

A most agreeable language*

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1. Agreement and the notions of economy and redundancy

In this paper I shall present data on multiple exponence from Skou, a language of New Guinea, and show that it presents problems for most accounts of inflectional morphology, because of the essentially unpredictable number of ways in which the same agreement features are realised on a given lexical item. Following a sketch of the historical situation that lies behind the Skou agreement system, similarities in Bantu nominal inflection are drawn and an argument is made for a templatic model of inflection that resides in the lexicon, dictating morphological choices.

Different theories of morphology and syntax treat the mechanism of agreement in different ways, both from each other and for different patterns of agreement (see, eg., Bresnan and Mchombo 1987, Andrews 1990, Jelinek and Demers 1994, Stump 2001, and many others, some of which are referred to later in this paper). Furthermore, most modern morphosyntactic theories avow some principle of economy, although the way in which such a principle is modelled varies between frameworks. What they do share is the basic assumption that languages employ the most economical set of morphemes needed to realise the meaning and grammatical features required. For instance, describing the way in which the Economy Principle works in the Minimalist Program (MP), Radford (1997: 505) states that it is:

A principle which requires that (all other things being equal)¹ syntactic representations should contain as few constituents and syntactic derivations involve as few grammatical operations as possible.

In most work which claims to be ‘within the spirit of the Minimalist Program’, the syntactic relevance of a feature, such as agreement features (-features), tends to automatically generate a syntactic node in the structure describing the construction (for instance, the use of Agr_SP and Agr_OP for the checking of subject and object agreement features, in Lasnik (1999), among others). The Minimalist framework thus leans strongly towards an incremental model of morphology, since lexical roots acquire morphological features through checking at different nodes (see section 4.1.2). If we turn to Lexical-Functional Grammar (LFG), we also find a principle of Economy of Expression, but given the lexical integrity principle (‘words arrive in the syntax fully inflected’), it produces quite different results from those in the MP. The Principle of Economy of Expression applies only to syntactic nodes, not to the inflection of individual words (Bresnan 2001a). This implies that LFG is not, from its own internal architecture, strictly associated with either an incremental or

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¹ Which presumably means that the informational and pragmatic content is identical – MD.

realisational model of morphology. LFG makes use of unification principles, which are somewhat unbounded in terms of morphological predictions.

More specifically morphological accounts of inflection also address the more specialised issue of redundancy. Anderson's (1982) Elsewhere condition states that we should expect the appearance of more explicit morphemes at the expense of less explicit ones, when both are compatible with the features we wish to parse. Addressing the application of morpheme selection and morphological blocking in LFG, Andrews (1990) describes the Morphological Blocking Principle within the framework of Lexical Functional Grammar; an Optimality Theoretical account of similar phenomena is provided in Bresnan (2001b).

Morphological Blocking Principle (within the framework of LFG):

If a lexical item L appears in a c-structure position P corresponding to an f-structure F, and there is another lexical item L' whose specifications are subsumed by those of L but subsume those of F, then the structure is blocked
(Andrews 1990: 507)

In essence, the Morphological Blocking Principle stipulates that the most highly specified element which can be used in a given context must be used. From a morphological perspective, Andrews' formulation is functionally identical to Anderson's. In informal terms, Ortman (1999: 77) states the morphological position: 'inflectional affixes must always contribute additional information.' This is modelled in *different* ways in *different* frameworks: Distributed Morphology assumes that features, once assigned adequately to a morpheme, are discharged and no longer relevant. Noyer (1997: 99) explicitly states that '[the] inflectional feature [F] may not attach to a stem bearing [F] ... Where discontinuous bleeding occurs, an affix realizing a feature F will not appear if F has been realized by another affix at some position of exponence in the form.' Problems that arise with this model, and other current models, are discussed with in section 4.

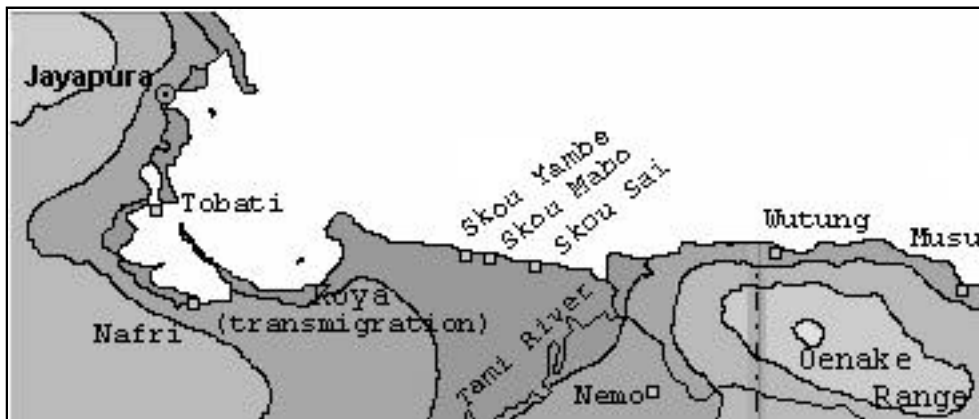
Wunderlich and Fabri (1995: 262) state that 'the output information must not be contained in the input', thereby assuring that any morphological units must contribute additional meaning. Stump (1993, 2001) has claimed that the presence of zero information load bearing morphology in Chichewa constitutes a counter to these principles, and an argument for a realisational model of morphology; this is discussed in section 4.2.3.

In this article I shall present data on verbal agreement from Skou that suggests that a purely grammatical (morphological or syntactic) account of inflection does not adequately model the idiosyncrasies of agreement in the language, and that the lexicon needs to be considered as an important stipulator in the process of assigning inflectional affixes. After an explication of verbal agreement in Skou I show that there are not semantic, syntactic or phonological factors behind the variation, which we must thus assume to be lexically determined. The problems this raises for earlier models that have skirted on the notions of multiple exponence and redundancy are discussed in some detail, followed by a historical explanation for the current state of affairs in Skou. I conclude by offering a lexical template model of the variation that we have examined, suggesting that the lexicon must be given a greater role in modelling these irregularities. This is independently motivated with data from noun classing in Bantu languages.

2. Skou

The Skou language is known from the work of Cowan (1952a, 1952b, 1957), Galis (1955), Voorhoeve (1971, 1975 and elsewhere), and briefly Donohue (2000). It has been referred to as Sko, Skou, Səkou, and Tumawo, and is referred to locally as *Te Máwo pílang ne ne* ('Our, the Mabu people's, language'). Skou is related to other languages in the Skou family of which it is the westernmost member, stretching across the north coast of New Guinea, extending past Vanimo to Leitre.² The language is spoken with minimal dialectal variation by the inhabitants of three villages, Skou-Yambe, Skou-Mabo and Skou-Sai, in the centre of the north coast of New Guinea (in Papua, formerly Irian Jaya; see Silzer and Clouse 1991). This is shown in figure 1.

Figure 1. The Skou villages and other features west of the Tami River



There are 700 speakers of the language, almost exclusively in these three villages. Although the name *Te Máwo pílang ne ne* is used by speakers to refer to their own language, the name Skou is acceptable, and recognised as the 'official' way to refer to their language.³ I shall refer to the language as Skou, following linguistic references to the language and speaker preference.

The materials presented here were collected by the author in 1998-2002, from people in Skou-Mabo and Skou-Yambe, while working on a cultural preservation project based in those villages. The materials reported here represent the conservative speech of Skou people from all three Skou villages, and are acceptable to all speakers with an active command of the language.

² More distant relations can be established with other members of the Macro-Skou family (including, but not confined to, Krisa (I'saka), Rawo, Puari, and Warapu (= Barupu)), albeit in a substantially different arrangement to Laycock's (1973, 1975) family tree. These more distantly related languages have morphological structures significantly different to those exemplified in Skou and the other languages discussed in section 4.3.

³ The name Səkou is the name used in Tobati, the western neighbour of Skou, to refer to the language and its speakers. The spelling *Skou* has become (along with *Skouw* and *Skow*, showing pseudo-Dutch influence) the standard spelling of this word in Indonesia, though linguistic works changed to *Sko* after 1971.

Skou⁴ is typical of many Papuan languages in displaying a basic SOV word order, and only somewhat unusual in maintaining this order strictly, even when real-word semantics would allow for an unambiguous interpretation (this appears to be a feature of languages of the North New Guinea coast).⁵

- (1) *Áì ke tà keyúyú.*
 father 3SG.NF bow he:search.for
 ‘Father is looking for the bow.’
- (2) * *Tà áì ke keyúyú.*
 bow father 3SG.NF he:search.for

(further morphological analysis of the verbs in (1) - (3) is possible, but is not relevant for the point being made here; more explicit glossing of verbal morphology is introduced in section 3.3)

Even when the only interpretation allowed by the word order is nonsensical, this is the only grammatical interpretation allowed for the sentence:

- (3) *Tína peùeme pepang.*
 salt woman she:ate
 ‘The salt ate the woman.’
- * ‘The woman ate the salt.’

Only topicalisation can give such a sentence a pragmatically plausible interpretation (see 3.1, examples (15) - (18)) and this is unlikely with a non-human object such as *tína* in (3). In most other respects Skou is not a typical Papuan language. It lacks reflexes for almost all of the Papuan cognate sets proposed by, for instance, Pawley (1995, 1997, 1998), and most of the morphological and phonological features that have been put forward as typical of Papuan languages (as opposed to Austronesian ones) (eg., Haiman 1980, De Vries 1993, Foley 1998) do not apply to Skou, or to other languages in the Skou family. The following section describes the means by which subject is marked on the verb in Skou.

⁴ Skou has a fairly simple segmental phonology, with 13 consonants and 7 vowels, arranged in strictly (C)V syllables (sequences of two vowels are always pronounced as two separate nuclei, and may carry separate tone melodies, such as *ái* ‘father’). Nasalisation is contrastive on vowels, as are five word-level tones (only three patterns surface on monosyllables). Tone and nasalisation contrast in the following sextuple: low tone, *ɬ* ‘hair’, *tã* ‘canoe’; high tone, *ta* ‘kunai grass’, *tã* ‘bird’; falling tone, *ta* ‘arrow’ and *tã* ‘machete’. Examples are presented in Skou orthography: nasalisation is indicated by a following *-ng*, *ɬ̃* and *ɬ̃* are written with the digraphs *ue* and *oe*. The representation of consonants follows IPA conventions, except that *y* represents [j ~ ɟ ~ dz ~ dʒ] (in a cline from younger to older speakers), and *j* represents [ɟ̃ ~ ɟ̃] for older speakers, and [dʒ] for younger ones. High pitch is shown with an acute accent ´, falling pitch with a grave accent ` , and low pitch is left unmarked. Low tone marking past tense is not written, except in section 4.1.4.

⁵ The following abbreviations have been used in glosses. Portmanteau agreement markers use the following abbreviations: 1, 2, 3: first, second and third person; SG, PL: singular and plural number; F feminine; NF non-feminine; DAT dative; DEF definite; DEIC deictic; POSS possessive. The other glosses used are: AN, animate; NEG, negative; OBJ, object; OBV, obviate; PROX, proximate; RED, reduplication; SUBJ, subject. In languages other than Skou the following additional abbreviations appear: ABS absolutive; ACC accusative; CL class marker; CONC (verbal) concord marker; DET determiner; GDR gender; GEN genitive; HEAD agreement with relative clause head; IMP imperative; LOC locational; NONHUM non-human class; PERS person; QUAL (adjectival) agreement marker.

3. Skou verbs

The verb in Skou is usually a single syllable of the form (C) V+T±N, that is, a consonant (optional but normal), a vowel, a tone and a choice of nasal or oral production of the vowel. While there is a reasonable number of unanalysable multisyllabic noun roots (such as *naké* ‘dog’, *kungpáue* ‘spider, octopus’ or *ingno* ‘banana’), multisyllabic verb roots are rare (less than 10% of the known verbs; see 3.6 for listings). When a verb does consist of more than one syllable, usually one or more of the syllables is an easily discernible adjunct nominal,⁶ or the auxiliary verb. Although these verbs present complications for a description of the patterns of agreement, they do not affect a list of the different types of agreement phenomena. We can distinguish four broad categories of verbs, on the basis of the kind of subject agreement patterns they display.

The four means of marking -features of the subject of the verb on the verb itself are:

1. Pronominal agreement clitic, obligatory on all verbs;
2. Vowel alternations to show a limited range of features on the verb, as well as a pronominal agreement clitic;
3. Consonant alternations to show a full paradigm of feature agreement, as well as a pronominal agreement clitic;
4. A combination of some of the above.

It is when we find combinations of these, especially 1. and 3., which are the most common pattern in the language, that analytical problems arise. The forms of these different patterns are discussed in turn in the sections that follow.

3.1 PRONOMINAL CLITIC AGREEMENT

There is a set of verbs that show agreement with the subject⁷ through the use of pronominal clitics.⁸ These verbs are the simplest of all, and show no alterations in the form of the root; examples of these verbs are *moeng* ‘stay’, *(pa) pi* ‘(water) swim’, *(pa) hí* ‘(water) wash’, *jí* ‘close, break’, *wung* ‘die’, *fí* ‘meet’ (here and elsewhere verbs are cited in the form given for 2PL subject, which is close if not identical to the root form of the verb.). Despite not altering

⁶ I use the term ‘adjunct nominal’ following Foley (1986: 117) to refer to the process common in non-Austronesian languages of New Guinea which lack an extensive array of verb roots. An adjunct nominal is taken to be any N (not NP), maximally an N’, that appears in a fixed position adjacent to the verb, cannot be separated from it. Furthermore, in the case of transitive verbs, the presence of the adjunct nominal does not inhibit the appearance of a true object. Ross (1980) discusses criteria for identifying adjunct nominals (which he calls ‘verbal complements’) in Vanimo, citing the semantic unrestrictedness of the verb without the specifying nominal, and the frequent cooccurrence of the two lexemes without independent existence as identifying traits. A more theoretical discussion can be found in Mohanan (1995, 1997).

⁷ I use this term in the traditional sense of an S + A grouping.

⁸ These morphemes are described as clitics, rather than prefixes, because of their variable behaviour with respect to adjunct nominals (see sections 3.2, 4.4), ability to attach to words of more than one syntactic category, and their phonological independence from the verb root, compared to prefixes (cf. Zwicky and Pullum 1983). The term is not intended to imply any particular morphosyntactic status, such as that enjoyed by pronominal clitics in Romance languages.

the root in any way to show agreement with the subject, these verbs must appear with a proclitic that agrees in number with the subject.

- (4) * *Peangku fue a wung.*
 girl that die
 ‘That girl died.’
- (5) *Peangku fue a pe=wung*
 girl that 3SG.F=die
 ‘That girl died.’

Cowan describes his data consistently with this analysis. Voorhoeve challenged Cowan’s claim that the pronouns (= clitics) must appear immediately preverbally, based on an interpretation of some sentences as involving the structure PRO [P NP] V, with the pronoun separated (1971: 55). These sentences are in fact serial verb constructions, not preposition phrases (which would be unlikely given the languages V-final word order, and use of postpositions elsewhere). Voorhoeve’s other data suggests the clitic analysis, including his remark that word order is SOV with nominal subjects, but OSV (that is, O S_{clitic}=V - MD) with pronouns.

When the subject is pronominal, an identical pattern emerges: the clitic pronoun can appear on the verb with a free pronoun (identical in phonological shape), but that the clitic pronoun alone is not sufficient to ensure a grammatical sentence.

- (6) #/* *Pe=wung*
 3SG.F=die

In order to present a grammatical sentence, the subject must be overtly present as a separate noun phrase, even if that noun phrase consists only of a pronoun:

- (7) *Pe pe=wung.*
 3SG.F 3SG.F=die
 ‘She died.’

This preference for an independent pronoun is so strong that even when the clitic pronoun and the preverbal (object) NP do not match categories, a sentence-initial object NP will be interpreted as a subject in the absence of another NP that could possibly be interpreted as the subject. As an example of this preference, in the preparation of literacy materials the following sentence was presented in the draft version of a book:

- (8) *Táng hìngtung pe=fe.*
 bird two 3SG.F=see.AN.PL.OBJ
 Intended reading: ‘She saw two birds.’

This string of words was, however, consistently interpreted with the NP *táng hìngtung* ‘two birds’ as the obligatory DP subject, and so the subject clitic was changed by speakers from the singular feminine *pe=* to the plural *te=*, as follows:

- (9) *Táng hìngtung te=fe.*
 bird two 3PL=see.AN.PL.OBJ
 ‘Two birds saw (something).’

In order to achieve the intended reading, the sentence had to be changed to that shown in (10), with an overt free pronoun *pe*.

- (10) *Pe táng hìngtung pe=fe.*
 3SG.F bird two 3SG.F=see.AN.PL.OBJ
 ‘She saw two birds.’

Only in this case was the proclitic on the verb correctly interpreted as referring to an argument other than the two birds. With first or second person clitics this restriction is relaxed somewhat, and sometimes the clitic pronoun alone is sufficient for a grammatical reading (especially with the singular *nì* and *mè*). While nonetheless grammatical, speakers prefer free pronouns to be present in addition to subject clitics. The following clause was taken from literacy materials used in Skou; the sentence was changed from an earlier version without the initial pronoun, *Ya ne nang loeng pa*, ..., to the version in (11) with a free pronoun, a clitic pronoun, and verb-stem agreement through consonant prefix (see section 3.3 for further discussion).

- (11) *Ne ya ne=n-ang loeng=pa, ...*
 1PL thing 1PL=1PL-eat finish=INSTR
 ‘When we have finished eating, ...’

- (12) # *Ya ne=n-ang loeng pa, ...*

These data are evidence that the clitic pronouns are simple agreement markers, and are not pronominal in nature. The clitic pronouns have the same basic form as the free pronouns (though with reduced vowel variants in most cases), but none of the positional freedom of the latter. They must appear immediately preceding the verb root (or verb + adjunct nominal ‘compound’ – this is further elaborated in sections 3.2, 4.1.2 and 4.2.2) and, for the low-tone pronouns, they may optionally have reduced forms with schwas instead of [ɛ̃] as the vowel. Other nominals, and even free pronouns, lack these features.

The following sentences show that the clitic *pe=* can occur with a reduced vowel, whereas the free pronoun cannot. Furthermore, the free pronoun may appear either as the appositional pronoun in an ergative NP, or as the sole member of a DP.

- (13) *Pe=angku pe naké pe=yúyú.* [pẽaŋku pẽ nakẽ pɛ̃dʒudʒu]
 3SG.F=child 3SG.F dog 3SG.F=search for * [pẽaŋku pẽ nakẽ pɛ̃dʒudʒu]
 ‘The girl is looking for the dog.’
- (14) *Pe naké pe=yúyú.* [pẽ nakẽ pɛ̃dʒudʒu]
 3SG.F dog 3SG.F=search for * [pẽ nakẽ pɛ̃dʒudʒu]
 ‘She is looking for the dog.’

It could be argued that the free pronouns are adjoined to the clause as representatives of a pragmatic discourse function independent of the pronominal marking on the verb (as per Bresnan and Mchombo 1987, Jelinek and Demers 1994). Pronouns, being inherently definite in Skou (a thesis supported by the fact that there are no indefinite or negative pronouns such as ‘noone’, ‘nothing’ or ‘someone’), are, under this view, also inherently topical, and so appear in a clause-external topic position (cf. Aissen 1992). There is in fact such a position in Skou, seen in (15), in which *pe Loisa a* and *pe Maria a* are contrastive topics:

- (15) *Pe Loisa a, te=angku-pè=pe héngtong;*
 3SG.F Loisa DEIC 3PL=child-3SG.F.POSS=3SG.F.DAT three
pe Maria a, te=angku-pè=pe ka
 3SG.F Maria DEIC 3PL=child-3SG.F.POSS=3SG.F.DAT NEG
 ‘Loisa, she has three children; Maria, she has none (yet).’

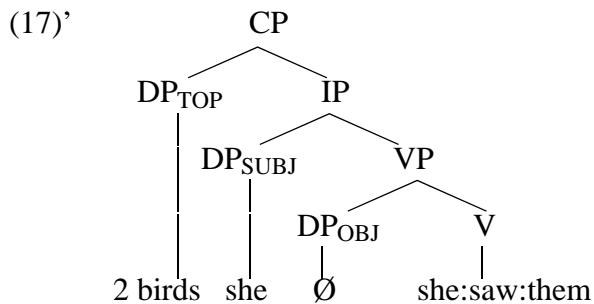
It cannot be argued, however, that the appearance of sentence-initial free pronouns such as that in (14) is an instance of topicalisation when they are represented on the verb in the form of clitics and agreement prefixes. We can show this by examining sentences with topicalised nominal objects which still maintain an independent subject DP, such as (16), with *te Óeti* ‘those Wutungs’ as subject:

- (16) *Í ná pang hén tong a, te Óeti fue a te=fe há pèng.*
 snake five three DEIC 3PL Wutung that 3PL=see.PL bush
 ‘Seven snakes, those Wutung people saw them in the bush.’

(seven is expressed as five + three in Skou, which uses a mixed base-eight/base-twelve counting system)

When the subject of the sentence is pronominal, then the subject is still shown with a free pronoun in addition to the verbal morphology. Adapting sentence (10), we have the following example with a topicalised object and a pronominal subject. The presence of a free pronoun is obligatory, in the normal sentence-initial position. Since the topic position is taken with the phrase *táng hìng tung fue a*, the free pronoun cannot be an instantiation of a topic referring to a bound clitic pronoun *pe=* on the verb.

- (17) *Táng hìng tung fue a, pe pe=fe.*
 bird two that 3SG.F 3SG.F=see.AN.PL.OBJ
 ‘Those two birds, she saw them.’



- (18) * *Táng hìng tung fue a, pe=fe.*

An alternative analysis in which the free pronouns are assumed to appear in a clause-external focus position is untenable on the grounds that there does not appear to be such a structural focus position; Wh-question words appear in-situ, as can be seen by examining these sentences which appear with either subject or object questioned and no change in word order.

- (19) *Bá mè ong ke=k-e?*
 who 2SG refusal 3SG.NF=3SG.NF-refuse
 ‘Who refused you?’

- (20) *Mè bá ong mè=m-e?*
 2SG who refusal 2SG=2SG-refuse
 ‘Who did you refuse?’

- (21) * *Bá mè ong mè=m-e?*

It is clear that the language exhibits a form of agreement by clitics, which do not supply a pronominal feature themselves, but which are purely agreement markers. The full set of clitic pronominal markers is given below.

(22)	SG	PL
1	<i>nì</i>	<i>ne</i>
2	<i>mè</i>	<i>e</i>
3.NF	<i>ke</i>	<i>te</i>
3.F	<i>pe</i>	

The same forms are also used for free pronouns, though, as stated above, the clitic pronouns apart from *nì* and *mè* may appear with a reduced vowel [ɛ], rather than [ɛ̃] (there is no gender distinction in the nonsingular verb forms). Additionally, free pronouns also distinguish several dual categories: *amane* 1DU.IN, *anake* 1DU.EX, *anape* 1DU.EX.F, *enake* 2DU, *enape* 2DU.F, *tenake* 3DU, *tenape* 3DU.F. These are not distinguished on the clitic sets, where dual free pronouns are marked as part of the non-singular category. An equivalent of (11) with dual subject would be *Amane ya ne=n-ang loeng*, ‘We had both finished eating.’

Another phenomenon where similar redundancy is observed is possession, in which the possessive pronoun is suffixed to the possessed noun, and is in turn followed by the dative form of the pronoun.

(23)	<i>naké-ké=ke</i> dog-3SG.NF.POSS=3SG.NF.DAT ‘his dog’
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Although the use of the dative pronoun alone would supply all the feature information necessary to fully specify the possessor, this is not grammatical: the possessive pronoun is required as well.⁹ Equally, the possessive pronoun cannot occur alone, but must appear in conjunction with the dative.

(24)	* <i>naké=ke</i> dog=3SG.NF.DAT
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(25)	* <i>naké-ké</i> dog-3SG.NF.POSS
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We shall not examine the paradigm of possessive constructions in any more detail here, since they do not add any information to the description of verbal agreement.

⁹ A small set of inalienable nouns must always appear with the possessive pronoun. These nouns are: *bápá(ne)* ‘friend’, *è(ne)* ‘wife, daughter in law’, *í(ne)* ‘father in law, son in law’, *là(ne)* ‘mother in law’, *páng(ne)* ‘husband’, *tà(ne)* ‘daughter in law’, *yá(ne)* ‘sister’, *yu(ne)* ‘brother’, *héng(me)* ‘(someone else’s) brother/sister in law’, *má(me)* ‘(someone else’s) mother’, *re(me)* ‘(someone else’s) father’, and *yaramenà(ne)* ‘song’ (shown with *-ne* 1SG.DAT or *-me* 2SG.DAT). When used to indicate a possessed item, they appear with the normal possessive pronoun and an additional dative pronoun.

We have seen in this section that Skou has a pattern of pronominal agreement markers which, like the agreement markers in Germanic languages, cannot be analysed as incorporated pronouns.¹⁰

3.2 VOWEL CHANGES: SUBJECT AGREEMENT

With some verbs the person, number and gender of the subject is (partially) marked by means of alternations in the vowel of the verb. If there is any alternation, the third person feminine subject will always be affected, but, in the example below, third person plural is also affected. Feminine inflection involves rounding and backing, and plural inflection fronting. In *lú weng*, *lú* is the adjunct nominal ‘eye’, and *weng* is the uninflecting verb ‘sleep’.

(26)	‘sleep’	SG	PL
	1	<i>lú weng</i>	<i>lú weng</i>
	2	<i>lú weng</i>	<i>lú weng</i>
	3.NF	<i>lú weng</i>	<i>lé weng</i>
	3.F	<i>ló weng</i>	

Note that it appears that the vowel-change agreement applies to the [adjunct nominal + verb] unit in this case; it is the vowel of *lú* that changes, not that of the verb *weng*. This is not a generalisation that applies to all verbs with adjunct nominals; for instance, with *lú* ‘release’ (whose homophony with the *lú* in ‘sleep’ is purely coincidental) the adjunct nominal *pìng* ‘arrow’ is used to build the meaning ‘shoot at someone’, but there is no alternation in the form of *pìng*.

The vowel alternations in (26) differentiate special forms for the 3SG.F and the 3PL forms. Other verbs, such as *fue* ‘see’, show different divisions. With *fue* ‘see’ the 3SG.F is uniquely different to the other members of the paradigm, as is the case for ‘sleep’, but rather than having a unique 3PL form there is a special form for all plural persons.

(27)	‘see’	SG	PL
	1	<i>fue</i>	<i>fì</i>
	2	<i>fue</i>	<i>fì</i>
	3.NF	<i>fue</i>	<i>fì</i>
	3.F	<i>fu</i>	

¹⁰ I have described pronominal clitics as being obligatory on all verbs; there is in fact one condition in which no clitic appears on the verb. When the subject of an intransitive verb is 1DU.IN, the clitic may optionally be omitted. For instance, for the translation equivalent of ‘We sat.’, the normal construction would be

(i) *Amane ne=ta n-ùng.*
 1DU.IN 1PL-sitting 1PL-sit

In addition to this, there is an alternative *Amane ta nùng*. This is only found with intransitive verbs with the 1DU.IN pronoun; a transitive sentence, or one with any other pronoun (including the other 1DU forms: *anake* 1DU.EX, *anape* 1DU.EX.F) requires the pronoun: *Anake ne ta nùng*, **Anake ta nùng*. I suggest that this apparent exception confirms the obligatoriness of the clitics: the only circumstance in which the clitic may be dropped is when a more semantically specified pronoun with an identical last syllable to the clitic immediately precedes it; in this case, a purely phonological reduction of two otherwise identical adjacent syllables occurs.

These verbs must also appear with the pronominal clitics described in section 3.1; the alternation of the vowel alone is not sufficient to indicate the subject. Examples of both these verbs are given below, as well as sentences illustrating the different position of the adjunct nominal *pìng* ‘arrow’ with *lú* ‘release’. In the first two sentences we can see that the gender of the person is indicated not only by the verbal proclitic, but also by the change in the vowel of the adjunct nominal.¹¹

(28) *Ke=angku ke=lú weng.*
 3SG.NF=child 3SG.NF=eye sleep
 ‘The boy is sleeping.’

(29) *Pe=angku pe=ló weng.*
 3SG.F=child 3SG.F=eye.F sleep
 ‘The girl is sleeping.’

In the following sentences we can see that the gender of the subject is reflected in the choice of vowel of the verb ‘see’, which additionally requires the proclitic, and a free pronoun.

(30) *Ke móe ke=fue.* * *Móe ke=fue, * Ke móe fue.*
 3SG.NF fish 3SG.NF=see
 ‘He saw a fish.’

(31) *Pe móe pe=fu.* * *Móe pe=fu, * Pe móe fu.*
 3SG.F fish 3SG.F=see.F
 ‘She saw a fish.’

The next two sentences show the alternative position of the adjunct nominal; in sentences (28) and (29) the adjunct nominal *lú* appears between the agreement proclitic and the verb. In the sentences below, however, the adjunct nominal *pìng* must appear before the proclitic.

ADJUNCT.NOM CLITIC= V

(32) *Nì pe pìng nì=lú.* * *Nì pe nì=pìng lú.*
 1SG 3SG.F arrow 1SG=release
 ‘I shot her.’

(33) *Pe nì pìng pe=rú.* * *Pe nì pe=pìng lú, * Pe nì pe=pìng rú,*
 3SG.F 1SG arrow 3SG.F=3SG.F:release
 ‘She shot me.’

(see also section 4.2.2)

We can see that in these sentences the subject is indicated by the vowel alternations on the verb root itself, and also by the proclitic agreement markers. Other verbs require indication of subject by changes in the initial consonant of the verb.

¹¹ It is worth noting in an aside that the male and female children (and some other kin terms) are differentiated only through the use of the pronominal clitics; a plural ‘children’ is formed with *Te angku*, and indeed any human NP, preferably subject, can appear with the appropriate pronoun heading it. This phenomenon, seen in (29) and (30) is expected both within the language and within a New Guinea linguistic context.

3.3 CONSONANT CHANGES: SUBJECT AGREEMENT

Consonant alternation is a frequent pattern of subject agreement on most verbs. Representative examples of these consonant alternations are given below; the consonant patterns are not entirely regular, with different consonants appearing with different verbs to mark the same -features.¹² In contrast to the verbs that show agreement solely through the presence of pronominal clitics, verbs with consonant alternations are highly restricted in terms of their onset: only verbs with the consonants *k h w l*, or one of the vowels *a o* or *oe*, are found. Representative examples of the different verb conjugations are given below:

(34)	‘catch’	‘close’	‘get F’	‘chop’	‘eat’	‘seawards’	‘underlying’ prefix
1SG	<i>ké</i>	<i>há</i>	<i>wé</i>	<i>làng</i>	<i>kang</i>	<i>o</i>	Ø-, k-, n-
2SG	<i>bé</i>	<i>má</i>	<i>pé</i>	<i>pàng</i>	<i>mang</i>	<i>mo</i>	m-
3SG.NF	<i>ké</i>	<i>ká</i>	<i>wé</i>	<i>làng</i>	<i>kang</i>	<i>ko</i>	k-
3SG.F	<i>wé</i>	<i>wá</i>	<i>wé</i>	<i>wàng</i>	<i>pang</i>	<i>po</i>	p-
1PL	<i>ké</i>	<i>ná</i>	<i>wé</i>	<i>tàng</i>	<i>nang</i>	<i>no</i>	n-
2PL	<i>ké</i>	<i>há</i>	<i>wé</i>	<i>làng</i>	<i>ang</i>	<i>o</i>	Ø-
3PL	<i>ki</i>	<i>yá</i>	<i>wé</i>	<i>yàng</i>	<i>tang</i>	<i>to</i>	t-, y-
ROOT:	<i>ké</i>	<i>há</i>	<i>wé</i>	<i>làng</i>	<i>ang</i>	<i>o</i>	

Although the patterns shown in (34) represent typical inflectional paradigms, there is considerable idiosyncrasy in the system. The two vowel-initial roots in (34), *ang* ‘eat’ and *o* ‘go seawards’ show different forms for the 1SG cell, for instance see the discussion in 4.3. With *l*-initial roots, we see the widest variation:

(35)	‘cook’	‘hit F’	‘chop’	‘hide TR’	‘burn’	‘come’	‘release’	‘hear’
1SG	<i>lá</i>	<i>láng</i>	<i>làng</i>	<i>wì leng</i>	<i>li</i>	<i>lòe</i>	<i>lú</i>	<i>lue</i>
2SG	<i>pá</i>	<i>páng</i>	<i>pàng</i>	<i>wì peng</i>	<i>pi</i>	<i>pòe</i>	<i>pú</i>	<i>pue</i>
3SG.NF	<i>lá</i>	<i>láng</i>	<i>làng</i>	<i>wì leng</i>	<i>ti</i>	<i>tòe</i>	<i>lú</i>	<i>lue</i>
3SG.F	<i>wá</i>	<i>wáng</i>	<i>wàng</i>	<i>wì weng</i>	<i>tue</i>	<i>tòe</i>	<i>rú</i>	<i>rue</i>
1PL	<i>rá</i>	<i>táng</i>	<i>tàng</i>	<i>wì teng</i>	<i>ti</i>	<i>tòe</i>	<i>rú</i>	<i>rue</i>
2PL	<i>lá</i>	<i>láng</i>	<i>làng</i>	<i>wì leng</i>	<i>li</i>	<i>lòe</i>	<i>lú</i>	<i>lue</i>
3PL	<i>rá</i>	<i>jáng</i>	<i>yàng</i>	<i>wì reng</i>	<i>ti</i>	<i>tòe</i>	<i>rú</i>	<i>rue</i>
ROOT:	<i>lá</i>	<i>láng</i>	<i>làng</i>	<i>wì leng</i>	<i>li</i>	<i>lòe</i>	<i>lú</i>	<i>lue</i>

Although 1SG, 2SG and 2PL show consistent consonantal patterns, the other persons show considerable variation: 3SG.NF appears as *l*- or *t*-; 3SG.F appears as *w*-, *t*- or *r*-; 1PL can be *t*- or *r*-; and 3PL shows *t*-, *r*-, *j*- and *y*- agreement morphemes. Synchronic regularity is elusive (see further discussion in section 4.3). Alternations of the sort seen in (34) and (35) are found

¹² The apparent underlying patterns in the data do, however, suggest an abstract analysis of prefixation and assimilation of a consonantal element that is (historically, at least) prefixal to the verb stem. Ross (1980), summarised in Foley (1986: 133-134), offers a presentation of this view for the related language Dumo (Vanim); Wutung, Dusur and Leitire, close relatives of Vanim, display similar paradigms (see section 4.3). Skou is less regular than Dumo and the other eastern languages.

in the majority (68%) of Skou verbs, and may be considered a regular agreement pattern, despite the somewhat unpredictable nature of the consonant changes (possible alternatives are discussed in section 4.1). Note that, when used in natural speech, these verbs too must appear with a pronominal clitic as well as a free nominal subject, as seen in (36).

- (36) *Pe m̀è pe=wé.* * *M̀è wé, * M̀è pe=wé.*
 3SG.F 2SG 3SG.F=3SG.F:catch
 ‘She caught you.’

These verbs also show subject agreement with more distinctions made than the verbs showing alternations in the vowel. Despite this more complete paradigm of alternations, these verbs still require pronominal proclitics for the subject, in addition to a free DP subject, in order to be part of a grammatical utterance. We thus have a paradigm which requires double marking of the arguments that show agreement, with, crucially, the informational content in the different agreement morphemes identical. None of the agreement markers, either prefixal or proclitic, are portmanteau forms of (for instance) tense+ features, and neither are they dependent on a particular configuration of these grammatical features to appear: both of these are always compulsory. It follows that we could not argue that one of the instances of the appearance of pronominal information was simply a tense, or aspect, or other function, marker, with suppletive forms for person, number and gender (see sections 4.1, 4.2). Furthermore, in no case are the -features of an argument broken up into separate morphemes with, for instance, person indicated by one morpheme, number by another, and gender by a third.¹³ Both of the agreement markers in Skou parse exactly the same set of features.

3.4 CONSONANT AND VOWEL CHANGES FOR SUBJECT

Some verbs combine the elements seen in 3.2 and 3.3 to produce a paradigm that shows considerable redundancy in the marking of subject features in the verb complex. An example of this can be seen in the verbs *lòe* ‘shave’ and *lóeng* ‘tell, order, promise, persuade’. These verbs display the consonant alternations seen in 3.3 with vowel alternations of the type seen in 3.2.

(37)	‘shave’	SG	PL	‘tell’	SG	PL
	1	<i>lòe</i>	<i>ròe</i>	1	<i>lóeng</i>	<i>lóeng</i>
	2	<i>pòe</i>	<i>lòe</i>	2	<i>póeng</i>	<i>lóeng</i>
	3.NF	<i>lòe</i>	<i>rí</i>	3.NF	<i>lóeng</i>	<i>níng</i>
	3.F	<i>rúe</i>		3.F	<i>núng</i>	

¹³ An example of agreement through multifunctional affixes, and the split of agreement markers for one argument into two morphemes with different features, can be seen in the following Kiwai sentence (Foley 1986: 129, from Ray 1933):

- (i) *Nei sirio moni g-iiri-ti-ru-mo.*
 they plenty money 2/3PAST-put.in-REP-PAST-PL.SUBJ
 ‘They put several pieces of money in.’

In this sentence the first prefix *g-* indicates the person of the subject, and is a portmanteau morpheme also showing past tense. The number of the subject is indicated by the final suffix *-mo*, showing non-singular number. The exponence for this 3PL subject is thus split into number marked as suffix to the verb (the primary exponent), and person values marked on a tense prefix.

As might be expected, these verbs too require the full panoply of subject proclitic and free nominal subject in order to be grammatical. In example (38) we see the subject referred to by four morphological means:

- 1) the regular use of the free pronoun *pe*;
- 2) the regular use of the subject proclitic *pe=*;
- 3) the regular choice of the initial *r p* or *n* on the verb and
- 4) the use of the vowel *ue* or *u* (feminine backing), *i* (plural fronting).

In addition to the free nominal, there are three instances of agreement on the verb: the clitic, the consonant, and the vowel, as shown in (38).

- (38) *Pe yu-pe-pè=pe*
 3SG.F brother-3SG.F.DAT-3SG.F.POSS=3SG.F.DAT
ta-ké=ke *pe=rúe.*
 hair-3SG.NF.POSS=3SG.NF.DAT 3SG.F=3SG.F:shave:3SG.F
 ‘She shaved her brother’s hair.’

As stated in 3.1, with first and second persons the free pronominal is optional, though the pronominal clitic must still be present, even when the inflected verb stem uniquely identifies the subject. This is also true of control environments.

- (39) (*Mè*) *nì mè=póeng=ko* (*nì*) *pa nì=ke.*
 2SG 1SG 2SG=2SG:tell=OBV 1SG water 1SG=fetch
 ‘You told me to fetch some water.’

The data shown above suggest that the verbs that display both consonant alternations and vowel alternations to indicate the person, number and gender of the subject do not have a pronominal feature included in the feature bundle that is part of the package indicated by the agreement paradigm, and that for third persons even the combination of consonant alternation, vowel alternation and proclitic is insufficient to allow a pronominal interpretation. The kind of ‘doubling’ here is quite different to that reported in Everett (1987, 1989), in which the verbal clitic ‘doubles’ an independent free nominal. In Skou we have just seen in this and the previous section instances of the verbal clitic doubling the verbal prefix, irregularly. We shall examine just one more case of multiple exponence in the verbal system, and then discuss some possible explanations for these patterns.

3.5 CONSONANT, VOWEL AND OTHER CHANGES: SUBJECT

In addition to the marking of the subject by consonant alternation, vowel alternation, and proclitic, some verbs go further, and display obligatory alternations of the adjunct nominal which specifies the verb. The verb *re* ‘go’ shows consonant and vowel alternations for subject.

- (40) ‘go’ SG PL
 1 *re ne*
 2 *me ri*
 3.NF *ti ti*
 3.F *te*

This verb can also be used with an adjunct nominal to designate a falling motion, rather than a deliberate translocatory movement. We have already seen one example of an adjunct nominal that shows alternations depending on the features present in the subject in the discussion of *lú weng* eye sleep ‘be sleepy’ in 3.2, indicating that the adjunct nominal is in some way incorporated into that part of the verb structure that is eligible for agreement. Just as with *lú weng*, the adjunct nominal *kú* that accompanies *re* shows alternations in its form depending on the values of the subject. However, *kú* occurs with a verb that already has person-number-gender distinctions present in the verb root, indicated by both consonant and vowel alternations.

(41)	‘fall’	SG	PL
	1	<i>kú re</i>	<i>i ne</i>
	2	<i>kú me</i>	<i>i ri</i>
	3.NF	<i>kú ti</i>	<i>i ti</i>
	3.F	<i>pí te</i>	

Here we can see that all the alternations for the verb *re* ‘go’ are still found when it is used with an adjunct nominal, but that the adjunct nominal also displays suppletive forms for plural or feminine subject. This results in sentences such as the following:

(42)	<i>Te</i>	<i>te=i</i>	<i>t-i.</i>
	3PL	3PL=fall.PL	3PL-go.3PL
	‘They fell over.’		

In this sentence we have a total of four places in which the subject is obligatorily marked in the verb phrase, in addition to appearing as a free pronoun.

It could be argued that what we are witnessing here is in fact some verbs marking plurality of the subject by the use of a completely different verb stem. The fact that the tone and nasalisation values of the syllable never differ across a verbal paradigm supports the analysis first presented, that the paradigm in (41) is actually a combination of consonant modification and vowel modification, or maximally stem adjustment (see below), rather than complete suppletion.

We could account for aspects of the Skou data by assuming a set of readjustment rules operating on the roots in Skou. The notion of readjustment rules is discussed in Halle and Marantz (1993: 124-129), following Halle (1990) and Lieber (1980), and is the process of adjusting the phonological shape of roots in certain grammatical environments. For instance, in English the addition of the regular [t] allomorph of the past tense morpheme *-d* should result in [kɛpt]; in fact, [kɛpt̚] is the form heard, after the application of a readjustment rule. Although the root form [kɛp] is found only in those environments that are marked with *-d*, both the root changes as well as the overt suffix being added. Under Distributed Morphology (DM) this is not a case of multiple exponence, but of phonological readjustment (Halle and Marantz do note that the relationship between *go* and *went* is one of suppletion, not of readjustment, though it is not clear where the dividing line between the two should be drawn, and whether it can be decided on a non-arbitrary basis).

Applying this approach to Skou, we would consider the clitics to be the agreement markers, since they are found on all verbs (see 3.1). The consonant alternations found in the majority of Skou verbs is then a matter of readjustment rules applying: the verb *o* ‘motion

seawards’ is readjusted to *mo* when the subject is 2SG, to *ko* when the subject is 3SG.NF, to *po* when the subject is 3SG.F, to *no* when the subject is 1PL, and to *to* when the subject is 3PL. The full paradigm of these alternations, with free pronouns, clitics and prefixes displayed, is shown in (43) with the verb *o* ‘go seawards’:

	DP		Verb		
(43)	Free pronoun	Verbal clitic	Verbal prefix	‘seawards’	
1SG	<i>nì</i>	<i>nì=</i>	∅-	<i>o</i>	
2SG	<i>mè</i>	<i>mè=</i>	<i>m-</i>	<i>o</i>	
3SG.NF	<i>ke</i>	<i>ke=</i>	<i>k-</i>	<i>o</i>	
3SG.F	<i>pe</i>	<i>pe=</i>	<i>p-</i>	<i>o</i>	
1PL	<i>ne</i>	<i>ne=</i>	<i>n-</i>	<i>o</i>	
2PL	<i>e</i>	<i>e=</i>	∅-	<i>o</i>	
3PL	<i>te</i>	<i>te=</i>	<i>t-</i>	<i>o</i>	

‘I/You/He/She/We/You(PL)/They go towards the sea.’

This DM approach will account for the data, as it will for any paradigm of alternations. It does, however, miss the fact that, while there is a degree of unpredictability in the inflectional system of Skou (as noted earlier in 3.3), the underlying nature of the system as it affects the roots involves regular prefixes, whose phonological form is (with the exception of the 1SG – see table 4 and footnote 27) transparently related to the consonants of the free pronouns. The stem of the verb itself is invariant, as seen in (43).¹⁴

To miss this generalisation would be to ignore a wealth of data on the genesis of agreement systems in languages (eg., Campbell 1990, Comrie 1980, Givón 1971, 1976). Further it would involve positing an amazing amount of coincidence in the phonological readjustments that take place, since such a wealth of agreement affixation-like material would be unlikely to arise randomly (see Stump (1993: 188) for similar arguments against this analysis in Chichewa).

3.6 VERB CLASSES OR CONJUGATIONS?

We must consider the possibility that this variation in the exponence of subject agreement is due to the presence of different (semantically motivated?) verbal conjugations, or verb classes. To this end, I shall present the currently known lexicon of Skou verb roots, arranged by inflectional category, and examine them by transitivity criteria and by phonological criteria.

¹⁴ A better candidate for an analysis involving stem readjustment would be the vowel changes that are described in section 3.2. These are a more appropriate candidate for description by this means because they are found on some, but not all, verbs. They do still show an obvious grammaticalisation path pronoun > clitic > affix > vowel modification, but at an older level than proto-Skou. Productive object markers can be found in more distant relatives: Barupu has the 3SG.F.O suffix *-u*, Womo has an identical suffix, and I'saka, even more distantly related, shows 3SG.F.DAT *-ŋ*, and 3SG.F.O *-wi* (Donohue and San Roque 2002). These morphemes appear to be related to the Skou rounding and backing process that marks feminine subject. Despite this connection, in the Skou languages (as described in figure 1) there are no regular suffixes, and the scope of the marking by vowel change covers subject.

Of the 69 verb roots that have been isolated in Skou,¹⁵ we find the following distribution into classes according to morphological agreement patterns:

Table 1. Skou verbs and agreement classes

Morphosyn-tactic Class	Number of verbs	Semantic type	Phonological type	Members
Clitic alone	20	low affect?	<i>f h i j l m n</i> <i>oe p w y</i>	<i>fí</i> ‘meet’; <i>hí</i> ‘wash’; <i>ífángfong</i> ‘spit’; <i>jí</i> ‘break’; <i>jí</i> ‘close’; <i>loeloe</i> ‘sing’; <i>lú</i> ‘cough’; <i>moeng</i> ‘stay’; <i>ná</i> ‘splash’; <i>òeng</i> ‘let go’; <i>pa pi</i> ‘swim’; <i>péngpèng</i> ‘sneeze’; <i>póe</i> ‘endure’; <i>pong</i> ‘blow (fire)’; <i>ta kue</i> ‘smash’; <i>wung</i> ‘die’; <i>ya tà</i> ‘transact’; <i>yang</i> ‘vomit’; <i>yúyú</i> ‘search.for’
Clitic + vowel	2	low affect?	<i>f w</i>	<i>fu</i> ‘fear’; <i>fue</i> ‘see’; <i>weng</i> ‘sleep’
Clitic + C prefix	27	high affect?	<i>a h k l o</i>	<i>á (re)</i> ‘carry’; <i>ang</i> ‘eat’; <i>ha tà</i> ‘run’; <i>há</i> ‘laugh’; <i>há</i> ‘pound’; <i>há</i> ‘stand’; <i>hú</i> ‘paddle’; <i>hung</i> ‘drink’; <i>ká</i> ‘hit’; <i>ké le</i> ‘give’; <i>ké li</i> ‘catch’; <i>keng</i> ‘ask’; <i>kúng</i> ‘copulate’; <i>lá</i> ‘cook’; <i>láng</i> ‘hit.F’; <i>làng</i> ‘chop’; <i>le</i> ‘chop down’; <i>li</i> ‘burn’; <i>li</i> ‘do’; <i>lí</i> ‘dance’; <i>lí</i> ‘make’; <i>lì</i> ‘be angry at’; <i>lòe</i> ‘come’; <i>lú</i> ‘release’; <i>lue</i> ‘hear’; <i>lúe</i> ‘chop branch’; <i>o</i> ‘go seawards’;
Clitic + C prefix (+ invariant adjunct)	13	transitive	<i>a e h l oe r w</i>	<i>à hù</i> ‘sew’; <i>há te</i> ‘cover’; <i>há yú</i> ‘chase’; <i>he lí</i> ‘hang (tr)’; <i>hí púe</i> ‘rotate’; <i>lo hí</i> ‘hit with hand’; <i>lòe le</i> ‘give to many’; <i>na lu</i> ‘pound sago’; <i>na lung</i> ‘teach’; <i>ong e</i> ‘refuse’; <i>ta hùng</i> ‘sit’; <i>wé le</i> ‘give.F’; <i>wì leng</i> ‘hide (tr)’
Clitic + C prefix + vowel	3		<i>l r</i>	<i>lòe</i> ‘shave’; <i>lóeng</i> ‘tell’; <i>re</i> ‘go’
Clitic + C prefix + adjunct changes	2		<i>h-h</i>	<i>e li</i> ‘be at’; <i>há hi</i> ‘count’

¹⁵ In common with many Papuan languages (Foley 1986: 113-119), there are few lexical verb roots in Skou, with serialisation and adjunct nominal constructions allowing for more specialised predicative semantics. Other word classes, such as nouns and adjectives, do not show any inflection at all when used predicatively – for exceptions, see 4.2.3.

Clitic + C prefix + vowel + adjunct changes	1	<i>k-r</i>	<i>i ri</i> 'fall'
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In terms of the semantics of the verbs concerned, there do not appear to be any correlations with transitivity or intransitivity: all the morphosyntactically-defined verb classes listed in table 1 show approximately two-thirds transitive verb membership, which fits in with the language-wide pattern. This is summarised in table 2.

Table 2. Skou phonology and agreement classes

Morphosyntactic class	Number of verbs	intransitive	transitive
Clitic alone	20	8	12
Clitic + vowel	2	1	1
Clitic + C prefix	27	8	19
Clitic + C prefix (+ invariant adjunct)	13	2	11
Clitic + C prefix + vowel	3	1	2
Clitic + C prefix + adjunct changes	2	1	1
Clitic + C prefix + vowel + adjunct changes	1	1	–
Totals	68	22	46

There do not appear to be any obvious phonological criteria that determine membership into one agreement class or another. The occurrence of different consonants or vowels with different classes is shown in table 3.

Table 3. Skou phonology and agreement classes

	cl	V	C	C+adj	C V	C adj	C V adj
p							
t							
k							
b							
j							
f							
h						-	
w							
y							
l							
r							
m							
n							

i		
e		
a		
o		
u		
ue		
oe		
+N		
-N		
H	H-L	H-L
L	L-L	
F		

The suprasegmental features, H(igh) L(ow) and F(all) tone, do not show any correlations with verb class; the absence of some possible combinations (H or F in the vowel-modification class, for instance) can be attributed to the small number of members in some classes, and the relative frequency of the tonemes: Low accounts for approximately 50% of syllables, High for 35%, and Fall for the remaining 15%. Nasalisation accounts for only 25% of syllables, and so its absence in the one-member classes is not surprising.

The occurrence of vowels in verb roots similarly reflects the markedness patterns in Skou, and does not reflect any skewing to one class or another. The distribution of consonants and verb classes does show a pattern, as previously mentioned in 3.3: verbs with consonantal prefix inflection can only appear with *k h l* as the onset in their root; any other onsets are only found with non-prefixing verbs. The fact that *h* and *l* occur with both prefixing and non-prefixing verbs, however, shows that the overt appearance of prefixal agreement is not simply a function of the initial consonant in a root allowing the agreement to be realised or not. We return to this point in section 4.3, where a historical account is proposed that suggests that, despite the synchronic irregularities, it is likely that the nature of the consonant is relevant.

4. Earlier models

This section presents brief analyses of the Skou data in the frameworks of earlier work on morphology, specifically examining the problems it brings for an account with Andrews’ Morphological Blocking Principle, issues it raises, not fatally, for the Minimalist Program, and problems with a Deconstructive Morphology or Distributed Morphology model when applied to Skou.

The essential problem, as we have seen in the preceding section, is that the Skou data show that a language can have more agreement on the same element of the clause than is required simply to register the identity of an argument. We have seen that verbs commonly employ double agreement for subject, with an alternation in the form of the verbroot, either consonantal or vocalic changes, as well as an obligatory proclitic pronoun. In more extreme cases, such as *i ri* ‘fall’, we see up to four instances of agreement with the subject on the verb complex, as proclitic, consonant, vowel, and adjunct nominal all show variation with features of the subject. In this section we shall examine some ways that modern morphological frameworks approach multiple exponence, and discuss why these solutions are not appropriate for Skou.

4.1 DOUBLE AGREEMENT: LEXICALIST AND INCREMENTAL THEORIES

In Skou a verb with double agreement has two marked morphemes on the verb that exist solely to mark agreement. In a sentence such as (11) (repeated from 3.1), both the proclitic *ne* and the consonant *n-* on the verbroot *ang* serve no purpose other than, in both cases, to unambiguously index a 1PL subject.¹⁶

- (11) *Ne ya ne=n-ang loeng pa, ...*
 1PL thing 1PL=1PL-eat finish PROX
 ‘When we have finished eating, ...’

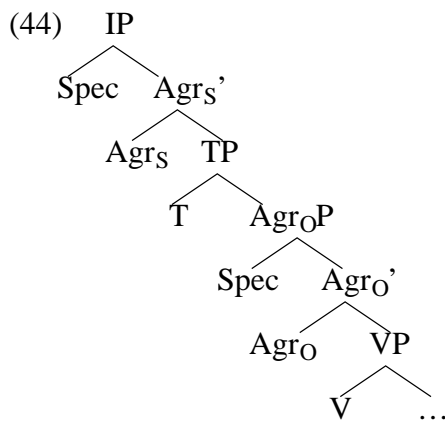
It is immediately apparent that sentences such as (11) do not obey principles of economy, or blocking, and are also difficult to explain in an incremental model of morphology, since both *ne=* and *n-* unambiguously and solely code 1PL.

4.1.1 Morphological Blocking

The problem that we face with blocking is that in addition to the most highly specified element that correctly parses the features required (the subject clitics), we often find repetition of exactly the same information in other morphemes. To illustrate, consider sentence (11), repeated in the preceding section. The verbroot is *ang* ‘eat’; when the first person plural prefix *n-* is prefixed to it, all the person and number information that may be specified given the set of agreement morphemes available in Skou has been communicated. Nonetheless, Skou requires an additional agreement marker *ne=* on the verb complex. This is clearly in violation of Andrews’ formulation presented in section 1.

4.1.2 Principles and Parameters

Following a Principles and Parameters model (Chomsky 1995, Lasnik 1999) we require separate nodes in which to check for agreement morphemes; the following tree (from Chomsky and Lasnik (1995: 60)) illustrates the type of structures proposed (IP = AgrP).



Since a verb cannot check the same node twice, the Skou data would force us to either conclude that the supposed two agreement positions are really one, or to have two AgrSPs, with the verb checking for AgrS at each of them, acquiring morphological material along the way. The first of these arguments requires the following reanalysis of the agreement

¹⁶ In addition the subject is unambiguously indicated by the free pronoun *ne*, but, as demonstrated in 3.1, the verbal affixes are not incorporated pronouns, and so this is not relevant to the point here.

morphemes first seen in (11), with the clitic *ne=* and prefix *n-* being reanalysed as a unit prefix *nen-*:

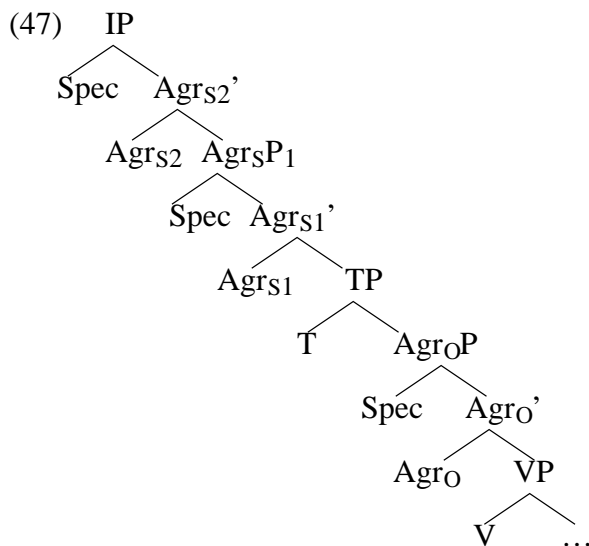
- (45) *Ne ya nen-ang loeng pa, ...*
 1PL thing 1PL-eat finish PROX
 ‘When we have finished eating, ...’

Although indefensible from a historical perspective, this would be a simple solution to the apparent multiple agreement morphemes for a single argument such as has been described for Skou. This analysis is not, however, tenable, because of the positioning of the agreement morphemes when some (but not all) adjunct nominals are involved (see 3.2). To illustrate, consider the placement of the subject agreement morphemes *ke=* and *k-* in (46), in which the inflecting verb *hùng* ‘sit’ appears with the the adjunct nominal *ta* ‘seating’:

- (46) *Títí-nì=ne ke=ta k-ùng tang.*
 fathers.elder.brother-1SG.POSS=1SG.DAT 3SG.NF=seating 3SG.NF-sit canoe
 ‘My uncle sat down in the canoe.’

The *k-* on the inflecting verb root *hùng* ‘sit’ is a subject agreement prefix. In a minimalist framework this agreement marker will be generated by verb movement to Spec of Agr_S. The problem in accounting for this sentence is that we need to incorporate the adjunct nominal *ta* AFTER the agreement has been satisfied, and following this (regardless of the problems of dealing with *ta*) we would need to somehow check again in Spec of Agr_S. It is not obvious how this can be readily accomplished in keeping with the spirit of MP.

Alternatively, we can have two Agr_S Phrases matching the two different pieces of agreement morphology; this structure would appear as in (47):



Whilst possible, this analysis is not extendable to the whole of the language, since not all verbs take two agreement positions (a point that we return to in 4.4). It seems that allowing this level of extra structure to apply to the language as a whole is unsatisfactory.

4.1.3 Lieber

In Lieber’s (1992) model, in which lexical affixes combine with roots and the features of the affixes percolate over the word as a whole, the mechanism of percolation is defined so that the features present in an inflected word can each be traced to a unique affix (or be present in

the root itself); there is no mechanism to allow for multiple exponence (1992: 77).¹⁷ Lieber (1995: 280) simply notes that ‘multiple additions of identical information are precluded.’

Clearly, incremental models of morphology, in which morphemes are seen as adding features to less specified roots (in addition to those discussed, see also Mohanan 1986), are inadequate for a description of redundant inflection, such as the multiple exponence seen in Skou agreement.

4.1.4 Distributed morphology

Lexical models of inflection (such as the Distributed Morphology framework of Halle and Marantz 1993) similarly deny the challenge posed by multiple exponence (see the quote from Noyer (1997) in section 1). For instance, discussing Potawatomi verb inflection Halle and Marantz deny that there is any extended exponence of agreement features in the verb (as argued for by Anderson (1992)), assigning¹⁸ the first agreement marker to phrase-level clitic status and so outside the scope of an analysis of purely verbal morphology. The remaining agreement markers, as they note, mark different sets of features, and so can be taken as each contributing new information, and are separated from each other by other inflection: negation, tense (Halle and Marantz 1993: 140).

Skou is analytically different: the sets of features marked by, say, the proclitics and the consonantal prefixes are identical (see 3.5, especially the discussion of *o* ‘go seawards’). Further, the Skou clitics serve to (obligatorily) double an independent pronoun or nominal elsewhere in the clause, so there is no motivation for their analysis as anything other than verbal agreement markers. Finally, tense marking in Skou does not intrude between the subject agreement prefixes; past tense is marked with a low tone on the verb, and future with a suffixal reduplication, as seen in the following examples:¹⁹

(48) *Mè te mè=b-é ka.*
 2SG 3PL 2SG=2SG-catch NEG
 ‘You don’t catch them.’

(49) *Mè te mè=b-e ka.*
 2SG 3PL 2SG=2SG-catch<PAST> NEG
 ‘You didn’t catch them.’

¹⁷ Lieber does not discuss multiple exponence explicitly within the incremental framework that she develops. The discussion of multiply marked features (1992: 93-101) deals with the marking of both subject and object on the verb in Yavapai. Interestingly, the question of multiple exponence is avoided when presenting an explication of feature percolation in the verb *ʔn̄-m-ta:v-km* ‘You hit me’. The prefix *ʔn̄-* is listed on p. 95 as ‘first person object with second person subject’, and *m-* as ‘second person subject or object’. Since *n̄-* also functions as a more general first person (subject or object) morpheme, we are led to assume that *ʔn̄-* bears information about both the subject and object, making the use of *m-* redundant under an analysis using principles of blocking or economy. In the derivations Lieber shows on p. 98-101 *ʔn̄-* is listed as bearing only the first person features.

¹⁸ Correctly, it seems, on the basis of the data that shows the morphemes appearing on phonologically independent words in the CP. See Anderson (1999) for counter-arguments.

¹⁹ We can show that this morpheme is suffixal, or at least applies to the end of the verb and not the beginning, by examining disyllabic verb roots. With *hatà* ‘run’, for instance, the reduplicated form is *hatátà*, and not **hahatà*. See also Ross (1980: 97) for discussion of identical facts in Dumo.

- (50) *Mè te mè=b-é-bé ka.*
 2SG 3PL 2SG=2SG-catch-RED NEG
 ‘You won’t catch them.’

A feature-unification account would allow for the presence of two agreement morphemes with the same features, provided the principles of economy are dispensed with, but would not account for the fact that not all verbs take the same amount of inflection; this is discussed in section 4.4.

4.1.5 Summary

We have seen that both incremental models of morphology, as well as popular lexical models, are not efficient in accounting for Skou. It seems preferable to advocate a realisational model that relies not on the lexicon, but on inferential principles; as Stump (2001: 1) puts it, a model “in which the systematic formal relations between a lexeme’s root and the fully inflected word forms constituting its paradigm are expressed by rules or formulas”. In this sort of model (versions of which are advocated by Anderson 1992, Beard 1995, Matthews 1972, Stump 1997, 2001, amongst others) the morphemes present are those required in order to realise the features specified by the functional arguments present, and as mapped onto a (phonological/morphological) template that is essentially construction-specific. While admitting that this sort of model is inherently not falsifiable, it is true that the incremental models are neither economical nor intuitive in terms of the regularity of change seen in Skou that would have to be assigned to the list of irregularities in the language. Section 4.4.4 returns to the question of accommodating Skou inflectional redundancy in incremental models.

This model is clearly incompatible with simple (diachronic or synchronic) functional explanations, since it requires elements that do not bear any functional load in the morphosyntactic structure of the sentence. Neither is it compatible with a model that requires all structure to be parsed uniformly. I will outline the problems for this latter model in section 4.4.

4.2 NEAR EQUIVALENTS? OTHER ACCOUNTS OF MULTIPLE EXPONENCE

There are reports of constructions in languages that resemble in some way, or are described in a way such that they resemble, the multiple exponence found on verbs in Skou. We have already examined the Potawatomi case in 4.1.4, and shall discuss two more instances of alleged multiple exponence in the following sections. Section 4.2.3 shall be concerned with a slightly different issue, that of reports of repetition of the same affix, which would be the most extreme example of multiple exponence possible.

4.2.1 Luiseño

Steele (1989) discusses what she calls multiple agreement in Luiseño (Uto-Aztecan, Southern California), in which up to four different agreement positions were identified within the clause (similar argumentation is found in Steele 1995).

Steele argues that the appearance of -feature specific morphology in ‘multiple’ agreement locations in the clause, such as on an NP, an auxiliary, and the verb, represents multiple exponence. Luiseño differs from Skou in that each position displaying -feature values is also the sole exponent of another, separate, grammatical category: the auxiliaries, for instance, carry tense-aspect-mood information for the clause. Reflexive pronouns, one of the

positions that Steele describes in which subject values appear, self-evidently supply reflexive information. Such an analysis of multiple locations marking subject can also be applied to Skou (and many other languages), if we allow auxiliaries, serial verbs and reflexives to enter the picture. A relatively uncomplicated pair of examples in Skou, structurally analogous to the sentences that Steele presents, are the following:

- (51) *Pe ta-pè=pe pe=ló tue e tue.*
 3SG.F hair-3SG.F.POSS=3SG.F.DAT 3SG.F=wash 3SG.F.do 3SG.F.be 3SG.F.be
 ‘She is washing her hair.’
- (52) *Ke ke=k-atà k-o ti báng.*
 3SG.NF 3SG.NF=3SG.NF-run 3SG.NF-go.seawards 3SG.NF.go beach
 ‘He’s running to the beach.’

The use of a possessed body part is the equivalent of a reflexive in Skou; in (51), we see the clitic *pe=* attached to a verb which, by regular consonant prefixing and vowel alternations, marks 3SG.F, and an auxiliary that doubly marks 3SG.F. In (52) the requirement that each verb inflect for subject by prefix is simply an uninteresting artefact of the serial verb construction. Adding new elements to the sentence like this increases the number of places for agreement, and does not address the truly interesting fact about Skou agreement, which is the lexically-determined obligatory use of multiple primary exponence for *-*features.

4.2.2 Dargwa

Anderson (1992) discusses the appearance in Dargwa (North-east Caucasian, Dagestan) of multiple marking for class/gender on the same lexical item. Anderson (1992: 88-89), quoting Magometov (1976), presents the following paradigm (which typifies the pattern in languages of this family):

- Dargwa
- (53) a. *b-ɟk'a-zi-b qalki:'e*
 NONHUM.SG-little-SG-NONHUM.SG bird.SG
 ‘little bird’
- b. *d-ɟk'a-ɟu-d qalki:'-ne*
 NONHUM.PL-little-PL-NONHUM.PL bird.PL
 ‘little birds’
- c. *w-ɟk'a-zi-w gal*
 MALE.SG-little-SG-MALE.SG child
 ‘little child’
- d. *b-ɟk'a-ɟu-b gal-e*
 MALE.PL-little-PL-MALE.PL children
 ‘little children’

Anderson (1992: 88), arguing for an inferential, realisational model of morphology, suggests that an analysis of word form alone would require us to posit three separate markers on the adjectives. I suggest that the Dargwa data is better handled by simply positing agreement in two positions with two morphemes, a gender marker and a number marker. The number suffix applies to mark number; gender marking uses morphemes which are suppletive for singular and plural variants; they thus also parse number information, but not exclusively so, since they also present new information. The appearance of both prefix and suffix is a

result of two different syntactic functions being marked on the same verb, a morphosyntactic feature that Anderson (1992: 97-98) notes is found in Dargwa transitive verbs. Applying this datum to the Dargwa phrases here, following the analysis proposed by Ortmann (1999: 112-114), I analyse the prefix as showing agreement with the absolutive argument of the participle, as do all verbal forms and their derivatives, and the suffix as showing agreement with the head noun.²⁰ In the case of the Dargwa examples quoted in (53), all monovalent predicates, the absolutive argument of the predicate and the head noun happen to be the same argument, and so apparently multiple marking is found. In a participle of the form ‘the man who found the gold’, the two affixes would be distinct, one agreeing with ‘man’, one with ‘gold’ (Ortmann 1999: 113). We could re-gloss (53a) to reflect this difference as in (53a)’ below.

- Dargwa
- (53) a'. *b-ɟk'a-zi-b* *qalk:'e*
 NONHUM.SG.ABS-little-SG-NONHUM.SG.HEAD bird.SG
 ‘little bird’

It thus becomes apparent that we are dealing with two different affixes, which happen to have the same form in these examples (see 4.2.3 for similar argumentation regarding Chichewa). We could alternatively analyse the gender markers as being circumfixal to the inflected root, shown below.

- (54) GDR_{NUM}-adjective-NUM-GDR_{NUM}

This example of apparent double marking can thus be seen to be simply splitting the agreement features between two morphemes, one of which is multifunctional (or suppletive, conditioned by number). This analysis is similar to that for Potawatomi, but with the complication that we must necessarily assume the morphological validity of circumfixes.

Neither of these Dargwa analyses can be extended to Skou. Firstly, the agreement clitics and prefixes in Skou mark exactly the same feature bundle – there is no splitting of features, and no separate morphosyntactic environments. Secondly, the circumfixal analysis would be problematic in cases when adjunct nominals are involved in Skou : sometimes the clitic precedes the adjunct nominal + verb, sometimes it intrudes between the two, as seen in the following templates (for examples, see 3.2, 3.5 and 4.1.2):

- ‘sit’ CLITIC= [ADJUNCT.NOM PREFIX-Verb]
 ‘shoot’ [ADJUNCT.NOM CLITIC= PREFIX-Verb]

It is not obvious how this would be reconciled morphologically, without further lexical stipulation.

The previous sections, 4.1 and 4.2, have shown how other analyses of multiple exponence are either not analogous to Skou, because of important differences in the data, or because of different aims on the part of other authors. Following an explanation for the modern Skou patterns based on a historical-functional model, I shall present a model that allows us to

²⁰ Identical agreement facts are found in Burmeso, a linguistic isolate from north-central Papua (Donohue 2001).

When used inchoatively adjectives can take clitics, as seen in (60) - (61). In the first example the sago tree is masculine, and so marked with the clitic *ke=* on the numeral, in clear contrast to the subject of *jí*. In the second example both predicates are marked with *pe=*, but the use of the obviate on *pe=w-é* makes it clear that there is a different subject for *langpi*, which is the cooked sago, regularly feminine (a causative would employ the light verb *lí* ‘make, do’).

(60) *Hòe ing ne=jí ke=hìngtung héfèng.*
 sago that 1PL=break 3SG.NF=two good
 ‘The sago, we split it into two neat halves.’

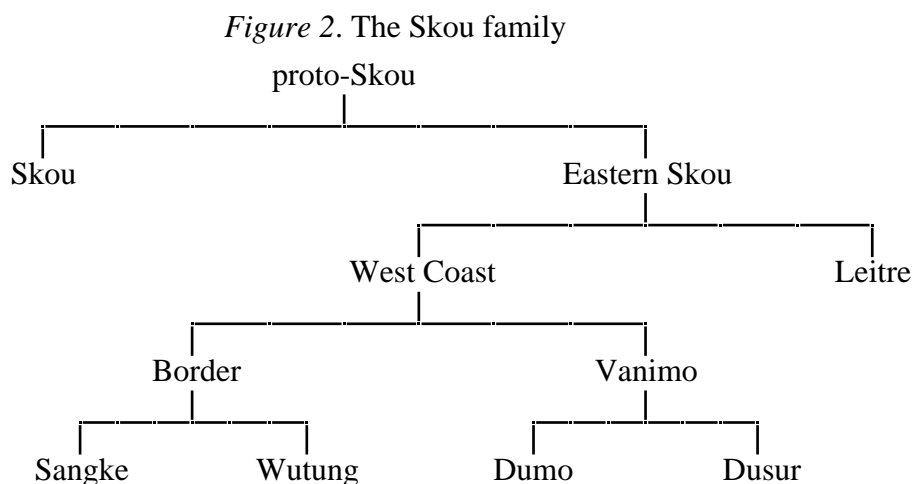
(61) *Ní pe=w-é=ko hòe ing pe=langpi.*
 sago.stirrer 3SG.F=3SG.F-stir=OBV sago the 3SG.F=delicious
 ‘She stirs it with a sago stirrer, and that sago, it becomes really delicious.’

This more verbal coding for an inchoative sense is expected from Ortmann’s analysis. Other uses of double agreement in Bantu languages which more closely resemble the Skou agreement data are discussed in section 4.4.3.

4.3 HISTORICAL EXPLANATIONS FOR THE SKOU AGREEMENT DATA.

Some explanation for the apparent arbitrariness of the verbal agreement pattern in Skou can be proposed from a historical perspective. Other closely related languages also display many of the morphosyntactic features described for Skou: the same word order constraints and the same (underlying) consonant alternations on verbs to show agreement (but no agreement clitics). In this section we shall examine the agreement paradigms from these other Skou family languages in an attempt to understand the historical origins of multiple exponence seen in Skou.

The internal grouping of the Skou languages is shown in figure 2 (Donohue 2002):



As mentioned above, the set of consonant prefixes (that fuse with an initial consonant of the verb, if present) which we find in Skou show cognates in both form and function in the other Skou family languages, shown in table 4.²¹ These prefixes have their origin in the

²¹ Data from other languages related to Skou is cited in an orthography compatible with the Skou data for ease of comparison; the only non-IPA addition to the Skou orthography is the digraph *ny*

consonants of clitic pronouns that have since fused onto the verb, losing their pronominal status.

Table 4. Underlying agreement prefixes in Skou family languages

	Skou	Wutung	Dumo	Dusur	Leitre	*Skou
1SG	∅-, k-, n-	∅-	∅-	ɟ-	∅-, ɟ-	* ɟ-
2SG	m-	m-	m-	m-	m-	* m-
3SG.NF	k-	ʔ-	ɟ-	h-	k-	* k-
F	p-	ʔʷ-	b-	ʔʷ-	ɟʷ-	* ɟʷ-
1PL	n-	n-	n-	n-	n-	* n-
2PL	∅-	∅-	∅-	∅-	∅-	* ∅-
3PL	t- / y-	d- / y-	d- / y-	d- / y-	d- / y-	* d- / y-

While the underlying sets of agreement prefixes are clearly cognate across the languages, the range of verbs that they can attach to, and the phonological changes that arise from the prefixes interacting with root-initial consonants, are not comparable.²² In the Eastern Skou languages verbs can only begin with a highly restricted range of consonants, yet, since initial clusters are allowed, the verbal paradigms in the West Coast languages are the most complete (Wutung, Skou’s immediate eastern neighbour, presents some exceptions to this, possibly under influence from Skou). Representative paradigms from Dumo and Dusur are given in tables 5 and 6 (compare with the Skou data in (35), with only four major patterns on inflecting verbs: vocalic, alveolar, velar and glottal).

Table 5. Dumo verbal agreement paradigms

	vocalic ‘be positioned’	bilabial ‘sit’	alveolar ‘do’	alveolar N ‘push’	palatal ‘hit’	glottal ‘put’	glottal N ‘go’
1SG	ɟiŋ	ʔiŋ	le	lung	yí	ɟú	ɟa
2SG	ɟiŋ	ʔiŋ	ble	mlung	sí	bú	ma
3SG.NF	ɟiŋ	ʔiŋ	ɟle	ɟlung	ɟyí	ɟú	ɟa
F	ɟiŋ	ʔiŋ	pli	nung	sí	pú	ʔa
1PL	ɟiŋ	ʔiŋ	de	nung	ní	dú	na
2PL	ɟiŋ	ʔiŋ	le	lung	yí	ɟú	ɟa
3PL	ɟiŋ	ʔiŋ	di	nyung	sí	tú	nya

for a palatal nasal. Nasalisation is not written consistently through a paradigm, because of the loss of contrast after nasal consonants in the eastern languages – see Donohue and San Roque 2000).

²² The fact that different languages simplify clusters in different ways suggests that the simplification of complex onsets was not part of the grammar of proto-Skou – Donohue (2002).

Table 6. Dusur verbal agreement paradigms

	vocalic 'go'	bilabial 'fly'	alveolar 'do'	alveolar N 'hit her'	palatal 'put'	velar ₁ 'hit him'	velar ₂ 'fetch'
1SG	ɣá	ɣa	lɛ	láng	yí	gá	go
2SG	má	pa	blɛ	mláng	sí	bá	bo
3SG.NF	há	hɣa	hlɛ	hláng	hyí	hyá	ho
F	ɣá	pa	hɣi	náng	sí	pá	bɔ
1PL	ná	hɣa	dɛ	náng	sí	dá	do
2PL	á	ɣa	lɛ	láng	yí	gá	go
3PL	yá	hɣa	di	nyáng	sí	tá	dɔ

Leitre does not allow clusters, but does have very explicit verbal paradigms. Again, Leiter has a wider range of syllable onsets than does Skou.

Table 7. Leitre verbal agreement paradigms

	vocalic 'dig'	bilabial 'hit'	alveolar 'do'	alveolar N 'know'	palatal 'swim'	velar 'boil'
1SG	nyì a	wi	lɛ	nù	yu	ɣù
2SG	nyì ma	pi	wɛ	mù	su	mù
3SG.NF	nyì ka	kʷi	kɛ	kùng	su	kùng
F	nyì gʷa	pi	wɛ	tùng	su	bùng
1PL	nyì na	wi	di	tùng	du	nù
2PL	nyì a	wi	lɛ	nù	yu	ɣù
3PL	nyì ya	wi	di	sùng	du	dùng

The differences that are found with Skou, compared to the Eastern languages, are fourfold:

- phonological mergers have collapsed a number of contrasts;²³
- there are less syllable onset types available for inflecting verb roots (only four in Skou, as opposed to six or seven in the east);
- phonotactic constraints rule out clusters in onsets;
- there is a large number of uninflecting verb roots;

Given the simple syllable patterns in Skou languages (see footnote 3), the reduction of consonant clusters means that a large number of verb forms in a paradigm lose their contrast. Comparing, for example, Skou with Dumo, we find the four Skou paradigms lose contrast in 11 (out of 28) cases, or 39% of the time; this is found in paradigms such as *ké*, which is the form of the verb *ké* 'catch' in 1SG, 3SG.NF, 1PL and 2PL). In Dumo we see loss in 14 (out of

²³ Skou has merged *p and *ɣ^w as p; *j and *d as t; *t and some *s as r; *k, *ɣ and *k^w as k. Proto-Skou had eighteen consonant onsets, and between eight and eleven cluster onsets; Skou has thirteen consonant onsets and no clusters, showing a loss of half the contrasts in onset position.

49) cases, 29% of the time. Dusur has the same proportion of collapse of contrasts, and Leitre and Wutung are slightly higher at 33% (Leitre is higher because it, too, forbids complex onsets, and Wutung because it, influenced by its neighbour Skou, has reduced several consonant contrasts).

We can illustrate the effect of the ban on complex onsets on the verbal inflection in pre-Skou in terms of cluster simplifications. For full verbal forms, see 3.3.

(62)	vocalic	bilabial	alveolar	velar	glottal
1SG	Ø- + V = V	Ø- + w = w	Ø- + l = l	Ø- + k = k	Ø- + h = h
	k- + V = k				k- + h = k
	n- + V = n				
2SG	m- + V = m	m- + w = p	m- + l = p	m- + k = b	m- + h = m
3SG.NF	k- + V = k	k- + w = w	k- + l = l	k- + k = k	k- + h = k
3SG.F	p- + V = p	p- + w = w	p- + l = w, t, r	p- + k = w	p- + h = w
1PL	n- + V = n	n- + w = w	n- + l = t, r	n- + k = k	n- + h = n
2PL	Ø- + V = V	Ø- + w = w	Ø- + l = l	Ø- + k = k	Ø- + h = h
3PL	t- + V = t	t-/y- + w = w	t- + l = r	t- + k = k	t- + h = t
			y- + l = t	y- + k = j	y- + h = y

(synchronically there are three allomorphs for 1SG: Ø- (the majority case), *k-* and *n-*. The consonantal allomorphs reflect pre-*proto-Skou* *ŋ, which has been lost in most languages (see Donohue 2002). In Skou *ŋ is lost (>Ø) in nominals, > *n* in the 1SG pronoun, and in verbal inflection is either lost (the majority case), preserved without nasality but retaining the velar place (*ŋ > *k*) (*hung* ‘drink’ and *ang* ‘eat’), or else retains the nasal feature but loses the velar place (*ŋ > *n*) (*ong e* ‘refuse’). There may be (underlying, historical) variation in the 1SG prefix for the alveolar and velar paradigms as well, but this is not recoverable from the synchronic evidence. Regular sound changes would have **kl* > *l*; most other cluster reductions in the modern verbal paradigms are also compatible with regular historical changes))

In these examples we can see that in the process of cluster simplification a lot of contrasts are lost, in some cases most of the paradigm reflecting only the initial C of the verb root. This is probably the origin of a number of the non-inflecting verb forms. As noted earlier in section 3.1, verbs can begin with a larger range of consonants than *k h w l a o* or *oe* (described in (35)) – additionally, *p j m f h y* are found, but these verbs do not inflect by prefix. Historically it is likely that these forms showed inflection, just as in the Eastern languages. Extreme simplification in Skou has resulted in the complete loss of the inflectional system with these verbs; there is no longer any evidence in the paradigm for any inflection.²⁴ Taking these verbs into account, assuming seven distinct paradigm sets as in the majority of the Eastern languages, we arrive at a figure of 79% for loss of contrast in verbal paradigms.

These factors would appear to be sufficient to bring about a second process of cliticisation onto the verb in order to preserve contrastive verbal agreement. Taking into account the clitic+agreement:verbroot complex in Skou, the percentage of loss-of-contrast in the verbal paradigms drops to 0%, a functionally more satisfactory situation. For example, compare the

²⁴ Similar to English verbs such as *hit*, which have no past tense marker, but in Skou there is no person inflection on the verb at all.

non-clitic bearing pre-modern Skou paradigm for ‘speak’, in which the V’ shows only four contrasts, with the modern Skou equivalents, with seven contrasts.

(63)		pre-Skou	Modern Skou
	1SG	<i>pí li</i>	<i>pí nì=li</i>
	2SG	<i>pí pí</i>	<i>pí mè=pi</i>
	3SG.NF	<i>pí li</i>	<i>pí ke=li</i>
	3SG.F	<i>pí toe</i>	<i>pí pe=toe</i>
	1PL	<i>pí ti</i>	<i>pí ne=ti</i>
	2PL	<i>pí li</i>	<i>pí e=li</i>
	3PL	<i>pí ti</i>	<i>pí te=ti</i>
		‘I/You/He/She/We/You(PL)/They spoke.’	
		(pí is the adjunct nominal ‘language’)	

Assuming that the modern underlying consonantal prefixes had their origins in cliticised forms of the free pronouns in proto-Skou, we can chart the development of agreement marking on the verb in table 8. This table shows a first stage in which there is no agreement on the language. None of the Skou languages reflects this stage, but the striking similarity of the verbal prefixes with the free pronouns suggests that the development of verbal agreement lies in the not-too-distant past. Following this unmarked stage, we find cliticisation of the free pronouns onto the verb, the beginnings of the consonantal prefix system, which is realised in Stage III, a stage partially preserved in the West Coast languages, which show the sorts of clusters seen in tables 5 and 6. The next stage is one in which cluster simplification takes place, and there is a greater degree of merger between the prefix and the verb root. This stage is still found in Leitire, but in Skou, with a smaller consonant inventory, the under-differentiation (see (62), (63)) has resulted in a second wave of cliticisation, paralleling the development seen in Stage II earlier.

Table 8. The development of verbal agreement in Skou languages

	DP _{SUBJ}	VP	language
Stage I	C ₁ V	OBJ C ₂ V	(hypothesised)
Stage II	C ₁ V	OBJ C ₁ V=C ₂ V	early proto-Skou family?
Stage III	C ₁ V	OBJ C ₁ -C ₂ V	West Coast languages
Stage IV	C ₁ V	OBJ C ₁₊₂ V	Leitire
Stage V	C ₁ V	OBJ C ₁ V=C ₁₊₂ V	Skou

Although the status of this double agreement marking in Skou is synchronically awkward for morphological modelling, it appears to have a historical explanation that is in line with what we know of the development of agreement systems cross-linguistically.

4.4 CONCLUSIONS AND MODELS

The Skou data clearly present problems for modern formal linguistic frameworks, both those based on structural positions and incremental morphology and economy-conscious unification models. I have suggested that a templatic approach to agreement positions, while stipulative, is capable of accommodating the data. However, given that the number of agreement positions found in a language is essentially arbitrary, as is the ordering of those agreement

morphemes on the verb (Donohue 1999 and others), this approach may not be as undesirable as it at first seems. It does not lead to tighter claims about what is possible and impossible in language, but it allows for a greater set of data to be adequately accounted for, and to provide tools to simplify the description of other morphological problems.

4.4.1 Lexical templates

An elaboration of this model would involve the addition of a morphological realisation component to the structure (deep structure in the minimalist framework, functional structure in LFG), independent of the number of arguments that display agreement – essentially a further, non-predictable element in the lexical entry of the verb. Furthermore, this is specified, essentially stipulatively, for different classes of verbs in the language: it is not a parameter with a global setting in the language, nor does it correlate with any phonological or semantic specification of the verb root itself, as discussed in section 3.6. This stipulativeness would prove problematic (though not impossible) for an analysis using A-morphous Morphology (Anderson 1992). Skou does not simply require a setting that allows the multiple exponence of features for some reason (that is, properties of person/number/gender are shared by two morphemes), but rather requires this for some verbs, and not for others. The data on adjunct nominals in section 3 are also problematic for this model, again because of the amount of stipulation. We find variation in the exponence of subject on verbs ranging from a single agreement morpheme, the proclitic, such as *yú* ‘search for’, to the kind of multiple marking seen in verbs such as *lóa* ‘shave’. Consider the paradigms of the following four verbs, shown in full as they must appear in fully formed sentences (only the verbs, and not the necessary free (pro)nominals, are shown):

(64)	‘cough’	‘release’	‘sleep’	‘shave’
1SG	<i>nì=lú</i>	<i>nì=lú</i>	<i>nì=lú weng</i>	<i>nì=lóa</i>
2SG	<i>mè=lú</i>	<i>mè=pú</i>	<i>mè=lú weng</i>	<i>mè=póa</i>
3SG.NF	<i>ke=lú</i>	<i>ke=lú</i>	<i>ke=lú weng</i>	<i>ke=lóa</i>
3SG.F	<i>pe=lú</i>	<i>pe=rú</i>	<i>pe=ló weng</i>	<i>pe=rúa</i>
1PL	<i>ne=lú</i>	<i>ne=rú</i>	<i>ne=lú weng</i>	<i>ne=róa</i>
2PL	<i>e=lú</i>	<i>e=lú</i>	<i>e=lú weng</i>	<i>e=lóa</i>
3PL	<i>te=lú</i>	<i>te=rú</i>	<i>te=lé weng</i>	<i>te=ría</i>

Preliminary lexical entries for these four sample verbs would include templates similar to those seen in (65) - (68), in which information about the amount and type of verbal inflection, as well as the number and type of arguments that are subcategorised for by that verb, is fully specified (ignoring issues concerning the representation of adjunct nominals in argument structure - see Mohanan 1995, 1997).²⁵

²⁵ The fact that all verbal predicates regularly inflect by means of the proclitic does mean, however, that not all inflectional material needs to be lexically specified. These templates are given as an example.

	PRED	' <i>lú</i> '	⟨SUBJ⟩
(65)	<i>lú</i>	'cough'	SUBJ [proclitic =]
	OBJ		
	PRED	' <i>lá</i> '	⟨SUBJ, OBJ⟩
(66)	<i>lú</i>	'release'	SUBJ [prefix -] [proclitic =]
	OBJ		
	PRED	' <i>lú weng</i> '	⟨SUBJ⟩
(67)	<i>lú weng</i>	'sleep'	SUBJ [vowel change] [proclitic =]
	OBJ		
	PRED	' <i>lóa</i> '	⟨SUBJ, OBJ⟩
(68)	<i>lóa</i>	'shave'	SUBJ [prefix -] [vowel change] [proclitic =]
	OBJ		

This is similar, but importantly not identical, to treatments of quirky case as lexically-determined phenomena. Table 9 shows how these morpheme-specifying templates realise the observed inflectional morphemes on different verbs:

Table 9. Sample derivations involving the different verbal templates

Verb:	<i>lú</i>	<i>lú</i>	<i>lú weng</i>	<i>lóa</i>
	'cough'	'release'	'sleep'	'shave'
Inflectional template:	[proclitic]	[proclitic, C prefix -]	[proclitic, vowel change]	[proclitic, C prefix -, vowel change]
Inflect: 3PL SUBJ				
Input:	<i>lú</i>	<i>lú</i>	<i>lú weng</i>	<i>lóa</i>
Vowel change:	-	-	<i>lé weng</i>	<i>lí</i>
Prefix:	-	<i>t-</i>	-	<i>t-</i>
Prefix adjustment:	-	<i>rú</i>	-	<i>rí</i>
Proclitic:	<i>te=</i>	<i>te=</i>	<i>te=</i>	<i>te=</i>
Output:	<i>te=lú</i>	<i>te=rú</i>	<i>te=lé weng</i>	<i>te=rí</i>

The application of the incorrect morphological template can easily result in a radically different (and incorrect!) output. If 'cough' was incorrectly taken to be a verb that inflects by prefix, we would expect an output something like **te=rú*, which is not attested. Similarly, should 'shave' be misconstrued as inflecting in the same manner as 'release', we would expect **te=róa*, and not the attested *te=rí*. Numerous other mis-parsings are possible, if the wrong morphological template is chosen. Note that this is not a fault in the parsing of features: knowing that we need to inflect each of these verbs for the feature-bundle [PERS = 3, NUM = PL], this can be economically and completely achieved with nothing more than the clitic *te=* added to the verb stem: *te=lú*, **te=lú*, **te=lú weng*, **te=lóa*. This would be the most regular, least ambiguous, and most overt inflectional paradigm. It would be easily accounted for either incrementally or realisationally: the former position would simply allow

the clitic *te=* to add the features [PERS = 3, NUM = PL] to the verb; the latter would require the clitic in order to parse these features in the morphologically complete form.

Skou does not adhere to these simple and economical principles, and does not follow the course seen in other languages that have been advanced as examples of languages with multiple exponence of features. Skou does not:

- split the features of the inflectional system over different morphemes (with or without partial overlap);
- uniformly specify two (or more) places in the morphological template of all inflecting parts of speech that must both parse all features;
- mark the features of the inflectional system in a portmanteau fashion with other grammatical information specified on each morpheme (in this way allowing the morpheme that also parses inflectional information to be seen as simply the most compatible version of another paradigm)
- show different patterns of inflection in different syntactic environments

Skou provides us with evidence that, regardless of the model of morphology, it needs to be able to deal with the essential arbitrariness of a system that shows considerable variation in the realisation of inflection, without having semantic or phonological grounds for that variation. This calls for lexical specification.

4.4.2 The power in the lexicon

I have shown how a simple templatic model can be used, as an ‘add-on’ to the lexical specification of each verb, that allows us to model the Skou data within a larger theory of morphology. While effective, this has the effect of assigning much information about the inflectional system to the lexicon, and not the grammar. While undesirable from a generative perspective, this is not necessarily a result that we should avoid. As has been mentioned in passing (section 3.1, examples (24) - (26), and footnote 9), possessive inflection on nouns is also not predictable. The lexical entries of a small group of nouns must announce their requirement to have triple-marked possession – just as with verbs, there is no obvious semantic or phonological parameter that singles out this group of nouns, and so the triple-marking nouns must each be lexically specified.

It seems that we are proposing a rather fundamental change in the way we conceptualise morphological interaction in a language, on the basis of data from just one language – on the surface, we would claim that the possibility for lexical stipulation is allowed in all languages, but simply never realised.²⁶ There are, in fact, parallels in other languages, and we shall examine in detail the marking of noun class information in Bantu languages.

4.4.3 Multiple exponence and Bantu noun classes

The ‘pre-prefix’, also known in the Bantu literature as the ‘initial vowel’, ‘augment’, or ‘determiner’, has been discussed with respect to Chichewa ‘adjectives’ in 4.2.3. Similar

²⁶ That said, lexical templates do seem to be a simple way to account for some quirky case phenomena, and non-semantically based splits in intransitive marking.

constructions involving multiple prefixation are found in a range of Bantu languages, with a range of functions and restrictions.

(69) (determiner)-classifier-stem

In many languages the pre-prefix appears on nouns; in some it can be equated with definiteness, or something resembling negative polarity (eg., Luganda, Dewes 1971, Hyman and Katamba 1993, Kinande, Progovac 1993, Kinyamwezi, Maganga and Schadeberg 1992 amongst others). In other languages it appears only in restricted morphosyntactic contexts (not to imply that a feature such as ‘definiteness’ cannot have morphosyntactic effects as well as pragmatic ones).

In Lumasaaba (also Masaba: Central Bantu J, south-eastern Uganda: Brown 1972, Purvis 1907) the determiner (= preprefix) and classifier (= noun class marker) mark identical categories in all cases. There is no correlation with definiteness, but ‘the determiner precedes the classifier when nouns occur in isolation, except in certain contexts’ (Brown 1972: 18). Examples of minimally different syntactic environments that determine the use or absence of the determiner are shown in (70) and (71), with the verb *jima* ‘stand’ governing a locative that takes a genitive clitic, and the full DET-CL-noun morphology for the location. In (71), however, *suna* ‘jump’ takes a locative without the genitive clitic, and the location appears without the determiner: CL-noun.

Lumasaaba

[ɔ̃mɔkʷegaməɔ̃mɔba]

- (70) *jima* *ku-e* *ga-ma-guNba*
stand.IMP 17LOC-GEN DET:6-CL:6-bone
‘Stand by the bones.’

[sʷmɔkʷuməɔ̃mɔba]

- (71) *suna* *ku* *ma-guNba*
jump.IMP 17LOC CL:6-bone
‘Jump on the bones.’

Citation form for ‘bones’: [gaməɔ̃mɔba], *[məɔ̃mɔba]

Here we can see that the appearance of the determiner is not dependent on definiteness of the nominal, but is predictable from the syntactic context, in this case based on the verb used. There is an important proviso to this account, however: ‘in class 10 the determiner precedes the classifier. No syntactic environment can be constructed in which the class 10 classifier is not preceded by the determiner’ (Brown 1972: 18). This can be demonstrated by comparing the behaviour of a class 10 noun in the same syntactic environments seen in (70) and (71). In both cases, both the determiner and the classifier appear.²⁷

²⁷ These differences are not a function of, for instance, animacy: ‘boy’, class 1/2, shows the expected alternation between *u-mu-siNde* DET1-CLF1-boy and *mu-siNde* CLF1-boy.

Lumasaaba

[ɣmakwezimbeβa]

- (72) *jima ku-e zi-N-~~ke~~ka*
 stand.IMP 17LOC-GEN DET:10-CLF:10-bone
 ‘Stand by the rats.’

[sɔmakuzimbeβa]

- (73) *suna ku zi-N-~~ke~~ka*
 jump.IMP 17LOC DET:10-CLF:10-bone
 ‘Jump on the rats.’

Citation form for ‘rats’: [zimbeβa], *[ɱbeβa]

We can summarise the Lumasaaba data as follows: there is a set of morphosyntactically-conditioned environments in which nouns take both determiner and classifier; in some sense, the presence or absence of the determiner is specified morphosyntactically. There is, however, a set of essentially random lexical items which must always appear with both the determiner and classifier, with no morphosyntactic conditioning (Brown presents convincing arguments that these lexemes do not have just a single, complex prefix, such as the putative *ziN-*, for instance, in examples (72) and (73)). Brown (1972: 12) notes that ‘Traditionally, gender in Bantu languages has been associated with semantic classification. The association is often not very distinct. In Lumasaaba, classes 1 and 2 contain only human and superhuman entries. No absolute restrictions govern entry to other classes...’. The evidence against this includes the paradigmatic appearance of just the determiner as agreement marker on verbs or demonstratives, and of just the classifier in other contexts.

The parallels with Skou verbs are remarkable: we have in Lumasaaba nominals another instance of the lexically determined appearance of agreement morphology. Jensen and Stong-Jensen (1984: 482) note that ‘in Classical Greek, a neuter plural noun requires a singular verb’, showing yet another instance of a lexical category, essentially arbitrary, determining the exponence of inflectional features.²⁸ Needless to say, Skou from northern New Guinea, Lumasaaba from eastern Africa, and Classical Greek, are completely unrelated languages. While a small set of examples, it is quite possible that such phenomena have at times been more widespread in the history of individual languages, and have been removed due to analogic levelling of paradigms. Van Klinken (1999) discusses a similar example of double marking of subject, by both clitic and prefix, in the Fehan dialect of Tetum (Austronesian, West Timor (Indonesia) and Timor Lorosae). In Tetum a free 1SG pronoun, not topicalised, may be doubled by both a clitic and a prefix on the verb, neither of which obligatorily conveys pronominal status (1999: 177-178). Differing from the Skou situation, Van Klinken provides evidence that the clitic + prefix combination which is optionally found for first person singular is in fact in the process of being reanalysed as a unitary prefix (1999: 177). This suggests that multiple exponence is losing ground in this language, possibly in the face of paradigm levelling (there is a clitic only for the 1SG, and verbal prefixes for more than just 1SG only in *h*-initial verbs).

²⁸ Particularly so if we accept that 3SG is the combination of the features [- I, - II, - PL], and so represents a default category.

4.4.4 Multiple exponence and lexical stipulation

The templatic models in 4.4.2 represent a direction that might be taken in any linguistic theory that seeks to model the type of lexical arbitrariness in morphology that we have seen for the Skou, Bantu and Greek data. The template represents a lexical means of indicating both the number and nature of the agreement positions, independent of the number of arguments that are displaying agreement. These templates might be used directly in a lexicalist framework, or could be ‘plug-ins’ to a structuralist model, such as the model according to Lasnik’s framework presented at the end of 4.1.2. The ‘multiple Agr_S Phrase’ analysis that was there dismissed will work to model the data in both Skou and Lumasaaba, as long as we can accept the requirement for lexical specification of structure, rather than a single general principle applying across all forms in the language. Since this is required in a lexicalist model anyway, it offers no argument against that theory, but does suggest that models of inflection need to refer not only to the generative power of grammar, but also to the power of the lexicon to specify how a lexical item behaves in the grammar.

Simply adopting an existing lexicalist model of morphology is not sufficient for understanding the kind of multiple exponence that we have seen in Skou and Lumasaaba, because these models, too, describe regular processes. Lexicalist models are quite explicit about the need to avoid redundant morphemes, yet that, along with the arbitrariness of that exponence, is exactly what we wish to capture. A strict model of feature realisation would predict that all verbs would inflect by means of one inflectional paradigm, with maximum differentiation of features: this means the use of proclitics (and nothing other than some automatic stem alternations) to realise features. This is not an accurate description of Skou agreement.

The fact that lexical stipulation on inflectional categories is also found in Lumasaaba and Greek suggests that provision for such lexical power is inherent in linguistic structure. The fact that it is simply not utilised in many cases does not detract from us positing the position of even inflectional morphology in the lexicon, just as, for instance, not all languages display evidence of the unergative/unaccusative split, or when they do realise it on different lexical items.

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