

STRUCTURE IS NOT SYNTAX: PASSIVE FUNCTIONS IN TUKANG BESI

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The passive construction in *Tukang Besi* demonstrates a striking break between the morphosyntactically coded properties of its argument and the syntactic privileges that are displayed (or, rather, not displayed) by that argument. An analysis in terms of very simple predicate logic is advanced that not only accounts for the passive data very simply, but makes a number of other surprising predictions about the language, which are borne out by empirical data.

1. STRUCTURAL POSITIONS AND SYNTAX

Most linguists would take the following as axiomatic:

- (1) If a predicate has an internal argument/object, then it necessarily has a external argument/subject, at least on the surface (= Burzio's generalisation).
- (2) All predicates have a external argument/subject, at least on the surface.
(possibly barring certain impersonal and weather constructions) (= EPP)

McCloskey (1997) uncontroversially equates the VP-external position with the 'subject' of, for instance, RG, LFG, etc. This means that we can restate (1) and (2) as (3):

- (3) All predicates have a subject; the presence of an object implies a subject

Exceptions to these generalisations are rife. Clauses that have been claimed to be 'subjectless' include clauses with 'expletive subjects' (usually involving weather verbs) and 'impersonal passive' constructions (1. 'intransitive passives', in which a monovalent verb has its subject removed by passivisation, but there is no internal argument to promote to subject; 2. 'incomplete passives', in which the A of a bivalent verb is removed from the list of core arguments (but may in some languages be present in an oblique phrase), but the P does not change at all from the object coding of an active clause; and 3. 'inceptive passives', in which the verb is coded as an active verb with a non-referential third person plural subject, and the P does not change from the object coding it received in the corresponding active clause. In some languages the A may be present in an oblique phrase). Here I shall discuss a related, but separate, kind of 'subjectless' construction, that resembles the 'incomplete passive' above in some respects, but is not the same in (crucial) others:

- a. an object is required in the clause, but there is no subject;

- b. the object appears in a phrase-structural position consistent with external arguments generally;
- c. the object displays the case marking of an external argument;
- d. the object (optionally) displays the agreement pattern of an external argument;
- e. the object does not exhibit any of the syntactic properties that are associated with ‘subject’ status
(other than argument-structure related properties accrued by virtue of hierarchical position, and not on the basis of any grammatical privilege).

This construction is found in the *to-* prefixal passive of *Tukang Besi*, an Austronesian language from central Indonesia (Donohue 1999). The relevant basic morphosyntax is described in the following section.

2. THE BASIC MORPHOSYNTAX OF THE PREDICATE PHRASE IN TUKANG BESI

In the following examples (4), (4)’ and (4)’’ show alternatives for the ordering with a simple active predicate phrase,¹ in which the verb and its object form a VP. Note that the argument which in more ‘neutral’ contexts appears postverbally with the *na* case marker can appear preverbally, marked with *te*. (5), (5)’ and (5)’’ show that when there is enclitic agreement on the verb, word order with a bivalent verb is considerably more free. In (6) and (6)’ we see the coding possibilities for the arguments of a monovalent verb, similar to those seen in (4).

- Active verb
- (4) No-tu’o=mo te kau na mo’ane.
3R-chop=PF CORE tree NOM man
‘The man chopped down the tree.’
- (4)’ *Notu’omo na mo’ane te kau.
- (4)’’ Te mo’ane no-tu’o=mo te kau.
CORE man 3R-chop=PF CORE tree
‘The man chopped down the tree.’
- (5) No-tu’o=ke=mo te mo’ane na kau.
3R-chop=3P=PF CORE man NOM tree
‘The man chopped down the tree.’
- (5)’ Notu’okemo na kau te mo’ane.
- (5)’’ Te kau no-tu’o=ke=mo te mo’ane.
CORE tree 3R-chop=3P=PF CORE man
‘The man chopped down the tree.’

¹ I shall use the term ‘Predicate Phrase’, after Keenan (2000), rather than ‘clause’ for reasons that will become apparent in section 5.

- Root-monovalent verb
- (6) No-tinti=mo na mo'ane.
 3R-run=PF NOM man
 'The man has run (away).'
- (6)' Te mo'ane no-tinti=mo.
 CORE man 3R-run=PF
 'The man has run (away).'

The preverbal option is not available for the single argument of a passive predicate phrase. Note, however, that the same agreement on the verb, and the same case marking, that were found with a monovalent verb are also found in a passive predicate phrase.

- Passive predicate phrase
- (7) No-to-tu'o=mo na kau.
 3R-PASS-chop=PF NOM tree
 'The tree was chopped down.'
- (7)' !* Te kau nototu'omo

The passive data are problematic for syntactic theories that assume the primacy of the notion of 'subject' (or grammatical functions generally) as a basic; it is awkward for syntactic theories that assume that the properties which have been ascribed to subjects are dependent on structural position. The main implication of the data is that there is a lot of semantics (in the syntax) — and is this such a bad thing? This is, after all, an Austronesian language, with a robust tradition of pragmatic and semantic explicitness to live up to.

We can model the predicate phrase in Tukang Besi as shown in (8).

- (8) [_{?P} (te DP) [_{I?P} [_{IP?} [_{VP} V (te DP_P)] (na DP_{S,A}) ((na DP_P), (te DP_A))]]
- Adverbs
Time expressions
- Locative adjuncts

Data supporting the phrase structural claims in (8) are presented in the following examples, using the sentences from (4), (5) and (6) as a base. The symbol \surd indicates the possible positions in the sentence that the tested element may appear; * indicates an ungrammatical placement. Only positions outside DPs have been considered. The tests that will be used are: adverbs must appear inside the VP;² locative adjuncts must appear following the VP, but may intervene between other

² Donohue (1999: chapter 7) describes adverb placement in terms of reference to a non-nominative pivot. This is accurate; the adverb *merimba* unusually allows both S,A-oriented or P-oriented interpretations, and so is always eligible for floating. Thus the sentence *Nomanga merimba te pandola na ana-anabou* can be interpreted as 'The children at the eggplants in a hurry.', or 'The children ate the eggplants (such that the eggplants were gone) quickly.' While not all speakers are comfortable with the distinction, monovalent clauses are also reported with this

- (12) No-tu'o=ke=mo na kau te mo'ane.
 3R-chop=3P=PF NOM tree CORE man
- | | | | | |
|---|---|---|---|-----------|
| √ | √ | * | * | Adverbs |
| * | √ | √ | √ | Locations |
| * | * | √ | √ | Temporals |
- ‘The man chopped down the tree (quickly) (in the garden) (in the afternoon).’
 merimba di koranga sio'ooloo

Examining a passive predicate phrase with the same structural tests we find the same behaviour that was found for the monovalent predicate phrase in (9). In other words, the testable structural position of *na kau* in (13) is the same as that of *na ana* in (9), in addition to their case marking and verbal agreement options being identical (apart from the inability of the passive argument to be fronted – see (7)').

- (13) No-to-tu'o=mo na kau.
 3R-PASS-chop=PF NOM tree
- | | | | |
|---|---|---|-----------|
| √ | √ | * | Adverbs |
| * | √ | √ | Locations |
| * | * | √ | Temporals |
- ‘The tree was chopped down (quickly) (in the garden) (in the afternoon).’
 merimba di koranga sio'ooloo

Examining just these coding options we would have to conclude that the passive argument is the same, morphosyntactically, as the single argument of a monovalent verb, and that there were no surprises in the syntax of the passive. When we examine other syntactic tests we find some important differences, as well as similarities.

3. THE SYNTACTIC BEHAVIOUR OF NON-PASSIVE ARGUMENTS

In addition to the configurational tests shown in the previous section we have a range of additional syntactic tests that can be used to examine the status of the passive argument. The following non-exhaustive list offers some syntactic tests and the categories they define ((see Donohue 1999: chapter 20, or Donohue 2004 for a fuller listing).

- | | | | |
|------|-----------------------|--|--|
| | Defines the category: | | Tests: |
| (14) | ‘External argument’ | | scope of floating quantifiers. |
| | ‘External argument’ | | conjunction reduction. |
| | S, A | | relativisation with the infix <i>-um-</i> ; P arguments are relativised with <i>i-</i> . |
| | S,A / agent | | finite controlled complements with ‘tell’, ‘force’, ‘command’ |

terms/non-terms	terms can be a modifier with <i>nu</i> ‘genitive’ in nominalisations; non-terms preserve their case
terms/non-terms	topic with <i>te</i> “core” in preclausal position.

As far as examining the behaviour of the passive argument goes, relativisation does not distinguish a passive argument from an S or an A, and control treats a passive argument the same as any non-agentive S. Passive arguments test as terms when we examine their behaviour in terms of case marking in nominalisations and topicalisation structures, but these tests do not distinguish more finely than between terms and non-terms, and so cannot be used as subject tests. Floating quantifiers, and behaviour in conjunction reduction, are the two tests that I shall examine here which are more useful.

A floating quantifier can only modify the subject, which must appear with nominative case if post-verbal. In example (15) we can see the quantifier *saba’ane* ‘all’ modifying the A in the predicate phrase, while in (16) it modifies the P. The generalisation across (15) - (17) is that a floating quantifier can only be restricted to a nominative argument.

Active predicate phrases

- (15) Saba’ane no-tu’o=mo te kau na mo’ane.
 all 3R-chop=PF CORE tree NOM man
 ‘All the men chopped down the tree.’

- (16) Saba’ane no-tu’o=ke=mo te mo’ane na kau.
 all 3R-chop=3P=PF CORE man NOM tree
 ‘The man chopped down all the trees.’

Root-monovalent predicate phrase

- (17) Saba’ane no-tinti=mo na mo’ane.
 all 3R-run=PF NOM man
 ‘All the men have run (away).’

The preferred target and controller of conjunction reduction is the external argument which is eligible to receive nominative marking.

Active verb

- (18) No-’ita te ana na mo’anemaka no-wila=mo.
 3R-see CORE child NOM man and.then 3R-go=PF
 ‘The man_i saw the child_j, and then $\emptyset_{i/*j}$ left.’
- (19) No-’ita=e te mo’ane na ana maka no-wila=mo.
 3R-see=3P CORE man NOM child and.then 3R-go=PF
 ‘The man_i saw the child_j, and then $\emptyset_{*i/j}$ left.’
- (20) No-rato maka no-’ita te ana na mo’ane.
 3R-arrive and.then 3R-see CORE child NOM man
 ‘ $\emptyset_{i/*j}$ arrived, and then the man_i saw the child.’

- (21) No-rato maka no-'ita='e te mo'ane na ana.
 3R-arrive and.then 3R-see=3P CORE man NOM child
 'Ø*_i / _j arrived, and then the man_i saw the child_j.'

These tests, and others not detailed here, provide evidence that the *na*-marked argument is syntactically privileged in the predicate phrase, and so can be considered to be the subject of its predicate phrase. There are a number of other constructions which do not select the nominative argument as their most privileged group; in (14) I summarised the restrictions of relative clauses: if the head of the relative clause is an S or an A (that is, the most thematically prominent argument in the clause) then the verb must be marked with the infix *-um-*; if the head is a P, then the prefix *i-* (variants: *di-*, *ni-*) must be used. Although the identity of an argument as nominative or not nominative is not relevant for determining this construction, the fact that we can very simply state the restrictions on the use of these morphemes in terms of argument structure means that we do not need to consider this construction as evidence for, or against, 'subjecthood', but simply proof that some constructions in the language refer more directly to thematic role positions, and not to a grammaticalised notion of 'subject' (see also Donohue and Donohue 2004, Donohue to appear).

In the following sections I describe the ways in which a passive argument is not like the nominative argument of a non-passive predicate phrase, despite sharing the same morphological coding.

4. SYNTACTIC BEHAVIOUR OF THE PASSIVE ARGUMENT

There are both similarities and differences of a passive argument in a predicate phrase such as *Nototu'o* in (13) and the nominative argument of a monovalent non-passive predicate phrase such as (9). As discussed in section 2, the case marking, agreement possibilities, and structural position of the passive argument appear to be identical to that of the subject of a monovalent predicate phrase. When we examine other constructions, however, we find important differences: a passive argument cannot be the restriction of floating quantifiers. Compare (22) with (17) in the previous section.

- (22) *saba'ane no-to-tu'o=mo na kau.
 all 3R-PASS-chop=PF NOM tree
 'All the trees were chopped down.'

Neither may a passive argument be either the target, or controller, of ellipsis in conjunction reduction; compare (23) - (25) with (18) - (21).

- (23) No-tu'o=ke te mo'ane maka no-buti=mo na kau.
 3R-chop=3P CORE man and.then 3R-fall=PF NOM tree
 'The man_i chopped it_j, and then the tree_j fell down.'

- (24) * no-to-tu'o=mo maka no-buti=mo na kau.
 3R-PASS-chop=PF and.then 3R-fall=PF NOM tree
 'It_i was chopped, and then the tree_i fell down.'
- (25) * No-koho='e te mo'ane make no-to-tu'o=mo na kau.
 3R-chop=3P CORE man and.then 3R-PASS-chop=PF NOM tree
 'The man_i chopped it_j, and then the tree_j fell down.'

We can summarise the behaviour of the passive construction as follows:

- the passive verb contains one less argument than the verb of an active predicate phrase;
- the *na*-argument of a passive behaves as a term with respect to nominalisation and topicalisation;
- the *na*-argument of a passive behaves as the highest-ranked (in thematic hierarchy terms) argument of the predicate phrase it is in: it forms relative clauses with <*um*>, not *i*-.
- the *na*-argument of a passive does not show privileged behaviour in constructions that single out the subject as the sole privileged argument; examples here show floating quantifiers and conjunction reduction, but other relevant constructions include the ability to head an internal relative clauses, the ability to control an argument of a temporal clause – see Donohue 2004).

Our question is how to account for this combination of properties: the passive argument is apparently a term, but not subject. This would be consistent with numerous examples of what may be called 'incomplete' passives, such as that shown from Nanai in (26). Here there is overt passive morphology, but the theme remains in accusative case: it is not the subject.

- (26) Ej daŋsa-wa tej erinčie xola-o-xan bičin.
 DEM book-ACC DEM time read-PASS-PST AUX(PST)
 'The book had already been read by that time.'

In *Tukang Besi* the theme or patient, the passive argument, does appear in nominative case, does control nominative agreement on the verb, and is external to the VP. This is clearly a very different linguistic type than the incomplete passives shown in (28) and (29). The following section offers an account of how we might model the *Tukang Besi* passive and its peculiar syntactic behaviour.

5. SEPARATING 'PREDICATE PHRASE' AND 'DOMAIN'

Rather than a purely syntactic argument, I propose an alternative, semantically-based account, relying on the notions of scope and binding, to model the grammar. This will be presented using a very simple version of introductory predicate logic (Butler nd). This account makes some assumptions about scope, which will be explicitly spelled out first.

5.1 *The S,A prefixes scope high in the predicate phrase*

The account presented here assumes that the prefixes that mark agreement for S or A scope much higher than simply the verb. These prefixes are portmanteau morphemes that both show agreement in person and number with the highest thematic argument in the clause, but which also mark realis or irrealis mood. The system is shown in (27); all person / number combinations have a separate irrealis form, except for 1SG.

(27)	Realis				Irrealis		
	SG	PA	PL		SG	PA	PL
1 st	ku-	ko-	to-	1 st	ku-	ka-	ta-
2 nd	‘u / nu-	i-	i-	2 nd	ko-	ki-	ki-
(3 rd)	no- / o-	no- / o-	no- / o-	(3 rd)	na- / a-	na- / a-	na- / a-

A second argument for the high scope of the prefixes is that the left-aligned infix *<um>* does not recognise the prefix as part of its domain, despite applying to other prefixal material. This implies that the prefixes are not part of the domain that the infix aligns to.

(28)	a. no-kede 3R-sit ‘they sit’	b. na-k<um>ede 3I-sit<UM> ‘they will sit’	c. * n<um>a-kede 3I<UM>-sit
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We can show that the infix is not aligned strictly with respect to the verb root, and so ignores the agreement prefixes, since other prefixes can act as a host for it. (29) shows that the causative or passive prefix, if present, can host the *-um-*.

(29)	a. no-pa-kede=‘e 3R-CAUS-sit=3P ‘they seat them’	b. na-p<um>a-kede=‘e 3I-CAUS<UM>-sit=3P ‘they will sit’	c. * numapakede’e d. * napakumede’e
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The prefix may be separated from the verbroot by a pause; this is not normal for other prefixes. This implies something other than full integration into the word phonologically. The material in (30) - (32) are taken from texts, and show the occurrence of the agreement prefixes separated from the verb they inflect. (33) demonstrates the unacceptability of other prefixal material being separated from the verbal base by an intonation break.

(30)	Toka eaka ko-, But not 1PA.R-	eaka ko=motur(u) i not 1PA.R-sleep	i OBL	la’a=mo. only=PF
	‘But w[e]- di[dn’t], we didn’t sleep at all.’			
(31)	Sa-anu=no, when-whatsit=3GEN	o-, 3R-	-‘ido-api=‘e=mo, -live-APPL=3P=PF	te watu, jari sa-to-to’oge. CORE stone and.so 1-RED-big
	‘And then, it, grew on it, the stone, an’ was all big.’			

- (32) Jari o-, o-po-'awa=mo. O-pogau na Ndokendoke kua ...
 so 3R- 3R-REC-get=PF 3R-say NOM Monkey COMP
 'And so th[ey]-, they met. Monkey said: "...'
- (33) a. * no-to-, tu'o b. * no-pa-,kede='e
 3R-PASS- chop 3R-CAUS- -sit=3P
 'it was, chopped' 'they made, her/him sit'

Children acquire the prefixes later than they acquire the P-agreement enclitics. This implies that the prefixes are not so fully integrated into the verbal 'template' as are the clitics.

- (34) a. Adult no-kede 3R-sit 'they sit'
 b. early child kede sit '(they) sit'
 c. later child mo-kede MO-sit '(they) sit'
- (35) a. no-'ita=aku 3R-see=1SG.P 'they see me'
 b. ita iaku see 1SG '(they) see (me)'
 c. mo-ita=aku MO-see=1SG.P '(they) see me'

5.2 The P enclitics scope low, in the VP

A second assumption for this account is that the P enclitics scope very low in the predicate phrase. These morphemes show a transparent relationship with the free pronominal forms (glottal stops [<'>] dissimilate to [k] near another glottal stop, accounting for the form of the 3P enclitic seen in, for example, (5)):

(36)	P enclitic			Free form		
	SG	PA	PL	SG	PA	PL
1 st	=aku	=kami	=kita	iaku	ikami	ikita
2 nd	=ko	=komiu	=komiu	iko'o	ikomiu	ikomiu
(3 rd)	=e	=e	=e	ia	amai	amai

P enclitics and nominal objects with the same reference are mutually exclusive either in the VP or (incorporated) in the V itself. See section 2 for arguments about the constituency of a P in a predicate phrase with, or without, P enclitics. The examples in (37) show that a nominal may be incorporated into the verb. (38)a shows the possibility of agreement with this P nominal by enclitic, mirroring the differences seen in (4) and (5). In (38)b we can see that it is not possible for an incorporated nominal to also show agreement on the verb. This is not due to a morphological template that prohibits both an incorporated nominal and P-agreement; (39) shows that a complex predicate allows for the incorporation of the base object and the coding by enclitic agreement of the primary object on the same complex verb.

- (37) a. Ku-manga=mo te kuikui.
 1SG-eat=PF CORE cake
 'I ate cakes.'
- b. Ku-manga=kuikui=mo
 1SG-eat=cake=PF
 'I am a cake-eater.'

- (38) a. Ku-manga='e=mo na kuikui. b. * Ku-manga=kuikuij='e_j=mo
 1SG-eat=3P=PF NOM cake 1SG-eat=cake=3P=PF
- (39) a. No-pa-manga=aku=mo te kuikui. b. No-pa-manga=kuikui=aku=mo
 3R-CAUS-eat=1SG.P=PF CORE cake 3R-CAUS-eat=cake=1SG.P=PF
 'They fed me cakes.' 'They would feed me cakes.'

The arguments here have shown that we can treat the S,A prefixes and the P enclitics as having quite different scopes in the predicate phrase. We need one more assumption for the purposes of discourse linking.

5.3. *Te* scopes highest in the clause

Here I refer to the preverbal *te* that was seen in (4)", (5)" and (6)". We assume that the argument introduced by this morpheme has the widest scope of anything in the clause. Support for the position that the argument marked with this morpheme is the 'most essential' element of the clause is easy to find:

- *te* is used in citation of nouns: *te kau* 'tree', not # *kau* or # *na kau*;
- *te* is used when an argument is pragmatically salient, or topicalised;
- *te* is not confined to a particular semantic or syntactic role in the clause;
- *te* may appear multiple times in the clause, marking terms;
- *te* is used to mark the syntactically privileged argument when it is preverbal.

The fact that these logically independent factors all coincide in the same morpheme, and that there are clear pragmatic and discourse factors involved in the selection of the (preverbal) *te* argument, indicates that it plays a very important role in any model of binding and discourse for Tukang Besi.

5.4. *And so ...*

We conclude that the S,A-prefixes, the P-enclitics, and *te* (as described in 5.3) are binding operators:

<i>te</i>	binds the (nominal, term) elements within its scope and links to the verb <i>or</i> to another binder (cf. Sells 2000);
(<i>na</i> prefixes)	provides a link to a <i>te</i> binder; link to S or A;
enclitics	obligatorily introduced with every verb (referred to as <i>no</i>) link to P (optionally introduces with verbs) (referred to as <i>ke</i>)

In addition to the operators, we need a set of principles to link the predicate to its arguments; these are very simply described in (40) below. These two linking principles define the main (pronominal) voice system in Tukang Besi (Donohue 2004).

- (40) (*no = te*) ‘a verb links to its S,A argument’
 (*ke = te*) ‘a verb links to its P argument’

The application of these binding operators to a simple monovalent predicate phrase is shown in (41)’, based on (41) which repeats (6)’.

- (41) Te mo’ane no-tinti=mo.
 CORE man 3R-run=PF
 ‘The man has run (away).’

- (41)’ $\exists te \text{ MAN}(te) \exists no (no = te \text{ RUN}(no))$

(42) shows an ungrammatical sentence in which the *te*-marked argument is postverbal. (42)’ and (42)’’ are the explications showing how this order cannot be interpreted felicitously: in (42)’ ‘man’ is unbounded, and in (42)’’ there is an unbounded *te*.

- (42) * no-tinti=mo te mo’ane.
 3R-run=PF CORE man
 ‘The man has run (away).’
 “* __ has run the man away.”

- (42)’ # $\exists te \exists no (no = te \exists te (\text{RUN}(no) \text{MAN}(te)))$

- (42)’’ # $\exists te \exists te \exists no (no = te (\text{RUN}(no) \text{MAN}(te)))$

The grammatical version of (42), in which the postverbal subject is marked with *na*, is shown in (43), repeating (6). As can be seen in (43)’’, the clausal *te* binder is opened. Next a *no* binder is opened (with wide scope). The *no* binder is linked to the clausal *te* binder. This gives the *te* a role to play in the interpretation. Finally the *na*-marked MAN is linked to the open *te* binder, which is also linked to the clausal *te*.

- (43) No-tinti=mo na mo’ane.
 3R-run=PF NOM man
 ‘The man has run (away).’

- (43)’ $\exists te \exists no (no = te \text{ RUN}(no) \text{MAN}(te))$

Turning to bivalent predicates, we find the simplest case in (44), repeating (4). (44)’ shows a felicitous linking, while (44)’’ shows an infelicitous linking.

- (44) No-tu’o=mo te kau na mo’ane.
 3R-chop=PF CORE tree NOM man
 ‘The man chopped down the tree.’

- (44)’ $\exists te \exists no (no = te \exists te (\text{CHOP}(no, te) \text{TREE}(te)) \text{MAN}(te))$

- (44)’’ # $\exists te \exists no (\exists te (te = te \text{ CHOP}(no, te) \text{TREE}(te)) \text{MAN}(te))$

For the non-encliticised verb, the word order is rigid, as seen in the ungrammaticality of (4)’’, repeated here as (45). This is easily predicted from the linking representation. Given (48), we

might suppose the linking to run as seen in any of (45)' - (45)'''. In (45)' 'tree' is unbounded; in (45)'' 'man' is equivalent to 'tree'; in (45)''' 'tree' is self-linking.

(45) * No-tu'o=mo na mo'ane te kau.
 3R-chop=PF NOM man CORE tree
 'The man chopped down the tree.'

(45)' # $\exists te \exists no (no = te \exists te (CHOP(no,te) MAN(te) TREE(te)))$

(45)'' # $\exists te \exists no (no = te CHOP(no,te) MAN(te) \exists te (te = no TREE(te)))$

(45)''' # $\exists te \exists no (no = te CHOP(no,te) MAN(te) \exists te (te = te TREE(te)))$

When the verb inflects by enclitic as well as by prefix the order verb-agent-patient is allowed. (46) repeats (5). The linking that lies behind this predicate phrase is shown in (46)'; the alternative linkings in (46)'' - (46)''' are all uninterpretable, the first two because 'man' equates to 'tree', the last because a high-scoping operator must be interpreted as being low. Reversing the order of the man and the tree in (46) will not affect the linking in any significant way.

(46) No-tu'o=ke=mo te mo'ane na kau.
 3R-chop=3P=PF CORE man NOM tree
 'The man chopped down the tree.'

(46)' $\exists te \exists no (\exists ke (ke = te CHOP(no, ke)) \exists te (te = no MAN (te)) TREE (te))$

(46)'' # $\exists te \exists no (\exists te (\exists ke (ke = te CHOP (no, ke)) te = no MAN (te)) TREE(te))$

(46)''' # $\exists te \exists no (no = te \exists ke (CHOP (no, ke)) \exists te (te = no MAN (te)) TREE(te))$

(46)'''' # $\exists te \exists no (no = te \exists ke (CHOP (no, ke)) \exists te (te = ke MAN (te)) TREE(te))$

We can now turn to passive predicates. Example (7) is repeated below as (47). The linking that applies to this predicate phrase is shown in (47)'; the linking is structurally identical to that seen in (43)', the only difference being that (47)' specifies a clause boundary about the predicate phrase, rendering the sentence in (47) opaque to any phenomena that are sensitive to a clause boundary.

(47) No-to-tu'o=mo na kau.
 3R-PASS-chop=PF NOM tree
 'The tree was chopped down.'

(47)' clause $\exists te \exists no (no = te BE.CHOPPED (no) TREE(te))$

Based on this structure, we can easily model the ungrammaticality of (22) and (24) - (25):

(48) floating quantifiers link to an accessible *te*, in the same clause, acting as a distributive operator.

This is a parameter that we need to invoke to account for the scope of a quantifier in a sentence consisting of two conjoined clauses such as (49).

- (49) Saba'ane no-tu'o=mo te kau na mo'ane
 all 3R-chop=PF CORE tree NOM man
 kene no-ala te panga na wowine.
 and 3R-fetch CORE branch NOM woman
 'All the men chopped down the tree, and the women picked up the branches.'
 * 'The men chopped down the tree, and all the women picked up the branches.'

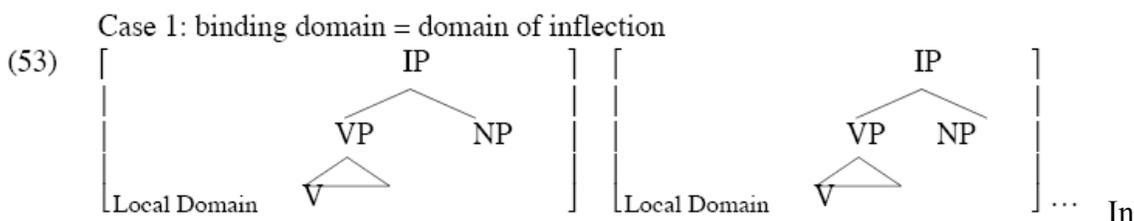
The ungrammaticality of (22), shown here as (50), is a trivial consequence of the fact that the quantifier is not in the same clause as the element it putatively quantifies, as seen in (50)'.

- (50) * saba'ane no-to-tu'o=mo na kau.
 all 3R-PASS-chop=PF NOM tree
 'All of the trees were chopped down.'
- (50)' # ALL clause $\exists te \exists no$ ($no = te$ BE.CHOPPED (no) TREE (te))
 └───*
 (51) coordination (conjunction reduction) does not involve the automatic imposition of a clause boundary, whereas subordinate structures, such as, internal relative clauses and adverbial temporal clauses, do.
- (52) [[clause $\exists te \exists no$ ($no = te$ BE.CHOPPED(no) TREE(te))] ([$\exists te_2 \exists no_2$ etc.])]

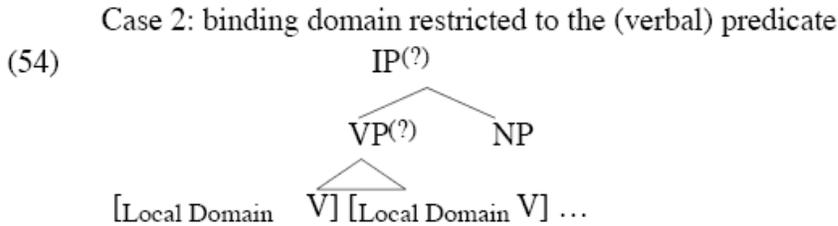
Under this account, everything is quite trivial. But notice that there is one important assumption: *there isn't a clause boundary between predicates (in the absence of a passive or of subordination)*. This assumption, and other consequences of the model, will be explored in the following section.

6. DOMAIN AND PREDICATE: AN EXPLICIT MODEL

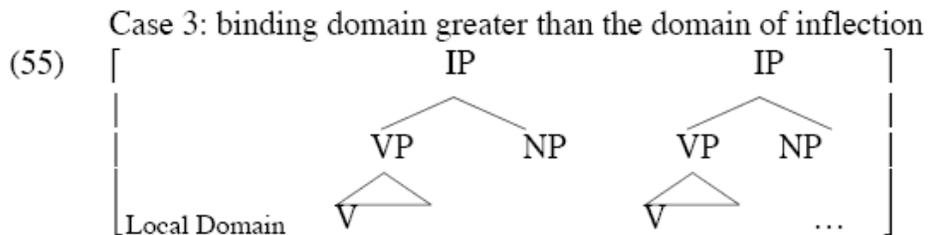
Locality, specifically the domain of locality, is a parameter independent of the limits of the predicate phrase. In most cases for which we have adequate description and analysis, it is coterminous with the IP/Predicate phrase.



some languages locality appears to 'contract' to include just the (highly inflected) verb; these are the so-called 'pronominal argument' languages, specifically the highly polysynthetic languages such as Chichewa, Mohawk, Wichita, Yimas, etc.



In languages such as Tukang Besi locality operates at a greater-than-IP level. In terms of binding, locality extends across IP-boundaries. We have not yet determined how many languages fit into this type, but it is not unique to Tukang Besi.



One desirable consequence of the idea that locality is greater than one predicate phrase is found when we examine the domain in which the antecedent of a reflexive can be found: in Tukang Besi, the antecedent does not have to be in the same predicate phrase, as seen in (56). Here the antecedent of *orungu=no* ‘his body = himself’ is found in the following predicate phrase. If there were a clause boundary between these two predicate phrases this would be very hard to explain (see Donohue 1999: 123ff for arguments against treating *no-* in *no’ita’e* as a having pronominal status).

- (56) [No-’ita=’e na orungu=no di paiasa i rearea]
 3R-see=3P NOM body=3GEN OBL mirror OBL morning
 maka [no-hesowui na mo’ane i sio’oloo].
 and.then 3R-wash NOM man OBL afternoon
 ‘ \emptyset _i saw himself_i in the mirror in the morning and then the man_i
 washed in the afternoon.’

Note that Tukang Besi does *not* allow for reflexives in subordinate clauses to be bound from a matrix clause (unlike languages such as Japanese or Mandarin). In sentences with complex, non-coordinated, predicates or clauses the domain of a reflexive is strictly local.

- (57) No-waa=’e te wowine kua karajaa=’e ako te orungu=no.
 3R-tell=3P CORE woman COMP work=3P BEN CORE body=3GEN
 ‘The woman told him to do it for himself / *herself.’

- (58) No-pa-'ita te wowine te orungu=no na mo'ane.
 3R-CAUS-see CORE woman CORE body=3GEN NOM man
 'The man made the woman look at herself / *himself.'

The construct of unbounded domains explains the lack of any negative polarity items, the lack of NP-internal negation, and the lack of independent pronouns.

7. CONCLUSION: THE DISCOURSE FUNCTION OF THE PASSIVE IN TUKANG BESI

Tukang Besi is a language that does not automatically impose clause boundaries (= binding domains) on coordinated predicate phrases. What are the consequences of the use of the passive?

- the *to-* operator provides a clause boundary about the predicate in which it occurs, a boundary that is otherwise not present.³
- this, in turn, would imply that the kinds of reference we find across coordinated clauses would no longer apply; the IP with the passive should behave more like a subordinate clause, with a clause boundary.
- subordinate clauses acquire their reference by the affixes <um> and *i-*, which function pronominally (see Sells 2001). But these are not used in main clauses, where the person/number marking prefixes and clitics are used. But these are not pronominal, and do not license coreference across clause boundaries.⁴
- effectively, the IP with the *to-* operator becomes opaque to any operations that require anaphora: coordination, floating quantifiers, etc., and proper agreement.

The passive functions not to highlight a participant that would otherwise be overlooked, but to background information. The function of a productive, subject-creating voice is filled by the pronominal voice system (Donohue 2004). An example of the use of the passive is shown in (59). Here the passive is used to remove an argument, *ne'ino*, from the discourse, and replace it with something else (*kulino*), which is the highlighted information for the rest of the sentence.

(Discussing a particular shellfish: [the flesh is delicious, if you fry it, cook it with coconut milk and eat it with cassava bread or rice.]).

- (59) Buntu kua, sa-to-ambe=no na ne'i=no

³ Except in negative existential constructions with *mbea'e* 'not exist'. This element also introduces a clause boundary, effectively destroying discourse continuity to and from the predicate phrase containing *mbea'e*.

(i) Mbea'e	na	doe=su.	(ii) Mbea'e	na	mia	[RC r<um>ato].
not.exist	NOM	money=1SG.GEN	not.exist	NOM	person	arrive<UM>
'I don't have any money.'			'Noone came.'			

⁴ Nor are there other true pronouns in the language. There are words with discourse-variable reference, but these behave (almost) identically to nouns: they obligatorily take separate case markers, and can be modified by demonstratives, relative clauses, adjectives (but not be possessed). Examples can be found in Donohue (1999: 305-306). Another example of non-pronominal pronouns can be seen in Norwegian, where the functions and collocations available to pronouns are almost indistinguishable from those of common nouns.

however when-PASS-take=3GEN NOM flesh=3GEN
 (o-)dei=mo te kuli=no, o-, mbali watu=mo.
 3R-left.over=PF CORE skin=3GEN 3R- become stone=PF
 ‘However, when the meat’s been taken out, they leave behind the shell, i[t]-, toughens up like a stone.’

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Semantics for Argument Management(AH = argument handle (\pm variable))

Predicates	$P(x_1, \dots, x_n) \in \text{SAM}$	for any n-ary predicate P, $x_1, \dots, x_n \in \text{AH}$
open scope	open $x\phi \in \text{SAM}$	for any $\phi \in \text{SAM}$, $x \in \text{AH}$
concatenation	$\phi\psi \in \text{SAM}$	for any $\phi, \psi \in \text{SAM}$
clause marker	clause $\phi \in \text{SAM}$	for any $\phi \in \text{SAM}$

(Butler nd)