these roots shows exactly the sort of behaviour that we would expect from a disyllabic verb in the language: prefixation, and proclisis, apply to the left edge of the stem. Equally, however, they show exactly the sort of behaviour that we would expect if these roots were complex bipartite stems of the sort seen in *háhi* 'count', *nalùng* 'teach', *nàhi* 'hate' and *kalèng* 'look for': the only difference between the inflection of 'run' and 'count' is in the phonological shape of the second syllable, whereby the second syllable of 'run' is phonologically ineligible for prefixation. Phonological shape alone should not be sufficient to require a completely different analysis of stem structure, yet this is what it would mean to analyse the predicates in (118) as disyllabic verb roots.

(118)

	'run':		'wear a hat':		'cross, exceed, aggravate':	
	nì=hatà	*ne=natà*	*nì=kepu*	*ne=kepu*	*nì=lúefa*	*ne=rúefa*
	mè=matà	*e=hatà*	*mè=bepu*	*e=kepu*	*mè=púefa*	*e=lúefa*
	ke=katà	*te=tatà*	*ke=kepu*	*te=kepu*	*ke=lúefa*	*te=rífa*
	pe=watà		*pe=wepu*		*pe=rúfa*	

And if some disyllabic predicates are taken to really represent bipartite stems, with the difference between forms such as *lúefa* and *háhi* being only one of the second stem taking prefixation or not (and in all the cases shown here that would be a regular consequence of the phonological shape of the root), then we have no principled reason not to consider the following predicates as also being bipartite. They differ from the 'count'-type predicates in that, in (119), there is no prefixal inflection on either of the syllables. The case for a simple disyllabic verb stem analysis is at least as strong here as for the predicates in (118), but there is still no principled

reason to exclude these stems from a bipartite analysis, apart from the complete lack of any bipartite behaviour.

(119)   *bangtue*   'break'
      bìue   'look out for'
      fátí   'lay down (someone) to sleep'
      jíngpa   'fly'
      léngho   'be surprised, be amazed'
      lítì   'shake (as waves shake a boat)'
      rapu   'rub'

Given the phonological corner we have been backed into, it is clear that a simple 'bipartite' versus 'non-bipartite' dichotomy is impossible to maintain in any principled fashion. The language data that we are trying to account for, and classify, are more complex than that. I shall return to the question of how the label 'bipartite' helps or hinders an exposition of Skou verb types in Section 7.

5.3   An historical aside

In addition to these segmentally divisible predicates, we can identify at least one predicate, *lì* 'be angry', that is composed of the light verb *li* 'do' and (I suggest) the suprasegmental remainder of another, still current, predicate. Examining the data from a purely synchronic perspective, the analysis is unproblematic: we could simply describe the predicate as being unrelated to the verb *li* 'do'. However, with the knowledge we have from the comparative picture we are forced to consider it to be an instance of a predicate with an etymologically bipartite-like stem.

Compare the following two ways of expressing the predicate 'He is angry.'

      Angry: 'nominal predicate' (see Section 4)
(120)   *Ke*   *hue*   *fèng.*
      3SG.NF stomach bad
      'He's angry.'

      Angry: verbal predicate
(121)   *Ke*   *ke=lì.*
      3SG.NF 3SG.NF=angry
      'He's angry.'

In the verbal predicate version shown in (121) the verb inflects according to a slightly irregular version of the alveolar paradigm, with exactly the same consonant and vowel alternations that are found with the verb 'do'. Compare the paradigm of the verb 'angry' with that of the verb *li* 'do' in (122), and with a regular alveolar verb such as *lú* 'release' in (11) and throughout 3.3.

Inflection of 'be angry':   'do' (= (63))

(122) *nì=lì*   *ne=tì*   *nì=li*   *ne=ti*

       mè=pì   *e=lì*   *mè=pi*   *e=li*

       ke=lì   *te=tì*   *ke=li*   *te=ti*

       pe=tùe   *pe=tue*

It is quite clear that in all ways the verb for 'angry' is segmentally identical to the verb 'do', in all its (regular and irregular) inflectional variants, although tonally it differs in bearing a falling pitch, indicating an underlying HL tone melody. The more-than-chance resemblances in structure are most likely the result of the reinterpretation of a construction similar to the following one from Nyao, the related language found immediately to the east of Skou, in which the corresponding predicate involves an N+V construction composed of the verb *rɛ* 'do' (cognate with the Skou form through regular correspondences — Donohue 2002) and the adjective *fing* 'bad', also cognate with the Skou form.

Nyao

(123) *Kɛ   fing rɛ.*

   3SG.NF bad do

      'He's angry.'

Direct morpheme translations of this sentence can be found in many other languages related to Skou and Nyao. In Skou a sentence formed with the same morphemes would have the following form (though this is not attested in modern Skou, hence the *).[29]

putative pre-Skou: Stage I

(124) **Ke   fèng (ke=)li.*

      3SG.NF bad   3SG.NF=do

      'He's angry.'

The analysis proposed for the attested verbal form seen in (121) is that clauses such as (124) were at a later stage reanalysed with the adjunct nominal and the verb forming a single unit, as in (125).

putative pre-Skou: Stage II

(125) **Ke   (ke=)fèng   li.*

      3SG.NF 3SG.NF=bad do

      'He's angry.'

Following this stage, both of the segments associated with *fèng* (= [fɛ̃]) 'bad' were lost, leaving only the HL tone to be borne by what had been the tone-bearing unit of the verb 'do', as shown in (126). This results in an altered inflecting verb, as in (122). Now the tone that had been associated with the adjunct nominal overwrites the original low-pitch melody associated by default with the light verb *li*.

(126)

f	ɛ̃		l	i		f	ɛ̃	l	i		l	i

\\/ + \\/ → ˙\\˙ \\/ → \\/

σ σ σ σ σ

∧ ∧

H L HL H L

[Ѵ] [ʃ] [Ѵ]

'bad' 'do' 'angry'
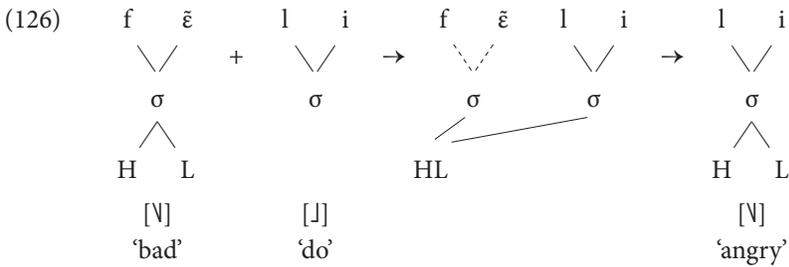
This model accounts for one way in which the verbal lexicon of Skou has been expanding since pre-Skou days (assuming that the verb root-poor status of Skou's eastern relatives such as Dusur and Dumo (Laycock 1975, Ross 1980) represents the proto-Skou state of affairs), and for why there are so many near-homonyms in the verbal lexicon involving *li* 'do'. These newly minted words are differentiated from the presumed older, and semantically broader, segmentally homophonous verb *li* 'do' either by tone or by an irregular inflection in one or more cells of the agreement paradigm, with the tone being acquired from a previously present adjunct nominal, or the deviant inflectional paradigm being a speaker-innovated esoterogenic feature initiated in response to the sociolinguistic environment.

5.4 A summary of Skou inflectional patterns

We have seen a variety of different patterns for agreement in Skou, which defy a simple classification into 'bipartite' and 'simplex', even if we exclude the clear (and less clear) N+V predicates.

The different predicate types, as determined by inflectional morphosyntax (but ignoring vowel alternation), are summarised in Table 1. Here A= represents the location of proclitic agreement, a- represents the position of prefixal agreement, and X and Y represent the (putative) two different elements of the predicate; subtypes X*n* and X**n* represent an X that is found synchronically as a nominal in the language, or diachronically in an earlier reconstructible stage of the language, respectively. The sub-types shown as a.-d. are characterised by the obligatory proclitic agreement marker preceding the first element of the predicate; in all cases these predicates are further characterised by the fact that neither element of the predicate can be traced to another contemporary nominal or verbal root. The predicate sub-types grouped together as e.-h. represent predicate types in which the proclitic agreement is attached to the second element in the predicate. There are no instances of prefixal agreement on the first element when the clitic shows this distribution, as shown by the ungrammaticality of both the g. and h. variants. On the other hand there is more than one variant of the sub-type with prefixal agreement on the second element (the e. type), depending on the identifiability of

the X element in the construction as a nominal, as a semantically opaque nominal, or as what is diachronically, but not synchronically, reconstructible as a nominal. The sub-types shown in i. and j. represent those lexemes that show variable positioning of the clitic, and 'cough' in k. shows the different morphosyntactic possibilities afforded to this predicate. All the predicates presented in Section 4 match one of these types i.-k.; moreover, the generalisation from the e.-h. group, that proclitic agreement on the second element is not compatible with prefixal agreement on the first, is shown to be dynamically productive in the patterns found for *oeng i li* 'remember'.

The sub-type in l. represents the case of 'angry', which (as remarked) might historically have involved the collapse of two distinct monosyllabic words into a single monosyllabic predicate. Finally, the common, simple monosyllabic verbal predicates which we saw in Section 2 as exemplification of basic verbal morphosyntax have been added in m. for completeness.

Table 1. Structurally distinct types of predicates in Skou

a.		A=	a-X		a-Y	*há hi*	'count'	5
b.		A=	X		a-Y	*na lùng*	'teach'	5.1
		A=	X*n		a-Y	*na lu*	'pound'	4.4
c.		A=	a-X		Y	*ha tà*	'run'	5.2
d.		A=	X		Y	*jíng pa*	'fly'	5.2
e.			X	A=	a-Y	*pìng lú*	'shoot'	3.3
			Xn	A=	a-Y	*kóeng ká*	'bite'	3
			X*n	A=	a-Y	*ku li*	'give birth'	3.2
f.			X	A=	Y	*hò pi*	'tie roofing'	3.1
g.	*		a-X	A=	Y			
h.	*		a-X	A=	a-Y			
i.			X	A=	Y	*lú weng*	'sleep'	4
	or	A=	X		Y			
j.			X	A=	a-Y	*oeng i li*	'remember'	4.1
	or	A=	a-X		Y			
k.		A=	X			*lú*	'cough'	4.3
	or		X	A=	Y	*lú fi*		
	or	A=	X		Y			
l.		A=	X/Y			*lì*	'be angry'	5.3
m.		A=	a-X			*ha*	'walk'	2
		A=	X			*fue*	'see'	2

As noted earlier, there are some predicates which do not inflect with prefixes, but do show vowel alternations; *lú weng* 'sleep' from Section 4 is one of these. Table 1 does not indicate such vowel alternations. Note, however, that in keeping with the just-made observation about prefixal agreement, agreement by vowel alternation on the first element of a complex predicate is found only if the proclitic precedes it. The pattern of *lú weng* with the proclitic preceding both predicative elements would be classified somewhere in between c. and d. in the table if it were not listed as a separate type.

There are, of course, further complexities in the inflection of some predicates, all of which appear to be fully lexicalised exceptions, but which lie outside the bounds of what we have seen in the discussion up to now.

The predicate *hi ta lúe* 'stop (TR)' consists of three syllables, with the first and the last inflecting by prefix, and a single proclitic at the start of the complex. A breakdown of the three syllables into component verbs is possible. We have already examined phonologically plausible sources for the syllable *hi* in Section 5, when discussing *há hi* 'count', and there are no other plausible candidates for the syllable in this collocation. *Ta* is possibly related to the *ta* in *wí ta fí* 'discard'.[30] *Lúe* finds no ready correspondent.

Inflection of 'stop (TR)':
(127)   nì=hi ta lúe   ne=ni ta rúe
        mè=mi ta púe   e=hi ta lúe
        ke=ki ta lúe   te=yi ta rí
        pe=wi ta rú

Examining the predicate *a wa li e* 'raise, nurture', we can clearly decompose the stem into four elements, three of which (all but *wa*) show alternations consistent with prefixal agreement marking. The inflection for this predicate is shown in (128).

Inflection of 'raise, nurture':
(128)   nì=a wa li e   ne=na wa ti ne
        mè=ma wa pi me   e=a wa li e
        ke=ka wa li i   te=tu wa ti e
        pe=pu wa tue e

Attempting to find lexical matches for the different syllables of this predicate is a matter of close, but not sufficient, matches in three out of four cases (see (129)). The second-to-last syllable is in each case a perfect match for what we would expect for *li* 'do' in each inflectional cell (recall (63)). The first syllable is phonologically similar to *á* 'carry', and this is a semantically plausible element to be included in a predicate meaning 'raise, nurture'. The match is not complete: 'carry' bears a

high tone, which is not true of the first syllable of 'raise'. Furthermore, the inflection of 'carry' allows for a *k-* in the 1SG, which is not possible for the 1SG of 'raise'. The otherwise very close matches, including the irregular vowel alternation for the 3PL cell in the paradigm (*tu*), make it extremely likely that there is a historical connection between 'carry' and 'raise', but synchronically we must acknowledge that 'carry' does not match the first syllable of the 'raise' predicate. The second syllable (*wa*) is invariant, in that it does not take prefixal agreement, and is close in form and inflection to *wá* 'plant'. Again, however, 'plant' has a different tone from the syllable in 'raise'. The third syllable is, as has been discussed, identical to *li* 'do'. The last syllable is very similar to the verb *e* 'be, lie down', but shows a slightly different inflection in some parts of the paradigm, namely the 1SG and 2PL cells, where 'be, lie down' presents *i*, contrasting with *e* in the same cells in (128). As with 'carry', it is tempting to see a connection, and to posit that some degree of grammaticalisation has occurred which links the free verb *e* 'be, lie down' and the last syllable *e* of 'raise'. In attempting to analyse this verb, we might reasonably suppose there to be three elements in 'raise, nurture', dividing the four syllables as either *awa li e* or *a wali e*. The first of these options is perhaps plausible as an N+V complex predicate, stipulating that *awa* is a nominal and that *e* is part of the predicate. The second 'tripartite' analysis, *a wali e*, is no improvement on the four-stem analysis, requiring a complex (and elsewhere unattested) stem *wali* which inflects in the same manner as predicates like 'teach' (5.1), plus two other inflecting stems.

   Note that we cannot interpret the 'do' and the almost-'be' at the end of 'raise' as being aspectual markers (a sequence of 'be' + 'do' is used aspectually with unreduplicated verbs to indicate a continuous event). First, the elements in 'raise' are in the wrong order ('do' + 'be'); and secondly, the predicate *a wa li e* is compatible with its own separate aspectual marking, as seen in (131).

(129)

Inflection of 'carry':		'plant'		'be, lie down'	
nì=á or *nì=ká*	*ne=ná*	*nì=wá*	*ne=wá*	*nì=i*	*ne=ne*
mè=má	*e=á*	*mè=wá*	*e=wá*	*mè=me*	*e=i*
ke=ká	*te=tú*	*ke=wá*	*te=wá*	*ke=i*	*te=e*
pe=pú		*pe=wá*		*pe=e*	

(130) *Pále=fuea*
 pig=that

 pe=p-u   *wa*   *tue*   *e.*
 3SG.F=3SG.F-F.'raise/carry' 'raise/plant' 3SG.F.'raise/do' 3SG.F.'raise/be'
 'She's raising that pig.'

(131) *Pále=fuea pe=pu wa tue e e*   *tue.*
                         3SG.F.be 3SG.F.do
 'She is raising that pig.'

In summary, we have seen that, while there are some clearly unproblematical single-stem verbs in Skou (shown as sub-type m. in Table 1), and some clearly multi-stem verbs, shown as types a. and b. in Table 1 (and including the more complex examples shown here in (127) and (128)), there is also a vast middle ground. Given that the appearance of pronominal agreement is to a large extent phonologically restricted, we have a large number of verbal predicates which are two syllables long and which we would not expect to show inflection on the second syllable (or, in some cases, on the first). The number of such non-initial syllables whose phonological shape precludes prefixation is much greater than would be predicted on the basis of the overall proportion of monosyllabic verbal predicates that do not take prefixation. Recall from Section 2 that approximately 85% of all verbs DO show prefixal agreement. Given this, the fact that over 50% of the disyllabic predicates seen in Section 5, i.e. ten out of sixteen predicate forms (cited in (109)/ (110), (114), (115)/(116), (117), (118) and (119)), do NOT show prefixal agreement on the second syllable is striking. It is certainly indicative, if further support was needed, that these predicates are not likely to simply be collocations of two (phonologically random) verbs in a lexicalised serial verb construction. Whether this makes it more, or less, reasonable that verbs of the form seen in (118) and (119) should in fact be analysed as bipartite stem verbs is not clear, and I shall return to this issue in Section 7.

The following section presents data from a selection of related and unrelated languages in the same geographical area as Skou, showing that there are elements of bipartite-like behaviour in many of these languages. This suggests that North Central New Guinea is an ancient 'hotbed' for what might be called 'bipartite stem' activity.

6. Related patterns in nearby languages

In this section I shall mention briefly some patterns from related and geographically proximate languages that might be taken as representing bipartite stems, or complications on such a pattern, establishing this behaviour as typical not simply of the Greater Skou family to which Skou belongs, but of a pan-genetic linguistic area in North-central New Guinea.

The relationship of Skou to the other languages described here is shown in Figure 1 (adapted from Donohue 2002). I'saka is the most distantly related of the languages, while Puare, Barupu and Skou represent first-order branchings within their respective sub-groups. Data on I'saka comes from Donohue and San Roque (2004); Barupu data is drawn from Donohue (2003c) and my own fieldnotes; Puare data is taken from my own fieldnotes. The languages are arranged geographically

from Skou in the west to Barupu in the east along the north coast of New Guinea; I'saka lies inland, south and east of the town of Vanimo, east of Skou and west of Puare.
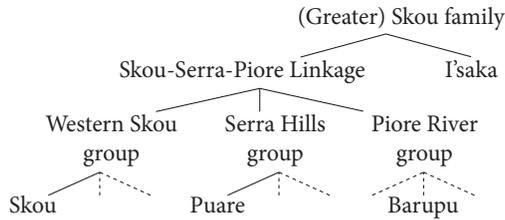
```
                        (Greater) Skou family
                       /                    \
        Skou-Serra-Piore Linkage           I'saka
         /          |          \
  Western Skou   Serra Hills   Piore River
     group         group         group
    /    ⋮        /    ⋮        ⋮    \
  Skou          Puare            Barupu
```

Figure 1. The Skou family languages

The general theme of predicate complexity, heading towards bipartiteness, is common in languages of this family, but the trend does not continue so robustly beyond its genetic borders. I present data from the three languages cited in Figure 1, as well as from One, a Torricelli language spoken in the plains and mountains to the south of the Piore River group (data from my own fieldnotes and Sikale et al. (nd/2005)).

6.1 Barupu

Barupu is the easternmost relative of Skou, spoken south of Sissano lagoon; the details of the language's inflectional system are presented in Donohue (2003c). The domain that is of interest here concerns those verbs that were described as inflecting by infix in Donohue (2003c), and which are exemplified in the third and fourth columns of (132). The verb *yara* 'see' serves as a control, showing regular prefixal inflection, and 'sleep' shows double agreement by both a form of prefix and suffix (the suffixal set is used elsewhere to encode objects). (All the verbs are given in realis mood, marked by the prefix *k-*.) With 'vomit' and 'ascend' we can see patterns that require either an infixation analysis or a bipartite stem analysis, as well as prefixal agreement. The final verb shown here, 'eat', inflects jointly with both the 'reduced' prefix set seen in 'ascend', and the 'infixal' set found in 'vomit'. The catch is that this analysis will only work for 'eat' if we assume the first part of the stem to be phonologically null: *-Ø -a.*[31] This is necessary whether we adopt the bipartite analysis or an infixal analysis.

(132)

Subject:	simple	circumfixal	simple, infixal	reduced, infixal	complex
1SG.M	*k-ana-yara*	*k-ana-vovo-na*	*k-ana-kua<n>u*	*k-a-ko<n>i*	*k-a-n-a*
1SG.F	*k-en-yara*	*k-en-bovo-ni*	*k-en-kua<n>u*	*k-e-ko<n>i*	*k-e-n-a*
2SG.M	*k-ama-yara*	*k-ama-vovo-ma*	*k-ama-kua<m>u*	*k-a-ko<m>i*	*k-a-m-a*
2SG.F	*k-on-yara*	*k-om-bovo-mu*	*k-om-kua<m>u*	*k-o-ko<m>i*	*k-o-m-a*
3SG.M	*k-a-yara*	*k-a-vovo-a*	*k-a-kua<r>u*	*k-a-ko<>i*	*k-a-r-a*
3SG.F	*k-o-yara*	*k-o-vovo*	*k-o-kua<r>u*	*k-o-ko<>i*	*k-o-r-a*
1DU	*k-epi-yara*	*k-epi-vovo-pi*	*k-epi-kua<p>u*	*k-epi-ko<p>i*	*k-epi-p-a*
1PL	*k-emi-yara*	*k-emi-vovo-mi*	*k-emi-kua<m>u*	*k-e-ko<m>i*	*k-e-m-a*
2PL.M	*k-opu-yara*	*k-opu-vovo-pu*	*k-opu-kua<p>u*	*k-o-ko<p>i*	*k-o-p-a*
2PL.F	*k-eve-yara*	*k-eve-vovo-ve*	*k-eve-kua<r>u*	*k-eve-ko<r>i*	*k-eve-r-a*
3PL.M	*k-e-yara*	*k-e-vovo-i*	*k-e-kua<p>u*	*k-e-ko<p>i*	*k-e-p-a*
3PL.F	*k-ere-yara*	*k-ere-vovo-re*	*k-ere-kua<r>u*	*k-ere-ko<r>i*	*k-ere-r-a*
Verb root:	*-yara*	*-vovo*	*-kua -u*	*-ko -i*	*-Ø -a*
	'see'	'sleep'	'vomit'	'ascend'	'eat'

Comparing these Barupu agreement patterns with the Skou data we can see strong resemblances in function between the long, often disyllabic prefixes of Barupu and the proclitic agreement markers of Skou, in that these are the only 'essential' elements of the inflection.

The possibly bipartite candidates in Barupu are those predicates that are labelled in (132) as involving infixal or complex inflectional behaviour. Taking 'vomit' as an example, we could analyse this predicate as involving a bipartite stem, the first component being *kua* and the second *u*. The first component inflects with the full prefixes seen with verbs like *yara* in (132), as well as *vovo* and a number of other intransitive verbs. The second component does not take this full prefix set, but a set of 'reduced' monoconsonantal prefixes.[32] There is in fact independent evidence that supports the idea that such monoconsonantal agreement is more 'basic' in Barupu. This evidence involves the subject inflection on applicatives. Compare (133) and (134). In (133) the simple intransitive verb *ute* 'walk' inflects by means of the full prefixes. In (134) the same verb stem appears, now suffixed with an applicative. As with most applicatives in Barupu, subject (as well as object) agreement must appear on the applicative itself as well as on the root of the complex verb stem, but on the applicative stem it appears in the form of a single consonant. It is not grammatical for *i-mu* to take a full *en-* prefix, as shown in (135).

(133) *K-en-ute.*
       R-1SG.F-walk
       'I walked.'

(134)   *K-en-ute-n-i-mu.*
        R-1SG.F-walk-1SG-APPL-2SG.F
        'I walked towards you.'

(135)   **K-en-ute-en-i-mu.*
        R-1SG.F-walk-1SG.F-APPL-2SG.F

It would not be too much to suppose that the full syllabic agreement affixes as in (133) occupy a higher position in the verbal template, taking scope over all the rest of the stem and its inflections, and that the monoconsonantal affixes are found closer to the verb (or applicative) root (thus Donohue 2003c). Under this analysis the more complex full inflectional prefixes, as in 'see' in (132), are assumed to be the result of the incorporation into the verb root of a suffixally-inflected mood-marking auxiliary. This analysis results in 'basic' short forms for the agreements affixes that show much greater cognacy with those found in the other Greater Skou languages than do the full prefixes.

The analysis of the 'reduced, infixal' forms is similar to that of the 'simple, in-fixal' forms: there are two predicate elements, *ko* and *i* in the case of 'ascend' shown here, with the second element inflecting by means of a single consonant, while here the first element inflects by means of (usually) a single vowel.

The complex inflection found with a verb like 'eat' is also amenable to a bipar-tite analysis. These verbs inflect by means of both the single vowel prefixes and the monoconsonantal prefixes that were seen in the 'reduced, infixal' predicates, with the complication that the first predicative element is null. This would mean that the stem for 'eat' is *-Ø-a*. This analysis is abstract, but is certainly no more complex than one that posits a single stem element with double, distinct, prefixation.

6.2 Puare

Puare (locally [bəˈkʷaɬa]) is found at the geographic centre of the Skou family, being a first-order branching from the Serra Hills group spoken east of Vanimo. Verbs inflect by prefix and optionally by a fully pronominal proclitic, with differ-ent conditions on the appearance of the proclitic than in Skou.[33] The case for the existence of widespread bipartite stem behaviour in Puare is stronger than in Skou (to the west), but possibly weaker than in Barupu (to the east).

Verbal inflection can be straightforward, as seen in the vowel-initial verb *e* 'want' in (136); *t*-initial verbs show very similar behaviour, constrained somewhat by conditions on complex onsets (shown with 'fry'). In both 'want' and 'fry' we see prefixation of the inflectional material, whereas in 'fall' we see infixal behav-iour. The position of the affix is phonologically predictable: verbs consisting of more than one syllable almost always appear separated into two parts by inflection

(though see 'run' in (167)), while monosyllabic stems are separated into a C and a V if the onset is *s* or *r*, and are contiguous (displaying prefixation on the CV root) if the onset is *t* or if there is no consonantal onset. Stems beginning with the retroflex lateral (*ɭ*) show infixation if the following vowel is *i* or *e*, and prefixation otherwise, as seen in the second component of the predicate *ɭa a* 'come' (see also (167)).[34]

(136)	Subject:	vocalic₁	alveolar-*t*	alveolar-*r*	alveolar-*s*	retroflex-*ɭ*	vocalic₂
	1SG	*ne*	*nti*	*rni*	*saene*	*ŋɖana*	*anoko*
	2SG.M	*me*	*mti*	*rmi*	*saeme*	*ɭama*	*amoko*
	2SG.F	*me*	*mti*	*rmi*	*saemi*	*ɭama*	*amoko*
	3SG.M	*ye*	*ti*	*ryi*	*se*	*ɭa*	*ayoko*
	3SG.F	*ye*	*ti*	*ryi*	*se*	*ɭa*	*oyoko*
	1DU	*he*	*hti*	*rihi ro*	*saehae*	*ɭaha*	*hoko*
	3DU	*he*	*hti*	*rhi ro*	*saehae*	*ɭaha*	*hoko*
	1PL	*pe*	*pti*	*rpi ro*	*saepe*	*ɭapa*	*boko*
	2DU/PL	*he*	*hti*	*rhi ro*	*saehae*	*ɭaha*	*hoko*
	3PL	*pe*	*pti*	*rpi ro*	*saepe*	*ɭapa*	*poko*
	Verb root:	*-e*	*-ti*	*r- -i (-ro)*	*sae- -e*	*ɭa- -a*	*(a-) -oko*
		'want'	'fry'	'fall'	'stab'	'come'	'get (many)'

The sentences in (137) and (138) show that inflection can interrupt a verb stem. In (137) we have a predicate, 'drink', that takes two separate prefixal inflections, clearly indicating that it is bipartite in the same way as verbs such as *háhi* 'count' in Skou (Section 5). The examples in (138) of clauses headed by 'fall' show the infixal behaviour seen in (136), splitting the *r* and the *i* of the stem. (139) shows that the presence of proclitic agreement is not compatible with the presence of a free pronoun.

(137) *Ana n-ɭuk-n-o   hi   ypi.*
      1SG 1SG-'drink'-1SG-'drink' water cold
      'I drank (some) cold water.'

(138) a. *Ana r-n-i   hi.*
          1SG 'fall'-1SG-'fall' water
          'I fell in the water.'

      b. *Ae=(n=)r-n-i   hi.*
          1/2SG=1SG/DU='fall'-1SG-'fall' water
          'I fell in the water.'

(139) ** Ana ae=n=r-n-i   hi.*
      1SG 1/2SG=1SG/DU='fall'-1SG-'fall' water

With nonsingular subjects the stem for 'fall' is not simply the form *r-i* seen in (138), but must also use the predicative element *ro*; the latter cannot take affixal inflection but may show clitic inflection. Grammatical versions of 'You (PL) fell in the water' are shown in (140). When clitic inflection appears, it is capable of appearing on either *rhi* or *ro*, as seen in (140b) and (140c), but not both, as in (140d).

(140) a. *Pihi r-h-i   ro   hi.*
           2NSG 'fall'-2NSG-'fall' 'fall'.NSG water
           'You all fell in the water.'
       b. *Y=r-h-i   ro   hi*
           NSG='fall'-2NSG-'swim' 'fall'.NSG water
           'You all fell in the water.'
       c. *R-h-i   y=ro   hi*
           'fall'-2NSG-'fall' NSG='fall'.NSG water
           'You all fell in the water.'
       d. * *Y=r-h-i   y=ro   hi*
           NSG='fall'-2NSG-'fall' NSG='fall'.NSG water
           'You all fell in the water.'

The distinction between dual and plural is clearer for these forms than for the free pronouns, but for many of the cells more than one form is used: the choice is essentially lexical, with different lexical items showing different inflectional paradigms.

For Puare the evidence of forms like 'drink' in (137) and the nonsingular form of 'fall' in (140) leaves us no choice but to accept bipartite stem predicates. The inflectional behaviour of 'fall', in particular the ability of the subject clitic to appear on either (but not both) of the predicate elements, shows that these elements are not part of a serial verb construction. To see this, consider the example in (141), in which the serial verb construction *oko ʃa* 'get come' = 'bring' is used. In (141) each of the component verbs is able to take a pronominal clitic, in addition to any applicable prefixal agreement morphology.[35]

(141) … *w=ʃa   aeri   naene w=y-oko   w=ʃa,   …*
          3SG.F=come basket knife 3SG.F=3SG.F-get.PL 3SG.F=come
       '… she comes, she brings her knife and basket, …'

Thus predicates such as *r- -i ro* in (140) cannot be analysed as serial verb constructions, since it is not possible for both stems to take clitic inflection, as seen in (140d).

Of the languages presented here, Puare has the most unambiguous claim to bipartite verb stems. The candidate verbs, such as 'fall', clearly comprise two words and can be interrupted by different kinds of inflection, both prefixal and proclitic, as seen in (140).

6.3 I'saka

I'saka predicates inflect by prefixation on verbs (Donohue and San Roque 2004: 58). Some inflecting verbs are only found in combination with a version of the light verb *-ei* 'do', as in (142), showing behaviour similar to that of the first-listed inflectional paradigm of the Skou predicate 'remember' in (93).[36]

(142*)* *Kasue*   *n-akaing*   *d-ou.*
      cassowary 1SG-search 1SG-do.PL
      'I'm going to look for cassowaries.'

(143) ** Kasue*   *n-akaing.*
      cassowary 1SG-search

The verb *-angkaing*[37] bears a more than chance resemblance to the nominal *na-káing* 'eye', a semantically relevant item in searching. It does, however, have a different tone, and inflects regularly as a verb: *m-akaing b-ou* 'You search for them', *k-angkaing k-ou* 'He searches for them', etc.

    Another type of predicate resembles the Skou 'count' type seen in Section 5. The categorial status of the elements as non-nominal is clear from the fact that they both take subject prefixes, a purely verbal feature; but the fact that neither is found independently suggests a bipartite analysis. An example of this type is *-aung -angye* 'stretch (one's body)':

(144)   *Ta'*   *n-au*   *n-aye.*
      skin 1SG-'stretch' 1SG-'stretch'
      'I stretched.'

The complex verb *-ana -ung* 'sit' is another example of such a predicate, though only in the singular does the second element of the predicate inflect.[38] The verb collocation inflects as shown in (145) (with plain pronouns used in each case as well, though they are not strictly necessary, and should not be compared to the proclitic inflection of Skou).

(145)

	singular	dual	plural
1	*nana n-ana n-u*	*nesing si-na su*	*numu ni-na ku*
2	*mama m-ana m-u*	*isang s-ana su*	*yumu yi-na ku*
3M	*kie k-ana k-ung*	*esang s-ana su*	*ia i-na ku / ana ku*
3F	*omu (w)ona su*		

The predicate 'laugh' is composed of a non-inflecting element and an inflecting verb. This might suggest an N+V analysis, but the form of the two elements, *suwe -usuwe*, suggests very strongly that we are dealing with a bipartite stem formed by lexicalised reduplication.

(146)   singular   dual   plural
    1   *nana suwe d-usuwe*   *nesing suwe si-suwe*   *numu suwe ni-suwe*
    2   *mama suwe b-usuwe*   *isang suwe s-usuwe*   *yumu suwe yi-suwe*
    3M   *kie suwe k-usuwe*   *esang suwe s-usuwe*   *ia suwe e-suwe*
    3F   *omu suwe w-usuwe*

6.4 One

The westernmost of the Torricelli languages, One, is not related to the languages of the Skou family, but is found nearby, the closest One-speaking village being only a few hours' walk directly south of Barupu and Ramo of the Piore River group at the eastern end of the Skou family's range.

Of 230 non-derived verbal predicates in the current 1500-item dictionary file only the two listed in (147) might count as clear 'bipartite stems', in the sense that both elements are necessary parts of the whole predicate. *Tofu tofo* does not take any prefixal inflection (only vowel-initial stems, which make up 90% of verb roots, show prefixal agreement), and neither of the two elements, *tofu* or *tofo*, is elsewhere attested, whether independently or in other collocations. *Tofu tofo* is the only multiple-stem predicate in which both elements are completely unanalysable (apart from the obvious pseudo-reduplicative relationship between the two elements, and the probably onomatopoeic origin of the forms themselves). *Wiya wan* inflects regularly on the first predicative element, which is independently attested as the predicate 'lie down'.[39]

        Bipartite stem candidates in One
(147)   *tofu tofo* 'spit?' 'spittle?' 'spit'
        wiya wan 'lie.flat' 'dream?' 'dream'

Examples of the use of these predicates are given in (148)–(150). (149) shows that both components of 'spit' are required even when there is an independent object for the clause, distinct from generic 'spittle'.

(148)   *Wo **tofu tofo**   palo   pii.*
        3SG 'spit' 'spittle' descend ground
        'He spat on the ground.'

(149)   *Wo **tofu tofo**   soli.*
        3SG 'spit' 'spittle' blood
        'He spat blood.'

(150)   *Nounke i   **iya   wan**   poli napo mo'a.*
        yesterday 1SG lie.flat 'dream' pig big   mother
        'Yesterday I dreamed about a huge pig.'[40]

We can easily find additional multiple-stem predicates such as *y-ankle y-u* 'drink', which is formed with the independently-inflecting verb stem *ankle* and the verb *y-u* 'eat', and many predicates composed of some apparent nominal plus the light verb *y-e* 'be'. The examples in (151) and (152) illustrate this, showing inflection on two separate elements; but unlike the previous cases, here the second element is an independently attested verb.

(151) *No n-ire **n-ankle** **n-u** fola.*
       3PL 3PL-say 3PL-'drink' 3PL-eat water
       'They want to drink water.'

(152) *No n-ae **n-usu** **n-e** imfla-pi no-enu.*
       3PL 3PL-sit 3PL-'wait' 3PL-be husband-PL 3PL-GEN
       'They're waiting for their husbands.'

In (153) the first element of the predicate takes no agreement, despite the absence of any phonological factors that might restrict inflection. This lack of agreement is extremely unusual with vowel-initial predicates, and strongly suggests that *one* is nominal.

(153) *No **one** **n-e** mala w-ae moren.*
       3PL 'angry' 3PL-be child 2/3SG-sit house:LOC
       'They're angry with the child in the house.'

In addition to these candidates for bipartite status there is one semantic domain in which predicates show clear and consistent bipartite behaviour, namely that of (historically derived) 'centrifugal' verbs, i.e., verbs of directed motion away from speaker. The verbs in (154) illustrate this bipartite behaviour clearly. The verb *eri* 'come down' is a regularly inflecting vowel-initial verb. In the rest of the verbs shown here we can see that, while the singular forms show no inflection, the nonsingular forms show a variety of complex alternations for person. It is clear that the regularly inflecting verbs take semivowel inflection for non-first person singular, and a variety of consonants in the nonsingular parts of the paradigm (*f-*, *m-*, *p-* and *n-*). In the verbs of centrifugal motion we find that we need to separate the predicate into two parts, one that is identical to the "elevationally equivalent" verb of centripetal motion and one that is an invariant prefix *pa-*. The nonsingular forms of the centrifugal verbs can be derived by assuming that the elevational root is affixed by the addition of a *p-* and that each of these stems inflects with the same prefixes that are seen on the regular verb, with admittedly erratic morphophonemic alternations (consonant clusters are highly restricted in One, and, as can be seen in (155), there is little regularity in resolving consonant clusters).[41] The different behaviour of the resulting *C+p* clusters in word-initial and word-internal position, whereby the medial position tends to preserve the inflection and the initial position

to remove it, can be ascribed to a principle of realignment of inflectional material close to the lexical root. In (155) I show the decomposition of 'go up' (the stem of which can be compared with 'come up'), and the various morphological changes required to result in the observed forms. (156) shows the templatic arrangement of the elements in the forms in (155), maximally observable in *mamperi*.

		'come up'	'go up'	'go down'	'go along a river'	'go around'
(154)	1SG	*eri*	*pari*	*palo*	*poua*	*pale*
	2/3SG	*yeri*	*pari*	*palo*	*poua*	*pale*
	1DU	*feri*	*faperi*	*faplo*	*foupa*	*faple*
	1PL	*meri*	*mamperi*	*mamo*	*moumpa*	*mample*
	2PL	*peri*	*paperi*	*paplo*	*poupa*	*paple*
	3PL	*neri*	*panteri*	*panto*	*pointa*	*pante*

		'go up'	Morphological breakdown
(155)	SG	*pari*	*pa-eri* > *pa-[e]ri*
	1DU	*faperi*	*f + pa-p-eri* > *f-pa-f-p-eri* > *f-[p]a-[f]-p-eri*
	1PL	*mamperi*	*m + pa-p-eri* > *m-pa-m-p-eri* > *m-[p]a-m-p-eri*
	2PL	*paperi*	*p + pa-p-eri* > *p-pa-p-p-eri* > *[p]-pa-[p]-p-eri*
	3PL	*panteri*	*n + pa-p-eri* > *n-pa-n-p-eri* > *[ ]-pa-n-[t]eri*

Template for the verb forms in (155)

(156)   VERB: agreement-centrifugal$_{pa}$ — agreement-p-elevational.stem

How is 'bipartiteness' in One different from the behaviour of predicates in the Skou languages? We have seen that bipartite behaviour in One is more or less limited to a semantically definable class of verbs, those specifying centrifugal motion with an elevational component.[42],[43] Split predicates are not nearly as widespread in One as in the other languages examined, with verb serialisation bearing a much heavier functional load than in the Skou languages.

7.   Bipartiteness: A critique

What does it mean to be bipartite? The conclusion at the end of Section 5 was that any disyllabic and unanalysable predicate must be treated as a bipartite stem, given the phonological complexities of Skou inflection. If this is what it takes to be bipartite in Skou, then bipartiteness is a statement of no more than polysyllabicity, yet any other definition will fail to take into account the phonotactic restrictions that are independently found in Skou. Clearly the label 'bipartite' has no useful part to play in a description of Skou inflection.

Yet in other languages, such as Puare, it is hard to imagine a description of verbal inflection that did not include bipartite stems. While we might argue that the infixal behaviour of *n* in (138a) is phonologically or phonotactically driven, the possibility of the clitic appearing between the two stems in (140c) forces a bipartite analysis.

Looking beyond North-Central New Guinea, how useful is the label 'bipartite'? Limbu (Tibeto-Burman), cited in Section 1, is a language said to exhibit bipartite stems, being part of a bipartite-stem enclave in the Himalayas. The following Limbu examples contain what have been described as bipartite stems (examples from Van Driem (1987: 80, 83, 96, 206, 221), see also example (9) in Section 1 in this paper; Van Driem glosses *co·k* as both 'be' and 'do'):

(157)   *Naʔ-gɛ-nuʔ-ʔɛ-Ø-i·ʔ*
        love-2-love-1SG.P.SUBJ/NONPRETERITE-SG.A-QUESTION
        'Do you love me?'

(158)   *ha*-mɛn-***chuk***-*mʔnɛ-lle*   *nɔŋ-me-lle*
        be.cutting-NEG.PART-be.cutting-NEG.PART-INSTR shave-INF-SUBORD
        sa·rik tuk.
        very   hurt
        'It really hurts when you shave with a blunt razor.'

(159)   *Kɔŋ məna-·n ya·mbɔk co·k-mʔ **na·si**   kɛ-**dhɔ·p**-pa   co·k,*
        this man-ABS work   do-INF persevere AP-persevere-AP be
        khɛŋ məna-·n ya·mbɔk co·k-mʔ
        that man-ABS work   do-INF
        na·si   *men-**dhɔ·p**-mʔna   co·k.*
        persevere NEG.PART-persevere-NEG.PART be
        'This is a man who perseveres in his work, that is a man who does not persevere in his work.'

(160)   *Mikco·ʔ-Ø-mɛ-iʔr-Ø-u-si.*
        keep.an.eye-3-NONSG.A.SUBJ-keep.an.eye-NONPRETERITE-3P-NONSG.P
        'They're keeping an eye on them.'

(161)   *… khunɛʔ **yaŋ**-mɛn-***cha***ʔ-mna   co·k.*
          he   be.indigent-NEG-be.indigent-NEG be
        '… he's not poor.'

(162)   *a-nu-a-da.*
        prosper-1-prosper-1
        'We're alright.'

An alternative analysis of this Limbu data could be advanced, however, involving infixation before the final syllable of the root. This will not be completely tenable in Limbu; other predicates such as *samaʔ- -dhamaʔ* 'escort' clearly are not penultimate-syllable infixing (though they do look a lot like adapted reduplicated forms, and their inflection is not quite the same as that of the examples quoted above) (van Driem 1987: 395). If we were to exclude these reduplicant-containing stems, such as *samaʔ- -dhamaʔ*, then a quite strong case could be made that the 'bipartite' behaviour is in fact infixal.[44] Of course, the conditions under which the putative infixation in Limbu takes place remain to be defined, as plenty of three- and four-syllable verbal stems do not show any infixal behaviour, and having 'regular' lexically-specified infixation is no better and no more predictive than having lexically-specified bipartite stems.[45] Nonetheless, the fact that we have not yet defined the conditions under which we find infixal behaviour does not mean that we cannot do so. If it turned out that we were unable to define a non-arbitrary set of conditions under which infixation occurs, we would be forced to conclude that the Limbu data does *not* constitute an instance of infixation, but does involve lexically-specified bipartite stems.

Following this procedural logic, it will in general be purely a matter of degree of phonological regularity to decide as to whether apparent infixation is better analysed as bipartiteness in other cases, such as the well-known Austronesian infixes exemplified in the Tagalog example in (163) (DeGuzman 1989 [1966]). Here we have an infix, *-um-* 'Actor Voice (AV)', that can be defined in terms of left-edge constraints (the Tagalog infixes consistently appear following the first onset of the word). The fact that Tagalog infixation is so regular (all instances of *-um-* are infixed immediately following the first onset, without exception) and can be so easily phonologically defined in terms of syllable structure has led to its being analysed as perhaps *the* classical case of infixation. Other phonological factors, such as prosodic evidence for the word, and minimum word-size conditions, also indicate that we should not treat the predicate 'eat' in (163) as bipartite, involving two stems, an uninflecting *k* and *ain* (which inflects by prefix).

	Tagalog infixation
(163)	*Ang kaniya-ng gusto ay k-um-ain.*
	NOM 3SG.DAT-LNKR want TOP eat-AV
	'What he likes is to eat.'

A right-edge-aligned infixation analysis would account for much of the Barupu and Puare data as well as a bipartite analysis. My initial presentation of the Barupu data (see, for example, Donohue 2003c) indeed used the terminology of infixation; the only addition necessary to complete the infixal analysis would be that, to account for the last columns of (132), we need to either conceive of a phonologically

null onset which the infixal material will then follow (the same complication that arises with the bipartite analysis), or else allow infixal material to appear aligned towards the left edge of the stem.

In one of the few detailed accounts of right-edge-aligned infixation, Buckley (2000) proposes infixation as a strategy adopted to avoid a clash of particular feature classes in Kashaya (Pomo, Hokan). Given the 'plural act' suffix (a non-final suffix in the verb), one allomorph of which is -ta, 'we find suffixation after a coronal, otherwise infixation' (Buckley 2000), as in (164).

Kashaya plural act suffix -ta

(164) a. *dahqotol* + *-ta* → *dahqotol-ta-* 'fail to do'
     b. *bilaqʰam* + *-ta* → *bilaqʰa-ta-m-* 'feed'

Assuming a scale of negatively ranked constraints against different kinds of codas, the relevant portion of which is *LAB]$_\sigma$ » *COR]$_\sigma$, and that ALIGN-RIGHT is ranked in between these two constraints, we predict the ungrammaticality of *bilaqʰamta*, with a bilabial coda, since the avoidance of bilabial codas (*LAB]$_\sigma$) is more important than the right alignment of the suffix. At the same time the right alignment is more important than the avoidance of coronal codas (*COR]$_\sigma$), so *dahqotol-ta-* is more acceptable than *dahqoto-ta-l-*, which would avoid codas at the expense of the right alignment of the suffix.[46] Tableaux illustrating the application of these phonological points are given in (165) and (166); the successful (and thus selected) candidate is indicated with the ⇒, violations of constraints are indicated with the * or by noting the particular segment(s) that cause the violation, and a fatal violation is shown with the !.

(165)

dahqotol + *-ta*	*LAB]$_\sigma$	ALIGN-RIGHT	*COR]$_\sigma$
dahqotol-ta-			*
dahqoto-ta-l-		!l	
dahqot-ta-ol-		!ol	*
dahqo-ta-tol-		!tol	

⇒ indicates *dahqotol-ta-*

(166)

bilaqʰam + *-ta*	*LAB]$_\sigma$	ALIGN-RIGHT	*COR]$_\sigma$
bilaqʰam-ta-	*		
bilaqʰa-ta-m-		m	
bilaqʰ -ta-am-		am!	
bila-ta-qʰam-		qha!m	

⇒ indicates *bilaqʰa-ta-m-*

To return to New Guinea, the Puare data shown in (136) demonstrates that vowel-initial roots are regularly prefixing, while the *r*- and *s*-initial roots, and the polysyllabic roots, show INFIXAL agreement. This generalisation holds true for other

predicates as well. An extension of the sample of (136) is shown in (167); here we can see that *l*-initial roots with a following back vowel also show prefixing behaviour. Note that the infixation of the agreement marker is such that it precedes the final vowel of the verb root, regardless of the position of that vowel with respect to the left edge of the word; this is particularly clear in the paradigm for 'cook'.[47] The infixation of the agreement marker is thus not simply a metathesis of the agreement consonant and an initial *r* or *s*. Can the phonological features that differentiate these phonemes be used to motivate the infixation versus prefixation of agreement?

It is hard to see how the feature [+lateral] should more naturally favour a preceding *n*- and *m*- (and *p*- and *h*-), while [-lateral] favours a following, yet possibly still contiguous, infix. But the fact that the lateral is retroflex and thus [+back] with respect to the alveolar *r*, and that a back vowel is extremely frequent as the vowel following an initial lateral while high vowels are more common with an initial *t*-, *n*- or *r*-, implies that a feature-driven analysis (as in Kashaya, discussed above) might prove to be tenable. On such an account the affix cannot disrupt a string of two segments both of which are [+back], such as *ḷa*, *ḷo* or *ḷu* in (167), thus forcing the affix to appear as a prefix. By contrast, if the first segments of the root are not both [+back], as in *ri* 'swim' or *sao- -o* 'cook', then the affix appears infixally.

(167)	**Subject:**	**retroflex-*ḷ***			**alveolar-*r***	**fricative**
	1SG	*ŋḍahawo*	*ḷse ŋḍo*	*ŋḍu*	*rni*	*saono*
	2SG.M	*mḷahawo*	*ḷse mḷo*	*mḷu*	*rmi*	*saomo*
	2SG.F	*mḷahawo*	*ḷse mḷo*	*mḷu*	*rmi*	*saomo*
	3SG.M	*ḷahawo*	*ḷse yḷo*	*yḷu*	*ri*	*sao*
	3SG.F	*ḷahawo*	*ḷse yḷo*	*yḷu*	*ri*	*sao*
	Verb root:	*ḷahawo*	*ḷse ḷo*	*ḷu*	*ri*	*sao- -o*
		'run'	'cough'	'be angry'	'swim'	'cook'

Another complication highlighted by the Puare data is the use of multiple exponence for cross-referencing (also a feature of Skou agreement, as is evident from examining any predicate with both prefixal and proclitic agreement). This was seen in (138b) and (140b) for cases with both proclitic and affixal agreement, while the additional examples in (168)–(170) below show cases of multiple affixation. In (168a) and (b) we can see that the first and second person singular inflections of 'come' require two affixes; this is in addition to any pronominal marking by proclitic, as seen in (169a) and (b). The simplest explanation of this data is to assume that, historically at least, there were two stems, *ḷa* and *a*, each of which was inflected by a single affix as is normal for the language. Synchronically, however, we are forced to acknowledge a bipartite stem, which is realised as a single syllable

when there is no inflection to provide an onset for the second syllable — as in (170), which we assume to involve the verb root *ɭa- -a* on the basis of, for instance, the 2sɢ inflection *ɭama* shown in (168): neither vowel length nor vowel sequences are permitted in Puare. But note that it has taken multiple exponence to force the case for bipartite stems, not simply the interruption of two elements of what is apparently the selfsame single predicate.

(168) a. *Ana n-ɭa-n-a.*
           1sɢ 1sɢ-'come'-1sɢ-'come'
           'I came.'

       b. *Ama   m-ɭa-m-a.*
           2sɢ.ᴍ 2sɢ-'come'-2sɢ-'come'
           'Youmasc came.'

(169) a. *Ae=n=n-ɭa-n-a.*
           1/2sɢ=1ɴᴘʟ=1sɢ-'come'-1sɢ-'come'
           'I came.'

       b. *Ae=m-ɭa-m-a.*
           1/2sɢ=2sɢ-'come'-2sɢ-'come'
           'Youmasc came.'

(170) *Ka   ɭa.*
        3sɢ.ᴍ come
        'He came.'

We have to conclude that the analysis of 'bipartite' stems owes at least as much to phonology as it does to lexical, semantic or morphological factors. We have seen that the dividing line between a single bipartite verb stem and an N+V complex predicate is essentially an arbitrary one, and that the (morpho)phonological peculiarities of the language can easily and thoroughly obscure any such distinction.

In the analysis of Skou the label 'bipartite' stem is not only an arbitrary one, it also fails to distinguish between the different 'degrees' of bipartiteness that are found in the language, and so cannot be considered a useful one. How appropriate the label is for other languages remains to be investigated in depth. But I suggest that a closer examination of prosodic and other phonological factors might well reveal the class 'bipartite' to be unnecessary beyond the sense in which it was originally employed in describing languages in an area of western North America, namely to indicate stems composed of two bound morphemes which are independently attested (eg., Jacobsen 1980 and DeLancey 1996a, 1996b, 1999).[48] Perhaps more significantly, the label might well conceal more differences than it illuminates (as is indeed the case in Skou), and so not be suitable to adequately represent the diversity found in languages.

Notes

* Much of the clarity that can be found in this article is due to the superlative reading and suggestions of Orin Gensler, the most hard-working and consistently correct linguistics editor that can be imagined.

1. Skou is the westernmost language in the Western Skou branch of the Greater Skou family (Donohue 2002, 2003b), spoken in the middle of the north coast of New Guinea. Previous publications on the language include Cowan (1952) and Voorhoeve (1971), and various works by Donohue (see References for those relevant to this study).

2. Examples are presented in Skou orthography: nasalisation is indicated by *-ng*, /ʉ/ and /ø/ are written with the digraphs *ue* and *oe*, high pitch is shown with ´, falling pitch with `, and low pitch is unmarked (see Donohue 2003a for the phonology of tone in Skou). The representation of the other vowels and the consonants follows IPA conventions, except that *y* represents [j ~ (ʐ ~dz ~ dʒj)], and *j* represents [gʲ ~ ɟ ~ dʒ]. The following abbreviations have been used. 1, 2, 3: first, second and third person; sg, du, pl: singular, dual and plural number; dat: dative; erg: ergative; f: feminine; gen: genitive; nf: non-feminine; nsg: nonsingular. Other abbreviations used are: appl: applicative; aux: auxiliary; cl: clitic; instr: instrumental; loc: location; neg: negative; obv: obviative; pref: prefix; r: realis; red: reduplication; subj: subject; v: verb. It will quickly become clear that there is often multiple exponence for subject agreement in Skou. The historical basis for this is discussed in Donohue (2003b), and involves cycles of cliticisation followed by phonological reduction.

3. These allomorphs reflect the pre-proto-Western Skou *ŋ- '1sg nominative agreement', still preserved in Leitre or Dusur 1sg forms, but in Skou either lost entirely (proto-Western Skou *ŋane 'mother' appears as Skou *ánì* 'mother'), or else, rarely, decomposed into the separate features [nasal] (coronal by default, given the phonological system) or [velar] (stop by default) in the inflectional system for verbs (Donohue 2002). The velar allophone is also found in cognate verbs other Western Skou languages that (like Skou) have lost *ŋ, such as Nyao k-ǽ 'I eat'.

4. Here, and in subsequent citations of verbal paradigms in Skou, I shall list two columns, singular and plural. In each column the forms from top to bottom represent the first, second and third persons; in third person I list the generic non-feminine before the more specific, and often more irregular, feminine form. The forms cited in (13) for 'go east' can be compared with the layout in (11) to resolve any uncertainties.

5. It is unclear what, if any, differences in meaning exist between (15), (16) and (17).

6. I do not gloss a verb as showing prefixal inflection unless that verb shows a phonological form different from its root form. Hence, in sentences like (22) the verb *wé* has been glossed as 'get.f' (with the .f indicating that the verb specifies a feminine object, a feature of this lexical entry; *taíngbe* 'money' is a feminine noun in Skou), and not as '3sg.f-get.f', because the root form is identical to the form used here.

7. For instance, the nominal in such an N+V construction cannot be separated from the V by an instrumental phrase, while an instrumental may intrude between an object and the V. This is illustrated in (50) and (59). Evidence for the status of the N and the V as separate words can be found in the possibility for interruption, the fact that they take separate stresses, and the fact that

they each constitute a separate domain for the purposes of tone assignment (tone is assigned to the word or, in the case of possessed nominals, the morpheme — see Donohue 2003a, and the example in (50)).

8. There are three suppletive verbs of hitting, according to the object, with *ká* being the most general. The others are *láng* 'hit (feminine object)' and *jí* 'hit (plural object)'.

9. I use scare quotes around a gloss, such as *ku* in (45) which is glossed as 'fall', to indicate that this is an inferred meaning. This can be because the morpheme is not found independently of the 'bipartite' construction, or because in modern Skou the morpheme is only found nominally as part of a compound. See the discussion of the distinct morpheme *ku* in 3.2

10. In addition to (50), alternative clause-internal orders of the instrument are possible: *Te yong te já nòtè te pa e ti*, *Te nòtè te pa yong te já e ti*. These are not relevant to the discussion at hand.

11. Note the lack of prefixal agreement on *pi*. The phonological shape of *pi* means that no prefixal agreement is possible (see (12) and accompanying discussion), and so this cannot be taken as evidence that *pi* is not verb-like in this construction, since it does still inflect by clitic. Note that ditransitive constructions of the form NPsubj NPobj NPobj V are not possible in basic clauses in Skou.

12. The appropriate way to express what is ungrammatically encoded in (55) is either with an instrumentally marked NP identifying the materials, or with a construction involving the verb *ké* 'get' specifying the materials as its object in a serial verb construction, as in (i) or (ii), respectively.

(i) *Pá-nì=ne*   *hò*   *nì=pi*   *hò-mè=me=pa.*
house-1SG.GEN=1SG.DAT roofing 1SG=tie roofing-2SG.GEN=2SG.DAT=INSTR
'I'm roofing my house with your roofing materials.'

(ii) *Hò-mè=me*   *nì=ké=ko*   *pá-nì=ne*
roofing-2SG.GEN=2SG.DAT 1SG=get=OBV house-1SG.GEN=1SG.DAT
hò   *nì=pi*   *i*   *li.*
roofing 1SG=tie be do
'I'm roofing my house with your roofing materials.'

13. In (59) alternative orders for the instrument that do not interrupt the nominal+verb are grammatical: *Te* [*ní pa*] *hòe te ti e ti*, *Te hòe te ti* [*ní pa*] *e ti*.

14. Indeed, using *ku* to refer to a human child, it is not grammatical for an NP to be formed about this putative nominal: *[NP *ku bápáli*] 'child' big (= 'big child') is not acceptable, though the form [NP *angku bápáli*] unmarried-'child' big (= 'big child') is.

15. In this sentence the predicate *lú* does not license an argument other than the subject 'I' and the object 'stone'. In order to mention the target of throwing, the verb must appear in a conjoined construction involving *lú* and *hí* 'throw', which subcategorises for a target and a subject (not illustrated here). *Wùng nì=lú* (stone 1SG=release) 'I threw a stone', with no mention of any target, is completely grammatical.

16. (69) is equally grammatical with *tánge* 'leg', the unbound lexeme, instead of *làng*, the bound one.

17. In 'stretch out', as well as in 'complain' in (71), the 3PL inflection for the verb is *rí*, not the *rú* that is found elsewhere (see (11) for the paradigm of *lú*). This is the only change to the paradigm, but it does, nonetheless, constitute a difference. Whether this means we can still speak of 'stretch out' and 'complain' as involving the same verb root as 'throw', 'shoot' and 'kick' is unresolved; but it is interesting to note that it is those predicates that require the most semantically bleached readings for *lú* that have the distinct inflectional paradigm.

18. *Lú* 'eye' is phonologically identical to *lú* 'release' in 3.3 and *lú* 'cough' in 4.3, but this is a coincidental resemblance (see footnote 26). Note that the three lexical items show different inflectional paradigms with respect to both prefixation and vowel alternation.

19. I should note in this context that the second syllable of *lúto* can be reconstructed to an early stage of Skou's prehistory, being found (within the form *klə-dɔ*, which is reflected regularly in Skou *lúto*) in proto-Western Skou (Donohue 2002). The form is not found in the Serra Hills, Piore River or I'saka branches of proto-Skou, but is plausibly related to proto-Lakes Plains *kudati* (Clouse 1996) (= *kwrati*). See also footnote 27.

20. The morpheme glossed as 'FA' appears again in Section 4.2, where it is explained in more depth.

21. The second-listed inflection for the 3SG.F in (93) displays an initial consonant cluster, *pl*. Clusters are highly irregular in modern Skou (this instance is one of only two ever noted in Skou as spoken in the 1990s). Clusters such as *pl*, *tl*, *kl*, *bl*, and *ml* were a feature of proto-Western Skou (Donohue 2002), and are still attested in all of the other daughter languages except Leitre.

22. Only two other verbs are known to show no prefixal inflection despite beginning with *l*; they shall be discussed in Section 5.2.

23. Ideally, *lang* 'pounded tuber' is eaten with *hòe* 'sago' and *móe* 'fish'. Any Skou person, asked about food in the villages, will reply that they eat sago, fish and coconut (*hang*). This is an accurate characterisation of the diet.

24. For example: Nyao *hna*, Wutung *hna*, Dumo *na*, Dusur *na*, and Leitre *na*, indicating proto-Western Skou *hna* (see Section 6). The root is not attested in other branches of the Greater Skou family, where we find, for instance, Puare *yaka*, Sumararu *walmbwes*, Barupu *(i)to* and I'saka *opsuwo*. The more eastern branches, and I'saka, are spoken in more inland locations, where a greater variety of tubers are cultivated, and it is not unlikely that there has been a significant degree of contact and borrowing of terms with other languages groups further inland. The I'saka term *opsuwo* is attested as part of a Pual basin 'library' of ethnobotanical terms used by speakers of three unrelated language families converging on the Pual basin (Donohue and San Roque 2004, Kocher Schmid 1999).

25. Both *manúa* and *nále* can be used with 'do' to produce a predicate meaning 'prepare for eating (i.e., pound)': *nále li*, *manúa li* 'pound taro'. While *manúa li* can be used with all taro types, *nále li* can only be used with the Asiatic taro species known as *bete* in Papuan Malay, which is denoted by *nále*. Other taro species names are not used with a light verb in this manner, thus adding to the argument that the historical root *na* has some primacy.

26. The verb *héng* 'ask' shows regular prefixal inflection: *héng*, *méng*, *kéng*, *péng*, *néng*, *héng*, *téng*/*yéng*. Since *hèng* in *hèng ká* does not inflect, and bears a different tone, the two roots are

unlikely to be related (at least synchronically; there is no process of noun-verb exchange in Skou that matches English examples such as 'answer (n.)' and 'answer (v.)'). The phonotactic restrictions that apply to Skou mean that there are only 413 possible syllables, and so coincidence cannot be ruled out.

27. See Section 6 for a discussion of the relation of Skou to Puare, and 6.2 for bipartite stems in Puare. Cognates of Puare *nɛhɛŋgɛ* are not attested in Western Skou, where the term for 'eye' is consistently a reflex of **klə-dɔ* (see footnote 19). Reflexes of **nɛhɛŋglɛ* 'eye' are found in all the Serra Hills languages, and *inɛ* or *ine* is found in all Piore River languages, probably reflecting the initial part of **nɛhɛŋglɛ* 'eye'. I'saka shows *dɔkāy* [nɔɣãj] for 'eye', possibly related to **nɛhɛŋglɛ* and implying a proto-Greater Skou reconstruction **nokaiŋgwle* (there were no unrounded voiced velar stops at this reconstructed stage).

28. Reduplication of a monomorphemic disyllabic verb stem follow the pattern in the right-hand column of (112): only the final syllable may show reduplication. Thus, for instance, *bangtue* 'break' (see (119)) reduplicates only as *bangtue-tue*, and not as **bang-bangtue* or **bangbangtuetue*.

29. The agreement clitic has been bracketed, since we do not know the relative chronology of the segmental loss of *fèng* and the appearance of proclitic agreement in Skou.

30. The other syllables of *wí ta fí* 'discard' can be taken to be a modification of *wé* 'get (feminine object)' (see (11)), and a modification (by tonal change) of the *fi* of *lú fi* 'cough', which appears to have a vaguely related semantics (coughing in tuberculosis-affected areas often involves expelling and discarding phlegm and/or blood). As in the other cases examined, the matches are not close, but are enticing; the small number of phonotactically allowed syllables in Skou (recall note 26) means that chance will inevitably play a large role in the finding of coincidental resemblances. Nevertheless, the correspondences are suggestive.

31. The verb 'eat' is not unique in its inflectional pattern; similarly-inflecting verbs include *a* 'make', *a* 'want' (tonally distinct), *awoto a* 'laugh at', *e'e* 'carve, write', *ere* 'put', *iya* 'fetch water', *o* 'give', *ori* 'sharpen', *una* 'buy, get (mass noun OBJ)', *u* 'get (count noun OBJ)' and *uru* 'rub (paint)'. Barupu is transcribed phonemically, except that both ɪ and ɛ are written as *e*, and both ʊ and ɔ as *o*. Tone has not been marked.

32. The form of the monoconsonantal prefix can be derived from the 'full' prefix through removal of all vowels in the prefix. In the case of full prefixes with no consonants, such as the 3SG forms, the consonant used is the default *r*, which also appears rather than *v* (=/b/) in the 2PL.F. The 3PL.M monoconsonantal prefix is unrelated to the synchronic full prefix; but it is historically conservative, being related to the forms found in the Serra Hills languages, such as Puare (see (136) in 6.2).

33. The orthography for Puare is phonemic, apart from tone not being marked. Symbols follow IPA norms except for: *ae* [æ]; *ao* [ɑ] ~ [ɒ]; *h* [ɦ]; *y* [ɪʒ]. Note in particular the retroflex lateral [ɭ], which combines with a preceding nasal to yield [ɳɖ].

34. A more radical hypothesis would involve treating *all* agreement affixes in Puare as inherently suffixal. These suffixes would interact with a global ban on codas in verbs to produce (right-aligned) infixal behaviour. A similar analysis can be applied to Skou as well, though considerably more abstractly, involving subsegmental feature combination (Zoll 1997).

35. It is possible for two different clitics to appear on the same verb, if they are compatible in meaning. For instance, in (iii) the first clitic *n=* contributes the first person non-plural features, and the second clitic *y=* marks for nonsingular. Between them these two clitics specify 1DU perfectly, which is then further marked by a prefix on the verb root. See (138b) for an additional example of this double cliticisation.

> (iii)… *n=y=h-aeɭe.*
> 1SG/DU=NSG=1DU-go
> '… and we set off.'

36. In I'saka nasal syllables are represented by an orthographic <-ng> coda, as in Skou (footnote 2). Unlike Skou, [m] and [n] are allophones of [b] and [d], respectively, in nasal syllables. /ɓā/ is thus represented as <ma>, not <bang>, transparently reflecting the pronunciation: [ma] ~ [mā]. In (142) the same 1SG prefix *d-* is used with both verbs, but is attached to a nasalised syllable in 'search', and an oral one in 'do.PL'; hence the different spellings, <n-> vs. <d->.

37. See footnote 36 for spelling conventions in I'saka.

38. The second element of this predicate, *-ung*, appears as *-su* in the dual and 3SG.F, and as un-inflecting *ku* in the plural (*s-* is the regular dual prefix).

39. The One orthography follows IPA norms, with the proviso that *i* represents j, i and e, and *u* represents u, o, ʉ, w and ɥ, and that the [r] allophone of t is shown with a separate grapheme, *r*.

40. *Iyawan* is not a possible sequence of segments in a single phonological word in One.

41. The *p-* prefix is very likely related to the *pa-* prefix. This *pa-* is not attested in the general verb 'go' in Molmo One, which is the variety reported on here, but is found in many other varieties, which have the verb stem *pai* 'go', contrasting with the centripetal stem *i* 'come'. Molmo One employs *i* for both 'go' and 'come', but divides them across two conjugations: *yi* '2/3SG go', *wi* '2/3SG come'.

42. There are three other verbs of motion away: *yi* 'go', *umpale* 'go (a long way)', and *plele* 'go (and not come back)' (Tok Pisin: *go pinis*). The first of these, *yi* 'go', inflects as a regular verb such as *yeri* in (154) (though see footnote 41). *Umpale* shows the same regular agreement pattern. *Plele* shows similar inflectional behaviour to the elevational verbs, in that only the nonsingular forms show agreement; but the resulting verb forms are not bipartite, taking a single prefix on a suppletive nonsingular verb stem *umplele*: *fumplele, mumplele, pumplele, numplele*.

43. Each of the bipartite elevational centrifugal verbs has a corresponding regularly inflecting centripetal verb. Thus, in addition to *yeri* corresponding to *pari* ('come/go upwards'), we have *yolu* corresponding to *palo* 'come/go down', *youa* and *poua* for 'come/go along a river', and *te* corresponding to *pale* for 'come/go around' (*te* only shows inflection in the nonsingular: *fte, mte, pte, nte*; this is similar to the case of *plele* in footnote 42). There are no centripetal equivalents of *umpale* and *plele*, but the centripetal corresponant of *yi* 'go' is *wi* 'come', a verb that is identical except for being a member of the minority *w*-conjugation that inflects 2SG and 3SG with a *w-*, rather than the historically innovative *y-* (originally 2PL). Other verbs showing this conjugation include *wiya* 'lie flat, sleep', seen in (147) and (150), and *wae* 'sit, be at', *wil* 'rotate', *wiri* 'speak, want', *wili* 'fetch, scoop out', and *wisa (yi)* 'fly'.

44. Contra Hildebrandt (2005: 2): '[I]nterposition is not infixation: [the] location of [the] infix [is] prosodically determined, while interposition is not prosodically determined.'

45. Applying this discussion to the analysis of Skou, the fact that Skou infixation is defined from the right edge of the unit ('infix to the penultimate syllable of the root'), and not the left edge, would make it one of a very small class of languages with right-edge-aligned infixation. Yu 2003, an exhaustive survey of infixation, lists only a handful of additional examples other than those involving reduplication, mostly Muskogean languages and a couple of cases where the infixation is not productive, or not the sole realisation of the morpheme (Hua, KiChaga).

46. The fact that the successful candidate in (166) does appear to produce a labial coda might cause some objections to its selection. These are not problematic, however. As mentioned, the suffix *-ta* is never the final suffix in a word: it will always be followed by another vowel-initial suffix. This means that *bilaqʰa-ta-m-* is not a coda-producing form.

47. Syllables with an onset other than *t n r* or *l* may not host agreement, forcing the morpheme to jump to the left one syllable. Examples of this can be seen in the paradigm for 'get (many)' in (136), where *k* is an unsuitable host, and 'run' in (167), where neither the *w* nor the *h* may host an agreement affix. The account that follows only deals with the four eligible onsets.

48. The fact that, cross-linguistically, many 'bipartite stem' predicates are reported as showing the behaviour of two prosodic words with respect to stress, for instance, is not sufficient in and of itself to argue for a bipartite interpretation.

References

Alsina, Alex, Joan Bresnan & Peter Sells. 1997. *Complex predicates*. Stanford CA: CSLI Publications.

Bickel, Balthasar & Johanna Nichols. To appear. Inflectional morphology. *Language typology and syntactic description* (2nd edn), Timothy Shopen (ed.). Cambridge: CUP.

Buckley, Eugene. 2000. Explaining Kashaya infixation. *Proceedings of the 23rd Annual Meeting of the Berkeley Linguistics Society*, 14–25. Berkeley CA: Berkeley Linguistics Society.

Clouse, Duane. 1996. Towards a reconstruction and reclassification of the Lakes Plains languages of Irian Jaya. *Papers in Papuan linguistics* 2, Karl Franklin (ed.), 133–236. Canberra: Pacific Linguistics A-85.

Cowan, H.K.J. 1952. Een toon-taal in Nederlandsch Nieuw Guinea. *Tijdschrift Nieuw Guinea* 13: 55–60.

DeGuzman, Maria Odulio. 1989[1966]. *English-Tagalog and Tagalog-English dictionary*. Metro Manila: National Book Store Publishers.

DeLancey, Scott. 1996a. The bipartite stem belt: Disentangling areal and genetic correspondences. *Proceedings of the 22nd Annual Meeting of the Berkeley Linguistics Society. Special session on historical issues in Native American languages*, David Librik & Roxane Beeler (eds.), 37–54. Berkeley CA: Berkeley Linguistics Society. Also available online at: http://darkwing.uoregon.edu/~delancey/papers/bls96.html.

DeLancey, Scott. 1996b. Argument structure of Klamath bipartite stems. Paper presented at SSILA Conference, San Diego, January 7, 1996. Also available online at: http://www.uoregon.edu/~delancey/papers/argklam.html.

DeLancey, Scott. 1999. Lexical prefixes and the bipartite stem construction in Klamath. *International Journal of American Linguistics* 65(1): 56–83.

Donohue, Mark. 1999. *A grammar of Tukang Besi*. Berlin: Mouton de Gruyter.

Donohue, Mark. 2002. Which sounds change: Descent and borrowing in the Skou family. *Oceanic Linguistics* 41(1): 157–207.

Donohue, Mark. 2003a. The tonal system of Skou, New Guinea. *Proceedings of the symposium Cross-linguistic Studies of Tonal Phenomena: Historical Development, Phonetics of Tone, and Descriptive Studies*, Shigeki Kaji (ed.), 329–355. Tokyo: Tokyo University of Foreign Studies, Research Institute for Language and Cultures of Asia and Africa.

Donohue, Mark. 2003b. Agreement in the Skou language: A historical account. *Oceanic Linguistics* 42(2): 479–498.

Donohue, Mark. 2003c. Morphological templates, headedness, and applicatives in Barupu. *Oceanic Linguistics* 42(1): 111–143.

Donohue, Mark & Lila San Roque. 2004. *I'saka: A sketch grammar of a language of north-central New Guinea*. Canberra: Pacific Linguistics No. 554.

Hildebrandt, Kristine A. 2005. The Himalayan enclave hypothesis and bipartite stems. Paper presented at the annual meeting of the Linguistic Society of America, Oakland, January 8, 2005.

Jacobsen, William H. 1980. Washo bipartite verb stems. *American Indian and Indoeuropean studies: Papers in honor of Madison S. Beeler*, Kathryn Klar, Margaret Langdon & Shirley Silver (eds.), 85–99. Berlin: Mouton de Gruyter.

Kocher Schmid, Christin. 1999. *Vanimo-Kilimeri: FRP site of intensive interdisciplinary research*. Report 1996–1999 for the European Commission, DG VIII.

Laycock, Donald C. 1975. Sko, Kwomtari, and Left May (Arai) phyla. *New Guinea area languages and language study*, Vol. 1: *Papuan languages and the New Guinea linguistic scene*, S.A. Wurm (ed.), 849–858. Canberra: Pacific Linguistics C-38.

Mohanan, Tara. 1997. Multidimensionality of representation: NV complex predicates in Hindi. *Complex predicates*, Alex Alsina, Joan Bresnan & Peter Sells (eds.), 431–471. Stanford CA: CSLI Publications.

Nichols, Johanna. 2004. A bipartite stem outlier in Eurasia: Nakh-Daghestanian. *Proceedings of the 29th Annual Meeting of the Berkeley Linguistics Society*, 321–334. Berkeley CA: Berkeley Linguistics Society.

Ross, Malcolm D. 1980. Some elements of Vanimo, a New Guinea tone language. *Papers in New Guinea linguistics No. 20*, 77–109. Canberra: Pacific Linguistics A-56.

Sadock, Jerrold M. 1980. Noun incorporation in Greenlandic: A case of syntactic word formation. *Language* 56(2): 300–319.

Seiter, William J. 1980. *Studies in Niuean syntax*. New York NY: Garland.

Sikale, John, Melissa Crowther & Mark Donohue. nd (2005). *Silla palla One miri (One dictionary)*. MS.

van Driem, George. 1987. *A grammar of Limbu*. Berlin: Mouton de Gruyter.

Vijayakrishnan, K.G. 1994. Compound typology in Tamil. *Theoretical perspectives on word order in South Asian languages*, Miriam Butt, Tracy Holloway King & Gillian Ramchand (eds.), 263–278. Stanford: CSLI Publications.

Voorhoeve, C.L. 1971. Miscellaneous notes on languages in West Irian. *Papers in New Guinea Linguistics* 14, 47–114. Canberra: Pacific Linguistics A-28.

Yu, Alan. 2003. The morphology and phonology of reduplication. Ph.D. diss, University of California, Berkeley.

Zoll, Cheryl. 1997. *Parsing below the segment in a constraint based framework.* Stanford CA: CSLI Publications.

Author's address

Mark Donohue
Linguistics Program
School of Languages, Cultures and Linguistics,
Monash University, Building 11,
Australia 3800

mark@donohue.cc