TRANSITIVITY IN TUKANG BESI

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ABSTRACT

The Tukang Besi language does not appear to display a clear distinction between transitive and intransitive clauses, as transitive verbs are freely able to appear without any overt object and degrees of intransitivity are to be found in the language. The ground between transitive and intransitive contains several points of interest in that eight different degrees of transitivity can be morphologically defined in the one language, allowing us to test the relative rankings of Hopper and Thompson’s criteria for transitivity.

1. Introduction

The existence of a distinction between transitive and intransitive verbs appears to be a universally acknowledged one in linguistic circles, and is a tacit assumption behind many theories of grammar. Many languages explicitly monitor this division; compare the Japanese and Tok Pisin (Dutton 1985: 192–193) pairs below, in which transitive and intransitive uses of the verbs are morphologically distinct:

Japanese

hajimeru  ‘start (transitive)’
hajimaru  ‘start (intransitive)’
taosu     ‘fell, cause to topple (transitive)’
taoru     ‘collapse, topple (intransitive)’
Other languages, such as English, are less rigid when it comes to monitoring this difference, and allow many words to function transitively or intransitively with no derivation, such as break, drop, freeze, and melt. For a detailed cross-linguistic analysis of this sort of intransitive/transitive alternation, see Haspelmath (1993). Recent compilations of papers dealing with problems of transitivity can be found in Eilfort et al (1985), and Comrie and Polinsky (1993).

While the choice of which verbs count as transitive and which count as intransitive, and whether this division is morphologically distinct or not, varies from one language to another, the basic division is usually assumed to be present. Dixon even goes so far as to state that (1994: 6):

All languages distinguish between clauses that involve a verb and one core noun phrase (intransitive clauses) and those that involve a verb and two or more core NPs (transitive clauses, including ditransitive as a subtype).

The work of Hopper and Thompson (1980) brought this simple division into question, with the publication of facts amounting to a case for scalar transitivity. They presented the idea that there are degrees of transitivity, and degrees of intransitivity, and that these labels actually represent points on a cline rather than discrete categories. Hopper and Thompson presented data from various languages showing that ten different parameters can be indicative of degrees of transitivity; these parameters are (number of) Participants, Kinesis, Aspect, Punctuality, Volitionality, Affirmation, Mode, Agency, Affectedness of O(bject), and Individuation of O(bject) (p. 252). Despite exhaustive exemplification of the ways in which these parameters influence morphosyntactic transitivity choices in a number of languages, the different parameters were not ranked with respect to each other, in terms of relative influence on morphosyntactic transitivity. Rather, the parameters were described in separate individual examples, often with more than one parameter appearing in each example pair, simply illustrating high versus low transitivity. In these cases, however, all the parameters were in agreement as
to high and low transitivity, and so it was not possible to determine which was the most important in the final choice of high or low transitivity marking.

This paper examines a range of morphosyntactic facts from the Austronesian Tukang Besi language of Southeast Sulawesi, in central Indonesia, and shows that even within this one language we can distinguish multiple points on the cline between canonically intransitive and canonically transitive verbs on the basis of morphological alternations. Although the endpoints of the cline are clearly definable, there is no one point which we can unambiguously decide represents the division between transitive and intransitive. Examining the parameters that underlie each morphological change, we can determine a ranking of these parameters with respect to each other in terms of their contribution to the transitivity of a clause as a whole.

2. Transitive and Intransitive in Tukang Besi: Initial observations

A feature of Tukang Besi is the lack of any clear distinction between apparent transitive and intransitive uses of verbs; notice that there is no derivational morphology required to signal the change between (1) and (2):

(1) *No-moro'u te uwe na kalambe*
    3R-drink CORE water NOM girl
    ‘The girl drank some water.’

(2) *No-moro'u [ ] na kalambe*
    3R-drink NOM girl
    ‘The girl drank.’

Notice that the agents in each of the two sentences are the same; only the presence versus absence of the object differentiates the two sentences. Furthermore, given that the subject is obligatorily cross-referenced on the verb, a sentence such as (3) with no nominals is grammatical:

(3) *No-moro'u [ ] [ ]*
    3R-drink
    ‘He/She/It/They drank.’

There is a difference between the status of the ‘missing’ nominals, however: the subject is prefixed on the verb, whereas the object is not, in both (2) and (3).
On the other hand, examples of canonical intransitive verbs being used transitively without additional affixation are almost unknown; compare the a and b sentences in (4) and (5) below, showing intransitive and transitive alternations with the use of causative prefixes, and the ungrammatical c sentences, which show that these verbs cannot be used transitively without causative morphology:

(4) a. No-moturu na anabou
3R-sleep NOM boy
‘The boy slept.’

b. No-pa-moturu te anabou na ama-no
3R-CAUS-sleep CORE boy NOM father-3POSS
‘The boy’s father put him to sleep.’

(5) a. No-mate na wembe
3R-die NOM goat
‘The goat dies.’

b. No-hoko-mate te wembe na ama-no
3R-FACT-die CORE goat NOM father-3POSS
‘His father killed the goat.’

c. *No-mate te wembe na ama-no
3R-die CORE goat NOM father-3POSS

The only example of apparent increase in transitivity without accompanying morphological marking involves the verb waliako ‘return’, seen in (6) and (7):

(6) No-waliako na kalambe
3R-return NOM girl
‘The girl returned.’

(7) No-waliako te tondu na kalambe
3R-return CORE water.glass NOM girl
‘The girl returned the glass.’

There are two reasons for regarding waliako as a base intransitive verb, rather than as a transitive verb with optional intransitive uses. Firstly, it has a near synonym in mbule ‘return’, which cannot be used transitively.
Secondly, it does not conform to the morphosyntactic patterns normal for transitive verbs when causativised (see section 6, examples (40) and (41): the equivalents are the grammatical Kupawaliako te kalambe, and the ungrammatical *Kupawaliako di kalambe). I shall not consider waliako to be an ambitransitive verb (see section 5) because it does not show the pattern of obligatory object marking on the verb in its transitive use, which is a feature of all the ambitransitive verbs, and does not allow for passive or object relative clause equivalents (compare (34) and (35) below with the ungrammatical *Notowaliakomo na tondu, and *Te tondu iwaliakono). It is worth noting that there is a separate verb wali ‘turn over (as when cooking)’ (transitive); historically, this may have combined with a purpose-indicating applicative suffix -ako and then relexified to yield the irregular form we find today. With this one exception, the statement that no verbs may be increased in valency without morphological addition holds true.

3. Features of verbal clauses

All verbal clauses in Tukang Besi require exactly one argument to be in NOMINATIVE case (after Bell 1983, Kroeger 1993) case, which is marked by the article na when post-verbal. Additional core arguments, whether subject or object, are marked by the case glossed as CORE,^1^ and use the case marker te. ‘Adjuncts’ are marked with serial verbs or oblique case marking. In addition to these case marking differences, core versus oblique status is determined by a variety of factors: core arguments take the genitive case in nominalisations, whereas adjuncts preserve their original oblique case marking; the case-marking behaviour of core and oblique arguments when fronted is different; only core arguments may be relativised; only core arguments may launch floating qualifiers or floating adverbs; and the positional restrictions encountered with time adverbs is dependent on the core versus oblique distinction (see Donohue 1995/forthcoming for details).

The term ‘nominative’ requires some explanation since, in the Philippine literature, it is not the necessarily the case which marks the agent of a (transitive or intransitive) verb. Tukang Besi is a (highly divergent) Philippine-type language, and in common with those languages presents many problems for neat analyses into ‘ergative’ or ‘accusative’ categories (see Byma 1986, Mithun 1993 for the ‘ergative’ view;^2^ or Guilfoyle, Hung and
Travis 1992, for the ‘accusative’ view, and Maclachlan 1994 for a synthesis of these two). In previous literature on Philippine-type languages the grammatical function that will be referred to as ‘nominative’ here has been referred to as the “focus”, “subject” or “topic” and other labels (see, for instance, Schachter 1976). I shall use nominative to escape the pragmatic associations that these terms imply, which have been shown (Kroeger 1993) to be distinct from the nominative argument.

Prefixes indexing the person and number of the subject are obligatorily present on the verb, which also takes object suffixes if the object argument in a transitive clause is nominative. Transitive verbs thus show an alternation between two basic types, those with nominative subjects and those with nominative objects; intransitive verbs, in contrast, have only one argument, and it must be nominative, whether the verb is unergative or unaccusative.

Basic transitive clause, object is nominative:

(8) No-’ita-’e na ’obu te kalambe
3R-see-3OBJ NOM dog CORE girl
‘The girl saw the dog.’

Basic transitive clause, subject is nominative:

(9) No-’ita te ’obu na kalambe
3R-see CORE dog NOM girl
‘The girl saw the dog.’

Basic intransitive clause, unergative:

(10) No-wila-mo na ’obu
3R-go-PERF NOM dog
‘The dog is going.’

(11) *No-wila-mo te ’obu
3R-go-PERF CORE dog

Basic intransitive clause, unaccusative:

(12) No-mate-mo na ’obu
3R-die-PERF NOM dog
‘The dog has died.’

(13) *No-mate-mo te ’obu
3R-die-PERF CORE dog
In addition to these two basic transitive sentence types and one basic intransitive type, there is also a passive voice. In this form, the by-phrase cannot be mentioned, and the theme appears in the nominative, as in an intransitive clause. The paradigm of voice alternations seen in (8)–(9) can be expanded to include (14):

Passive clause:

(14) No-to-’ita-mo na ’obu
3R-PASS-see-PERF NOM dog
‘The dog was seen (by someone).’

The two main types of relative clauses are also relevant to this discussion. Subjects, whether intransitive or transitive, can head subject relative clauses, marked by the infix -[um]-, and objects can head object relative clauses, marked by the prefix i-. Examples of this can be seen in (15)–(22):

Subject of a transitive verb heading a relative clause:

(15) Te ia te kalambe ’[um]aso te ika
CORE s/he CORE girl sell.SI CORE fish
‘She is the girl who was selling fish.’

(16) *Te ia te kalambe i-’aso
CORE s/he CORE girl OP-sell
(Good with the reading: ‘She’s the girl who was sold.’)

Object of a transitive verb heading a relative clause:

(17) *Te ana te ika ’[um]aso (te kalambe)
CORE this CORE fish sell.SI CORE girl
(Good with the reading: ‘This is the fish that was selling (the girls).’)

(18) Te ana te ika i-’aso (nu kalambe)
CORE this CORE fish OP-sell GEN girl
‘This is the fish that (the girl) sold.’

Subject of an intransitive verb heading a relative clause:

(19) Te ia te kalambe ’[um]inti
CORE s/he CORE girl run.SI
‘She is the girl who was running.’

(20) *Te ia te kalambe i-tinti
CORE s/he CORE girl OP-run
We can characterize the difference between intransitive and transitive clauses by listing the features that are found in transitive clauses, but not in intransitive ones. Transitive clauses can be defined as having:

- an alternation between having a nominative object and a nominative subject, regulated by the presence or absence of object suffixes on the verb;
- the ability to have a passive alternant with an unexpressed by-phrase;
- the ability to head an object relative clause.

Using these diagnostics as a guide, we can now examine some clause types that are more problematic than those seen so far.

4. False transitives and 'oblique objects'

There are two verbs in Tukang Besi that appear to take (optional) objects. These are the verbs mo’aro ‘hungry’ and motindo’u ‘thirsty’. These can, of course, be used intransitively:

(23) No-mo’aro (na  iai-su)
    3R-hungry   NOM younger.sibling-1SG.POSS
    ‘(My younger sister) is hungry.’

(24) Ku-motindo’u
    1SG-thirsty
    ‘I’m thirsty.’

They may also be used with apparent objects, as in (25) and (26), which indicate the object of desire:

(25) No-mo’aro te  sengasenga-’u
    3R-hungry CORE fried.food-2SG.POSS
    ‘She is hungry for your fried sweet potato.’
These ‘transitive’ uses of the verbs are, however, false: the ‘objects’ may not be nominative, may not passivise, and may not head object relative clauses. This is illustrated with the ‘object’ of motindo’u in (27)–(29):

(27) *Ku-motindo’u-ke na tee  
1SG-thirsty-3OBJ NOM tea  
‘I’m thirsting after some tea.’

(28) *No-to-motindo’u-mo na tee  
3R-PASS-thirsty-PERF NOM tea  
‘The tea is thirsted after.’

(29) *Te ana te tee i-motindo’u-no  
CORE this CORE tea OP-thirsty-3POSS  
‘This is the tea that is thirsted after.’

These apparently transitive verbs must be thought of as displaying ‘false core marking’ — the object of desire is really an oblique argument, and the case marking as core is irregular, and at variance with the displayed syntactic characteristics. This is doubly plausible when we consider the behaviour of some other experiencer verbs that allow the object of desire to be expressed, ma’eka ‘afraid, fear’ and monimpala ‘be lonely, homesick, miss’. With these verbs, the optional object is expressed with the general oblique case marker ildi:

(30) Mbeaka no-ma’eka (i kodipo)  
not 3R-afraid OBL shark  
‘He isn’t afraid (of sharks).’

(31) No-monimpala  
3R-homesick  
‘He’s homesick.’

(32) Ku-monimpala di ina-su  
1SG-miss OBL mother-1SG.POSS  
‘I miss my mother.’

As would be expected, these putative objects parallel the behaviour of the ‘objects’ of mo’aro and motindo’u in (27)–(29), and display none of the
morphosyntactic characteristics typical of objects of transitive clauses. For this reason the verbs can be unambiguously called intransitive, with an optional 'oblique object'. Since, despite the difference in case marking, both the motindo’u type of ‘false objects’ and the ‘oblique object’ of verbs such as monimpala all behave in the same way syntactically, we can assume that they share the same subcategorisation position as an oblique argument.

Historically it could be the case that the object of motindo’u once displayed more characteristics typical of the object of a transitive clause, such as the ability to appear as object affixes on the verb, or to be passivised. Since this is no longer the case, we probably have an example of a shift in transitivity, between transitive and intransitive, with the case marking still reflecting the earlier transitive status of the verb. The alternative is that an intransitive verb is becoming transitive, with the first change being in the case marking on the verb, and other morphosyntactic object properties potentially following later. Given the lack of historical documentation of the language, and the uncertainty about its near relatives, we cannot choose between these alternatives with any confidence.

5. Restricted transitive verbs

Some verbs never appear with non-nominative objects. Of these, many may be used both transitively and intransitively (and can thus be called ambitransitive), but are restricted in their transitive appearances. Compare the sentences in (33):

(33) a. No-buti na kaluku
    3R-fall NOM coconut
    ‘The coconut fell.’

b. No-buti-‘e na kaluku te anabou
    3R-fall-3OBJ NOM coconut CORE boy
    ‘The boy dropped the coconut.’

c. *No-buti te kaluku na anabou
    3R-fall CORE coconut NOM boy

Sentence (33b) is unquestionably transitive: it has an object that may be the subject of a passive construction, and may head an object relative clause:
Unlike clauses with primary transitive verbs, however, there is no nominative alternation: in order to be transitive, the object must be nominative, as in (33b); a nominative agent is not possible when the verb is used transitively, as seen in (33c). The only interpretation possible for (33c) is something like 'The boy fell (as a result of tripping on) the coconut', but is nonetheless ungrammatical.

The inability to appear with a nominative agent is similar to the behaviour found with a few transitive verbs, such as *molinga* 'forget', in which the object must be nominative:

(36) a. *Ku-molinga-*e na ngaa-*u*  
1SG-forget-3OBJ NOM name-2SG.POSS  
'I've forgotten your name.'

b. *Ku-molinga te ngaa-*u*  
1SG-forget CORE name-2SG.POSS  
'I've forgotten your name.'

These clauses, whilst transitive, are restricted in terms of the behaviour they exhibit: there is no alternation in the nominative status of the arguments in the clause, something characteristic of the arguments of canonical transitive clauses. Interestingly, while there are many verbs showing a transitive/intransitive alternation, with a consistently nominative theme (either as the subject in the intransitive variant, or the object in the transitive variant), there are no transitive clauses that require the actor to be nominative: all transitive clauses allow the object to be nominative, and most allow the actor to be nominative as well. Similar behaviour is reported for Tagalog, another Philippine-type language (Schachter 1976: 510–512). Ambitransitive verbs such as *buti* 'fall' differ from this very transitive pattern in that they may appear without a nominative object; but in this case they are interpreted as intransitive clauses.
6. Intransitive constructions or objectless transitive?

The question of whether alternations such as those seen in (1) and (2) consist of transitive/intransitive alternations, or are simply transitive verbs without overtly expressed objects has not yet been addressed. There is some evidence from the case marking in causative constructions that supports the view that these objectless clauses are still regarded as transitive. Dialectal differences exist in the syntactic treatment of causatives in Tukang Besi, and in the Lia-Mandati dialect of the language from southern Wanci the causand (base object of a transitive verb) is marked with the core case marker te, and the causee is marked obliquely, when the general causative prefix pa- is attached to a transitive verb. This is seen in (37):

(37) Ku-pa-helo’a te sede di ina-su
1SG-CAUS-cook CORE taro OBL mother-1SG.POSS
‘I had my mother cook the taro.’

With intransitive verbs, the causee is expressed as a core argument:

(38) Ku-pa-wila te iai-su i daoa
1SG-CAUS-go CORE younger.sibling-1SG.POSS OBL market
‘I made my younger brother go to the market.’

That is, only an argument that is a transitive actor of the base predicate appears in an oblique phrase in the causative construction — an argument that was an intransitive subject or a transitive object appears as a core argument, and in fact is the object of the construction (as demonstrated by the facts of nominative alternation and passivisation). This is the opposite to the case described by Gibson (1992: 152) for Chamorro, in which an initial object is treated as an oblique under causativisation, and an initial subject (transitive or intransitive) is treated as a direct object. What of the agent in an apparent intransitive use of a transitive verb? The relevant sentences are (2) (repeated here as (39)) and the causative thereof, presented here as (40) and the ungrammatical (41):

(39) No-moro’u [ ] na kalambe
3R-drink NOM girl
‘The girl drank.’
(40) *Ku-pa-moro’u te kalambe
1SG-CAUS-drink CORE girl
(Good for: ‘I made (someone) drink the girl.’)

Clearly the obliquely-marked causee *kalambe in (40) is treated as if it were the actor of a transitive verb, despite the lack of an expressed object; the ungrammaticality of (41) shows that the causee cannot be treated as a direct object, and so the sentence cannot be thought of as the causative equivalent of an intransitive verb. We must therefore conclude that sentences such as (2)/(39) are in fact still regarded as transitive, even though they appear without either an object or any detransitivising morphology.

7. Derived intradirective: both transitive and intransitive?

In section 2 we saw that intransitive verbs are only indexed for person and number of the subject by means of subject prefixes. There is, however, a construction involving serialising a motion verb with a numeral verb. A numeral verb itself is a normal ambitransitive verb, such as buti ‘fall, drop’ in section 5, and appears with subject prefixes if used intransitively, and obligatorily with object suffixes if used transitively. This pattern is illustrated in (42)–(44):

(42) No-totolu-mo na ba’e-no
3R-be.three-PERF NOM fruit-3POSS
‘It already has three fruits.’

(43) Labi to-totolu-e, mbea’e?
better 1PL.R-be.three-3OBJ not.exist
‘Let’s put in a third one, eh?’
(speaking of putting bottles of petrol into a motorbike)
(literally glossed: ‘We’d better make it three, (had)n’t we?’)

(44) *To-totolu te mina tana
1PL.R-be.three CORE petrol
When a motion verb appears serialised with a numeral verb, the person and number of the subject are indexed by both subject prefixes and a special set of object suffixes used for this purpose (these object suffixes differ from the normal set in that there is prenasalisation on the initial stop, if oral; thus the normal set -kami 1PA, -kita 1PL and -komiu 2PL correspond to -ngkami, -ngkita and -ngkomiu, respectively, here). The subject and object affixes must both indicate the same (necessarily non-singular) person and number:

(45) *No-wila-nono’o-ke na amai
    3R-go-be.six-3OBJ NOM they
    ‘All six of them went.’

(46) I-tinti-gana-ngkomiu
    2PL.R-go-be.four-2PL.OBJ
    ‘All four of you ran.’

Deciding on the transitive or intransitive status of (45) is problematic; the argument na amai would be nominative if it was the sole argument of an intransitive verb (which it is, semantically at least), and would be nominative if it was the object of a verb with object suffixes. The requirement that the serial verb construction must use both subject and object indexing is restricted to the use of motion verb + numeral verb; it is not found in other forms of serialisation involving motion verbs, as (47) and (48) show, or in non-serialised motion verbs, as seen in (49) and (50):

(47) No-wila-lolaha na amai
    3R-go-search NOM they
    ‘They went searching.’

(48) *No-wila-lolaha-’e na amai
    3R-go-search-3OBJ NOM they

(49) *No-wila-’e na amai
    3R-go-3OBJ NOM they

(50) *Wila-’e na amai
    go-3OBJ NOM they

In Tukang Besi, serialisation of a transitive and intransitive verb together can only express a cause and result sequence if there is a clear relationship between the two; without the use of a causative prefix on the second verb, an action expressed in the first verb cannot be construed as causing a result
expressed by the second verb; compare (51a) with (51b) in which a transitive verb is used with a quantifying verb, both with and without a causative prefix:

(51) a.  
\[
\text{No-manga-koruo-'e na po'o} \\
3R-eat-many-3OBJ NOM mango \\
\text{‘A lot of them ate the mangoes.’} \\
\text{(that is, they ate the mangoes, and they were many)} \\
\]

b.  
\[
\text{No-manga-pa-koruo-'e na po'o} \\
3R-eat-CAUS-many-3OBJ NOM mango \\
\text{‘They ate a lot of the mangoes.’} \\
\text{(that is, they ate the mangoes such that the eaten mangoes were many)} \\
\]

Just as in (51a) the eating does not cause the bounty of food, neither in (45) does the going cause the ‘being six’ of the people. In (51a) and (51b), however, there are separable subject and object arguments (‘they’ and ‘the mangoes’), whereas in (45) there is only one argument.

The reason for the appearance of coreferential subject and object affixes only on serial constructions involving motion verb + numeral verb might be related to the fact that the numeral verbs are ambitransitive, and so require the use of object suffixes when used transitively (as dealt with in section 5). Compare (50) with (42)-(44), which show that object suffixes are required in the transitive use of a numeral verb, but not in the intransitive use.

The question remains of the motivation for the presence of object suffixes in sentences such as (45) and (46); if they are to be regarded as transitive, then the fact that the agent of the sentences is coreferential with the theme would imply a reflexive reading, but this is not the case: a normal reflexive clause is formed with a nominal object karama- ‘self’ (which is obligatorily possessed), as seen in (52). Note that karama- may be indexed on the verb with object suffixes, as seen in (53a), but in this case we have third person object suffixes, and not ones indexing the person and number of the agent. Expression of a reflexive meaning by the use of coreferential subject and object affixes is not possible, as shown by the ungrammaticality of (54):

(52)  
\[
\text{O-ha'a 'u-topa te karama-'u?} \\
3R-why 2SG.R-slap CORE self-2SG.POSS \\
\text{‘Why did you slap yourself?’} \\
\]
(53) a.  $O$-ha’a ‘u-topa-’e na karama-’u?
   3R-why 2SG.R-slap-3OBJ NOM self-2SG.POSS
   ‘Why did you slap yourself?’

b. *$O$-ha’a ‘u-topa-ko na karama-’u?
   3R-why 2SG.R-slap-2SG.OBJ NOM self-2SG.POSS

(54) *$O$-ha’a ‘u-topa-ko?
   3R-why 2SG.R-slap-2SG.OBJ

On the other hand, assuming that (45) and (46) are intransitive leads us to question why an intransitive verb would take object affixes. We might appeal to semantic principles to help resolve this coding problem: the subject of a motion verb is in a unique position of being both the instigator, and agent, of the verbal predicate, and also the undergoer/theme of the action. This quandary is resolved in different ways by different languages, in which some languages treat motion verbs as unergative predicates, and others treat them as unaccusative predicates (see Merlan (1985) or Mithun (1991) for a discussion, and Dixon (1994) for a summary of this discussion). In European languages with a morphological unergative/unaccusative split, we often find some motion verbs treated as unergative, and others as unaccusative, as (55a) and b from Dutch show, where hebben ‘have’ is the auxiliary used with transitive and unergative intransitive verbs, and zijn ‘be’ is used with unaccusative intransitive verbs:

- **Unergative treatment**
  
  (55) a.  *Die heeft gesprongen*
  s/he has jump.PART
  ‘S/he jumped.’

- **Unaccusative treatment**

  b.  *Die is gegaan*
  s/he is go.PART
  ‘S/he went.’

Similarly, the same verb may be treated in different ways in different languages; some according it unergative status, and some according it unaccusative status. Compare the treatment of the verb ‘last’ in two Indo-European languages showing an unergative/unaccusative split: in French the auxiliary is *a* ‘has’, the unergative choice, and in Italian the auxiliary is *è* ‘is’, the unaccusative choice, as seen in (56):
French: Unergative treatment

(56) a.  
Il a duré
it has last.PART
'It lasted.'

Italian: Unaccusative treatment

b.  Ø è durato
is last.PART
'It lasted.'

A third, and far less attested, solution is to treat a motion verb as both: to index its sole argument as both unergative and unaccusative, that is, similar to both the agentive and the non-agentive argument of a transitive verb. This is the morphological coding approach taken in some Kainji and Platoid languages in Africa (Gerhardt 1989), and in various languages of Seram in central Maluku, Indonesia (such as Nuaulu; Grimes 1992, 1993). We have seen that there is not a morphological split in Tukang Besi between unergative and unaccusative verbs; in (10) and (12) we saw that the same subject prefixes are used on the verb for both types of intransitive verbs, and the same case marking on the nominals. In Tukang Besi terms, treating an intransitive subject as involving both an unergative and unaccusative argument in the same clause would involve pronominal indexing on the verb for both subject and object, precisely what we find in the case of serialised motion + numeral verbs. The reason that a motion verb alone is not affixed for object as well as subject may have to do with strict subcategorisation restrictions on the use of object suffixes, such that motion verbs, which may never be used transitively unless combined with a separate causative predicate, cannot take object affixes, and so only realise this double-marking option when serialised with a verb that can appear with object affixes.

8. Classes of intransitives: unergative and unaccusative

The existence of applicative suffixes has already been mentioned. Although most transitive verbs may appear with applicatives, the range of intransitive verbs that may appear with applicatives is more limited, restricted to those intransitive verbs that involve control by the subject over the event. Compare the following sentences, which show that an uncontrolled intransitive verb may not appear with an applied object that indicates location or beneficiary:
The contrast in (57) shows that some intransitive predicates, those with unaccusative subjects, cannot so readily appear with applied objects as those that have unergative subjects, and so must be considered less transitive. Unaccusative intransitive predicates may appear with a cause nominal as an applied object, but these nominals do not display normal object properties; contrast the apparent object in (58) with the lack of object properties shown by that argument, in the ungrammatical sentences in (59). The sentences in (60) demonstrate the ability of the applied object of an unergative intransitive verb to function as an object:

(58) No-mate-ako te buti
3R-die-APPL CORE fall
‘They died in a fall.’

(59) a. *Te buti i-mate-ako-no...
CORE fall OP-die-APPL-3POSS
‘The fall that they died in’

b. *No-to-mate-ako-mo na buti
3R-PASS-die-APPL-PERF NOM fall
‘A fall was died in.’

(60) a. Te olo i-wila-ako-no...
CORE mooring.place OP-go-APPL-3POSS
‘The mooring place that they went through’

b. No-to-wila-ako-mo na olo
3R-PASS-die-APPL-PERF NOM mooring.place
‘A mooring place was went through.’
We can see that there is a split in intransitive verbs (the split in intransitive verbs is described in more details, with further morphological evidence, in Donohue 1996) correlating with the ability to appear with an applied object that assumes the properties of a ‘normal’ transitive object. Once again we find a contrast in degree of (potential) transitivity evidenced in the verbs, even the canonically intransitive ones.

9. Other correlates of transitivity in Tukang Besi

The focus of this article has been to demonstrate morphosyntactic degrees of lexical transitivity in Tukang Besi, by examining the variation allowed at different points on the continuum between high and low transitive clauses. In addition to this lexicalist approach to transitivity, it is worth mentioning that derived transitivity brings with it additional properties that should be thought of as highly transitive. In section 2, the discussion of transitivity in Tukang Besi began with the observation that clauses expressing transitive actions may appear without an overt object (see examples (1) and (2)). It is worth noting that when a verb appears with a causative prefix, the language requires at least one object to be present. Thus, causativising the sentence in (1), we arrive at the following grammatical variations, with one or the other objects suppressed:

(61) a. Ku-pa-moro’u te kalambe te uwe
     1SG-CAUS-drink CORE girl CORE water
     ‘I made the girl drink some water.’

b. Ku-pa-moro’u te uwe
c. Ku-pa-moro’u te kalambe
d. Ku-pa-moro’u-ke na kalambe te uwe
e. Ku-pa-moro’u-ke te uwe
f. Ku-pa-moro’u-ke na kalambe
g. Ku-pa-moro’u-ke

Should neither of the objects appear, however, either as a full NP or (for the causee) as an object suffix on the verb, then the sentence is ungrammatical:

(62) *Ku-pa-moro’u
     1SG-CAUS-drink
     ‘I made drink .’
Similarly with applicative constructions, at least one of the objects of the verb must be present, either in an NP or (for the applied object) as an object suffix:

\[(63)\]

a. \textit{Ku-'aso-ako te ina-su te luluta}  
\[1\text{SG-sell-APPL CORE mother-1SG.POSS CORE luluta}\]  
‘I sold luluta for my mother(‘s benefit).’  
(Luluta is rice in banana leaves with egg.)

b. \textit{Ku-’aso-ako te luluta}

c. \textit{Ku-’aso-ako te ina-su}

d. \textit{Ku-’aso-ako-’e na ina-su te luluta}

e. \textit{Ku-’aso-ako-’e te luluta}

f. \textit{Ku-’aso-ako-’e na ina-su}

g. \textit{Ku-’aso-ako-’e}

Again, should neither of the objects appear, the sentence is ungrammatical:

\[(64)\]  
\textit{Ku-’aso-ako}  
\[1\text{SG-sell-APPL}\]  
‘I sold for.’

Clearly this is a phenomenon different from that illustrated in the preceding sections of this article, in which we have seen that a nominal object is never obligatory on a transitive verb. Rather than representing a property of the underived, basic verb, and thus indicating a basic degree of transitivity, the property seen here in which at least one object must be present in the clause (interestingly, it does not matter which object this is) is a property of derived sentences. For that reason, although it is certainly relevant to an evaluation of the morphosyntactic correlates of transitivity in Tukang Besi, it is not in the same class as the other properties discussed here, and will not be included in the conclusions that follow.

\section*{10. Conclusions: ranking Hopper and Thompson’s criteria}

We have seen that the determination of transitivity in Tukang Besi is not always a straightforward task. A clause with an overt nominal object is not always transitive, as seen with the experiencer verbs \textit{mo’aro} and \textit{motindo’u}, and a clause with no expressed object is not always intransitive, as the case
marking in causative constructions demonstrates. We can discuss a cline of transitivity, à la Hopper and Thompson (1980), in which certain features are more indicative of 'transitivity' than others, all of which are present in canonical transitive clauses. If a verb can be indexed with object suffixes that are not coreferential with the subject argument, then the clause may be said to be highly transitive; if an object may appear even without the use of these suffixes, then the clause is base-transitive, otherwise it is ambitransitive, fluctuating between transitive use (with the object suffixes), or a restricted intransitive use (without the object suffixes). A sub-type of base transitive verbs are those that must appear with object suffixes, and which do not have an intransitive alternant. The ability to take a nominal object, but not to have it indexed on the verb, is an indicator of higher transitivity than is the ability to take an 'oblique object', though these adjuncts are in a sense more object-like than the adjunct of destination in a verb like wila ‘go’, which uses a separate applicative suffix only found with oblique adjuncts, and not with core complements (objects). The last step before complete intransitivity is reached is the ability to take intradirective marking, in which object suffixes and subject prefixes both index the single argument of a motion verb. Finally come intransitive verbs: these too may be split into unergative intransitives that may appear with an applicative suffix, and so add an object of widely varying semantic role, and unaccusative intransitives that are more restricted (or outright prohibited) in their ability to appear with applicative morphology and an object. This cline is seen in Figure 1:

**Morphosyntactic Features:**

<table>
<thead>
<tr>
<th>High transitivity</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[+ object suffixes] (no alternative)</td>
<td>molinga ‘forget’</td>
</tr>
<tr>
<td>[+ core nominal object] ([+/- object suffixes])</td>
<td>moro’u ‘drink’</td>
</tr>
<tr>
<td>[+ object suffixes] (intransitive alternant)</td>
<td>buti ‘drop’</td>
</tr>
<tr>
<td>[+ false nominal object]</td>
<td>motindo’u ‘thirst’</td>
</tr>
<tr>
<td>[+ ‘oblique object’]</td>
<td>ma’eka ‘fear’</td>
</tr>
<tr>
<td>[+ coreferential object suffixes]</td>
<td>tintigana ‘(four) run’</td>
</tr>
<tr>
<td>[- object suffixes] (+/- applicative)</td>
<td>wila ‘go’</td>
</tr>
<tr>
<td>[- object suffixes] (− applicative option)</td>
<td>moturu ‘sleep’</td>
</tr>
</tbody>
</table>

**Low transitivity**

Figure 1. *The cline of transitivity found in Tukang Besi.*
The motivation for these points on the cline may be found in the notions of transitivity expressed in Hopper and Thompson. The data in this paper has show that many of the functional motivations for the different degrees of transitivity proposed by those authors have morphological correlates in one language. Given that we can find a long continuum in just one language, we can attempt to rank the criteria put forward by Hopper and Thompson by examining the degrees of relative transitivity exhibited by verb classes with different functional reasons for high or low transitivity. These criteria have already been listed, but for convenience will be mentioned again in table form (Hopper and Thompson 1980: 252):

<table>
<thead>
<tr>
<th>Parameter</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. <strong>Participants</strong></td>
<td>2 or more participants, A and O</td>
<td>1 participant</td>
</tr>
<tr>
<td>B. <strong>Kinesis</strong></td>
<td>action</td>
<td>non-action</td>
</tr>
<tr>
<td>C. <strong>Aspect</strong></td>
<td>telic</td>
<td>atelic</td>
</tr>
<tr>
<td>D. <strong>Punctuality</strong></td>
<td>punctual</td>
<td>non-punctual</td>
</tr>
<tr>
<td>E. <strong>Volitionality</strong></td>
<td>volitional</td>
<td>non-volitional</td>
</tr>
<tr>
<td>F. <strong>Affirmation</strong></td>
<td>affirmative</td>
<td>negative</td>
</tr>
<tr>
<td>G. <strong>Mode</strong></td>
<td>reals</td>
<td>irrealis</td>
</tr>
<tr>
<td>H. <strong>Agency</strong></td>
<td>A high in potency</td>
<td>A low in potency</td>
</tr>
<tr>
<td>I. <strong>Affectedness of O</strong></td>
<td>O totally affected</td>
<td>O not affected</td>
</tr>
<tr>
<td>J. <strong>Individuation of O</strong></td>
<td>O highly individuated</td>
<td>O non-individuated</td>
</tr>
</tbody>
</table>

Figure 2. *Parameters of transitivity* (after Hopper and Thompson 1980)

Examining the degrees of morphosyntactic transitivity summarised in Figure 1, we find that all of these parameters apart from F ‘Affirmation’ (the ability to appear in either a positive or negative utterance) are relevant to the discussion. In order to see how these different parameters affect the determination of morphosyntactic transitivity in Tukang Besi, the question ‘Is the high-transitivity part of this parameter consistent with the morphosyntactic feature defining this point on the transitivity continuum?’ was asked, with the results as displayed in Figure 3. Note that this is not the same as the question ‘Is the high-transitivity part of this parameter consistent with the event or state denoted by this verb?’ Since each point on the transitivity continuum has a large range of verbs, it is not an accurate assessment of a parameter’s contribution to the determination of morphosyntactic transitivity to ask or answer questions based on the semantics of certain of the verbs.
within its class; for instance, in addition to moro’u ‘drink’, the same morphosyntactic class includes such disparate verbs as tobo ‘stab (someone)’, hoti ‘donate (food) charitably (to someone)’, ‘awa ‘get, receive, obtain’ and rodongo ‘hear, listen to’. Clearly we cannot refer to the combined transitivity of these verbs as a single class, with volitional and non-volitional subjects, affected and non-affected objects, and many other splits between settings of the one parameter. Instead, by examining the morphosyntactic parameter that defines this class (in the case of the five verbs cited above, the ability to appear with the verb suffixed to indicate object, which may alternatively be expressed as a core nominal argument), we can assess the status of that class of verbs. The results of applying this test are shown in Figure 3.

<table>
<thead>
<tr>
<th>molinga</th>
<th>moro’u</th>
<th>buti</th>
<th>motindo’u</th>
<th>ma’eka</th>
<th>tiniti-gana</th>
<th>wila</th>
<th>moturu</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘forget’</td>
<td>‘drink’</td>
<td>‘fall/drop’</td>
<td>‘thirsty’</td>
<td>‘afraid’</td>
<td>‘four run’</td>
<td>‘go’</td>
<td>‘sleep’</td>
</tr>
</tbody>
</table>

| Participants | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Kinesis | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Aspect | ✓ | ✓ | ✓ | * | * | * | * | * |
| Punctuality | ✓ | ✓ | ✓ | * | * | * | * | * |
| Volitionality | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Affirmation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mode | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Agency | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Affectededness | ✓ | ✓ | ✓ | ✓ | n/a | n/a | n/a | n/a |
| Individuation | ✓ | ✓ | ✓ | ✓ | ✓ | n/a | n/a | n/a |

Figure 3. *Is the high-transitivity facet of a particular parameter consistent with the morphosyntactic feature defining this point in the transitivity continuum?*

As mentioned, the parameter Affirmation is not revealing here: none of the morphosyntactic features show any correlation with polarity, appearing in both positive and negative clauses, and so can be discounted. An interesting and immediately apparent result of this tabulation is that we notice a fairly clear division between ‘transitive(-like)’ verbs on the left and ‘(loosely) intransitive’ verbs on the right. Those verbs in the classes containing molinga, moro’u and buti can unproblematically be called ‘transitive(-like)’, given the consistently high transitivity rankings of the main defining morphosyntactic feature for this point on the continuum, the ability (or requirement) to appear with an object suffix. Notice that simply labelling these verbs as
'transitive' is misleading, since they include verbs which may be used intransitively, yet nevertheless do (optionally) display a high-transitivity feature. The different parameters that make this division apparent are discussed separately in the following paragraphs.

The parameters of Volitionality and Agency on the part of the subject are problematic. They are useful for defining transitivity at the extreme ends of the continuum (high transitivity morphosyntactic features are associated with Volitionality and Agency, low-transitivity morphosyntactic features are not), but the morphosyntactic features associated with the unergative intransitive verbs also show these parameters with a high-transitivity ranking. These cannot then be strong determiners of transitivity, or at least must be less highly ranked than some of the other parameters.

The number of Participants is very relevant to the determination of transitivity, but not of high transitivity. We can see that the fact that a verb has two participants does not in and of itself qualify that verb as a highly transitive one, but it is certainly the beginning of transitive behaviour. Through this parameter we can ascribe some degree of transitivity to the classes of verbs including motindo'u ‘thirsty’ and ma’eka ‘afraid, fear’, which include two participants, but do not display as many transitive properties as do the molinga, moro’u and buti classes. This finding is not equivalent to saying that Hopper and Thompson’s conclusion that transitivity in discourse need not involve bivalent verbs can be extended into the realm of morphosyntax as well. Rather, we can say that while the number of participants is a critical parameter in the determination of morphological transitivity, it is not the most important one, and can be eclipsed by other parameters, at least in the case of the Tukang Besi language.

Individuation is a parameter that is hard to evaluate: the appearance of object suffixes on a verb shows strong correlations with individuation of the object, and so is a clear indicator for the top three classes. For the next two classes of verbs, however, the appearance of the morphosyntactic features (‘oblique object’, ‘te-marked’ object) is definitely an indicator of an individuated object for these verbs, but not necessarily for other verbs which are higher in transitivity, and which allow for nominative objects.

Finally, Kinesis, Aspect, Punctuality, Mode, and Affectedness cannot be differentiated on the basis of the morphosyntactic features in Tukang Besi; they all appear to be equally ranked in terms of the determination of high transitivity, all showing strong correlations with high transitivity morpho-
syntactic features. We can therefore arrive at the following relative rankings of Hopper and Thompson’s parameters:

\[
\begin{align*}
\text{Kinesis} & \quad \text{Aspect} \\
\text{Punctuality} & \quad \text{Mode} \\
\text{Affectedness} & \quad > \quad \text{Participants} \quad > \quad \text{Individuation} \\
& \quad > \quad \text{Volitionality} \quad > \quad \text{Agency}
\end{align*}
\]

High $\quad$ Low

Not Ranked: Affirmation

Figure 4. Rankings of Hopper and Thompson’s transitivity parameters.

While figure 4 does not completely rank all the parameters with respect to each other, it does give us a starting point from which to assess the relative strengths of the different parameters. The differentiation of Kinesis, Aspect, Punctuality, Mode, and Affectedness is critically missing, since Tukang Besi does not treat them differently: there are morphological correlates or at least tendencies associated with each of these features, but they do not have a bearing on the morphosyntactic correlates of transitivity as discussed here.

It is important to emphasise that this study has not determined a ‘Universal Ranking of Transitivity Parameters’; rather, it has defined a ranking of these parameters in terms of the morphosyntactic categories of one language, and it remains to be seen whether these rankings can be correlated with ranking obtained from independent studies of the morphosyntactic features associated with transitivity in other languages. Studies of this kind based in other languages would also be useful in ranking those five parameters, fully half of the set of ten proposed by Hopper and Thompson, that could not be ranked in Tukang Besi, and the category of Affirmation, which has an effect on morphosyntactic transitivity in many languages, but not in Tukang Besi.
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ABBREVIATIONS


ACKNOWLEDGMENTS

I would like to thank Leslie Saxon for technical support that made this write-up possible, and Anna Maclachlan, who assisted me with many points in this article. All faults are, of course, my own responsibility. The Australian National University supported the fieldwork trips on which the data for this discussion were collected.

NOTES

1. I use the term ‘core’ following Foley and Van Valin (1984: 77–80), who note that the use of the same division (under a variety of different names) is found in tagmemic theory (Pike and Pike 1982), Dik’s functional grammar (Dik 1978), and relational grammar, with different labels (nuclear, term, direct, and others). For a recent account of this distinction, see Alsina (1993).

2. Though note that Mithun’s use of the terms ‘ergative’ and ‘absolutive’ is complicated by the fact that ‘absolutive’ may appear on transitive subjects (Mithun’s example (14) and (15) among others, p. 252, and examples in Mirikitani 1972); alternatively, these sentences could be analysed as antipassives, in which case the status of the ‘objects’ requires discussion (it appears in what Mithun calls a ‘caseless’ form, linked to the verb according to her analysis and word breaks, but marked with a separate accusative case in Mirikitani).
3. It could be argued that there is really only one basic transitive clause type, the form shown in (8), and that (9) is an ‘antipassive’ derivation from it; indeed, similar analyses have been proposed for other Philippine-type languages. Problems with this analysis for Tukang Besi are that we have to assume that there is no explicit antipassive morphology on the verb, whereas there is explicit passive morphology in the passive voice, with the prefix to-; that the ‘antipassive’, not the active, clause is used as input to the passive derivation, which cannot appear with object suffixes; that the by-phrase in the ‘antipassive’ is still a core argument of the verb, not an oblique (demonstrable by time-adverb placement restrictions, and case-marking choices); and that the derived ‘subject’ of an antipassive clause (the seer, in (9)) behaves differently with respect to relativisation than does either the derived subject of a passive clause, or the subject of an intransitive verb. For these reasons I have adopted the analysis of Tukang Besi as showing a voice system which I describe as being ‘Philippine-type’, not adequately characterisable as either nominative-accusative with passives or ergative-absolutive with antipassives, but having two basic transitive clause types (see Maclachlan 1994, 1995).

4. The terms ‘unergative’ and ‘unaccusative’ are used to maximise comparability with the other languages discussed later in the article. In previous work (Donohue 1996) I have used the labels ‘agentive’ and ‘nonagentive’ for these categories, since agentivity is the major determiner of this split in Tukang Besi. See Merlan 1985, Mithun 1991, for a discussion of the different bases for this split cross-linguistically.

5. The object suffix in (45) is -ke, and not the (perhaps expected) -ngke, since the object suffix is /-?e/, and appears as [-ke] as a result of a late phonetic process of dissimilation to a velar stop when in a syllable adjacent to another glottal stop.

REFERENCES


