

Argument Structure and Adjuncts: Perspectives from New Guinea

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0. Background

It is widely assumed that arguments and adjuncts differ in that arguments are licensed by a predicate, while adjuncts are not. The nature and number of arguments is thus strictly delimited in a clause, while adjuncts are essentially unbounded. (1) and (2) demonstrate the restrictions placed on possible arguments by the predicate in English; in (1) the verb only allows for a subject, while in (2) the verb requires both a subject and a single object. (3) shows the lack of any such restrictions on adjuncts.

- (1) She slept (*the cat) (*the hot water).
- (2) She admired *(the cat) (*the hot water).
- (3) She washed the cat (with the hot water) (in the laundry room) (for her sister) (with her daughter) (yesterday).

We can effectively describe the allowed participants in clauses in English (and many other languages) as shown in (4) (terminology from Bresnan 2001).

- (4) Required: one SUBJECT
(Lexically) specified by verb: one (or more) OBJECT(s), one OBLIQUE
Unlimited, but not required: temporal reference, co-agent, beneficiary, instrument, location, source or goal (ADJUNCT(s))

A pattern is found in some languages of North-Central New Guinea in which there are restrictions on the number of participants in a clause. This can informally be stated as in (5).

- (5) Required: one subject (≠pro-drop)
(Lexically) specified by verb: one object
Optional: time reference
Maximally one (per verb): co-agent, beneficiary, instrument, location, source or goal

This means that: (i) trivalent clauses are not licensed by single verbs; (ii) maximally one oblique or adjunct may be present for any one verb (and there is little, if any, difference between these two types of participants); (iii) an analysis in terms of positions in the clause, or case-marking differentiation, or even pragmatic positions, is not adequate to describe the data; (iv) we must simply specify firstly a restriction on the number of adjuncts in the clause, and secondly (and less strongly, for Skou) a conflation of the distinction between oblique and adjunct.

In the next section I shall present some brief background notes on the two languages, followed by data from One and Skou, in that order, presented separately. Following the data I shall discuss the implications of the data for considerations of argument structure.

1. Background on the Languages: Skou and One

The two languages discussed here are spoken in North-Central New Guinea. Skou is a coastal language spoken immediately west of the Indonesia-Papua New Guinea border, while One is spoken inland to the east in Papua New Guinea.

One is a Torricelli language of the West Wapei group, spoken in various villages from the eastern Bewani mountains. The variety described here is Molmo One, spoken in the Pibi river valley by approximately 500 people (Laycock 1975, Crowther 2001, Sikale et al. 2002).

Skou is the westernmost language of the Macro-Skou family, spoken by about 700 people in three villages (Laycock 1975b; Donohue 2002, 2006, 2008). There are a number of broad similarities shared by the two languages: (1) verbs inflect for subject by monoconsonantal prefix, a feature of the area (prefixes are phonologically restricted to a defined set of verbs); (2) there is little case marking, only instruments being overt; (3) only valency-affecting processes are weak applicatives (restricted lexically); and (4) there are restrictions on the number of participants in a clause (both arguments and adjuncts). Despite the similarities, there are a number of striking differences between Skou and One: (1) Skou is SOV, while One is SVO; (2) Skou is tonal and (predominantly) monosyllabic, while One has weakly contrastive stress (verbs only) and is predominantly disyllabic; (3) Skou has a switch reference system, while One has a topic-driven coordination system; and (4) Skou makes extensive use of N+V complex predicates and has configurational NPs. The fact that, despite these differences, the two languages show such striking similarities in terms of their treatment of obliques/adjuncts suggests that the pattern described here pertains to a greater number of languages in the area as well, though documentation is so far lacking.

2. One

The order of elements in the One clause is summarized in (6) (ignoring hierarchical structure in the clause). (7) and (8) show maximally ‘full’ clauses, demonstrating the relative positions described in (6). Raising tests and verbal prefixation uniquely identify subjects, and the ability to be cross-referenced on the verb as a suffix if 1SG uniquely identifies objects.

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- (6) Time Subject (Adverb) Verb (Auxiliary) Object Oblique/Adjunct
└─ instrument ─┘
- (7) *Time Subj V Obj Adjunct*
 Nounke i em au nula=ne.
 yesterday 1SG get sago tong=INSTR
 'I got the sago with tongs yesterday.'
- (8) *Subj Adv V Oblique*
 Wo puli flane pari ninkleli.
 3SG wife quickly go.up garden
 'His wife went to the garden.'

Only instruments are overtly case-marked, which have more positional variation than other adjuncts, being able to both follow (commonly) or precede (rarely) an object. (9) shows the relative freedom of position found with an instrument, and (10) demonstrates that locations are more restricted. The same is true for goals and sources.

- (9) a. Wo tere aila eko=ne.
 3SG cut wood ax=INSTR
 'He cut the wood with an ax.'
 b. Wo tere eko ne aila.
- (10) a. Wo tere aila ninkleli.
 3SG cut wood garden
 'He cut the wood in the garden.'
 b. * Wo tere ninkleli aila.

Despite the positional freedom that instruments display, they cannot co-occur with a location or goal in the same clause, regardless of the relative order of the two adjuncts (or obliques), or whether the instrument precedes or follows a nominal object.

- (11) a. * Wo tere aila eko=ne ninkleli.
 3SG cut wood ax=INSTR garden
 'He cut the wood with an ax in the garden.'
 b. * Wo tere aila ninkleli eko ne.
 c. * Wo tere eko ne aila ninkleli.

Similarly, though perhaps less surprisingly by virtue of their fixed and identical positions, goals or sources and locations cannot co-occur in the same clause, regardless of their relative ordering. (12) shows goal + location combinations, and (13) shows source + location combinations.

- (12) a. Wo pari Laurela.
 3SG go.up Laurela
 'He went up to Laurela.'

- b. Wo pari pleni po'u.
 3SG go.up path steep
 'He went up on a mountain path.'
- c. * Wo pari Laurela pleni po'u.
 d. * Wo pari pleni po'u Laurela.
- (13) a. I te Wisoli.
 1SG come.around Wisoli
 'I come from Wisoli.'
- b. I te pleni po'u.
 1SG come.around path steep
 'I came on a mountain path.'
- c. * I te Wisoli pleni po'u.
 d. * I te pleni po'u Wisoli.

Coding a traveled-through location as an instrument, a grammatical option in One, does not save the grammaticality of sentences such as (14b) or (14c).

- (14) a. Wo pari pleni po'u=ne.
 3SG go.up path steep=INSTR
 'He went up by a mountain path.'
- b. * Wo pari Laurela pleni po'u ne.
 c. * Wo pari pleni po'u ne Laurela.
 'He went up to Laurela by a mountain path.'

Clauses with beneficiary or recipient arguments show an obligatory reduction in surface participants to satisfy the strict restrictions on number of arguments in a clause. This accommodation can follow either of two strategies. In the first we see a form of 'dative lowering', in which the recipient or beneficiary is realized as the possessor of the object in the clause, as in (15) and (18). Alternatively, the three arguments can be shared between two verbs in a serial verb construction (SVC). In (16) *yani* subcategorizes for an agent and a theme, and the recipient is introduced as the oblique argument of *yi* 'go', while in (17) it subcategorizes for an agent (shared with *yupu*) and a recipient, and *yupu* introduces the theme as its object. In both cases each verb in the SVC subcategorizes for only two arguments. With beneficiary constructions *yupu* is not grammatical, as seen in (20).

- (15) Wo y-ani [NP i puli malma toma].
 3SG 2/3SG-give 1SG wife devil stone
 'He gave my wife('s) money.'
- (16) Wo y-ani malma toma y-i i puli.
 3SG 2/3SG-give devil stone 2/3SG-go 1SG wife
 'He gave money to my wife.'
- (17) Wo y-upu malma toma y-ani i puli.
 3SG 2/3SG-get.and.transact devil stone 2/3SG-give 1SG wife
 'He gave money to my wife.'

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- (18) Wo y-aro-le [NP apuwa tapi ama=enu].
 3SG 2/3SG-peel-ITER taro skin mother=GEN
 ‘She’s peeling the taro for mum.’ (= ‘She’s peeling mum’s taro.’)
- (19) Wo y-aro-le apuwa tapi y-ani ama.
 3SG 2/3SG-peel-ITER taro skin 2/3SG-give mother
 ‘She’s peeling the taro for mum.’
- (20) * Wo y-upu apuwa tapi y-aro-le y-ani ama.
 3SG 2/3SG-get.and.transact taro skin 2/3SG-peel-ITER 2/3SG-give mother
 ‘She’s peeling the taro for mum.’

The serialization strategy is frequently used to allow an adjunct to appear in an otherwise ‘saturated’ clause, providing rescue options for translations of clauses such as (11). In (21) we can see the use of *yem* ‘get’ serialized with *tere* to introduce an instrument, and in (22) *wae e* ‘be at’ introduces the source of the motion in an inherently temporally-sequenced serial verb construction.

- (21) Wo y-em eko tere aila ninkleli.
 3SG 2/3SG-get ax cut wood garden
 ‘He cut the wood with an ax in the garden.’ (monoclausal)
- (22) Meli n-ae n-e moren panteri Laurela.
 children 3PL-sit 3PL-be house.LOC 3PL:ascend Laurela
 ‘The children are going up to Laurela from the house.’

Co-agents (‘accompaniers’) are coded in relative clauses formed with the verb *ane* ‘and’.

- (23) [NP I [RC ane meli]] n-emu apuwa.
 1SG and children 3PL-get taro
 ‘The children and I got the taro.’
- (24) [NP Meli [RC n-an(e)=i]] n-emu apuwa.
 children 3PL-and=1SG 3PL-get taro
 ‘The children and I got the taro.’

When the discourse is such that there is no appropriate second verb to use to introduce a new participant, the main verb will be repeated in order to allow two oblique arguments, each licensed by a separate instance of the main predicate. In (25) we can see that the first instance of *palo* (itself appearing in the serial verb construction *fanta palo*) appears with a source oblique *tiroa* ‘from the rinser’, and in the second use the adjunct *mairop* is a goal, as well as being the object of *nal*.

- (25) (*Making sago*.) [When you rinse sago, the scrapings stop at the strainer ...]
 ani sa ese fanta palo tiroa palo nal mairop.
 sago.meat TOP FUT fall go.down rinser go.down fill catcher
 ‘... and the sago meat goes down from the rinser to the catcher.’

Even in clauses that could license all the participants that are called for, a subject, object, and oblique/adjunct, we can observe a preference for the use of less argument-dense strategies (see DuBois 1987, DuBois et al. 2003, and Bickel 2003 for similar discussion on the limits to the number of NPs in clauses). In (26), taken from a dictionary definition of a deadfall trap, the proposition could have been expressed with a single clause, as in (27). Instead, the author chose to split the clause into two, with smaller NPs and a more ‘diffuse’, low-density information packaging strategy.

- (26) (*Making a deadfall trap*): (He) cuts some rattan and forms a loop with it, slipping the loop around and fastening it to the tree. Then ...]
- mala y-ona apa sa wala y-eri
 child(=small part of tree) 2/3SG-hang.TR rattan TOP side 2/3SG-come.up
 y-apa y-e tiri ...
 2/3SG-hang.INTR 2/3SG-be above
 ‘... (he) hangs up the small side of the tree by the rattan and hangs it above [so that later when an animal goes past it will fall down on top of the animal and kill it].’
- (27) *Subj* *Obj* *Adjunct_{location}*
 (Wo) y-ona (aila) wala mala apa tiri.
 3SG 2/3SG-hang.TR tree side child rattan above
 ‘(He) hangs the small side of the tree on the rattan above.’

Some verbs subcategorize for a subject and an oblique, not a subject and an object; we have already seen verbs of motion that satisfy this subcategorization frame in (8), (12)-(14), and (16), but there are other predicates not involving motion with such ‘quirky’ patterns. The oblique is not case-marked in any manner different to that seen with ‘normal’ objects, nor is there any necessary difference in the verbal morphology employed. The obliques of these verbs are distinguishable from objects by their inability to appear with adjuncts in simple clauses, since the restriction on only one NP filling the role of oblique or adjunct per clause applies to them as well as motion verbs ((12)-(14)). Clauses headed by verbs with obliques rely heavily on serialization to achieve the expressivity of the more common subject-object clauses. In (28), the (complex) predicate *por ye* subcategorizes for a subject, *wo*, and an oblique, *mala* (compare with (12a)). An adjunct such as *ninkleli* may not be directly added to the clause, but may be mentioned in a relative clause, as shown in (29) (compare with (21) and (22)).

- (28) a. Wo por y-e mala.
 3SG laugh 2/3SG-be child
 ‘He laughed at the child.’
 b. * Wo por ye mala ninkleli.
- (29) Wo por y-e [NP mala [RC w-ae ninkleli]].
 3SG laugh 2/3SG-be child 2/3SG-sit garden
 ‘He laughed at the child (who was) in the garden.’

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The data we have seen so far shows that only one oblique is allowed per clause, and only one adjunct is allowed per clause; either an oblique or an adjunct may appear in a clause, but not both; and any clause that might be expected to be trivalent uses strategies to avoid a third argument. It could be argued that all of these restrictions simply reflect a really tight set of phrase structure conditions that allow for no doubling, and only one adjoined position. The non-co-occurrence of instruments and locations suggests that the factors involved are more complex than this — see the examples in (11), showing that an instrument, which shows relative freedom of position ((6)), cannot occur with a fixed-position location. Examining clauses with topical elements presents the evidence that a simple template is not enough to model the restrictions in the language.

Topicalization, optionally marked with *sa*, is another coding option for any participant in the clause (only in the event of the topic being an instrument is there any evidence of this being a dynamic process, the evidence being the optional postposition-stranding that is found with the instrumental clitic *ne*).

- (30) a. Wo (sa), ___ tere aila eko=ne.
 3SG TOP ___ cut wood ax=INSTR
 ‘HIM, (he) cut the wood with an ax.’
 b. Aila (sa), wo tere ___ eko=ne.
 wood TOP 3SG cut ___ ax=INSTR
 ‘THE WOOD, he cut (it) with an ax.’
 c. Eko (sa), wo tere aila ___ (ne).
 ax TOP 3SG cut wood ___ (INSTR)
 ‘AN AX, he cut the wood with (it).’
 d. Ninkleli (sa), wo tere aila ___.
 garden TOP 3SG cut wood
 ‘(IN) THE GARDEN, he cut the wood (there).’

It might be thought that if an adjunct (or oblique) is coded in the preclausal topic position, the postverbal position would be ‘freed’ for another adjunct; this is not the case. One adjunct in the topic position does not license the appearance of a separate adjunct or oblique *in situ*, as can be seen in (31)-(33).

- (31) a. * Eko (sa), wo tere aila ___ (ne) ninkleli.
 ax TOP 3SG cut wood ___ (INSTR) garden
 ‘AN AX, he cut the wood with (it) in the garden.’
 b. * Ninkleli (sa), wo tere aila eko=ne ___.
 garden TOP 3SG cut wood ax=INSTR
 ‘(IN) THE GARDEN, he cut the wood (there).’
- (32) a. * Laurela (sa), wo pari pleni po’u(=ne) ___.
 Laurela TOP 3SG go.up path steep(=INSTR) ___
 ‘LAURELA, he went up to by/on a mountain path.’
 b. * Pleni po’u (sa), wo pari ___ Laurela.
 path steep TOP 3SG go.up ___ Laurela
 ‘(ON/BY) A MOUNTAIN PATH, he went up to Laurela.’

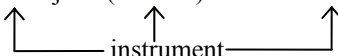
- (33) * *Laurela (sa), wo por y-e mala* ____.
 Laurelá TOP 3SG laugh 2/3SG-be child ____
 '(At) LAURELA, he laughed at the child.'

The fact that, even when topicalized with no overt 'filler' in the post-object position, this position is not available to host another adjunct suggests that, rather than being phrase structure-dependent, there is simply a stipulation on the number of participants in a clause, including adjuncts as much as arguments. Adjuncts are not 'additional' to the clause, as is normally assumed, but can 'interfere' with the realization of arguments (and/or vice versa) just as much as other arguments can.

In the next section, I examine data from Skou, an unrelated language from the same broad geographic area in North-Central New Guinea. In Skou we can see similar restrictions on the appearance of adjuncts, though not quite as strict as in One, and similar evidence for the integration of arguments and adjuncts together in the clause.

3. Skou

We find a more complex phrase structure in Skou than One, with two positions for non-terms, testable by their position with respect to the auxiliary. The post-auxiliary position is used by locations, while the pre-auxiliary position hosts any other obliques or adjuncts. As with One, an (overtly marked) instrument shows positional variation, optionally appearing before the object (or following it). The difference between the two non-term positions is illustrated in (35) and (36).

- (34) Time Subject Object (Adverb) Verb non-term₁ Auxiliary location


- (35) Goal: *Te te=y-atà te báng e ti.*
 3PL 3PL=3PL-run 3PL.go beach 3PL.be 3PL.do
 'They're running to the beach.' (Verb + BE + DO = continuous)

- (36) Location: *Te te=y-atà e ti báng.*
 3PL 3PL=3PL-run 3PL.be 3PL.do beach
 'They're running (around) on the beach.'

Many of the facts relevant to argument structure restrictions in Skou are identical to those in One, despite the many typological differences. As with One, instruments are less constrained than other adjuncts, and are overtly marked. In Skou an instrument may appear before an object, before the verb, or in the non-term₁ position.

- (37) a. *Ke rangwaue=pa rí ke=lé.*
 3SG.NF ax=INSTR tree 3SG.NF=fell
 'He felled the tree with an ax.'
 b. *Ke rí rangwaue pa ke=lé.*
 c. *Ke rí ke=lé rangwaue pa.*

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The same restriction on co-occurrence of two non-terms in one clause that was seen in One also applies in Skou, with a minor relaxation: a preverbal (and overtly case-marked) instrument may co-occur with a postverbal oblique goal. The instrument must be preverbal for this to be grammatical, as seen in (38b-c).

- (38) a. ke **tang=pa** ke=ti **bàme**
 3SG.NF canoe=INSTR 3SG.NF=3SG.NF.go village
 ‘... he went to (our) village by canoe ...’
 b. * ke ke=ti **tang=pa** **bàme**
 c. !*ke ke=ti **bàme** **tang=pa**

Clauses are markedly less acceptable with a preverbal instrumental adjunct and a postverbal participant other than a goal oblique, though this is more acceptable than having two postverbal adjuncts.

- (39) a. !#Pe **tàng=pa** póweng pe=r-úe **pá.**
 3SG.F blade=INSTR aibika 3SG.F=3SG.F-F.cut house
 ‘She cut up the aibika with a knife in the house.’
 b. * Pe póweng pe=rú **tàng=pa** **pá.**
 c. !*Pe póweng pe=rú **pá** **tàng=pa.**

Even in Skou, in which there are two clearly separate postverbal positions (see (35) and (36)), they cannot be simultaneously filled by two different adjuncts. Even though *rangwaue=pa* and *lihi* clearly occupy separate structural positions (compare with (35) and (36)), the two adjuncts may not co-occur.

- (40) a. Ke rí ke=lé-lé **rangwaue=pa** li.
 3SG.NF tree 3SG.NF=fell-RED ax=INSTR do
 ‘He wants to fell the tree with an ax.’
 b. Ke rí ke=lé-lé li **lihi.**
 3SG.NF tree 3SG.NF=fell-RED do garden
 ‘He wants to fell the tree in the garden.’
 c. * Ke rí ke=lé-lé **rangwaue=pa** li **lihi.**

Repair strategies allowing the coding of both an instrument and a location involve the use of serial verb constructions, or simply two clauses chained together (this difference is overtly marked in Skou).

- (41) Rangwaue ke=ké=**ko** rí ke=lé (lihi).
 ax 3SG.NF=get=OBV tree 3SG.NF=fell garden
 ‘He got an ax and felled the tree (in the garden).’

Just as in One, the predicate ‘give’ requires two verbs in an SVC, one to specify the theme and one to introduce the recipient. It is grammatical to code all three arguments in one clause, but it is considered ‘better’ discourse structure to have the object more distant from the postverbal material. (42) is an acceptable

sentence, but (43), taken from texts, is a more normal way of including both an overt theme and an overt recipient in a single sentence.

- (42) Ke **taíngbe=ing a** ke=ké leng **nì**.
 3SG.NF money=the 3SG.NF=get give 1SG
 ‘He gave me the money.’
- (43) **taíngbe**_{TOPIC} [CLAUSE ung ___ [VP ___ ke=we **núng nì**]].
 money now 3SG.NF=get.F give 1SG
 ‘... now he’s given me some money.’

Paralleling One, there is a preference to split obliques or adjuncts off into separate clauses from any objects. Both (44) and (45) are completely grammatical, but (45), with two separate, chained, clauses, is stylistically better.

- (44) [Nì ke=fi lòengma].
 1SG 3SG.NF=meet road
 ‘He met me on the road.’
- (45) [Lòeng ke=k-á]=**ko** [nì ke=fi].
 road 3SG.NF=3SG.NF-walk=OBV 1SG 3SG.NF=meet
 ‘He met me on the road.’ (= ‘He walked (on) the road, and then he met me.’)

The following sentences are taken from a text about gardening. They show the use of more clauses than is strictly necessary (from a syntactic standpoint) in order to achieve a stylistically acceptable sentence.

- (xiv) **rángueke**_{TOPIC}=**pa**,
 sweet.potato=INSTR
 ‘sweet potatoes, ...’
- (xv) ne=r-óe-róe **líhi ri-rong=pa**.
 1PL=1PL-get.PL-RED garden tree_{CLF}-old=INSTR
 ‘... we get (them) all at the old garden.’
- (xvi) Ne=n-a toe ne=wá-wá **lí(hi) náti=ing a**.
 1PL=1PL-carry 1PL.come 1PL=plant-RED garden new=the
 ‘We bring (them) and plant them in the new garden.’

In Skou these patterns are stylistically preferred, but are not obligatory. This can be seen in the textual examples in (46) and (47), which allow objects and locations or goals in the one clause, without topicalization or clause-chaining.

- (46) te=angku=pa **yong=ing** te-r-é tu me te-te **pá**, ...
 3PL=child=INSTR food=DEIC 3PL=3PL-get.PL carry.PL 3PL.return 3PL.go-RED house
 ‘The children bring some food to the house, and ...’

- (47) **[kelambu]** te=r-i **li=ing a=pa,**
 [mosquito.net] 3PL=3PL-PL.get.PL sea.side=the=INSTR
 ‘They set up mosquito nets by the sea, ...’
 (=pa is also used to code a topic-like function, in (46) and earlier (xiv), and same-reference across two clauses in (47), as well as being the instrumental case marker)

As with One, some predicates subcategories for <SUBJ, OBL>. In these cases the OBL is coded following the verb, and cannot occur with an adjunct (compare the predicate in (48) with (44)).

- (48) a. Ke ke=fĩ **nĩ.**
 3SG.NF 3SG.NF=bump.into 1SG
 ‘He bumped into me.’
 b. * Ke ke=fĩ **nĩ pá=ing a.**
 3SG.NF 3SG.NF=bump.into 1SG house=the
 ‘He bumped into me in the house.’
- (49) Ke ke=k-e ti **pá=ing a=pa** ke=fĩ **nĩ.**
 3SG.NF 3SG.NF=3SG.NF-go.up 3SG.NF.go house=the=INSTR 3SG.NF=bump.into 1SG
 ‘He went into the house and bumped into me (there).’

4. Enriching Theories of Argument Structure

These data suggest that obliques, a subcategorized-for function, should be grouped with adjuncts, a non-subcategorized-for function (at least optionally). Rather than all the grammatical function labels of Bresnan (2001) being separate and distinct, we find the following distinctions can be motivated.

- (50) Subject ≠ Object ≠ Oblique_{Instrument} ≠ Oblique/Adjunct; *but* Oblique = Adjunct

Adjuncts are not simply freely adjoined to a clause, the basic positions of which are determined in the argument structure of the predicate. The restriction is not simply a (phrase) structural restriction on positions. We must reevaluate the status and categories of adjuncts and arguments. Approaches such as Cinque (1999) present a model that is diametrically opposite to that suggested by these data; a multitude of functional projections would allow for multiple adjuncts. Are these functional projections more restricted in some languages than in others? This implies that functional projections are a parametrizable feature, and not a universal.

Simply declaring ‘obliques’ and ‘adjuncts’ to be separate GFs does not account for their mutual exclusion; the differential behavior of instruments in Skou is similarly left unexplained (though see Donohue and Donohue 2004). This implies that grammatical functions (or their structural equivalents in different frameworks) are as much a parametrizable feature as are more ‘surface’ phenomena such as case and agreement. Furthermore, it implies that grammatical functions other than arguments are subordinate to discourse-like constraints on argument realization (DuBois et al. 2003), and that an informed theory of argument

structure must pay as much attention to these discursal factors as it does to lexical factors.

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