

NON-SUBJECT PARTICIPANTS IN TOLAKI

Owen Edwards
Australian National University

Proceedings of the LFG12 Conference

Miriam Butt and Tracy Holloway King (Editors)

2012

CSLI Publications

<http://csli-publications.stanford.edu/>

Abstract

I present data from Tolaki, an Austronesian language of Central Indonesia, which challenges the notion that grammatical functions form discrete categories. I argue that current models of grammatical functions within Lexical Functional Grammar cannot account for the data we find. If we were to posit discrete categories for grammatical functions on the basis of different behaviour under different morpho-syntactic tests, we would be forced to posit a minimum of nine categories in order to account for the results; nearly double the number of categories currently provided for by LFG. A better way of analysing the data we find in Tolaki is to posit a continuum of grammatical functions between the most and least privileged grammatical functions, subject and adjunct. Participants are located along this continuum and are either more subject-like or more adjunct-like.

1 Introduction

In this paper I will investigate grammatical functions (GFs) in the Austronesian language Tolaki, with a particular emphasis on non-subject participants.

LFG posits a universally available inventory of eight GFs (Dalrymple, 2001; Bresnan, 2001). In this paper I only discuss nominal GFs, and will not be further concerned with the clausal GFs COMP, XCOMP or XADJ. The five nominal GFs are:

- (1) SUBJ, OBJ, OBJ_θ, OBL_θ, ADJCT

In this paper I argue that if we were to posit discrete categories for Tolaki GFs we would be forced to posit a minimum of nine categories in order to account for the results; nearly double the number of categories allowed by LFG. I propose that a better way of analysing the data is to posit a continuum of GFs between the most and least privileged GFs, SUBJ and ADJCT.

In the first section of my paper I provide evidence for the most privileged GF, SUBJ, and the least privileged GF, ADJCT. We will see that the three tests, relativ-

[†]Unless otherwise cited, data is drawn from my own fieldwork conducted at the beginning of 2012. I would like to thank my main informants, Darmin, Untung, Sukur Tabara and Omar Pidani.

Glosses follow the list of standard abbreviations that can be found in the Leipzig Glossing Rules, with the following exceptions: ACCID ‘accidental passive’, CN ‘common noun’, eSi ‘older sibling’, EX ‘exclusive’, IN ‘inclusive’, NFIN ‘non-finite’, NSG ‘non-singular’, PN ‘proper noun’ and ySi ‘younger sibling’.

Example sentences are given in standard Tolaki orthography, with dashes (-) added to indicate morpheme breaks. Tolaki letters have the same values as Indonesian equivalents, with the exception of the apostrophe <'> which represents the glottal stop /ʔ/. Full sentences receive appropriate capitalisation and punctuation, with the exception of ungrammatical sentences. A capital ‘N’ (i.e. *poN-*) indicates a morpheme after which the morpho-phonemic process of prenasalisation occurs. Under this process the voiceless stops /p, t, k/ become the prenasalised stops /mb, nd, ŋg/. Two lines of Tolaki are given in sentences when this morphophonemic process operates. The top line shows the standard orthography, the second line the morpheme breaks.

sation, nominative agreement and plural agreement allow us to identify SUBJ. We will also identify ADJCT as a participant that cannot appear as a bare noun phrase.

The bulk of my paper is an investigation of the behaviour of the remaining non-subject participants; participants which cannot be identified as either SUBJ or ADJCT. After identifying the coding strategies used for eight such participants, I will show their behaviour under the syntactic tests of external possession, secondary predication and passivisation.

I conclude my paper with a proposal for explaining the continuum-like nature of grammatical functions in Tolaki.

2 The Limits: Subject and Adjunct

I begin my investigation by defining the limits among GFs; the most privileged GF, SUBJ, and the least privileged GF, ADJCT.

2.1 Subject

One syntactic test and two morphological tests allow us to reliably identify the SUBJ in Tolaki. The tests of relativisation, plural agreement and indexation with nominative prefixes refer uniquely to the group of roles comprised of S, A and the derived S in a passive sentence.

2.1.1 Relativisation

The criteria by which we can identify a relative clause in Tolaki are: (a.) the relativised noun phrase occurs before the verb, (b.) the verb is in the non-finite form¹, and (c.) no affixes occur on the verb indexing the relativised argument.

Examples (2)-(4) show the successful relativisation of an S, A and derived S respectively. In these examples the relative clause is enclosed within square brackets.

- (2) *Ingoni laa* [NP *toono* [RC *i-luara* <*m*>*o-susua*.]]
 earlier EXIST person LOC-outside <(NFIN)INDF.P-sing.
 There was someone earlier today who sang [something] outside.
- (3) *Ku-kokolea-'i* [NP *hai-nggu* [RC *t<um>idu-'aku*.]]
 1NOM-annoy-3ABS ySi-1GEN <(NFIN)punch-1ABS
 I annoy my younger brother who punched me.

¹The non-finite form is coded with the infix <*um*>. When the indefinite P prefix *poN-* occurs, the non-finite form is encoded by the process /p/ → /m/; i.e. *moN-*. Passive verbs do not have a non-finite form. For a fuller discussion of the form and use of the non-finite verbal form in Tolaki see Edwards (2012, 56-9) and Mead (1998, 291-4).

- (4) *Ku-tidu-i* [NP *hai-nggu* [RC *k(in)okolea-nggu.*]]
 1NOM-punch-3ABS ySi-1GEN <PASS>annoy-1GEN
 I punched my younger brother whom I annoy.
lit. I punched my younger brother who is annoyed by me.

Non-subjects cannot be relativised in Tolaki. This is shown in (5), which would otherwise fulfil the criteria for the successful relativisation of a P.

- (5) **Ku-tidu-i* [NP *hai-nggu* [RC *ku-k(um)okolea.*]]
 1NOM-punch-3ABS ySi-1GEN 1NOM-<NFIN>annoy
 I punched my younger brother whom I annoy.

2.1.2 Plural Agreement

When the SUBJ of a clause is plural, the verb can optionally take the plural prefix *mbeN-*. Plural in Tolaki consists of a group of three or more. Verbal indexation of plural participants is necessarily non-singular and the participant can take the optional NSG suffix *-Cako*.

An example of the verb agreeing with each of a plural S, A and derived S, is given in sentences (6)-(8) respectively.

- (6) *Lako-ro-to mbe-lako hada dadio.*
 go-3NSG.GEN-PRF PL-go monkey many
 Then the many monkeys left. (Untung, 2009, 31)
- (7) *Rombenggii'ito kolopua.*
 ro-mbeN-kii-'i-to kolopua
 3NSG.NOM-PL-see-3ABS-PRF tortoise
 They [the monkeys] saw the tortoise. (Untung, 2009, 32)
- (8) *Rombinendopaki poteha'akonggu.*
 ro-mb<in>eN-topaki poteha-'ako-nggu
 3NSG.NOM-<PASS>PL-slap cousin-NSG-1GEN
 My cousins were slapped.

Finally, the ungrammatical sentence (9), in which the only non-singular participant is the P, shows that the prefix can only agree with the SUBJ.

- (9) **ku-mbe-langgu-'iro banggona-hako-nggu*
 1NOM-PL-hit-3NSG.ABS friend-NSG-1GEN
 I hit my friends.

2.1.3 Nominative Agreement

Only an S, A or derived S can be indexed with nominative prefixes. Examples (10), (11) and (12) illustrate the indexation of each of these roles with a nominative prefix

- (10) *Ku-lako i'-aa-homa.*
 1NOM-go LOC-area-forest
 I went to the forest.
- (11) *Ku-soro-'i oto-nggu.*
 1NOM-push-3ABS car-1GEN
 I pushed my car.
- (12) *I-Bio no-k(in)ii.*
 PN-Bio 3NOM-(PASS)see.
 Bio [is the one who] was seen.

Absolutive and genitive suffixes are also used to index the SUBJ under certain circumstances². Thus, while nominative prefix indexation is not the only coding strategy that can be used to index the SUBJ, SUBJS are the only participants that can be coded in this way.

2.2 Adjuncts

SUBJ forms the upper limit among grammatical functions; the most privileged, while ADJCT forms the lower limit, the least privileged GF.

Adjuncts in Tolaki fail all of the tests listed above for subjects, in addition to all other syntactic tests discussed in this paper. Furthermore, adjuncts cannot appear as a bare noun phrase and must be marked with either of the prefixes *i-* 'locative' or *kei/ine-* 'adjunct'³, and/or are introduced by one of the prepositions *ari* 'from', *ronga* 'with' and *sambe* 'until'.

Sentence (15) shows a locative adjunct marked with *i-*, sentence (13) an adjunct marked with both the preposition *ari* and the prefix *ine-* and sentence (14) shows an adjunct marked with the preposition *ronga* 'with'.

- (13) *A-no te-bua pele-hada ari ine-kowuna.*
 and-3NOM ACCID-fall palm-monkey from ADJCT.CN-bamboo
 And a monkey's hand fell out of the bamboo. (Untung, 2009, 31)
- (14) *Ku-laa <m>e-tulura rongga hai-nggu.*
 1NOM-PROG <NFIN>INTR-speak with ySi-1GEN
 I'm speaking with my younger sibling.

Furthermore these participants can be multiply specified, a test for adjunct-hood (Dalrymple, 2001, 12). This is shown in sentence (15).

- (15) *Ki-laa mbe-lako i'-aa-homa i-kambo*
 1EX.NOM-PROG PL-go LOC-area-forest LOC-village
 <m>e-tamo-'ako Okonda.
 <NFIN>INTR-name-APPL Okonda.
 We were walking in a forest in a village which was called *Okonda*.

²See Edwards (2012, 46-56) and Mead (1998, 300-343) for a full discussion of the circumstances under which different affixes are used.

³*kei* is used with pronouns and proper nouns, *ine* is used with all other nouns. These prefixes introduce roles with a wide variety of semantic roles including (but not limited to) GOAL, SOURCE, LOCATION and ACCOMPANIMENT.

We can thus define the limits of GFs in Tolaki: the least and most privileged GFs. This is shown in table 1

	Rel.	Pl.	NOM	Bare NP
SUBJ	✓	✓	✓	✓
ADJCT	-	-	-	-

Table 1: The Limits

3 The Middle: Objects and Obliques

In this section I will investigate GFs which fall between the two extremes of SUBJ and ADJCT. I begin by discussing the way in which these participants are coded. I will discuss a total of eight participants.

3.1 The Coding of Non-subject Participants.

3.1.1 Definite P and Indefinite P

The first two non-subject participants I will investigate are the ‘Definite P’ and the ‘Indefinite P’.

Definite P’s and Indefinite P’s are in complementary distribution with one another. Definite P’s are indexed on the verb with absolutive suffixes, as in sentence (16), while indefinite P’s are unindexed and co-occur with the INDF.P prefix *poN-*, as in sentence (17).

- (16) *Ku-soro-'i oto-nggu.*
 1NOM-push-3ABS car-1GEN
 I pushed my car.

- (17) *Ano po'alo o'aso boto, ano ponggaa*
 a-no **po**-alo **o'aso boto** a-no poN-kaa
 and-3NOM INDF.P-take one CLF and-3NOM INDF.P-eat
 And he takes a single one [banana] and eats [it]. (Untung, 2009, 30)

That this is always the pattern, is shown in circumstances in which the P is inherently definite, such as with a pronominal P. Thus sentence (18) with a pronominal referent indexed with the absolutive suffix is grammatical, while the equivalent sentence (19) with the prefix *poN-* and an unindexed P is ungrammatical.

- (18) *Ku-langgu-ko.*
 1NOM-hit-2ABS
 I hit you.

- (19) **ku-po-langgu inggo'o*
 1NOM-INDF.P-hit 2SG
 I hit you.

Furthermore, an unindexed P does not usually occur with demonstratives or possessive suffixes, as these usually indicate definite referents. Thus, when talking about a grub which I had photographed, my informants found (20) with an absolutive P acceptable, while sentence (21) was judged strange.

(20) *Laa-nggu k(um)ii-kii-'i inono uwato ...*
 PROG-1 GEN <NFIN>REDUP-see-3ABS this grub
 While I was looking at this grub ...

(21) ? *Laanggu monggii-kii inono uwato ...*
 laa-nggu <m>oN-kii-kii inono uwato
 PROG-1 GEN <NFIN>INDF.P-REDUP-see this grub
 While I was looking at this grub ...

When unindexed P's do occur with a demonstrative or possessor, they indicate that the P is an uncertain member of a group. Thus, when asked about sentence (22) with an unindexed, but possessed, P one informant explained that "we can't know yet who is hit".

(22) *No-po-langgu hai-nggu.*
 3NOM-INDF.P-hit ySi-1 GEN
 He hit one of my younger siblings.

Thus, absolutive indexed P's are definite, while unindexed P's are indefinite, even when there is no other indication of this in the clause.

We can represent the mapping of the argument structure to morphological categories of sentence (16) in (23), and that of (17) in (24).

(23) **Definite P:**
 'PRED < , >'
 | |
 NOM ABS_{definite}

(24) **Indefinite P:**
 'poN- PRED < , >'
 | |
 NOM Ø_{indefinite}

3.1.2 Dative P and Applicative P

Another two participants which are in complementary distribution with one another are the 'Dative P' and the 'Applicative P'. While the usual strategy for indexing a P with definite reference is with absolutive suffixes, a small subset of verbs in Tolaki indexes such P's with a dative suffix. A simple example is given in sentence (25)

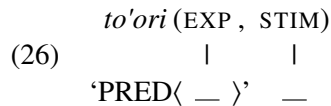
(25) *Ano tealonggee kolopua.*
 a-no tealoN-**kee** kolopua
 and-3NOM fetch-3DAT tortoise
 And he fetched the tortoise. (Untung, 2009, 28)

Such verbs have a less affected P with semantic roles such as THEME or STIMULUS, rather than PATIENT. Nonetheless, among those verbs which have non-PATIENT P's, it must be stipulated at the lexical level which take a Dative P. Thus, for instance, while both *to'ori* 'know' and *kolupe* 'forget' both have a P with the semantic role STIMULUS, *to'ori* indexes P's with a dative suffix while *kolupe* indexes them absolutely. A sample of verbs which take a dative P include: *watu* 'join with, go along with', *to'ori* 'know', *te'eni*⁴ 'say, tell' and *teposua* 'meet'.

Partially, pre-empting my conclusions in section 4, I propose that the difference in coding (and other morpho-syntactic behaviour) between predicates which take a Dative P and those that take an absolutive Definite P arises from each type of predicate having a different argument structure. While predicates with a Dative P are monovalent, predicates with an absolutive Definite P are bivalent.

Concerning verbs which take a Dative P, there is thus as a mismatch between the lexico-conceptual structure, which contains two semantic roles, and the argument structure of the relevant verb, which subcategorises for only one.

Because the argument structure of such verbs only contains one argument, when the second semantic role in the lexico-conceptual structure is included, it is encoded in the same way as a participant external to the argument structure, such as a beneficiary (see section 3.1.3 below). The mapping of participants between the lexico-conceptual structure and argument structure of the verb *to'ori* is shown in (26), with the lexico-conceptual structure on top and the argument structure below.



Historically, the aberrant indexation pattern of many of these verbs can be explained as resulting from the accidental passive prefix *te-* becoming fossilised onto the verb. The argument structure of these verbs originally contained two arguments, however, with the fossilisation of this prefix their historic transitivity was lost.

Explanations for forms without initial /t/ (such as *watu*) are not so clear. One likely source is that at some point in the history of the language, the applicative suffix *-Cako* become an obligatory part of the verb stem, to which the absolutive suffixes later fused.

Historically, the dative suffix arose through a combination of applicative + absolutive suffix (Mead, 1998, 207-12).⁵ It would appear then, that these verbs were originally monovalent and that the 'extra' participant was originally included through applicativisation with regular absolutive agreement for definite participants.

⁴In the case of *te'eni*, absolutive suffixes can be optionally used to index the message, that is, what was said. Dative suffixes index the addressee.

⁵A *synchronic* analysis of the dative suffixes as applicative + absolutive is problematic, given verbs with two dative suffixes such as those in sentences (33) and (46).

We therefore expect that when this participant is indefinite, it will be unindexed and the applicative suffix *-Cako* will appear on the verb. This is indeed what we find. An example is given in (27).

- (27) *Nopondeposuangako kadue.*
 no-poN-teposua-**ngako** kadue
 3NOM-INDF.P-meet-APPL dwarf.buffalo
 He met/came across some dwarf buffalo.

Synchronically, this is best analysed as a method of including the participant which exists at the lexico-conceptual structure but is absent from the argument structure of the base verb, without agreeing with it.

The argument structure of these verbs, along with the mapping of participants to morphological categories, is shown for Dative P's in (28) and Applicative P's in (29).

- | | |
|---|--|
| <p>Dative P:</p> <p>(28) 'PRED <__, __>'</p> <div style="text-align: center;">
 NOM <u>DAT</u>_{definite} </div> | <p>Applicative P:</p> <p>(29) 'APPL<__, __>' 'PRED<__>' —</p> <div style="text-align: center;">
 NOM <u>∅</u>_{indefinite} </div> |
|---|--|

3.1.3 Other Participants

Beneficiary A participant with the semantic role BENEFICIARY can be indexed on the verb with dative suffixes. An example of such a beneficiary with a monovalent verb is given in (30) and an example with a bivalent verb in (31).

- (30) *No-laa <m>e'-indio-kee ama-nggu.*
 3NOM-PROG <NFIN>INTR-work-3DAT father-1 GEN
 He's working for my father.
- (31) *Ku-tidu-'i-ko'o.*
 1NOM-punch-3ABS-2DAT.
 I'll punch him for you./I'll get him (back) for you.

The mapping of participants to morphological categories for sentence (30) is shown in (32) below.

- (32) **Beneficiary:**
- 'PRED <__>' BEN

| |

NOM DAT

Note that when both a BENEFICIARY *and* a Dative P are found, we find two dative suffixes on the verb:

- (33) *Okino ehe teposuanggeekona nggiro'o otina.*
 oki-no ehe teposuaN-**kee-kona** nggiro'o o-tina
 NEG-3NOM like meet-3DAT-1DAT that CN-woman
 He doesn't want to meet that woman for me.

The Transitive Instrument and Theme One strategy for including an instrument in Tolaki is to index it with an absolutive suffix. When this occurs, the PATIENT/THEME is indexed with a dative suffix. An example is given in (34)

- (34) *No-langgu-'i-kona o-kasu.*
 3NOM-hit-3ABS-1DAT CN-wood
 He hit me with a piece of wood.
lit. He hit a piece of wood to/at me.

I will refer to the instrument of such constructions as the 'Transitive Instrument' and the P as the 'Transitive Instrument Theme'. An equivalent meaning can also be expressed with various periphrastic constructions, as in (35), as well as with the applicative *-Cako* or with a prepositional phrase headed by *ronga* 'with'.

- (35) *No-langgu-'aku mombake o-kasu.*
 3NOM-hit-1ABS using CN-wood
 He hit me using a piece of wood.

When both the PATIENT and INSTRUMENT are realised by a full NP, the PATIENT usually precedes the INSTRUMENT in word order. This is illustrated in sentence (36) below, which would be interpreted as indicated unless uttered in a context that would force the asterisked reading.

- (36) *No-langgu-'i-kee o-watu o-kasu.*
 3NOM-hit-3ABS-3DAT CN-stone CN-wood
 He hit the stone with a piece of wood.
 *He hit the wood with a stone.

A non-3rd person instrument cannot be used in the Transitive Instrument construction, as shown by the ungrammatical (37a). In such circumstances a periphrastic construction, such as in sentence (37b), or the Intransitive Instrument construction (see section 3.1.3 below) must be employed instead. The pragmatic situation motivating the sentences in (37) is a dream in which an anthropomorphic piece of wood with the power of speech questions the motives behind the actions of the dreamer.

- (37) a. **mbaako'i u-langgu-'aku-kee toono*
 why 3NOM-hit-2NOM-1DAT person
 b. *Mbaako'i u-langgu-'i toono mombake inaku?*
 why 2NOM-hit-3ABS person using 1SG
 Why did you hit the person (by) using me?

The mapping of the Transitive Instrument and Theme to morphological categories is given in (38).

(38) **Transitive Instrument and Theme:**

‘PRED < —, — >’ INST
 | | |
 NOM DAT ABS

The Intransitive Instrument The final participant I will discuss I call the ‘Intransitive Instrument’. Another strategy for including an instrument is to index it with a dative suffix. When this occurs, the verb takes the intransitive prefix *pe-* and the THEME/PATIENT is introduced with the *kei/ine-* prefix (see section 2.2). An example is given in sentence (39) below.

- (39) *Nopedondonggee okasu ine banggonano.*
 no-pe-dondoN-kee o-kasu ine-banggona-no
 3NOM-INTR-hit-3DAT CN-wood ADJCT.CN-friend-3GEN
 He hit his friend with a piece of wood.

Note that such constructions appear marginal and not all speakers allow them. A different informant from the one who provided sentence (39) found the analogous sentence (40) to be unacceptable, though he still said it could be understood.

- (40) ? *Kupehotonggee opade ine banggonanggu.*
 ku-pe-hotoN-**kee** **o-pade** ine-banggona-nggu
 3NOM-INTR-cut-3DAT CN-machete ADJCT.CN-friend-1 GEN
 I cut my friend with a machete.

The mapping of the participants to morphological categories in this Intransitive Instrument construction is shown in (41).

(41) **Intransitive Instrument:**

‘INTR(<—>’PRED <—, —>’ INST
 | | |
 NOM ADJCT DAT

3.2 Coding Summary

We have thus identified a total of nine non-subject participants in Tolaki, including adjuncts. The coding of each of these participants is listed in table 2

While this is not an exhaustive list of all non-subject participants found in Tolaki, it does provide a representative sample and includes all dative non-subject participants known to the author.

	Indexation		APPL	INDF.P	INTR	Bare NP
	ABS	DAT				
1. Definite P	✓	-	-	-	-	✓
2. Indefinite P	-	-	-	✓	-	✓
3. Dative P	-	✓	-	-	-	✓
4. Applicative P	-	-	✓	✓	-	✓
5. Trans Inst	✓	-	-	-	-	✓
6. Trans Inst Thm	-	✓	-	-	-	✓
7. Intrans Inst	-	✓	-	-	✓	✓
8. Beneficiary	-	✓	-	-	-	✓
9. Adjunct	-	-	-	-	-	-

Table 2: Coding of Tolaki Non-Subject Participants

3.3 The Syntactic Behaviour of Non-subject Participants.

In this section I will investigate the behaviour of these non-subject participants under different syntactic tests. We will find that while each morpho-syntactic test is sensitive to a restricted set of non-subject participants, no test is sensitive to exactly the same set of participants as another test. Calling the most privileged non-subject participant OBJ and the least privileged ADJCT, we can observe a continuum-like scale of non-subject participants in which some participants have more behaviour in common with OBJ and some have more behaviour in common with ADJCT.

I will discuss three syntactic tests that have been found to consistently discriminate among non-subject participants in Tolaki. These tests are external possession, secondary predication and passivisation. The results of each of these tests will be discussed in turn.

For each of these tests, only a subset of the data will be presented in the following sections. The remainder of the data showing the behaviour of each non-subject under each test can be found in Edwards (2012, 94-9).

3.3.1 External Possession

External possession⁶ is a test in which the possessor of a participant is indexed on the verb with dative suffixes under certain semantic and pragmatic conditions. An example is given in sentence (42).

- (42) *No-langgu-'i-kona hai-nggu*
 3NOM-hit-3ABS-1DAT ySi-1GEN
 He hit my younger brother.

⁶What is here called ‘external possession’ can be correlated with what is also termed ‘possessor raising’ or ‘possessor ascension’ in the literature. For a general discussion of this phenomenon see Payne and Barshi (1999). For a specifically LFG treatment of such a phenomenon see Lødrup (2009).

In such sentences the possessor is indexed twice in the sentence, once with a dative suffix on the verb and once with a genitive suffix in the possessed NP. While sentence (42) is also grammatical without a dative suffix indexing the possessor, external possession is in general preferred.⁷

In situations where the action performed is beneficial for the possessor of the P, it is unclear whether the dative is a simple benefactive or whether it is due to external possession. An example is sentence (43) below, from Mead (1998, 238).

- (43) *Oheo, pe'eka kabusa-i-keito ana-ndo tewuta-i-to.*
 Oheo, ascend clean-3ABS-1IN.DAT child-1IN.GEN defecate-3ABS-PRF
 Oheo, come up and clean our child (for us), he's become dirty.

This sentence is ambiguous between the external possession structure shown in (44b), in which the possessor of the NP is encoded twice, once with a genitive suffix on the NP and once with a dative suffix on the verb, and the structure in (44a) in which the dative encodes a beneficiary which happens to be coreferential with the possessor of the NP.

- (44) a. CLEAN (SUBJ, OBJ:[(POSS) THM]) BEN
 imp GEN_i ABS DAT_i
 b. CLEAN (SUBJ, OBJ:[(POSS) THM])
 imp DAT ABS
 GEN

While sentence (42) is also similarly structurally ambiguous, the beneficiary reading in (44a) is pragmatically highly unlikely, and speakers can distinguish between the two meanings.

When we turn to those participants which are eligible to be externally possessed, we find that all non-subject participants except for an Indefinite P, an Applicative P and an Adjunct are eligible to have their possessor indexed on the verb with dative suffixes.

While Definite P's can be externally possessed, as in sentence (42), Indefinite P's cannot. This is shown in sentence (45) which is pragmatically odd as the dative can only be interpreted as a beneficiary, as in the structure in (44a).

- (45) ? *Nopolanggungona hainggu.*
 no-po-langguN-kona hai-nggu
 3NOM-INDF.P-hit-1DAT ySi-1GEN
 He hit one of my younger siblings for me.

Finally, the data for beneficiaries on external possession, in sentences such as (46), is inherently ambiguous between the structures shown in (44).

⁷When asked to explain the difference between sentence (42) and the equivalent without external possession, one native speaker felt as though the sentence without external possession described an accident, while the one with external possession was a deliberate attempt to harm.

- (51) *Kupebahongee iwoi kei i Bio molangu.*
 ku-pe-bahoN-kee iwoi_i kei-i-Bio_j molangu_{i,*j}
 1NOM-INTR-wash-3DAT water ADJCT.PN-PN-Bio drunk
 I washed Bio with drunk water.
 *I washed Bio with water [while he was] drunk.

3.3.3 Passivisation

The final syntactic test I will discuss is passivisation. In section 2.1 we saw that in Tolaki the A/S role maps onto the GF SUBJ. However, when a verb is passivised, the P is assigned the GF SUBJ.

The passive in Tolaki is marked by the infix *<in>* for stems beginning with a voiceless consonant and the prefix *ni-* for stems beginning with a voiced consonant. Either form can be used for vowel initial stems. When the passive occurs in a relative clause, the A can be indexed with genitive suffixes, otherwise the A can be included as an Adjunct with the prefix *kei/ine-*.

Only a Definite P, an Indefinite P or an Applicative P are eligible to be the input of a passive. A typical example is given in sentence (52) below, in which the passive has been used in order to allow the PATIENT of the verb to be relativised.

- (52) *hai-nggu ni-langgu-mu*
 ySi-1GEN PASS-hit-2GEN
 my younger sister who you hit

When an Indefinite P is passivised, the verb does not retain the INDF.P prefix. However, we find that indefinite participants can still be the input to the passive, as in sentence (53).

- (53) *Ohawo laa ni-lolaha-mu?*
 what PROG PASS-search-2GEN
 What are you looking for?

In order to passivise the Dative P of a verb like *to'ori*, the participant must be first applicativised. Thus, sentence (54) is ungrammatical, while sentence (55) with an applicative suffix is grammatical.

- (54) **kaaka-mu t(in)o'ori-nggu*
 eSi-2GEN <PASS>know-1GEN
- (55) *kaaka-mu t(in)o'ori-'ako-nggu*
 eSi-2GEN <PASS>know-APPL-1GEN
 Your older sister who I know

Transitive Instruments, which are indexed in the same way as definite P's cannot, however, be an input for the passive. Thus, sentence (57), the passive version of (56), is ungrammatical.

- (56) *No-langgu-'i-kona o-kasu.*
 3NOM-hit-3ABS-1DAT CN-wood
 He hit me with a [piece of] wood.
- (57) **o-kasu ni-langgu-kona*
 CN-wood PASS-hit-1DAT

However, this is not a restriction blocking participants with the semantic role INSTRUMENT from undergoing passivisation, as instruments included in a sentence with the applicative suffix are an eligible input to the passive, as in sentence (58).

- (58) *o-kasu ni-langgu-'ako kei-inaku*
 CN-wood PASS-hit-APPL ADJCT.PN-1SG
 the piece of wood with which I was hit

3.4 Summary of Results

A summary of the results of each syntactic test can be found in Table 3 over the page. This table also summarises the morphology used to code each participant. Subjects are also included in this table. A tick (✓) indicates that a participant ‘passes’ the test, a dash (-) indicates that it does not while neither () indicates that the data is currently lacking (for the Transitive Instrument under External Possession), or inherently ambiguous (for the Beneficiary under External Possession).

The results of those tests that distinguish between non-subject participants are presented in Figure 1. A score of 0.1 indicates the participant fails the test, 0.5 insufficient data and 1 that a participant passes the test. In Figure 1 the results for participants with identical syntactic behaviour are combined. Such participants include the Applicative P and Indefinite P, as well as the Dative P and Intransitive Instrument.

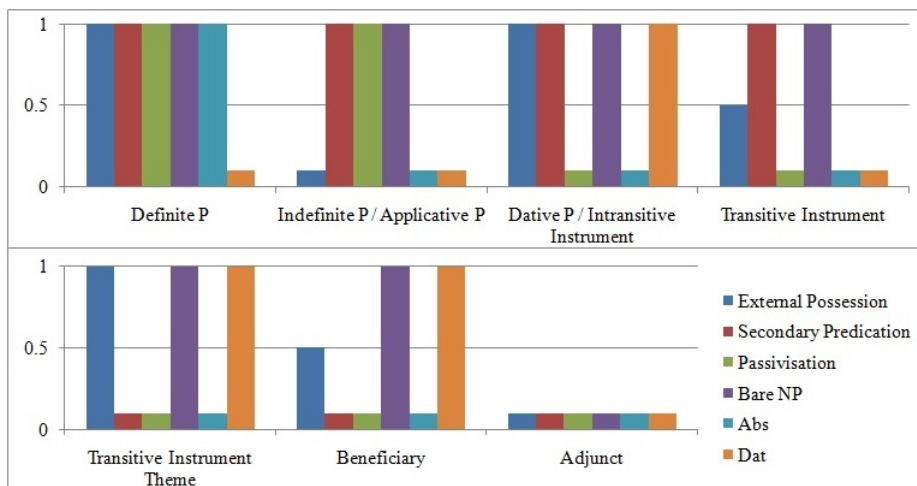


Figure 1: Non-Subject Participants

	Syntactic Criteria						Morphological Criteria							
	Rel	Pl.	Poss	Ext 2 nd		PASS	Agreement			APPL	INDF.P	INTR	Bare	
				Pred			NOM	ABS	DAT				NP	
Subject S	✓		-	✓	-		✓			-				✓
Subject A	✓		-	-	-		✓			-				✓
Definite P	-		✓	✓	✓		✓			-				✓
Indefinite P	-		-	✓	✓		-			✓				✓
Dative P	-		✓	✓	-		-	✓		-				✓
Applicative P	-		-	✓	✓		-		✓	✓				✓
Trans Inst	-		-	✓	-		-	✓		-				✓
Trans Inst Thm	-		✓	-	-		-	✓		-				✓
Intrans Inst	-		✓	✓	-		-	✓		-			✓	✓
Beneficiary	-		-	-	-		-	✓		-				✓
Adjunct	-		-	-	-		-			-				-

Table 3: Morpho-Syntactic Tests for Grammatical Functions

4 Conclusions

These results show that if we were to posit discrete categories for Tolaki non-subject participants we would be forced to posit a minimum of six categories; two more than are provided for by current models of LFG.

However, even this characterisation is a best case scenario and assumes that further testing with additional morpho-syntactic tests and non-subject participants will not reveal yet more distinctions.

In fact initial results from quantifier float suggest that this is indeed the case. While it has not yet been tested thoroughly for every participant, a Beneficiary can launch a floating quantifier while a Transitive Instrument Theme cannot; this would force us to identify seven non-subject categories.

Furthermore, these tests cannot all be described as unidirectional. The idea of unidirectionality is best explained by reference to a subset of English data. In English, only the SUBJ is eligible to be controlled, only a SUBJ and OBJ are expressed as a bare noun phrase and SUBJ, OBJ and OBL_θ (but not ADJCT) can launch a secondary predicate. This data is summarised in Table 4.

	Cont.	Bare NP	2 nd Pred.
A. SUBJ	✓	✓	✓
B. OBJ	-	✓	✓
C. OBL	-	-	✓
D. ADJCT	-	-	-
	x	y	z

Table 4: English Syntactic Tests

Each test is sensitive to a progressively more restricted set of GFs, and the scope of each test can be partially predicted on the basis of others. If a GF is eligible to be controlled it is eligible to be expressed in a bare noun phrase, likewise if a GF is eligible to be expressed in a bare noun phrase it is eligible to launch a secondary predicate. Maximal unidirectionality is defined formally in (59).

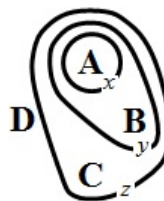


Figure 2: Unidirectional Tests

Maximal Unidirectionality:

- (59) Given a scale of GFs ranging from SUBJ(1) through OBJ(2) to ADJCT(n), there is no syntactic privilege that applies to GF(x) such that GF($x - 1$) is not eligible to participate in the same privileges.

Unidirectionality is represented in Figure 2, where uppercase letters represent GFs and the lines represent groupings of GFs to which a test is sensitive.

However, Tolaki morpho-syntactic tests are not unidirectional. This is shown in figure 3, in which nine of the tests are represented. While each test is sensitive to a unique set of GFs, they are not progressively more restricted.

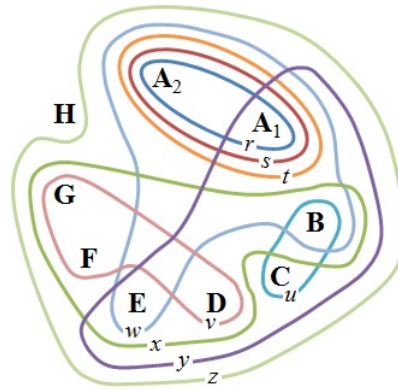


Figure 3: Non-Unidirectional Tests

A₁ = Subject S	<i>r</i> = Relativisation
A₂ = Subject A	<i>s</i> = Plural Agreement
B = Definite P	<i>t</i> = NOM
C = Indefinite P	<i>u</i> = Passivisation
D = Dative P	<i>v</i> = DAT
E = Transitive Instrument	<i>w</i> = ABS
F = Transitive Instrument Theme	<i>x</i> = External Possession
G = Beneficiary	<i>y</i> = 2 nd Predication
H = Adjunct	<i>z</i> = Bare NP

Furthermore, these complications do not exist only among non-subject participants. While the grammatical relations A and S have been grouped together in Tolaki as the SUBJ, these two roles do not have exactly the same set of behaviour. While, an S can launch a secondary predicate, an A cannot.

Instead of positing discrete categories of GFs for Tolaki, a better way to model the data is to posit a continuum of functions. Within this continuum ‘SUBJ’ defines the upper limit of GFs, the maximum amount of behaviour associated with a GF, while ‘ADJCT’ defines the lower limit, the minimum amount of behaviour associated with a GF.

Other participants exist on this continuum somewhere between these two limits, some are more privileged than others and are thus more or less ‘subject-like’.

One way of representing this continuum would be to simply sum the number of tests which a participant is sensitive to. However, such an approach would not capture the non-unidirectionality of the tests and if such an approach were taken, the best analysis of the Tolaki data would appear to be to posit 9 GF categories. A graph which captures the continuum-like nature of GFs as well as their non-unidirectionality is given in Figure 4

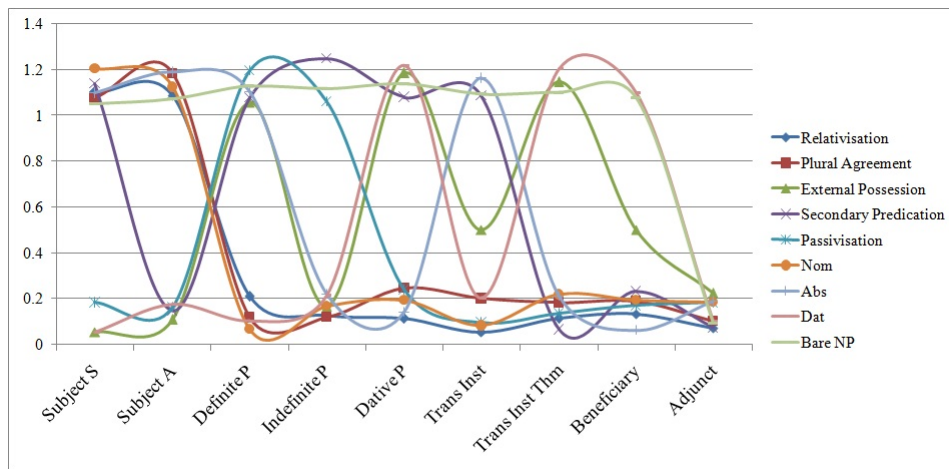


Figure 4: Continuum of Grammatical Functions Test by Test⁸

However, none of these models explains *why* Tolaki participants display this continuum-like behaviour. It is possible to reach an explanation by proposing that the morphology that would typically be treated as inflectional is, in fact, derivational.

Tolaki transitive verb roots are defective, thus while it is possible to identify a disyllabic root \sqrt{kaa} meaning ‘eat’, this form never surfaces. As noted by Mead (1998, 156) the transitive verb in Bungku-Tolaki languages is always accompanied by additional morphology. In Tolaki, even imperatives must be accompanied minimally by the indefinite P prefix or an absolutive suffix.

I propose that each affix is derivational and alters the argument structure of the predicate. As the argument structure of a predicate is slightly altered, so too is the morpho-syntactic behaviour of the participants slightly altered.

One such example, that we have already briefly touched upon, is the difference between verbs which take a definite P, indexed absolutely, and verbs which take a Dative P. Thus, we saw in section 3.1.2 that the argument structure of Dative P verbs differs from that of canonical transitive verbs in that Dative P verbs subcategorise for one argument, while canonical transitive verbs subcategorise for two. The linking between the lexico-conceptual structure and argument structure of the canonical transitive verb *kaa* ‘eat’ and the Dative P verb *to’ori* ‘know’ are given below:

<p>(60) kaa (AGT, THM)</p> <p style="text-align: center;"> </p> <p>‘PRED< — , — >’</p>	<p>(61) $to’ori$ (EXP, STIM)</p> <p style="text-align: center;"> </p> <p>‘PRED< — >’ —</p>
---	---

I propose that the difference in morpho-syntactic behaviour between these two non-subject participants can be explained by their different argument structure.

⁸A score of 0.3 or lower indicates that a participant is not sensitive to a test, a score of 1 or higher indicates a participant is sensitive to a test. To make all lines visible, scores are randomised by ± 0.3 .

Extending this idea further, I propose that the difference in behaviour between other participants is likewise explained in this way. Observe the two sentences below:

- | | |
|---|---|
| <p>(62) <i>Nopongгаа</i> <i>o'ika.</i>
 no-poN-kaa o-ika
 3NOM-INDF.P-eat CN-fish
 He eats some fish.</p> | <p>(63) <i>Nokaa'i</i> <i>o'ika.</i>
 no-kaa-'i o-ika
 3NOM-eat-3ABS CN-fish
 He eats the fish.</p> |
|---|---|

We have seen that the Indefinite P in (62) and the Definite P in (63) do not have the same morpho-syntactic behaviour. Therefore, I propose that each involves a different argument structure derivation. In the case of (62) the new derivation pre-specifies that the P is indefinite in reference, in the case of (63) the new derivation pre-specifies that the P is 3rd person and definite:

- | | |
|--|--|
| <p>(64) 'poN-<__, INDF> 'kaa<__, __>''</p> | <p>(65) '-i<__, 3PRS:DEF> 'kaa<__, __>''</p> |
|--|--|

References

- Bresnan, Joan. 2001. *Lexical-Functional Syntax*. Blackwell.
- Dalrymple, Mary. 2001. *Syntax and Semantics 34: Lexical Functional Grammar*. Academic Press.
- Edwards, Owen. 2012. Grammatical Functions in Tolaki. Honours Thesis, Australian National University.
- Lødrup, Helge. 2009. Looking Possessor Raising in the Mouth: Norwegian Possessor Raising with Unergatives. In *Proceedings of the LFG09 Conference*, CSLI Publications.
- Mead, David. 1998. *Proto-Bungku-Tolaki: Reconstruction of its Phonology and Aspects of its Morphosyntax*. Ph. D.thesis, Rice University.
- Payne, Doris and Barshi, Immanuel. 1999. External Possession: What, Where, How and Why. In Doris Payne and Immanuel Barshi (eds.), *External Possession*, pages 3–29, Benjamins.
- Untung. 2009. *Cerita Rakyat Tolaki* [Tolaki Folklore]. Bintang.