Statives and Reciprocal Morphology in Swahili

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This paper is an investigation into the argument structure and aspectual status of the "stative" morpheme in Swahili, with particular focus on a number of verbs which exceptionally form the stative by the combined use of the stative and reciprocal morphemes. We show that the Swahili stative morpheme is aspectually quite different from the superficially similar Chichewa stative, and argue that it should be analyzed as a type of middle construction rather than as a pure aspectual stative. We relate the reciprocal stative construction to the *sociative* semantics associated with reciprocals in many Bantu languages, and show that it has an amalgam of properties of the stative and reciprocal morphemes.

1 Introduction

The so-called "stative" construction in Swahili has a number of properties incompatible with canonically stative verbs as described in Vendler (1967) and Dowty (1977). Among the most curious is the fact that a lexically restricted set of verbs construct their stative form, optionally or obligatorily, by the additional suffixation of the reciprocal morpheme. The resulting construction, which we refer to as the "reciprocal stative," does not have reciprocal semantics:

(1) I-na-sem-ek-an-a kuwa idadi yao ni … *Shepardson 1986*
SM-Pres-say-Stat-Recip-FV that numbers their are …
'It is said that their numbers are …'

In this paper we consider the nature of the "stative" morpheme in Swahili, and its interaction with the reciprocal. The first part, sections 2–4, focuses on the stative, while sections 5–7 focus on the reciprocal and its role in the reciprocal stative construction.

Section 2 gives a brief overview of the stative and reciprocal stative constructions. In section 3 we compare the distribution, argument structure and aspectual properties of the Swahili stative with those of its cognate morpheme in Chichewa, which has been more extensively studied (Mchombo 1993a, Dubinsky and Simango 1996). We show that despite broad similarities, they also differ considerably and in a variety of ways, with the Swahili morpheme meeting several of the core tests of the *middle* construction. Section 4 characterizes the argument-structure operation effected by the Swahili stative as *arbitrarization*, a form of argument saturation (Chierchia 1995).

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Section 5 turns our attention to the reciprocal, presenting an overview of the reciprocal morpheme and of the considerable range of variation, in semantics and argument-structure effects, associated with the reciprocal morpheme in Bantu languages. We focus particularly on the *sociative* and *intensive* uses of reciprocals, which we believe to be involved in the semantics of the reciprocal stative. As we show, the reciprocal stative combination also appears in a number of Bantu languages, with a range of meanings that are frequently more clear-cut than in Swahili. Section 6 considers the "discontinuous" reciprocal construction, in which part of a reciprocal predicate's argument is expressed by an oblique phrase. We show that this construction requires us to treat reciprocal verbs as semantically transitive, not intransitive as is commonly assumed. Finally, section 7 discusses the reciprocal stative construction in view of our analysis of the stative and reciprocal. We argue that the stative and reciprocal morphemes act synergistically, yielding a verb whose properties are an amalgam of those of the two morphemes.

1.1 The Swahili verb

In this section we briefly outline the structure of Swahili verbs, since an understanding of the verbal structure of Bantu will be crucial to our discussion of the stative. The verbal morphology of Swahili and of all Bantu languages is complex, involving numerous productive inflectional and derivational morphemes. Verbal prefixes are associated with inflection: the main ones are subject and object agreement markers, and tense (relative clauses and reflexives are expressed by means of special object markers). The verbal suffixes (also known as "verb extensions") are derivational morphemes; in Swahili, as in many other Bantu languages, they can be extremely productive. The most frequent (and productive) are the causative, passive, stative, applicative, and reciprocal. The basic structure of the Swahili verb is shown in (2).[1]

(2) a. SM-Tense-(OM/RelativeMarker)-Root-(Deriv.Suffixes)-FinalVowel
b. mtu a-li-ye-chelew-esh-w-a na Juma
person SM-Past-Rel-be.late-Caus-Pass-FV by Juma
'The person who was made late by Juma'

The subject and object marker agree in gender and number with the appropriate argument. Subject agreement is almost always mandatory for finite verbs, but the use of the object marker is optional (subject to subtle discourse factors).[2] Object marking is possible with every semantic class of objects, although it is more frequent with animate objects.

A verb can carry several derivational suffixes, which in Swahili must appear in a specific order after the verb root.[3] Some suffixes (such as the causative and applicative) raise the valency of the verb, adding an argument. Others absorb an argument (e.g., the passive, reciprocal and stative), while others, such as the "reversive," leave the number of arguments unchanged (Ashton 1944, Polomé 1967, Shepardson 1986).

[1]Unless otherwise specified all examples are in Swahili. In all examples, SM=subject marker, OM=object marker, Refl=reflexive, Rel=relative marker, Pres=present tense, Past=past tense, Perf=perfect, Prog=progressive aspect, Caus=causative, Stat=stative, Appl=applicative, Recip=reciprocal, Pass=passive, FV=final vowel, and VH=vowel harmony.

We also use the following abbreviations for some of our sources of Swahili examples: SSED = A Standard Swahili-English Dictionary (Johnson et al. 1939), HCS = Helsinki Corpus of Swahili (Helsinki Corpus, no date), Kamusi = Kamusi Online Dictionary.

[2]For more details on the discourse properties which condition object marking see Wald (1979), Seidl and Dimitriadis (1997).

[3]Other Bantu languages allow greater or less freedom in the order of application of suffixes, with corresponding semantic differences.

The "final vowel" can carry mood information: it is normally *-a* (except in many verbs of foreign origin), but in subjunctives, plural imperatives, and present tense negation a different final vowel is used.

(3) a. Ni lazima u-som-e.
is necessary SM-read-Subjunc
'It's necessary that you study.'
b. Sem-e-ni!
speak-VH-Plur
'Speak (pl)!'
c. Ha-on-i kitu.
Neg.SM-see-NegFV thing
'He didn't see anything.'

2 The stative construction in Swahili

2.1 The "stative" suffix -ik

Many derivational suffixes have clearly defined functions; for example, verbs suffixed with passive or causative morphology are consistently interpreted as such. But some of the other postverbal suffixes, including *-ik*, are more difficult to characterize.[4] The result of suffixation with *-ik* has been variously described as stative, intransitive, neuter, neuter-stative, neuter-passive, agentless passive, potential and metastatic-potential (Mchombo 1993a, Dubinsky and Simango 1996, Bentley and Kulemeka 2001). The lexical operation itself is also referred to as intransitive or anticausative. For convenience, we follow Mchombo (1993a) in referring to this construction as the *stative* construction, without presuming any particular analysis; we refer to the morpheme *-ik* as the *stative morpheme* or *suffix*.

The verbal suffix *-ik* (or *-ek*, with vowel harmony) appears in numerous Bantu languages. In its canonical use it applies to a transitive change-of-state verb, such as *vunja* 'to break' in (4). The agent of the base verb is suppressed, and the object of the base verb becomes the subject. The result generally receives a stative interpretation (4b).

(4) a. Msichana a-me-vunj-a kikombe.
girl SM-Perf-break-FV cup
'The girl has broken the cup.'
b. Kikombe ki-me-vunj-ik-a.
cup SM-Perf-break-Stat-FV
'The cup is broken/breakable.'
c. Barua hii i-me-som-ek-a. *Driever (1976)*
letter this SM-Perf-read-Stat-FV
'This letter could be read easily.'

Along with the simple stative meaning, *-ik* in Swahili has a potential/ability reading (4b); for example, the form *vunjika* can mean "breakable" as well as "broken."[5] Sometimes this indicates that an action was or can be done easily, as in (4c). The ability reading is especially prominent when a verb is in the present tense. Some examples of stativized verbs and their in-

[4]The reciprocal is also difficult to classify in its full range of uses. We turn to this topic in section 5.
[5]The Standard Swahili-English Dictionary (SSED) gives many stative verb forms as "Stative and Potential."

Table 1: Swahili stative verbs with *-ik*.

Base verb		Stative form	
vunja	to break	vunjika	to be breakable / to be broken
pika	to cook	pikika	to be cookable / to be cooked
hesabu	to count	hesabika	to be countable / to be regarded, considered
funga	to fasten, close	fungika	to be closeable / to be closed
fikiri	to think	fikirika	to be thinkable / to be thought about
inua	to raise up	inuka	to be raised / to stand up (fig: advance in position)

terpretations are given in Table 1. It can be seen that the ability/potential reading is often more predictable than the stative reading, which is frequently idiosyncratic. For example, *kuhesabu* "to count" can be interpreted as "to be considered" in the stative, but it also has the compositional meaning "to be numerable".

Like other postverbal derivational suffixes, *-ik* may appear in combination with other suffixes. For example, the causative and stative may cooccur as shown in (5).

(5) som-esh-ek-a
study-Caus-Stat-FV
'be taught /teachable'

In Swahili, as in English, the suppressed subject of a passive verb can be reintroduced via an oblique phrase; an example is shown in (6a). But the suppressed subject of verbs suffixed with the stative morpheme may not be reintroduced:

(6) a. Pili a-li-pig-w-a na Juma.
Pili SM-Past-hit-Pass-FV by Juma
'Pili was hit by Juma.'
b. * Kikombe ki-me-vunj-ik-a na msichana.
cup SM-Perf-break-Stat-FV by girl
* 'The cup is broken by the girl.'

As we will see, ordinary statives contrast minimally in this respect with reciprocal statives, which allow the suppressed subject to be reintroduced.

When a verb with a sentential complement is stativized the complement can appear postverbally, in an impersonal construction. (Nominal complements must become subjects). This construction is also common with reciprocal statives (cf. example (1)).

(7) I-na-tambu-lik-a kuwa Juma a-na-m-penda Pili.
SM-Pres-know-Stat-FV that Juma SM-Pres-OM-love Pili
'It is known that Juma loves Pili.'

2.2 The reciprocal stative

As we have already pointed out, a number of Swahili verbs may or must form the stative by suffixation of the reciprocal morpheme in addition to the stative morpheme. This is the construction we have called the *reciprocal stative,* again without implying any particular analysis.

(8) A-na-tambul-ik-an-a
SM-Pres-know-Stat-Recip-FV
'She is well-known (famous).'

Table 2: Some reciprocal stative verbs

Base verb		Plain stative		Reciprocal stative	
sema	say	semeka	be sayable	semekana	to be believed that
tambua	recognize	tambulika	be recognizable	tambulikana	to be known / recognized (that...)
zindua	rouse	zinduka	be roused	zindukana	be roused
tamani	desire	tamanika	be desirable	tamanikana	be desirable
sikia	hear	sikika	be audible	sikikana	be (generally) heard...
jua	know	julika	be knowable	julikana	be famous
kosa	err	koseka	be unavailable	kosekana	be unavailable
shinda	defeat	shindika	be overcome, conquered	shindikana	be unable to
(ku)ta	find	–	–	(ku)tikana	be discovered
ona	see	–	–	onekana	be visible
weza	be able	–	–	wezekana	be possible
pata	get	–	–	patikana	be available

There is considerable variation between speakers in the verbs which allow the reciprocal stative. Table 2 shows some forms judged acceptable by our Zanzibari consultants (A. Omar and A. Shariff).[6] It can be seen that such constructions are not reciprocal in meaning. It is sometimes remarked (e.g., by Dammann 1954) that there is no semantic difference between plain stative and reciprocal stative forms in Swahili. The first section of our table (the verbs for which the reciprocal stative is optional) suggests a subtle but systematic difference: The plain stative form has a preditable, usually potential meaning, while the reciprocal stative form tends to have more idiosyncratic meanings. By referring back to Table 1, it can be seen that verbs that do not allow the reciprocal stative associate both types of meanings with the plain stative form.

We interpret pairs of predictable and unpredictable meanings as evidence of partial lexicalization: We assume that the stativized forms are listed in the lexicon with their idiosyncratic meanings, but can additionally be generated productively, with compositional meaning. It appears, then, that when a verb allows both types of stative, the simple stative is productively formed while the reciprocal stative is a lexicalized (listed) form. This is consistent with the fact that only a lexically restricted set of verbs allows the reciprocal stative.

All verbs in Table 2 have non-agentive mental state subjects. Not all verbs of that type allow the reciprocal stative, however; e.g., *penda* 'to love' only has the ordinary stative, *pendeka* 'to be loved, loveable, popular.'[7]

2.3 Argument structure

Reciprocal statives contrast with ordinary statives in another important respect, which has tended to escape mention in the literature: they allow the suppressed subject to be expressed via a prepositional phrase. This is illustrated by examples such as the following:

[6]Another consultant, a speaker of standard Swahili from the mainland, did not generally treat the reciprocal stative as optional: those verbs that allowed it used it obligatorily.

[7]The form *pendeka* is given in the SSED; our Zanzibari consultant uses in its place the stative of the causative form, *pendezeka*, with the same meaning.

(9) a. A-na-tambul-ik-a.
SM-Pres-know-Stat-FV
'She is knowable.'
b. * A-na-tambul-ik-a na mjini.
SM-Pres-know/realize-Stat-FV by town

(10) a. A-na-tambul-ik-an-a.
SM-Pres-know-Stat-Recip-FV
'She is well-known (famous).'
b. A-na-tambul-ik-an-a na mjini.
SM-Pres-know/realize-Stat-Recip-FV by town
'She is well-known by the town (the townspeople).'

(11) Hu-on-ek-an-a na watu siku hizi.
Neg+SM-see-Stat-Recip-FV by people days these
'You haven't been seen around by people these days.'

Why is an experiencer phrase possible with these statives, and what is the function of the reciprocal? To explain that, we begin by examining the ordinary stative construction, in Swahili and in other Bantu languages.

3 Classifying *-ik*

The stative suffix in Bantu has been difficult to classify for several reasons. First, although verbs suffixed with stative morphology often act in a way that conforms to classic definitions of stative verbs, they do not always do so. Second, the same morpheme acts quite differently in different Bantu languages. In this section, we compare the Swahili stative morpheme with the same morpheme in Chicheŵa, focusing on the properties of aspectually stative verbs cross-linguistically.[8] We show that the argument structure effects of the Swahili stative morpheme tend to parallel those of the middle construction, and hence *-ik* should be characterized as a middle operator.

3.1 The stative in Chicheŵa

Our comparative discussion of the stative in other Bantu languages will focus on Chicheŵa, since this language has received considerable attention in recent years. We rely primarily on the work of Mchombo (1993a) and Dubinsky and Simango (1996), from which all of our Chicheŵa examples are drawn.

In Chicheŵa, as in Swahili, the basic pattern for stativized verbs is for the stative morpheme to be affixed to a transitive verb; the object (patient) of the base verb becomes the subject

[8] We assume Dowty's (1979) classification of verbs into states, activities, accomplishments, and achievements.

(i) States: The girl loves Latin. (Semantically: no change over time, atelic and non-agentive)
(ii) Activities: The girl studied Latin for an hour. (Semantically: involves change over time, but has no specific end point)
(iii) Accomplishments: The girl learned Latin. (Semantically: a process and an outcome, or change of state. Involve change over time)
(iv) Achievements: The girl graduated with a degree in Latin. (Semantically: punctual, take place at a specific time and result in a change of state)

of the stative verb. But the core meaning of Chichewa stative suffixed verbs differs from that in Swahili: Chichewa statives describe their subject as either being in a state or condition or as *entering* a state or condition (*inchoative* meaning), while in Swahili the inchoative meaning is not available. Instead, as we have seen, stative suffixed verbs in Swahili may have a potential meaning (as we discuss below, this option is available to Chichewa statives only in verb participles).

For example, the object *bicycles* in (12a) becomes the subject in (b). The same is true for example (13).

(12) a. Akaîdi a-ku-ónóng-á njínga. *Chichewa, Mchombo (1993a)*
2:prisoners 2SM-Pres-damage-FV 10:bicycles
'The prisoners are damaging the bicycles.'
b. Njínga zi-ku-ónóng-ĕk-a.
10:bicycles 10SM-Pres-damage-Stat-FV
'The bicycles are getting damaged.'

(13) a. Mtsogoleri a-na-pínd-á dengu.
1:leader 1SM-Past-bend-FV 5:basket
'The leader bent the basket.'
b. Dengu li-na-pínd-ĭka.
5:basket 5SM-Past-bend-Stat-FV
'The basket got bent.'

In Chichewa stative suffixed verbs, as in Swahili, there is no implication of agentive action (Mchombo 1993a). The agent of the active verb may not be reintroduced in the stative example (14a), as it may be in the passive example (b).

(14) a. Maŭta a-na-píndĭk-a (*ndí mbûzi). *Chichewa, Mchombo (1993a)*
6:bows 6SM-Past-bend-Stat-FV (*by 10:goats)
'The bows were bent (*by the goats).'
b. Maŭta a-na-pínd-íw-á ndí mbûzi.
6:bows 6SM-Past-bend-Pass-FV by 10:goats
'The bows were bent by the goats.'

Many stative suffixed verbs in Chichewa have non-compositional meanings; such a meaning, when present, blocks the compositional meaning (Dubinsky and Simango 1996). For example, (15) has the interpretation "corn is cheap"), but not the compositional meaning "corn is bought".

(15) Chimanga chi-ku-gul-ik-a ku-msika[9] *Dubinsky and Simango (1996)*
corn SM-Pres-buy-Stat-FV at-market
'Corn is cheap at the market' / *'Corn is being bought at the market'

As mentioned in section 2.1 (see Table 1), in Swahili both compositional and non-compositional meanings may be simultaneously available.

While Swahili statives are regularly ambiguous between a state and a potential meaning, Dubinsky and Simango (1996) show that in Chichewa the potential meaning is restricted to verbal participles, distinguished from tensed verbs by the lack of a tense morpheme and a dif-

[9]Dubinsky and Simango (1996) gloss the tense morpheme *-ku* as *Prog* (i.e., Progressive). In fact the Chichewa tense/aspect system does not have a progressive category; Watkins (1937:49f) describes the *-ku* tense as the "generalized present," and translates the example *ni-ku-dia* as 'I am eating, I eat'. Since compatibility with progressive aspect is germane to the following discussion, we follow Mchombo (1993a) in labeling *-ku* as "Present".

ferent series of agreement markers (Dubinsky and Simango analyze them as derived adjectives). The potential reading is available in example (16a), involving an auxiliary and a participle, but disallowed in (b), in which the verb is inflected for tense.

(16) a. Mbale zi-na-li zo-sw-ek-a. *Dubinsky and Simango (1996)*
plates SM-Past-be SM-break-Stat-FV
i. 'The plates were broken.'
ii. 'The plates were breakable.'
b. Mbale zi-na-sw-ek-a.
plates SM-Past-break-Stat-FV
i. 'The plates were broken.'
ii. * 'The plates were breakable.'

3.2 Some properties of the two stative morphemes

We now evaluate Swahili and Chicheŵa statives with respect to a number of tests of stative status, and other related properties.

3.2.1 Agentivity

Aspectual statives are incompatible with agentive action: it is impossible to specify an agent, and adjuncts that imply agency, in particular instruments and purpose adjuncts, are also ruled out. As we have seen, neither the Swahili nor the Chicheŵa stative morpheme allows the suppressed agent to be reintroduced. (Both languages allow the reintroduction of the agent of passives).

3.2.2 Temporal modification

Stative predicates are more limited in their interpretation than other kinds of predicates (Dowty 1979), and have an atemporal or unbounded quality (Bach 1981, Steedman 1997). In other words, stative verbs are inherently atelic, and cannot be modified by temporal predicates that indicate completion. In example (17), the modifier *in ten minutes* forces an eventive interpretation: John *became* blond in ten minutes, an accomplishment.

(17) John was blond in ten minutes. *no stative reading*

Permanent state predicates are incompatible with expressions of duration or specific time reference (18a), but states in general are not (b, c).

(18) a. * John knows Lisa for a day/at 4:30 pm.
b. John was angry for a moment.
c. John was happy yesterday.

The Swahili stative construction must be temporally non-specific, although it may be modified by certain non-punctual temporal adverbials. As shown in (19), it is possible to say that "something was said or sayable in the '70s," or even yesterday, as long as we mean that it was sayable all day yesterday. But it is not possible to use the stative to say that something was said on one particular occasion, e.g., at 4:30pm (19c). Thus the Swahili stative is more restricted in its potential for temporal modification than stative predicates in general. In section 3.3 we will see that this is also a property of middles.

(19) a. Kitabu ki-li-kuwa ki-me-zungumz-ik-a sana katika miaka ya 70. *A. Omar, p.c.*
book SM-Past-be SM-Perf-discuss-Stat-FV very in year of 70
'The book was being much talked about in the '70s.'
b. i-li-sem-ek-a jana kuwa ...
SM-Past-say-Stat-FV yesterday that ...
'It was said yesterday that ...'
c. * i-li-sem-ek-a jana saa kumi na nusu kuwa ...
SM-Past-say-Stat-FV yesterday time ten and half that ...
'It was said yesterday at four thirty that ...'

3.2.3 Progressive aspect

In English, states are the only aspectual verb class that is incompatible with progressive aspect, as shown by example (20) (Dowty 1977, Pesetsky 1995). Numerous studies of statives (e.g., Dowty 1977) predict that the progressive should coerce a non-stative, i.e., an eventive reading (20d). In contrast, the Swahili suffix *-ik* may appear with progressive aspect, as (21) shows. In such cases the verbs get a middle-like interpretation.

(20) a. John is finishing his sandwich. *accomplishment*
b. John is walking the dog. *activity*
c. * John was knowing German. *state*
d. John is being clever. *state → activity*

(21) a. A-li-kuwa a-me-ji-fun-ik-a blanketi kuukuu sana. *HCS*
SM-Past-be SM-Perf-Refl-cover-Stat-FV blanket big very
'She had covered herself with a very big blanket.'
b. Chakula ki-li-kuwa ki-me-pik-ik-a sana.
food SM-Pst-be SM-Perf-cook-Stat-FV very
'The food was being much cooked.'
c. Kitabu ki-li-kuwa ki-me-zungumz-ik-a sana katika miaka ya 70. *A. Omar, p.c.*
book SM-Past-be SM-Perf-discuss-Stat-FV very in year of 70
'The book was being much talked about in the '70s.'

We do not have specific information about the compatibility of *-ik* with progressive aspect in Chichewa. But since Chichewa statives allow an inchoative (thus, eventive) interpretation, they are in principle semantically compatible with the progressive; this is reflected in the English translations to many of the examples we have reproduced (e.g., sentences (12) and (13)), which use a progressive form. The compatibility of the inchoative sense with the progressive, on the other hand, would not bear on the aspectual status of the *stative* sense of Chichewa *-ik.*

3.2.4 Intransitive output and further suffixation

In terms of argument structure, the result of stativization is expected to be intransitive. It follows that neither an overt object nor an object marker should be possible in sentences which involve stative suffixed verbs. This is the case in Chichewa, as shown by the ungrammaticality of (22). The Chichewa stative is also incompatible with other lexical operations which reduce the verb's valency (Mchombo 1993a). This is shown for the passive and for the reciprocal in (23).

(22) * Njínga zi-ku-ónóng-ěk-a Akaî. *Chichewa, Mchombo (1993a)*
10:bicycles 10SM-Pres-damage-Stat-FV 2:prisoners

Table 3: Chicheŵa statives and change of state

Verb type	Verb	Stative form
change of state	phika ‘cook’	phik-ika
change of state	kumba ‘dig’	kumb-ika
change of state	pinda ‘bend’	pind-ika
non-change of state	luma ‘bite’	*lum-ika
non-change of state	kumbatila ‘embrace’	*kumbatil-ika
non-change of state	omba ‘slap’	*omb-eka

Source: Dubinsky and Simango (1996)

(23) a. * onong-ek-edw-a *Chicheŵa, stative+passive*
damage-Stat-Pass-FV

b. * onong-ek-an-a *stative+reciprocal*
damage-Stat-Recip-FV

The Swahili stative differs from the usual Bantu pattern exemplified by Chicheŵa in this respect. First, it is sometimes encountered in combination with the passive, as in (24).[10] Example (24b) shows that passives of this type allow a by-phrase.

(24) a. Pa-me-vunj-ik-wa sahani meza-ni. *Shepardson (1986)*
Loc-Perf-break-Stat-Pass plate table-on
‘On the table was broken a plate.’

b. Sydna Abubakr a-ka-mimin-ik-wa na machozi kwa furaha …
Sydna Abubakr SM-Seq-pour-Stat-Pass by tears of happiness
‘And Sydna Abubakr was trickled down upon by tears of happiness …’

Second, the Swahili stative, unlike the Chicheŵa stative, is of course also compatible with the reciprocal, yielding reciprocal statives such as the one in (25).

(25) I-na-on-ek-an-a kwamba …
SM-Pres-see-Stat-Recip-FV that
‘It seems that …’

3.2.5 Restrictions on base verbs: change-of-state, intransitives

Dubinsky and Simango (1996) argue that the Chicheŵa stative construction can only get a stative interpretation when applied to change-of-state verbs, or more precisely, verbs which involve a change of state for their theme. This is shown in Table 3, where it can be seen that change-of-state verbs such as “to cook” are compatible with the stative, but non-change-of-state verbs such as “to bite” are not.[11] Dubinsky and Simango adopt Dowty’s (1991) definition

[10]The passive in combination with the stative is also attested in Shona. (Fortune 1955)

(i) on-a ‘see’ → on-ek-wa ‘be seen’
gon-a ‘be able’ → gon-ek-wa ‘be possible’

[11]Watkins (1937:77) gives the following example, which seems to contradict Dubinsky and Simango’s assertion that *luma* ‘bite’ cannot be stativized. But note that the biting in question is by a lion, which definitely causes a change of state in its victim.

Table 4: Intransitives accepting the stative suffix

Verb	Gloss	Translation
nang'anik-ik-a	be.oily-Stat-FV	shine
mak-ik-a	be.amazed-Stat-FV	be surprised
chelew-ek-a	be.late-Stat-FV	be late
lew-ek-a	be.drunk-Stat-FV	be drunk
patan-ik-a	agree-Stat-FV	get along
hudhuri-ik-a	be.present-Stat-FV	be present
sim-ik-a	stand-Stat-FV	set up
in-ik-a	stoop-Stat-FV	tilt
v-ik-a	dress-Stat-FV	provide with clothes

Sources: Shepardson (1986:191-197), Ashton (1944)

of "change of state," which includes changes in the epistemic state of the predicate's experiencer. This allows them to account for the compatibility of verbs such as *see* and *find* with the Chicheŵa stative.

The "adjectival" use of the Chicheŵa stative (cf. section 3.1) is not similarly restricted: It is possible to apply the stative suffix to transitive non-change-of-state verbs, but only to the participial form of the verb. The result has a potential interpretation:

(26) Mwana uyu a-na-li wo-kumbatil-ika. *Dubinsky and Simango (1996)*
child this SM-Past-be AGR-embrace-Stat
'This child was embraceable.'

The Chicheŵa stative morpheme, however, may never be affixed to intransitive verbs (Mchombo 1993a):

(27) nyow-a 'get wet' → *nyow-ek-a
lir-a 'cry' → *lir-ik-a

In Swahili the stative morpheme applies freely to non-change-of-state verbs as well as to intransitive verbs, as shown in Table 4.[12] In some cases, as in example (28), the Swahili stative morpheme effectively promotes an instrument of an intransitive verb to subject position, in a construction recognizably similar to English middles:

(28) a. Chombo hiki ki-na-safir-ik-a vizuri.
boat this SM-Pres-travel-Stat-FV well
'This boat travels well.'
b. Kitanda ki-na-lal-ik-a vizuri.
bed SM-Pres-sleep-Stat-FV well
'The bed sleeps well.'

(i) tcifubá tcámunt'u tcí-rúm-ík-a. Itcírúmá ni ^{n}k'áramu
chest of.person bite-Stat-FV he.it.is-biting is lion
'The man's chest is being bitten; the lion is biting it.'

[12]Most verbs in Table 3 are drawn from a series of tables by Shepardson (1986:191-197), which show the compatibility of various "lexicalized" suffixes with the productive stative. Consequently, verbs that contain such suffixes are overrepresented in Table 4.

c. Godoro li-na-lal-ika.
mattress SM-Pres-sleep-Stat-FV
'This mattress can be slept on.'

Although the Swahili stative is compatible with a number of intransitive verbs, such verbs are always unergative: It can be seen from the following examples that *-ik* is incompatible with unaccusative verbs, indicating that its successful application requires the suppression of an external argument.[13]

(29)

fika	'to arrive'	→	*fik-ik-a
(ku)ja	'to come'	→	*j-ik-a
(ku)wa	'to be'	→	*w-ik-a
kaa	'to stay/sit'	→	*ka-l-ik-a

3.3 Swahili statives as middles

As we have seen, stative aspect alone is not a perfect match for the properties of the Swahili "stative" morpheme.[14] Some aspects of stative suffixed verbs are more reminiscent of the middle construction than they are of pure stative aspect. For example, stative suffixed verbs in Swahili regularly have an ability or potential reading (4c), in addition to their stative reading.

(4c) Barua hii i-me-som-ek-a *Driever (1976)*
letter this SM-Perf-read-Stat-FV
'This letter could be read easily/is readable'

This is, of course, not true of English stative verbs or stative aspect in general. Example (30a) can only mean that the vase is cracked, not that it has the potential to be cracked or is easily cracked. The adjectival or middle is regularly used in English to express potential, as in (30b). Potential and middle readings are also stative, since they describe a state and do not involve a change of state, although 'is cracked' describes a state of being cracked whereas 'cracks easily' can only describe a state of fragility.

(30) a. The vase is cracked.
b. The vase cracks easily.
c. The book reads quickly.

[13]These verbs are all incompatible with the stative suffix according to our consultant A. Omar. However, Swahili does not always make a clear distinction between transitive and intransitive verbs; the verb *kaa* also has the transitive meaning 'dwell, live (in), inhabit, reside (at)' (SSED), allows the stative/potential *kalika* and the reciprocal stative *kalikana* 'to be habitable'. Our consultant D. George also volunteered *kiti kinakalika* 'this chair can be sat on.'

[14]This may also be true of other Bantu languages. For example, *-ik* which is called the "neuter species" in Shona is most often translated as a middle or a potential (Fortune 1955).

(i) a. -taisa → -taris-ika *Shona, Fortune (1955)*
look.at look.at-Stat
'easy to look at'
b. -kwira → -kwir-ika
climb climb-Stat
'easy to climb'
c. -ziva → -ziv-ika
know know-Stat
'be intelligible'

We propose that Swahili *-ik* is a middle operator, capable of generating middle or impersonal verbs which under most conditions have stative aspect, as middles do in English (Fagan 1988). As we will show, the Swahili stative construction shares many of the properties of the middle, especially with regard to interpretation. To illustrate the relationship between the two constructions, we now outline some properties of English middles as described by Fagan (1988) and Marelj (2002).

Middles are a special kind of generic propositions; they do not require generic subjects (31a). In English they normally require adverbial modifiers such as *easily,* but they are sometimes possible without them, as in (31b) (which expresses potential).

(31) a. This bureaucrat bribes easily.
b. This dress buttons.

Fagan argues that middle predicates are stative, since they are non-eventive and cannot be small clause complements of perception verbs (32a). Thus, middles are most often ungrammatical with the progressive (32b) and with imperatives (32c). However the middle, and English statives in general, can also occur with the progressive in constructions that express a change in the degree to which the state holds, as with middle example (32d) and stative example (32e) (Fagan (1988); from Roberts (1985) and Sag (1973), respectively). Such constructions are arguably not eventive, but focus on a succession of states.

(32) a. * I saw bureaucrats bribe easily.
b. * Bureaucrats are bribing easily.
c. * Bribe easily, bureaucrat!
d. Bureaucrats are bribing more than ever in Reagan's second term.
e. The baby's resembling his father more and more every day.

The argument structure of a typical middle resembles that of the Bantu stative: the agent of the active verb has been suppressed, and the object has been promoted to subject.[15] Being generic, middles express propositions that are generally considered true, rather than particular events in time. Consequently, they are incompatible with specific temporal modification, like Swahili statives.

(33) ?Yesterday, the mayor bribed easily, according to the newspaper. *Fagan (1988)*

Intriguingly, there are also thematic restrictions on the verbs that may undergo middle formation. The exact condition has been difficult to characterize, but Roberts (1985) proposes that middle formation is restricted to verbs whose object is "affected" by the action of the verb, i.e., undergoes a change of state (suitably defined); cf. examples (34a, b). There are some problems with this formulation, for example it is hard to argue that the verb *read* involves a change of state (cf. (34c)), even allowing for changes in the epistemic state of the experiencer. But what is interesting is that it is the same condition that Dubinsky and Simango (1996) give as the domain of application of the Chichewa stative (excluding, as before, "adjectival" uses). Although Dubinsky and Simango's formulation was certainly influenced by their awareness of the relevant literature, it is clear that the selectional restrictions on the two constructions are similar.

(34) a. * The answer knows easily.
b. This cart pushes easily.
c. This book reads easily.

[15]Fagan also suggests, contra Keyser and Roeper (1994), that the middle is syntactically unergative. We will not address this question here.

Table 5: Stative constructions and the Middle

	Swahili *-ik*	Chicheŵa *-ik*	English middle
Compatible with:			
Oblique agent	*-ik+ana* only	–	–
Instrument phrase	(√)	–	√
Passive	√	–	–
Reciprocal	√	–	–
Intransitive base verb	√	–	√
Progressive	√	?	when non-eventive
Non-change of state base[16]	√	"adjectival" only	–
Interpretation:			
Potential	√	"adjectival" only	√
Inchoative	–	√	–
Generic	√	–	√
Temporally non-specific	√	?	√

We have seen that Swahili and Chicheŵa statives do not allow agents. Although middles do not allow an overt agent either, they are known to retain an "implicit" agent; example (35a) presupposes a trimmer, while the implicit agent of middle *open* licenses the instrument adjunct in (b) (Marelj 2002).

(35) a. The hedge trims easily.
b. The window opens easily with a knife.

The Chicheŵa stative disallows all agent-oriented modifiers, including purpose adverbials like "intentionally" and instrument phrases. Swahili seems to disallow instrument phrases as well, as shown by examples (36a-b); but instrument adjuncts are sometimes found in texts (36c).

(36) a. * Chungu ki-li-pig-ik-a kwa nyundo. *Swahili, A. Omar, p.c.*
cooking-pot SM-Past-break-Stat-FV with hammer
'The cooking pot was hit with a hammer.'
b. * Kuku ki-li-pik-ik-a kwa kijungu hiki.
chicken SM-Past-cook-Stat-FV with little-pot this
'The chicken was cookable with this little pot.'
c. A-li-chom-ek-a kwa maneno haya. *HCS*
SM-Past-stab-Stat-FV with words these
'He was stabbed by these words.'

Table 5 summarizes our comparison of Swahili and Chicheŵa stative suffixed verbs to each other and to English middles. It can be seen from its first part that there are pronounced differences between Swahili and Chicheŵa with respect to argument structure. The Swahili stative can be made passive or reciprocal, and can be applied to intransitive verbs. The reciprocal

[16] As discussed in the text, the class of verbs in question is only approximately described by the designation "change-of-state verb."

stative is also compatible with an oblique agent phrase.

The second part of the table shows that the Swahili stative is, as far as the above tests can indicate, interpreted quite similarly to the English middle. However, the Swahili stative is not restricted in its application to change of state verbs, as the middle is. What is unexpected is that the Chicheŵa stative, which is not interpretationally close to the middle, is nevertheless restricted to change-of-state verbs like the English middle. (We leave aside the "adjectival" use of the Chicheŵa stative, since it is not available with tensed verbs).

4 An analysis of the stative morpheme

Let us summarize what we have found about the effects of the Swahili stative morpheme. When it is applied to a verb with a nominal object, the object is necessarily promoted to subject position; but a sentential complement is more likely to remain in situ, and impersonal subject agreement is employed. Although it is primarily applied to transitive verbs, the stative morpheme can also be used with many intransitive verbs, promoting an instrument (rather than the non-existent object) to subject position. The suppressed subject of plain statives cannot be reintroduced by an oblique phrase; however, this is possible with reciprocal statives.

We now turn to a characterization of the lexical operation associated with the Swahili stative, in terms of explicit lexical operations on the argument structure of the verb. We assume the general framework of Reinhart's (2000) *theta system,* but do not rely on the formal details of her proposal. Reinhart's system proposes various operations which modify the thematic grid of the verb they apply to, suppressing and sometimes adding arguments. We assume that the stative morpheme, and other morphemes with argument-structure changing functions, reflect the application of lexical operations drawn from a small, cross-linguistically attested set.

In Reinhart's system, an argument can be suppressed either by being bound by a quantifier (saturation) or by being completely removed from the theta grid of the verb (reduction). Saturated arguments may still surface as adjuncts; an example is the English passive construction, which allows the suppressed subject to be reintroduced by means of a *by*-phrase.

(37) a. Max was seen (by Mary).
b. Passive(see) = $\exists x$ see$'(x, \theta_2)$
Max was seen = $\exists x$ see$'(x,$ Max$)$

Reduced arguments, on the other hand, have been completely removed and cannot be reintroduced as adjuncts. An example of a reduction operation is *expletivization* (external reduction), which suppresses an external argument bearing the [Cause] theta-role:

(38) a. *open* [Cause, Patient] → Expl*(open)* [Patient]
b. Max/the wind opened the door → The door opened (*by Max)

The Swahili stative morpheme does not allow the suppressed subject to be reintroduced as an adjunct, suggesting that an external reduction operation might be involved. But there are two reasons not to adopt this conclusion: First, expletivization is known to be restricted to [Cause] arguments (Reinhart 2001). In particular, it cannot be applied to a "mental state" role such as Experiencer. But the Swahili stative morpheme is not so restricted, as shown by the stative forms of verbs such as *sahau* 'forget' and *tambua* 'know' (39a).

(39) a. A-na-tambul-ik-a
SM-Pres-know-Stat-FV
'She is knowable.'

b. A-na-tambul-ik-an-a na mjini.
SM-Pres-know-Stat-Recip-FV by town
'She is known by the town.'

Second, reciprocal stative verbs do allow the reintroduction of the subject (39b), suggesting that something less drastic than reduction may be at work with plain statives as well.

For these reasons, we tentatively conclude that the lexical operation triggered by the Swahili stative morpheme is a variant of saturation, proposed by Chierchia (1995), which we will refer to as *arbitrarization.* (See also Rizzi (1986)). Like ordinary saturation, arbitrarization binds the suppressed argument by an existential quantifier. But the introduced variable is marked as "arbitrary" (in Chierchia's system, this is indicated by a special subscript), meaning that it cannot be given a specific denotation. Consequently its denotation cannot be specified via a prepositional phrase.

Chierchia proposes arbitrarization as the analysis of the impersonal clitic *si* in Italian. Its translation may be schematized as follows:[17]

(40) a. Si canta. *Italian*
'People sing.'
b. $\text{SI}(\text{sing}) = \exists x_{arb}\,[\text{sing}'(x_{arb})]$.
x_{arb} = a variable restricted to ranging over groups of humans

The following example, also from Chierchia (1995), shows that a generic interpretation is also possible: It says that people in general drink a lot of wine, not that someone in Italy drinks a lot of wine.

(41) In Italia, si beve molto vino. *Italian*
In Italy SI drinks a lot of wine
'In Italy people drink a lot of wine.'

In Italian, as in Swahili, the operation must be applied to verbs that project an external argument; in other words, it is incompatible with unaccusatives.

Arbitrarization has also been invoked in the analysis of middles (Fagan 1988, Marelj, 2002). We have seen that the Swahili stative is a type of middle, and that it can also surface as an impersonal when it has a sentential complement (cf. example (7)). Thus its analysis as arbitrarization is supported by cross-linguistic links to both impersonals and middles.

Specifically, we summarize the operation of the morpheme *-ik* as follows:

(42) a. Arbitrarizaton (saturation) of the external argument.
b. Suppression of accusative Case.
c. Middle semantics. (stative aspect, generic readings, potential readings)

When the stativized verb has a nominal object it must move to subject position in order to receive Case. The result is a middle or stative construction, as in (43a). Clausal complements can remain in situ, as in (43c), giving an impersonal construction as in Italian. Finally, the operation can sometimes apply to intransitive verbs with concomitant promotion of a manner or instrument adjunct, creating a middle construction as in (43d).

[17] See also Burzio (1992) for another look at *si* in Italian. Burzio argues that the impersonal interpretation of *si* in Italian (but not necessarily in other languages) results from the realization of default semantic features which are third person plural.

(43) a. Kikombe ki-me-vunj-ik-a.
cup SM-Perf-break-Stat-FV
'The cup is broken.'

b. * I-me-vunj-ik-a kikombe.
SM-Perf-break-Stat-FV cup
* 'Is broken a cup.'

c. I-li-sem-ek-a jana kuwa ...
SM-Past-say-Stat-FV yesterday that ...
'It was said yesterday that ...'

d. Kitanda ki-na-lal-ik-a vizuri.
bed SM-Pres-sleep-Stat-FV well
'The bed sleeps well.'

To summarize, in the first part of this paper we have argued that the stative is an arbitrarization (saturation) operation. Why then is it possible for the stative morpheme to co-occur with the reciprocal, which normally applies to transitive verbs? In the next section we outline the properties of the reciprocal morpheme in Swahili, preparatory to understanding its interaction with the stative morpheme.

5 The Reciprocal Morpheme in Swahili

The Swahili reciprocal is expressed via the morpheme *-an-*, a verbal derivational suffix. This morpheme, variously analyzed as *-(a)n(a)*, is the typical way to express reciprocity in Bantu languages (Mchombo and Ngunga 1994, Maslova forthcoming).[18]

(44) a. Wa-li-on-**an**-a.
SM-Past-see-**Recip**-FV
'They saw each other.'

The reciprocal is a morpholexical operation, operating on a verb stem to derive a reciprocal verb; Mchombo (1993b) argues, on the basis of the very similar Ciyao reciprocal, that "the reciprocal in this language and in Bantu languages in general should not be analyzed as a(n) (incorporated) syntactic argument but, rather, as a detransitivizing verbal suffix which derives reciprocal verbs". The lexical nature of the operation is indicated, inter alia, by the fact that reciprocalized verbs in Swahili can undergo nominalization:

(45) u-pend-an-o *14-mutual love*
u-ng-an-o *14-intersection*
u-shiriki-an-o *14-participation*
u-shikam-an-o *14-solidarity*

[18]The reciprocal contrasts morphosyntactically with the reflexive, which is expressed by a special object marker and behaves syntactically as an argument of the verb (e.g., in comparative deletion contexts; cf. Mchombo (1993b)). Neither the reciprocal nor the reflexive morpheme is ambiguous between reflexive and reciprocal readings.

(i) a. A-li-**ji**-on-a.
SM-Past-**Refl**-see-FV
'He saw himself.'

In this also, the Swahili pattern is typical of Bantu languages.

Table 6: Swahili reciprocals with idiomatic meanings

Base verb		Reciprocal form	
-acha	abandon	-achana	divorce
-jaza	fill up	-jazana	be very full, crowded
-pamba	arrange	-pambana	face, encounter, come together *(Kamusi)*
-pea	give to	-peana	greet each other
-pinda	bend, twist	-pindana	strive *(Shepardson, p. 95)*
-saga	crush	-sagana	have lesbian sex with one another
-sema	say	-semana	"come to words", swear at each other
-shinda	defeat	-shindana	compete

Numerous reciprocalized verbs have idiomatic meanings. Examples are shown in Table 6. Sometimes the idiomatic meaning is available along with the compositional meaning, as it is with *pindana* (from *-pinda* 'to bend'), which means either 'to strive', or 'to bend together'.

A number of other verbal suffixes share the reciprocal's potential for association with idiomatic meanings, alongside its use in productive constructions. The matter is discussed in depth by Shepardson (1986) (see also the references cited therein). We follow him in treating idiosyncratic meanings as evidence of lexicalization: an idiosyncratic derived form has become lexicalized and listed in the lexicon, employed alongside productively derived forms (which are sometimes homophonous).

Lexicalized constructions often show deviations from the argument structure associated with their productive application. For example, the transitive verb *elewa* 'understand' is the lexicalized passive of the verb *elea* 'be clear to (someone)'. The productive passive would have been intransitive, but a direct object has been added. Similarly, the transitive *pulika* 'hear' is a lexicalized stative traceable to the root **pua.* Several of the lexicalized reciprocals in Shepardson's sample can be followed by additional suffixes (the productive reciprocal is always the last derivational morpheme in Swahili verbs). The verbs *lingana* 'pray for, preach', *pambana* 'compete, argue', *patana* 'get along, agree with' and *wana* 'fight' can all be suffixed with the stative, passive, applicative, or causative morphemes. (Shepardson 1986:194). On the other hand, lexicalized derivational morphemes generally resist suffixation by another instance of themselves. Sporadic exceptions occur: the lexicalized stative *atika* 'transplant' and the lexicalized causative *gagamiza* 'pierce, force through' accept productive stative and causative suffixes, respectively (Shepardson 1986:191,196). Shepardson does not discuss any lexically reciprocal verbs that allow suffixation by a productive reciprocal, but this is also possible; the verb *tukana* 'to curse, insult', for example, has the reciprocal form *tukanana* (SSED).[19]

5.1 Reciprocals and Polysemy in Bantu

The dedicated reciprocal morpheme of English is not the norm cross-linguistically. Markers of reciprocity frequently encompass non-reciprocal situations as well, usually reflexive or collective. This situation is so common that Kemmer (1993:100) considers the prototypical reciprocal to be a "minor prototype," frequently subsumed under the reflexive or collective prototype situations. A type of polysemy common in Bantu languages is with the so-called *sociative* or *col-*

[19] *Tukana* 'to curse' is also unusual in being transitive. It is compatible with object agreement and reflexivization.

lective interpretation (Maslova, forthcoming, Dammann 1954, Lichtenberk 1999), an example of which is shown in (46b).[20] A sociative construction indicates that an action was performed jointly, or on the same occasion, etc.; there is no indication of a reciprocal relation between the actors, and crucially, no change is effected in the number of arguments of the verb.[21]

(46) *Kinyarwanda, Maslova (forthcoming), citing Coupez (1985)*

a. -kurèba umugabo → -kurèb-ana *Reciprocal*
look man look-Recip
'look at a man' 'look at one another'

b. -guhînga umurimá → -guhîng-ana umurimá *Sociative*
cultivate field cultivate-Soc field
'cultivate a field' 'cultivate a field together'

Lichtenberk describes sociative situations as "characterized by plurality of relations and by a low degree of elaboration. They consist of at least two subevents, and the subevents are presented as an unindividuated whole: their temporal configuration—simultateous or successive—is irrelevant. Both features are also characteristic of reciprocal situations." (Lichtenberk 1999:37).

The same suffix, or a homonymous one, is sometimes used in a *depatientive* function (also referred to as "anticausative" or "introversive"). Maslova (forthcoming) reports that Babungo, Kinyarwanda and Duala allow such uses, but that "this phenomenon is very rare and highly lexically constrained." On the other hand Ndayiragije (this volume) shows that in Kirundi, *-an* is quite productively ambiguous between reciprocal, sociative, and arbitrary-object depatientive uses. Example (47a) is ambiguous between a reciprocal and an arbitrary-object reading. Example (b) only has the arbitrary-object reading, since it has a singular subject. Intransitive example (c) is ambiguous between the sociative and the arbitrary-object reading, since a reciprocal reading is not possible; so is example (d), which cannot be interpreted reciprocally since its direct object is *inzu yanje* 'my house'.[22]

(47) a. Abayéeshuúle ba-a-tuk-an-ye. *Kirundi, Ndayiragije (this volume)*
students SM-Pst-insult-Recip-Asp
'Students insulted each other/people$_{arb}$.'

b. Igiti ki-á-kubit-an-a.
tree SM-Pst-hit-Recip-Asp
'The tree hit people$_{arb}$.'

c. Abo bagoré ba-a-tamb-an-ye.
those women SM-Pst-dance-Recip-Asp
'Those women danced together/with people.'

d. Abo bagabo ba-a-sambur-an-ye inzu yanje.
those men SM-Pst-destroy-Recip-Asp house of-me
'Those men destroyed my house together/with people$_{arb}$.'

[20]Shepardson (1986) calls this the "cooperative agent reciprocal," in contrast to the ordinary "agent-on-agent reciprocal."

[21]Kemmer (1993:100) remarks on the intriguing absence of three-way ambiguous constructions: Markers may be ambiguous between reflexive and reciprocal meanings, or between reciprocal and collective meanings, but not all three at once. Reflexive and collective prototypes, she suggests, may be "semantically distant from one another, making a three-way polysemy among these types unlikely." The overall absence of reciprocal-reflexive polysemy in Bantu can thus be seen as complementary to the availability of the sociative reading in many Bantu languages.

[22]The arbitrary object in this construction is additionally constrained to be human, suggesting that the lexical operation involved is object arbitrarization. See section 4 for discussion.

Finally, *-an* is sometimes used as a comitative marker, as in the following example (from Maslova, forthcoming, citing Kimenyi (1988)):

(48) Umugóre a-ra-kôr-ana akazi ûmweête. *Kinyarwanda*
woman SM-Pres-do-Com work enthusiasm
'The woman is working with enthusiasm.'

So far we have only addressed polysemy types that are distinguishable on the basis of argument structure. We now turn to readings that can be considered variations of the above types. An example is the so-called "chaining" situation (Lichtenberk 1999):

(49) a. The dishes are stacked on top of each other. *English*
b. The boys followed each other into the room.
c. Vali na-ku-li-hangas-ana. *Luvale, Maslova (1999), citing Horton (1949)*
they Fut-SM-Refl-chase-Recip
'They are chasing one another; one running and the other pursuing.'
d. Ugonjwa hu-fuat-ana na upotevu wa maisha. *Swahili, SSED*
sickness SM-follow-Recip with waste of life
'Sickness follows from a life of profligacy'

In such examples, the relationship between any two members of the subject is *not* symmetric: the person being chased does not reciprocally chase the chaser. This is particularly striking when the subject consists of only two members, so that one member is only the chaser, and the other is only the chased. Nevertheless, both roles of the appropriate relation (agent and patient of chasing, for example) are satisfied by members of the subject NP, as in ordinary reciprocals. Although the association of roles with parts of the subject does not quite conform to various formalizations of the reciprocal relation (cf. Langendoen 1978), any departure from canonical reciprocity is restricted to the semantics of the construction. We will therefore treat chaining situations as a subtype of the reciprocal construction.[23]

The reciprocal marker is also sometimes used to express various kinds of non-specific, repetitive or intensive readings. Lichtenberk (1999) defines the *repetitive* as a distinct polysemy type, describing it as including "repeated occurrences of a situation, whether iterativity within one time frame and with the same Initiator involved, or over multiple time frames (habitual, general situations) with the same Initiator or the same type of Initiator involved." Example (50) can be considered intensive or repetitive.

(50) *dima* 'to chop' → *dim-aŋana* 'to chop everywhere, or all the time'
Luba, Dammann (1954), citing Burssens (1916)

We will use the term *intensive* for meaning types denoting repetition or intensive application, and follow Dammann (1954) in considering it a "secondary broadening" of sociative meaning. (Note that intensives and sociatives do not differ in argument structure).

Although the sociative and reciprocal constructions can be shown to be distinct on the basis of argument structure, it is not always possible to classify a particular instance of use with complete confidence. For example, the Swahili verb *fuatana,* reciprocal form of *-fuata* 'follow', has the sociative meaning 'to go together, as in a crowd' (as well a chaining-type reading, 'to be

[23]While chaining situations are sometimes classed as a separate semantic type, our characterization of the chaining situation as a reciprocal subtype is consistent with Kemmer's (1993:100f) classification of polysemies commonly associated with reciprocal markers. On the basis of cross-linguistic distribution and ambiguity patterns, Kemmer argues that the chaining situation should be considered "a minor type which deviates slightly from the reciprocal prototype."

the natural result of', shown in example (49d)). This sociative reading can also be paraphrased 'to follow each other', suggesting reciprocal rather than sociative semantics.[24]

5.2 Sociative and stative in Swahili

The Swahili reciprocal lacks some of the more exotic meaning variations encountered in other Bantu languages, but still shows a fair degree of polysemy. Ashton's (1944) *Swahili Grammar* calls *-an* the "associative form", because "... in addition to reciprocity *-[a]na* expresses other aspects of association, interaction and interdependence (and in some cases dissociation)." Maslova notes that the sociative interpretation of *-an* is generally less prominent than the reciprocal interpretation. In some Bantu languages the sociative reading is not available at all, while in others it is less frequent than the reciprocal, is dispreferred, or is only available for verbs that are semantically incompatible with a reciprocal reading. In Swahili the sociative reading is possible, but on a limited basis.[25] Some Swahili examples follow (examples (a–d) are from Shepardson 1986:65f,163).

(51) a. Sahani z-ote zi-me-vunj-ik-ana.
plate 10-all SM-Perf-break-Stat-Recip
'All the plates have been smashed up together.'

b. Wa-li-somesh-ek-ana.
SM-Past-teach-Stat-Recip
'They were taught together.'

c. -fum-u-k-ana
-weave.together-Reversive-Stat-Recip
'to disperse' (of a crowd)[26]

d. Wa-na-bingiri-ana.
SM-Pres-roll-Recip
'They're rolling together.'

e. -bagu-k-ana
separate-Stat-Recip
'to quarrel among each other, be divided into factions'

Notice that four of the five examples given above contain the contain the combination *stative + reciprocal.*[27] This does not appear to be an accident: Virtually every example of sociative semantics that we have found involves the compound suffix *-ik+ana.* A few other examples involve, or may involve, a combination of applicative (*-i*) and *-ana.* The following are among the very few examples we know of that do not involve the stative morpheme.

[24]It is not clear if the possibility for such paraphrases reveals the closeness of the reciprocal and sociative meanings, or the presence of limited sociative semantics in the English reciprocal. At any rate this type of ambiguity is not restricted to morphemes, and languages, with an identifiable sociative function. For example, in Dutch the expression *bij elkaar* 'by each other' conventionally means 'together'.

[25]Shepardson (1986:139) describes the sociative reading as "less common" than the reciprocal reading; as we will show, it appears to only be available under very restricted circumstances.

[26]Readings that involve participants moving away from each other are known as *dispersive.* They are sometimes classed as a separate subtype of reciprocal polysemy (e.g., by Lichtenberk 1999).

[27]The fourth example, *bingiria* 'to roll', might involve a mistake. Both dictionaries give the (middle) verb 'to roll' as *bingirika* (also *fingirika, vingirika*); the Kamusi online dictionary also lists *bingiria,* but as a transitive verb only: 'roll (a stone etc.)'. It follows that *wanabingiriana* would mean 'they are rolling *each other* (down the hill)'. Our Swahili consultant DG only accepted the variant *biringika* (sic) as a middle, but would not accept *biringikana* as a sociative in this context.

(52) a. Darasa li-na-shiriki-ana ku-andika mchezo. *A. Shariff, p.c.*
class SM-Pres-participate-Recip to-write play
'The class participates together in writing the play.'

b. Wa-na-furahi-ana. *Dammann (1954)*
SM-Pres-be.happy-Recip
'They are happy together.'

c. -fany-ana kazi *SSED*
do-Recip work
'to work together'

d. -l-ana *SSED*
eat-Recip
'to eat together'

The "static" suffix *-ma*, another stative-like suffix no longer productive in Swahili, is also sometimes found with sociative uses of *-an*. Example (53a) alludes to the water being "stuck together", while example (b) adds the sociative to *fungama* 'be in a fixed, dense condition'. Ashton (1944) states that the static and reciprocal suffix together express a state of interdependence or interaction.[28] Note that in example (53b) the sociative semantics is applied to the parts of a singular subject, i.e., the trees and growth in the forest. Dammann (1954) and Maslova (forthcoming) speculate that such uses may provide a bridge between the core sociative meaning and the intensive.

(53) a. Maji ya-me-gand-am-an-a. *Ashton (1944)*
water SM-Perf-coagulate-Static-Recip-FV
'The water is frozen.'

b. Mwitu i-me-fung-am-an-a.
forest SM-Perf-tie-Static-Recip-FV
'The forest is impenetrable.'

The fact that both stative-like suffixes are capable of combining with the reciprocal morpheme in this way reinforces the conclusion that the stative semantics or argument structure is somehow a suitable substrate for combining with the sociative use of the reciprocal.

The stative morpheme, productively applied to a transitive verb, creates an intransitive. In productive application it should never be possible to suffix a reciprocal, which requires a transitive base, to a stativized verb. But far from being prohibited, this morpheme combination is exceptionally frequent.[29] A corpus study of Swahili texts by Shepardson (1986:152ff) shows that the combination of the two suffixes is employed with much higher frequency than expected, statistically speaking, from the frequency of the stand-alone stative and reciprocal suffixes.[30]

[28]Ashton also gives the following example of static-reciprocal combination, which appears to be a chaining reciprocal:

(i) Hapana neno li-li-lo-fich-am-an-a na Mwenyiezi Mungu.
no word SM-Pst-Rel-hide-Static-Recip-FV with almighty god
'There is no word which may be hidden from almighty god.'

[29]As we have mentioned in section 5, lexicalized instances of derived verbs frequently show altered argument structure. Nevertheless, the occurrence of the *-ik+ana* combination cannot be explained by simply assuming lexicalization of the stativized verb: we have seen that many of the verbs that accept *-ikana* (e.g., *-pata* 'receive') do not have a "plain" stative form at all, forming the stative only by suffixation of *-ikana*.

[30]Shepardson estimates the expected probability of various two-suffix combinations, based on the observed frequencies of the single suffixes and an assumption of statistical independence. The estimates are compared with

Shepardson concludes that "some [suffix] combinations are more 'productive' than others". From our viewpoint, it appears that the special status of the reciprocal-stative combination causes it to have a distribution resembling that of a single suffix. This need not imply that *-ikana* is being used as an atomic suffix; if the combination provides a semantic or discourse function that is of exceptional utility, speakers will employ it as a unit even if the two morphemes retain their identity. The question we return to, then, is how the properties of the combination *-ik+ana* can be related to, and perhaps reduced to, the properties of the stative and the reciprocal.

5.3 The reciprocal stative in other Bantu languages

While the status of the stative-reciprocal combination in Swahili is murky, Dammann (1954) reports that in Shambala (a language of Tanzania belonging to the G group of Bantu, like Swahili), the *-ik-ana* combination is much more clearly differentiated from the plain stative. In this language *-ik* has a regular potential meaning, while *-ikana* has a broader, or intensive potential meaning. Evidently *-ana* is used in its "intensive" function (cf. section 5.1). Dammann provides the following examples (attributed to Roehl (1911)).

(54)	tailika	'be knowable'	tailikana	'be generally known'	*Shambala*
	jilika	'be edible'	jilikana	'be good to eat'	
	oneka	'be or become visible'	onekana	'become clearly visible'	

Note that Swahili equivalents to all three verbs appear in our table of reciprocal statives (Table 2), with somewhat similar meanings. We hypothesize that the construction is or was found in other languages of the group, but has undergone additional evolution or erosion in Swahili.

If the stative-reciprocal combination is indeed a complex suffix, Swahili is not unique in having one. Dammann lists numerous extensions of the reciprocal suffix in various Bantu languages, which he analyzes as combinations of the reciprocal marker with some other suffix (sometimes another reciprocal). Some times, as in Haya, the complex suffix is used as a reciprocal in place of *-ana*, which is no longer used productively (the Haya reciprocal is *-aŋgana*). In some languages the complex suffix is used as a reciprocal alongside *-ana*, with various degrees of meaning differentiation. In other cases, as in Shambala (and Swahili), the syntactic function of the complex suffix is primarily based on the other morpheme, with the reciprocal making a secondary semantic contribution.

The reciprocal-stative combination, in particular, is quite popular. In addition to Swahili and Shambala, Dammann reports that it is found in Nyiha (where it takes the form *-iŋkhana*, with intensified stative meaning), Kongo (*-akana*, with potential meaning), Lamba (*-akana* or *aŋkana*, with sociative meaning), and Luvale (*-akana* or *-angana*, with sociative or repetitive (intensive) meaning).

This range of meaning contributions appears to form a continuum with the core sociative meanings, as Dammann argues. We adopt his conclusion that such meanings represent a "secondary broadening" of the sociative meaning of the reciprocal, rather than a distinct

actual frequencies in a corpus of 150,000 words.

The reciprocal-stative combination occurs fifty times more frequently than expected (2.0% rather than the expected 0.04%), by far the largest departure from expected frequencies in Shepardson's study. (Some other combinations were up to four times more frequent than expected, while others were less frequent). The 2.0% figure is also the second-highest observed frequency for any suffix pair, after the applicative-passive combination at 2.3% (expected: 0.65%). Shepardson does not provide the raw counts that correspond to these percentages.

Oddly, Shepardson remarks elsewhere (p. 67) that *stative + reciprocal* is a "low frequency combination."

intensive sense.

6 The “discontinuous” reciprocal

We have already mentioned that reciprocal statives, in contrast to plain statives, allow the suppressed subject of the active verb to be reintroduced as an oblique phrase. The plain stative verb in (55a) does not tolerate an oblique experiencer, while the reciprocal stative forms in (b) and (c) allow it.

(55) a. A-na-tambul-ik-a (*na mjini).
SM-Pres-know-Stat-FV by town
‘She is knowable (*by the townspeople).’
b. A-na-tambul-ik-an-a (na mjini).
SM-Pres-know-Stat-Recip-FV by town
‘She is well-known (by the townspeople).’
c. Hu-on-ek-an-i na watu siku hizi.
Neg+SM-see-Stat-Recip-FV by people days these
‘You haven’t been seen around by people these days.’

Oblique arguments of this sort are not unique to reciprocal statives. The Swahili preposition *na* corresponds to a number of English prepositions, including *by* and *with*, and can be used to introduce adjuncts and oblique arguments in a variety of constructions, including the suppressed agent of passives, and, significantly for our purposes, an argument of ordinary *reciprocals*. Examples (56a) and (b) are, broadly speaking, synonymous.

(56) a. Juma na Pili wa-na-pend-an-a.
Juma and Pili SM-Pres-love-Recip-FV
‘Juma and Pili love each other.’
b. Juma a-na-pend-an-a na Pili.
Juma SM-Pres-love-Recip-FV with Pili
‘Juma and Pili love each other. (lit: Juma is in a reciprocal-love relation with Pili)’

The construction in (b) is sometimes called a *discontinuous reciprocal*. The syntactic subject appears to be *Juma* alone: the verb carries singular subject agreement, *a-*, and the plural agreement marker *wa-* may not be substituted, as the ungrammaticality of variant (57) indicates.

(57) * Juma wa-na-pend-an-a na Pili
Juma SM-Pres-love-Recip-FV with Pili
‘Juma and Pili love each other.’

In their study of the same construction in Ciyao, Mchombo and Ngunga (1994) describe it as a form of extraposition, “yielding what is essentially a comitative construction.”[31] They relate the construction to the problem of conjunction between nouns of different noun classes: Evidently Ciyao does not assign a default noun class to conjunctions of different classes, and the verb in example (58a) cannot agree with its subject.

(58) a. * Diguluve ní n’óombe ?-kú-wúlág-an-a
5-pig and 9-cow ?-Pres-kill-Recip-FV

[31]In Ciyao, as in Swahili, a single preposition is used in place of the English prepositions *by* and *with* and the conjunction *and*.

b. Diguluve dí-kú-wúlág-an-a ní n'óombe.
5-pig 5SM-Pres-kill-Recip-FV with 9-cow

Although the discontinuous reciprocal construction is unquestionably useful as an alternative to conjunctions such as (58a), this does not seem to be its primary function. Discontinuous reciprocals are attested in a considerable number of languages that do allow NPs of different genders to be conjoined, including: Hebrew, Hungarian, Russian, German, Greek, Polish, and Kinyarwanda, but not French or Dutch. (Siloni 2001, Frajzyngier 1999, Maslova, forthcoming). We provide just a few examples:

(59) a. Dan ve-Dina hitnašku. *Hebrew, Siloni 2001*
Dan and-Dina kissed.Recip
'Dan and Dina kissed.'
b. Dan hitnašek im Dina.
Dan kissed.Recip with Dina
'Dan and Dina kissed.'

(60) a. János és Mari csókol-óz-t-ak. *Hungarian, Siloni 2001*
Janos and Mari kissed-Recip-Past-3pl
b. János csókol-óz-ott Mari-val.
Janos kissed-Recip-Past Mari-with

(61) a. O Yanis kje i Maria filithikan. *Greek*
the John and the Maria kissed-Recip.Pl
'John and Maria kissed each other.'
b. O Yanis filithike me ti Maria.
the John kissed-Recip.Sg with the Maria
'John and Maria kissed each other.'

(62) * Dan s'est embrassé avec Dina. *French, Siloni 2001*
Dan SE is kissed with Dina

As the grammaticality of the (a) examples shows, these languages do not restrict the conjunction of NPs of different genders. Therefore we treat "discontinuous reciprocals" as a specifically reciprocal construction, not as a type of extraposition or conjunction. With respect to its syntactic analysis, we follow Maslova (forthcoming) in considering it to be a true comitative, rather than an instance of syntactic extraposition. In other words, in example (59b) Dan and Dina do not form a constituent at any level of syntactic analysis (similarly for Juma and Pili in (56)).

This analysis is supported by the effect of causativization on the following Swahili example, involving the lexicalized reciprocal *shindana* 'to compete':

(63) a. Ni-li-shind-an-a na Mike Tyson. *A. Shariff, p.c.*
SM-Past-overcome-Recip-FV with Mike Tyson
'I competed with Mike Tyson.'
b. A-li-ni-shind-an-ish-a na Mike Tyson.
SM-Past-OM-overcome-Recip-Caus-FV with Mike Tyson
'He made me compete with Mike Tyson.'
(*Not:* 'He made me and Mike Tyson compete with each other')

In sentence (b), only the speaker (the syntactic subject of the non-causative version (a)) has been caused to compete: Mike Tyson has not been subjected to any pressure. The causativization operation ignores the comitative adjunct, which retains its pre-causativization role with respect to the reciprocal relation. Hence the comitative adjunct is not part of the logical subject at the level on which causativization applies.

6.1 Interpretation and argument structure

A further argument for treating the postverbal part of discontinuous reciprocals as a separate, oblique argument comes from the semantics of the discontinuous reciprocal construction. We have described discontinuous reciprocals as "broadly speaking" synonymous with the equivalent *simple reciprocal* sentence, with a conjoined plural subject; but when one or both of the two conjuncts is plural, the two constructions do *not* receive identical interpretations. Consider the following examples:

(64) a. Ta agorya kje ta koritsja angaljastikan. *Greek*
the boys and the girls hugged-recip
= Each boy shared hugs with some (all?) boys and girls.

b. Ta agorya angaljastikan me ta koritsja.
the boys hugged-Recip with the girls
= Each boy shared hugs with some (all?) **girls.**

(65) Spotkamy się na Nowym Świecie z Michałem. *Polish*
meet.1pl.Fut Refl on (street name) Conj Michal.Instr
'We shall meet Michal on Nowy Świat'
"The first participant is plural but members of its set are not in reciprocal relationship to each other, but rather all are in reciprocal relation with Michal." (Frajzyngier 1999)[32]

The simple reciprocal is vague with respect to the pairs of individuals that enter in the reciprocal relationship, but the discontinuous reciprocal requires that every pair consist of one member of the subject NP and one member of the oblique NP. Thus example (64b) can only mean that each boy hugged one or more *girls.* This is unexpected under the standard assumption that reciprocal verbs are semantically intransitive: If, as Frajzyngier (1999) puts it, "the scope of the reciprocal is automatically extended to include the other argument as a co-participant", then we should expect the denotation of the comitative phrase in (65) to be simply added to the denotation of the syntactic subject; we have no explanation for the lack of a reciprocal relationship between the members of the subject proper. (In other words, (65) would be predicted to be equivalent to "We will meet each other, and we will meet Michal and Michal will meet us, on Nowy Swiat"; but "we will meet each other" is not in fact part of its meaning).

We conclude (contra Vitale 1981:145–152) that the argument structure of discontinuous reciprocals is not underlyingly equivalent to that of simple reciprocals. The discontinuous construction preserves the distinctness of its two arguments in a way that the conjoined subject of a simple reciprocal does not.

6.2 Reciprocals as transitive predicates

Discontinuous reciprocals, then, seem to involve two arguments, a subject and a comitative oblique, which retain their syntactic and semantic identity. But this picture is at odds with the common characterization of the reciprocal as a *detransitivizing* operation: an intransitive reciprocal could only accommodate one argument. We conclude that in languages of this type, the reciprocalization operation creates reciprocal verbs that are semantically *two-place* predicates: they project two arguments which may be occupied by different NPs. But as Siloni (2001) shows, reciprocalization also suppresses the verb's ability to assign accusative Case,

[32]Frajzyngier is one of the few authors to comment (if briefly) on this meaning difference; it is more common to describe the two constructions as "roughly" synonymous, as we did in section 6, and leave it at that.

and consequently the second argument, if present, must appear as an oblique. Simple reciprocals (those without a comitative phrase) involve a second, optional operation, which causes the two arguments of the reciprocal to be identified. We assume that this operation is identical to a *reflexivization* operation, which creates reflexive verbs by identifying two arguments of a verb (Reinhart 2001).

(66) **Reflexivization** (internal reduction):
  a. $V_{\text{acc}}(\theta_1, \theta_2) \rightarrow R_s(V)(\theta_1)$
  b. Accusative case is eliminated.
  c. $R_s(V)(\theta_1) \equiv \lambda x\, V(x, x)$

(67) $R_s(\text{wash}) = \lambda x\, \text{wash}(x, x)$
Max washed = washed(Max, Max)

The reciprocalization operation itself introduces the semantics of reciprocity between the two arguments of the reciprocal verb; these include, most broadly, *plurality of relations* and *low elaboration of situations* (Kemmer 1993, Lichtenberk 1999): a reciprocal sentence may be vague about just what role each participant played in a series of hitting events, or how many such events there were, etc. Maslova (forthcoming) describes reciprocals as one of several complex event structures (also including the sociative) that "assign the same type of participation in the event to multiple participants," which she terms the *polyadic* event type. Reciprocal morphemes crosslinguistically involve variations or extensions of this pattern. In many languages reciprocalization also imposes a necessarily symmetric relationship between (members of) the subject and the comitative phrase, so that (68) requires not only that Anna shoved Maria, but that Maria shoved Anna as well.[33] In other languages, notably those that allow the "chaining reciprocal" situation, symmetry is not always imposed. A "chaining reciprocal" situation involves an *antisymmetric* relationship instead.

(68) I Anna skoundithike me tin Maria. *Greek*
The Anna shoved.Recip with the Maria
'Anna exchanged shoves with Maria.'

An in-depth examination of reciprocal semantics is beyond the scope of this paper; for concreteness, we sketch here a simplified analysis. We approximate the polyadic event structure as distributivity, and follow Heim, Lasnik, and May (1991), and many others, in adopting the

[33]Symmetric predicates in English show marked similarity with reciprocals of this type (Gleitman, Gleitman, Miller, and Ostrin 1996). They receive an implicit reciprocal interpretation when used with a plural subject, as in (i a), and even allow a comitative variant as in (i b).

(i) a. John and Maria fought.
  (= John and Maria fought each other)
  b. John fought with Maria.

(ii) a. John and Maria saw.
  ($\neq$ John and Maria saw each other)
  b. * John saw with Maria.

Following Schwarzschild (1996), we assume that symmetric predicates involve implicit reciprocalization, licensed by the symmetry of the predicate. In this sense example (ib) is a discontinuous reciprocal.

Gleitman et al. (1996) also show that when a symmetric verb can be used transitively, its semantics are more strongly symmetric when it is used as an implicit reciprocal. The implicitly reciprocal verb *kiss* is necessarily symmetric, unlike its transitive variant (iiib).

(iii) a. John and Mary kissed.
  b. John kissed Mary.

simplified interpretation of so-called *strong reciprocity:* all possible pairs of individuals enter into the reciprocal relationship. For example, we translate (69a) as (b), essentially as proposed (in a study of English reciprocals) by Heim et al. (1991). Formula (b) says that every animal loves all other animals. The "distinctness condition" $x \neq y$ ensures that no goat or cow loves itself.

(69) a. Mbuzi na ng'ombe wa-na-pend-ana.
goats and cows SM-Pres-love-Recip
'The goats and the cows love each other.'
b. $\forall x \in \textbf{goats} \oplus \textbf{cows}\, \forall y \in \textbf{goats} \oplus \textbf{cows}\, (x \neq y \Rightarrow \text{loves}(x, y))$

In "simple" reciprocals like (69a), the optional reflexivization operation has applied and the external argument is used to fill both semantic argument roles. We adapt the above translation to discontinuous reciprocals, which as we showed must be treated as semantically transitive. For example we translate (70a) as (b). The distinctness condition $x \neq y$, which we continue to include, is vacuously satisfied.

(70) a. Mbuzi wa-na-pend-ana na ng'ombe
goats SM-Pres-love-Recip with cows
'The goats are in a love relation with the cows.'
b. $\forall x \in \textbf{goats}\, \forall y \in \textbf{cows}\, (x \neq y \Rightarrow \text{loves}(x, y))$

Again, this translation claims strong reciprocity, saying that every goat loves every cow.[34] We also assume that the verb is implicitly forced to be symmetric, so that (70) also implies that every cow loves every goat. Although strong reciprocity is an oversimplification, and clearly incorrect, it is adequate when only two participants are involved. For our purposes, what is important is that formula (70b) does *not* say that goats love goats.

For a well-articulated treatment of reciprocity that is readily adaptable to discontinuous reciprocals, we refer the reader to Schwarzschild (1996). In his framework, variation in reciprocity type is a discourse effect.[35] The plural subject of (69a) is partitioned by means of context-sensitive **covers** which allow, for example, sentence (69a) to be interpreted with weak reciprocity semantics, or like (70) (so that each goat only loves cows, and vice versa), etc.

In the case of sociatives the identification of two reciprocal arguments (the reflexivization operation) does not take place; the polyadic aspect of reciprocal semantics is expressed as the sociative (collective) reading. We do not provide an explicit semantic interpretation for this variant, beyond pointing out that in its sociative guise, *-an* targets the subject, rather than the object, of the verb it is applied to. In (71) it is Juma and Pili who are together (not, for example, the food they ate).

(71) Juma na Pili wa-li-l-ana.
Juma and Pili SM-Past-eat-Recip
'Juma and Pili ate together.'

[34]Technically, strong reciprocity is defined by Langendoen (1978) as a relation on one set only. We assume the terminological adjustments necessary to encompass discontinuous reciprocals. (In traditional terminology, the relationship in question can also be described as strong distributivity over subject and object).

[35]In this context, "reciprocity type" includes variations in interpretation such as weak reciprocity and even chained readings, but not variations in argument structure such as the sociative.

7 Reciprocals and the "reciprocal stative"

We are now prepared to characterize the argument structure of reciprocal statives. We have seen in section 2.3 that reciprocal statives, unlike plain statives, allow an oblique phrase that denotes the suppressed subject of the non-stative verb:

(10b) A-na-tambul-ik-an-a na mjini.
SM-Pres-know/realize-Stat-Recip-FV by town
'She is well-known by the townspeople.'

We have suggested that the oblique phrase corresponds to the comitative argument of discontinuous reciprocals. However, it can be seen that in the above example the oblique refers to the subject of the active verb, i.e., the experiencer. If the suppressed agent is not specified, the meaning is that the subject of the stative verb is generally known, i.e., known by any arbitrary experiencer.

(8) A-na-tambul-ik-an-a.
SM-Pres-know-Stat-Recip-FV
'She is well-known (famous).'

Thus the comitative phrase, and by extension the sociative (here, arbitrary) meaning, targets the suppressed subject (experiencer) of the active verb. This contrasts with the function of the comitative phrase in ordinary discontinuous reciprocal constructions. As we saw in section 6.2, the comitative phrase of discontinuous reciprocals targets an argument distinct from the subject of the base verb, i.e., the patient. The patient is also targeted in the transparently sociative examples given in section 5.2, where the sociative targets the subject of whatever verb it applies to, derived or underived. For example, in sentence (51b), repeated below, it is the subject of the derived stative verb, the students, who are said to be together.

(51b) Wa-li-somesh-ek-ana.
SM-Past-teach-Stat-Recip
'They were taught together.'

We must thus distinguish between ordinary sociative uses of the reciprocal, which in Swahili tend to involve derived verbs (including statives) but have compositional semantics, and reciprocal statives, which involve the combination of the stative and reciprocal morphemes but are not transparently compositional.

Recall that in plain statives, the subject of the active verb is suppressed and cannot be reintroduced as an oblique. The reciprocal evidently pre-empts this suppression operation. We conclude that the argument structure operation associated with the plain stative, identified in section 4 as *arbitrarization,* can be decomposed into two parts:

(72) a. Removal of the external argument from the verb's theta structure.
b. Binding of the corresponding argument by a variable marked as arbitrary, preventing reintroduction of the corresponding argument via an oblique phrase.

In reciprocal statives the presence of the reciprocal morpheme blocks or preempts part (b), allowing the suppressed argument to be expressed by an oblique phrase licensed as in ordinary reciprocal clauses. Assuming that application of the stative morpheme removes the external argument from the thematic grid of the verb, application of sociative semantics to the suppressed argument is only possible if the reciprocal-like operation is applied before the stative. In other words, we have a violation of compositionality in the application of the two morphemes. We propose that both morphemes operate on the argument structure of the base verb, i.e., their

application is not sequentially ordered. A similar explanation has been proposed by Maslova (forthcoming) for the lexicalized applicative-reciprocal combination in Haya, which has sociative semantics.

8 Conclusion

We have seen that the Swahili stative morpheme, properly understood as a type of middle construction, frequently has both compositional and idiosyncratic meanings. In an important subset of cases, its function is supplanted or supplemented by the reciprocal stative construction, which as we have shown involves an amalgam of argument structure effects of the stative and of the reciprocal morpheme in its sociative function. Stative and reciprocal stative differ in their ability to reintroduce the suppressed subject of the active verb. Our account of the argument structure effects of the latter has revealed the parallel application of two lexicalized morphemes on the argument structure of the same base verb.

Our examination of the reciprocal and stative morphemes has shown that, although the same morphemes are found in many different Bantu languages, they vary substantially, both syntactically and semantically, from language to language. The resulting complexity and double function of many derivational morphemes in Swahili is not an unexpected result in a region where extensive language contact occurs, in addition to the usual overgeneralizations and meaning shifts that occur in language acquisition.

References

Ashton, E.O. 1944. *Swahili grammar (including intonation)*. London: Longmans.

Bach, Emmon. 1981. On time, tense and aspect: An essay in English metaphysics. In *Radical pragmatics*, ed. Peter Cole, 63–81. Academic Press.

Bentley, Mayrene, and Andrew Kulemeka. 2001. *Chichewa*. Munich: Lincom Europa.

Burssens, A. 1916. *Manuel de tschiluba*. Antwerpen.

Burzio, Luigi. 1992. *Theoretical Analyses in Romance Linguistics*, 399–414. Philadelphia: John Benjamins.

Chierchia, Gennaro. 1995. The variability of impersonal subjects. In *Quantification in natural languages*, ed. Emmon Bach, Eloise Jelinek, Angelika Kratzer, and Barbara H. Partee, volume 1, 107–143. Dordrecht: Kluwer.

Coupez, A. 1985. La dérivation verbale en rwanda (bantou J61). In *Le kinyarwanda*, 7–41. Etudes de Morpho-Syntaxe.

Dammann, Ernst. 1954. Reziprok und assoziativ in Bantusprachen. *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 104:163–174.

Dowty, David. 1979. *Word meaning and Montague grammar: The semantics of verbs and times in generative semantics and in Montague's PTQ*. Dordrecht: Reidel.

Dowty, David R. 1977. Toward a semantic analysis of verb aspect and the English 'imperfective' progressive. *Linguistics and Philosophy* 1:45–77.

Dowty, David R. 1991. Thematic proto-roles and argument selection. *Language* 67:547–619.

Driever, Dorothea. 1976. *Aspects of a case grammar of Mombasa Swahili*. Hamburg: Hamburger Philologishe Studien.

Dubinsky, Stanley, and Silvester Ron Simango. 1996. Passive and stative in Chichewa: Evidence for modular distinctions in grammar. *Language* 72:749–781.

Fagan, Sarah M. B. 1988. The English middle. *Linguistic Inquiry* 19:181–203.

Fortune, G. 1955. *An analytical grammar of shona*. London: Longmans.
Frajzyngier, Zygmunt. 1999. Coding of the reciprocal function: Two solutions. In Frajzyngier and Curl (1999), 179–194.
Frajzyngier, Zygmunt, and Traci S. Curl, ed. 1999. *Reciprocals: Forms and functions*. Amsterdam: John Benjamins.
Gleitman, Lila R., Henry Gleitman, Carol Miller, and Ruth Ostrin. 1996. Similar, and similar concepts. *Cognition* 58:321–376.
Heim, Irene, Howard Lasnik, and Robert May. 1991. Reciprocity and plurality. *Linguistic Inquiry* 22:63–101.
Helsinki Corpus. No date. Helsinki corpus of Swahili. Located in the Helsinki University Language Corpus Server. Administered by the Department of Asian and African Studies.
Horton, A. E. 1949. *A grammar of Luvale*. Bantu Grammatical Archives, edited by C.M. Doke. Johannesburg: Witwatersrand University Press.
Johnson, Frederick, et al., ed. 1939. *A standard Swahili-English dictionary*. Nairobi: Oxford University Press, first edition.
Kemmer, Suzanne. 1993. *The middle voice*. Number 23 in Typological Studies in Language. Amsterdam: John Benjamins.
Keyser, Samuel Jay, and Thomas Roeper. 1994. On the middle and ergative constructions in English. *Linguistic Inquiry* 15:381–416.
Kimenyi, Alexandre. 1988. Passives in kinyarwanda. In *Passive and voice*, ed. M. Shibatani, 355–386. Amsterdam: John Benjamins.
Langendoen, D. Terence. 1978. The logic of reciprocity. *Linguistic Inquiry* 9:177–197.
Lichtenberk, Frantisek. 1999. Reciprocals without reflexives. In Frajzyngier and Curl (1999), 31–62.
Marelj, Marijana. 2002. Middles in English/Dutch-type languages. Ms., Utrecht institute of Linguistics OTS.
Maslova, Elena. 1999. Reciprocals and set construal. In Frajzyngier and Curl (1999), 161–178.
Maslova, Elena. Forthcoming. Reciprocal and polyadic: Remarkable reciprocals in Bantu. In *Typology of reciprocal constructions*, ed. Vladimir P. Nedjalkov and Zlatka Guentcheva. Munich: Lincom Europa.
Mchombo, Sam A. 1993a. A formal analysis of the stative construction in Bantu. *Journal of African Languages and Linguistics* 14:5–28.
Mchombo, Sam A. 1993b. On the binding of the reflexive and the reciprocal in Chichewa. In *Theoretical aspects of Bantu grammar*, ed. Sam A. Mchombo, 181–207. Stanford: CSLI Publications.
Mchombo, Sam A., and Armindo S. A. Ngunga. 1994. The syntax and semantics of the reciprocal construction in Ciyao. *Linguistic Analysis* 24:3–31.
Ndayiragije, Juvénal. This volume. Theories linguistiques et reciprocité en chichewa: La replique du kirundi.
Pesetsky, David. 1995. *Zero syntax: Experiencers and cascades*. Cambridge, MA: MIT Press.
Polomé, Edgar C. 1967. *Swahili language handbook*. Washington, DC: Center for Applied Linguistics.
Reinhart, Tanya. 2000. The theta system: Syntactic realization of verbal concepts. OTS Working Papers in Linguistics 00,01/TL, Utrecht institute of Linguistics OTS.
Reinhart, Tanya. 2001. A synopsis of “the theta system”. Ms., Utrecht institute of Linguistics OTS, February 2001.
Rizzi, Luigi. 1986. Null objects in Italian and the theory of *pro*. *Linguistic Inquiry* 17:501–557.
Roberts, Ian. 1985. The representation of implicit and dethematized subjects. Doctoral Disser-

tation, University of Southern California.
Roehl, K. 1911. *Versuch einer systematishen Grammatik der Schambalasprache*. Hamburg.
Sag, Ivan A. 1973. On the state of progress on progressives and statives. In *New ways of analyzing variation in English*, ed. C.-J. N. Bailey. Washington, DC: Georgetown University Press.
Schwarzschild, Roger. 1996. *Pluralities*. Number 61 in Studies in Linguistics and Philosophy. Dordrecht: Kluwer.
Seidl, Amanda, and Alexis Dimitriadis. 1997. The discourse function of object marking in Swahili. In *Papers from the 33rd Regional Meeting of the Chicago Linguistic Society*. Chicago Linguistic Society.
Shepardson, Kenneth N. 1986. Productivity and the Swahili lexicon. Doctoral Dissertation, Indiana University.
Siloni, Tal. 2001. Reciprocal verbs. In *Proceedings of the Israel Association of Theoretical Linguistics*, ed. Yehuda N. Falk. Online publication, available at *http://atar.mscc.huji.ac.il/∼english/IATL/17/*.
Steedman, Mark. 1997. Temporality. In *Handbook of logic and language*, ed. Johan van Benthem and Alice ter Meulen, 895–935. Elsevier.
Vendler, Zeno. 1967. *Linguistics in philosophy*. Ithaca, NY: Cornell University Press.
Vitale, Anthony J. 1981. *Swahili syntax*. Dordrect: Foris.
Wald, Benji. 1979. The deveropment of the Swahili object marker: A study in the interaction of syntax and discourse. *Syntax and Semantics* 12:505–524.
Watkins, Mark Hanna. 1937. *A grammar of Chichewa*. Number 24 in Language Dissertations. Philadelphia: Linguistic Society of America.