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Verbal derivation in Kambaata (Cushitic), with a focus on the encoding of noncausal/causal alternations

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ABSTRACT

Kambaata, a Cushitic language of Ethiopia, has a rich verbal morphology. This paper first sets out to describe its productive verbal derivation processes, i.e. the forms and functions of the causative, the passive and the middle (autobenefactive) derivation. In the second part, the study starts from Haspelmath’s (1993) list of 31 verbal concepts to determine the preferred morphological strategies to express noncausal/causal alternations. The analysis shows that the causative strategy is predominant in Kambaata, but that the decausative strategy follows closely behind. If the whole documented lexicon including the numerous ideophones are considered, the equipollent strategy is a very important third strategy. Kambaata has only a single labile verb but otherwise distinguishes consistently between transitive and intransitive verbs. Finally, two suppletive verb pairs are found in the list: ‘die/kill’ and ‘finish (intr./tr.)’.

KEYWORDS

causative, Cushitic, lability, middle, passive, suppletion, verbal derivation

RÉSUMÉ

Le kambaata, langue couchitique d’Éthiopie, possède une riche morphologie verbale. Cet article se propose d’abord d’en décrire les processus productifs de dérivation, c’est-à-dire les formes et les fonctions du causatif, du passif et du moyen (autobénéfactif). Dans une deuxième partie, l’étude prend comme point de départ la liste des 31 concepts verbaux considérés par Haspelmath (1993) afin de déterminer les stratégies morphologiques privilégiées pour exprimer les alternances non causal/causal. Il est démontré que la stratégie causative est la plus fréquente en kambaata, suivie de près par la stratégie décausative. Si l’on prend en compte l’ensemble du lexique, y compris les nombreux idéophones, la stratégie équipollente est, quant à elle, la troisième stratégie en ordre d’importance. Le kambaata n’a qu’un seul verbe labile mais, pour le reste, il fait une distinction nette entre les verbes transitifs et intransitifs. Enfin, on trouve dans cette langue deux paires de verbes supplétifs dans la liste : ‘mourir/tuer’ et ‘finir (intr./tr.)’.

MOTS CLÉS

causatif, couchitique, dérivation verbale, labilité, moyen, passif, supplétion

1. INTRODUCTION

Cushitic languages are known to have productive verbal derivations such as causative, middle, passive and inchoative as well as reduplicative means to express event plurality (Mous 2012: 403). In addition to dedicated sections in grammars, there is already a significant body of literature on verbal derivation

in individual languages and sub-branches of Cushitic (e.g. Hayward 1984; Owens 1985; Saeed 1995; Schlee 1988; Tosco 1988; Mous 2004a; Mous 2004b; Mous 2007; Mous & Qorro 2000; Kawachi 2008; Schneider-Blum 2009; Ongaye & Mous 2017, to name but a few). However, a detailed study of the complex verbal derivation system of Kambaata has not yet been published (but see Treis forthcoming on the middle derivation). Despite its attention to detail, the present article cannot treat all the morphophonological, morphological, syntactic and semantic intricacies that characterize the causative, middle and passive derivations and their numerous combinatorial possibilities in Kambaata. Above all, it intends to contribute to the comparative study of the encoding of noncausal/causal alternations in African languages and provide another data point for the typological and areal research assembled in this special issue. The description of verbal derivation in Kambaata follows a mixed semasiological-onomasiological approach: I first discuss the form and function of selected verbal derivational means. Then, based on Haspelmath's (1993) list of noncausal/causal verbal concepts and their Kambaata translational equivalents, I examine whether Kambaata prefers to express noncausal concepts by underived verb roots and causal concepts by causativized verbs or vice versa. For the rationale of taking the Haspelmath list as *tertium comparationis*, I refer the reader to the Introduction to this special issue.

Kambaata (ISO-code 639-3: [ktb](#), Glottolog code: [kamb1316](#), endonym: *Kambaatissata*) is a Highland East Cushitic language spoken in southwestern Ethiopia by at least 600,000 speakers, according to the latest census (Central Statistical Agency 2007: 74). It is the medium of instruction in primary schools and taught as a subject up to university level. Neighboring groups are speakers of closely related Cushitic languages (Hadiyya, Alaaba) and of Omotic languages (Wolaitta, Dawro). The Ethiopian lingua franca Amharic (Semitic) is the most important second language of Kambaata speakers. Kambaata's official orthography is based on the Roman script and used with minimal modifications to transcribe all the data in this article. The following graphemes are not in accordance with IPA conventions: <ph> /p'/, <x> /t'/, <q> /k'/, <j> /dʒ/, <c> /tʃ/, <ch> /tʃ/, <sh> /ʃ/, <y> /j/ and <'> /ʔ/. Geminate consonants and long vowels are marked by doubling, e.g. <shsh> /ʃ:/ and <ee> /e:/. Consonant clusters consisting of a glottal stop and a simplex sonorant are written as trigraphs, e.g. <'rr> /ʔr/, to distinguish them from laryngealized sonorants, e.g. <'r> /r'/. The minor adaptations to the orthography made in this contribution concern the additional marking of phonemic stress by an acute accent and the consistent notation of the phonemic glottal stop whenever it occurs in word-medial and word-final position.

The description presented here is based on data from the author's field notes and recordings, local Kambaata publications and, last but not least, the extensive lexical documentation in Alemu's (2016) Kambaata-Amharic-English dictionary, whose monolingual Kambaata definitions are an invaluable source. All data cited from Kambaata publications has been segmented, stress-marked, glossed and translated by the author.

The paper is structured as follows: After a description of how Kambaata encodes the arguments of a verb (head- and dependent marking) in Section 2, Section 3 gives an overview of the forms and functions of the productive causative, passive and middle derivations. Section 4 discusses which morphological strategies and other means are used to express noncausal/causal alternations in Haspelmath's list of 31 verb pairs. I first focus on the dominant strategies (§4.2: causativization, §4.3: decausativization) and then show which strategies are underrepresented (§4.4: light verb change strategy), overrepresented (§4.7: suppletion) or absent (§4.5: double derivation, §4.6: lability) if the analysis is restricted to this list. The discussion is summarized in Section 5.

2. ENCODING OF ARGUMENTS

Kambaata is a suffixing, agglutinating-fusional language with many portmanteau morphemes. It is both head- and dependent marking with nine nominal cases and subject indexing on verbs. The constituent order is strictly head-final: dependent clauses precede main clauses, the main verb or copula is the last constituent in a clause; in the NP, all modifiers (including relative clauses) are placed before the head noun. Apart from certain closed word classes for different types of pronouns, the following open word classes can be defined morphosyntactically: nouns, adjectives, verbs, ideophones and

interjections.¹ Kambaata is a language with morphological stress, i.e. it applies stress to distinguish between word forms but not between lexemes.

Kambaata nominal roots (or stems) are never used in isolation but combine obligatorily with inflectional morphology. Apart from nouns denoting biologically male and female referents, all members of the nominal word class fall arbitrarily into two genders, masculine and feminine. Nouns are marked for nine cases and categorized into numerous (~ 20) inflectional classes, also called “declensions” (Treis 2008: 102-126). Case is marked both segmentally by a suffix and suprasegmentally by a specific position of the stress. In certain declensions, e.g. M3, accusative and nominative are only distinguished suprasegmentally, *-ú* vs. *’-u*. In Table 1, the paradigms of two masculine and one feminine declensions are illustrated.

Table 1 — Case paradigm of two masculine nouns and a feminine noun in selected declensions

Case	<i>ziishsh-ú</i> ‘bees’ (masculine, M3)	<i>min-í</i> ‘house’ (masculine, M2)	<i>am-áta</i> ‘mother’ (feminine, F1a)
Accusative	<i>ziishsh-ú</i>	<i>min-í</i>	<i>am-áta</i>
Nominative	<i>ziishsh-u</i>	<i>mín-u</i>	<i>ám-at</i>
Genitive	<i>ziishsh-í</i>	<i>min-í</i>	<i>am-á</i>
Dative	<i>ziishsh-ii(ha)</i>	<i>min-ii(ha)</i>	<i>am-áa(ha)</i>
Ablative	<i>ziishsh-iichch</i>	<i>min-iichch</i>	<i>am-áachch</i>
ICP	<i>ziishsh-íin</i>	<i>min-íin</i>	<i>am-áan</i>
Locative	<i>ziishsh-óon</i>	<i>min-éen</i>	<i>am-áan</i>
Oblique/vocative	<i>ziishsh-o</i>	<i>mín-e</i>	<i>ám-a</i>
Predicative	<i>ziishsh-u</i>	<i>mín-i</i>	<i>ám-a</i>

The nominative case is used exclusively in a subject-marking function, whereas the accusative marks the direct object, the citation form and certain adverbial constituents (see also §3).² In a Kambaata clause, the expression of (pro)nominal arguments is optional if they are retrievable from the context. A finite verb alone can constitute a complete sentence. Except for the infinite verbal noun, all verb forms index the person of the subject, its number in non-second persons, and its gender and social status in the third person; in addition, verbs are compulsorily marked for aspect, mood and/or dependency status.

While the paradigm of independent personal pronouns distinguishes between nine subject forms (Treis 2008: 330f.), verbs differentiate maximally between seven subject indexes: 1SG, 2SG, 3M, 3F=3PL, 3HON, 1PL, 2PL=2HON. In Table 2, the subject indexing of the imperfective main verb and the imperfective converb paradigm is exemplified with the verbal root *fan-* ‘open (tr.)’.³ In most main verb paradigms, subject indexing is discontinuous, with one subject marker (SBJ1) before and one subject marker (SBJ2) after the aspect marker (e.g. *a(a)* for the imperfective). As the subject indexes tend to fuse with the marker for aspect, mood or syntactic dependency, the verbal inflectional complex is not segmented in the examples, i.e. *fantáant* is split into *fan-táant* {open-2SG.IPFV} but not further into *fan-t-áa-nt* {open-2SG-IPFV-2SG}.

1. The word classes of adverbs and conjunctions are negligible as they have, at most, a handful of members.

2. All Kambaata nouns cited in the text are given in their (masculine or feminine) accusative form. As in the column headings of Table 1, the case/gender suffix is off-set by a hyphen.

3. The abbreviations “(tr.)” or “(intr.)” are added whenever the English translation is a labile verb that does not permit the reader to judge whether the Kambaata verb is transitive or not.

Table 2 — Paradigms of the imperfective main verb and the imperfective converb: *fan-* ‘open (tr.)’

	Imperfective main verb		Imperfective converb
	open-SBJ1-IPFV-SBJ2		open-SBJ1-IPFV.CVB
1SG	<i>fan-Ø-áa-m(m)</i>	1SG=3M	<i>fan-Ø-án</i>
2SG	<i>fan-t-áa-nt</i>	2SG=3F=3PL	<i>fan-t-án</i>
3M	<i>fan-Ø-á-no</i>		
3F=3PL	<i>fan-t-áa-'u</i>		
3HON	<i>fan-éen-Ø-no</i>	3HON	<i>fan-éen-án</i>
1PL	<i>fan-n-áa-m(m)</i>	1PL	<i>fan-n-án</i>
2PL=2HON	<i>fan-teen-á-nta</i>	2PL=2HON	<i>fan-teen-án</i>

Whereas subject indexing is obligatory, object marking is only possible on certain verb forms and, where it can occur, it is differential and dependent on animacy and information status. Object suffixes follow the verbal inflectional complex (Figure 1).

3. VERBAL DERIVATION

The verbal inflectional morphology, as described in the preceding section, is very regular and, if the defective existential verb *yoo-* ‘exist’ and three verbs with minimal stem variation were ignored,⁴ one could go as far as to say that Kambaata has no irregular verbs. In the formation of finite (or semi-finite) verbs, one only needs to take into account the morphophonological rules that apply without exception at the boundary between the verbal stem and the suffixed inflectional morphology (Treis 2008: 60-72). In contrast, in the domain of verbal derivation, it is difficult to come up with all-encompassing rules that would predict the occurrence of assimilatory processes between certain roots and extensions, explain the distribution of derivational allomorphs (especially those of the causative) and predict the compatibility (/grammaticality) of certain root-extension sequences. In addition, a number of derived verbs have unpredictable translations. Strong tendencies are observable, and rules can be formulated, as shown below, but the multiple exceptions and idiosyncrasies must be listed and all verbs checked individually. Therefore, this section can only be seen as a first step towards a complete account of Kambaata verbal derivation.

As seen in Figure 1, the verbal stem can be either a simple root — see *fan-* ‘open (tr.)’ in Table 2 — or morphologically complex. Derivational morphemes are found before the inflection. In its inventory of verbal derivational morphemes, Kambaata has four productive (predominantly) word class-maintaining morphemes: the causative, e.g. *onxah-* ‘come closer’ > *onxah-is-* (CAUS1) ‘make come closer’ and *fan-* ‘open (tr.)’ > *fan-siis-* (CAUS2) ‘make open (tr.)’, the passive, e.g. *fan-* ‘open (tr.)’ > *fan-am-* (PASS) ‘open (intr.), be opened’, and the middle, e.g. *fan-* ‘open (tr.)’ > *fa<>nn-* (<MID>) ‘open (tr.) for oneself’. Different combinations of these derivational morphemes are possible, e.g. a middle and a passive morpheme are combined to encode reciprocity, e.g. *usur-* ‘tie’ > *usu<>rr-am-* (<MID>-PASS) ‘tie each other’. It is not rare to find three (in exceptional cases even four) derivational morphemes after a verb root, e.g. *af-* ‘take’ > *aph-ph-* (MID) ‘take for oneself’ > *aph-ph-am-* (MID-PASS) ‘take each other’ > *aph-ph-an-siis-* (MID-PASS-CAUS2) ‘cause to take each other; connect (tr.)’.⁵

Before the discussion of the causative in §3.1, transitive and intransitive verbs need to be defined. This task is all the more important when one recalls, firstly, that arguments do not need to be (and

4. The verbs *orooqq-* ~ *oroo-* ‘go away, go out’, *maccooc-* ~ *maccoo-* ‘hear’ and *reh-* ~ *re-* ‘die’ take the second variant in front of *t*-initial inflectional morphemes (e.g. *oroo-tóo'u* 3F.PFV ‘she went away’) and the first variant in front of all other inflectional morphemes (e.g. *orooqq-éenno* 3HON.IPFV ‘s/he (respected) goes away’).

5. For reasons of space, the other combinatorial possibilities of the causative, the passive and the middle, the non-productive word class-maintaining and word class-changing morphology are not discussed further here.

Root	(-Derivation)	-Inflection ⁺	(-Neg.) ⁺⁺	(-Object)	(-Neg.) ⁺⁺	(Past)
Stem						

⁺Inflectional complex: subject index(es) fused with markers of aspect, mood, dependency status

⁺⁺Position of negator depends on aspect

Figure 1 — Morphological template of a declarative main verb form (simplified)

often are not) overtly expressed in Kambaata and that, secondly, the accusative does not only mark direct objects. The occurrence of an accusative NP in the clause of which a verb is the head can therefore not be a sufficient criterion to qualify this verb as transitive. A transitive verb rather has to be defined as a verb that can govern an accusative-marked direct object. A direct object is distinguished from other accusative NPs in that it can become the nominative subject when the verb is passivized. The definition thus excludes three kinds of accusative-marked constituents. Firstly, it excludes those that express the goal or direction of a movement, e.g. *kabá* ‘(to) here’. Secondly, it excludes those that are adverbial adjuncts, e.g. temporal adverbials such as *ga-áata* ‘tomorrow’ and *ankar-í* ‘(at) night’ (3), manner adverbials such as *xumm-á* ‘(in) peace, peacefully’ and ‘with-respect-to’-adverbials of property verbs and adjectives, as in *kof-ú lung-* {upper.arm-M.ACC become.weak-} ‘become weak with respect to/as far as the upper arms are concerned’. Thirdly, it excludes those that are so-called “cognate objects”, e.g. *shum-áta shum-a-* {urine-F.ACC urinate-MID-} ‘urinate urine’ and *nadajj-á nadad-* {anger-M.ACC get.angry-} ‘get anger-angry’.

3.1 Causative

The analysis of the Kambaata causative poses challenges on different levels. The causative can be realized by a short (simple) suffix *-s* (CAUS1) or by a long (seemingly repeated) suffix *-siis* (CAUS2). In §3.1.1, I argue that the distribution of the short causative (CAUS1) and the long causative (CAUS2) as primary causativizers is partly grammatically, partly lexically determined. As §3.1.2 demonstrates, causative suffixes can also be stacked, in which case the second causative introduces yet another participant. In §3.1.3 on the morphophonology of the causative, I show that the different realizations of the short causative *-s* (CAUS1) cannot be explained by morphophonological rules alone but also requires listing lexically determined exceptions. While the meaning of causative-derived verbs is predictable overall, there are a number of semantic idiosyncrasies, as seen in §3.1.4. Finally, not all causative verbs are derived from a verbal base, and the last subsection on the causative (§3.1.5) presents a list of denominal causatives.

3.1.1 Short vs. long causative

The Kambaata verbal lexicon can be divided up into:

- [Group CAUS1] verbs that take the short causative as the first causativizer, e.g. *waal-* ‘come’ > (CAUS1) *waash-sh-* ‘bring’, but: (CAUS2) **waal-siis-*;
- [Group CAUS2] verbs that take the long causative as the first causativizer, e.g. *maassa-* ‘bless’ > (CAUS2) *maassa’-isiis-* ‘make bless’, but: (CAUS1) **maassa’-is-*; and
- [Group CAUS1/2] a few verbs that can take either the long causative or the short causative, albeit with a different meaning, e.g. *awwan-* ‘follow’ > (CAUS1) *awwan-s-* ‘guide, lead’ and (CAUS2) *awwan-siis-* ‘have (s.o.) follow (a third participant)’.

All CAUS1- and CAUS2-derived verbs can be further causativized, resulting in V-CAUS1-CAUS2- or V-CAUS2-CAUS2-stems. However, any attempt to add a short to a long causative (*V-CAUS2-CAUS1-) leads to an ungrammatical result. Double causatives are discussed in §3.1.2.

The tricky question that needs dealing with is: what determines whether a verb belongs to Group CAUS1 or Group CAUS2? I am going to argue that membership in these groups is largely determined by the argument structure (transitivity) of the verbal lexeme. However, given the considerable number of exceptions, group membership of quite a few verbal lexemes has to be assumed to be lexically determined, i.e. the choice of the causativization strategy is to a certain extent arbitrary. Group CAUS1/2 is briefly addressed towards the end of this section.

GROUP CAUS1 (MAJORITY): INTRANSITIVE VERBS

The majority of verbs that take CAUS1 as their first causativizer are intransitive verbs that cannot govern an accusative-marked direct object and cannot be passivized. Examples of intransitive verbs and their CAUS1 forms are given in (1).

- | | | | |
|-----|-------------------------------------|---|---|
| (1) | <i>bajig-</i> ‘become happy’ | > | <i>bajig-is-</i> ‘make happy’ — see (2) and (3) |
| | <i>baab-</i> ‘get worried, anxious’ | > | <i>baab-is-</i> ‘make worried, anxious’ |
| | <i>hoog-</i> ‘become tired’ | > | <i>hoog-is-</i> ‘make tired’ |
| | <i>fayy-</i> ‘become healthy’ | > | <i>fayy-is-</i> ‘make healthy’ |
| | <i>haww-</i> ‘become a problem’ | > | <i>haww-is-</i> ‘trouble’ |
| | <i>fa’-</i> ‘be saved, escape’ | > | <i>fa’-is-</i> ‘save’ |
| | <i>waal-</i> ‘come’ | > | <i>waash-sh-</i> ‘bring’ |
| | <i>fanqal-</i> ‘return (intr.)’ | > | <i>fanqash-sh-</i> ‘return (tr.), answer’ |
| | <i>gis-</i> ‘sleep’ | > | <i>gis-is-</i> ‘make sleep’ |
| | <i>he’-</i> ‘live’ | > | <i>he’-is-</i> ‘make live, let live, support (financially)’ |

The causativization adds a causer to the argument structure, see (2)-(3). The causer is expressed as the nominative subject (‘looking’), the causee (‘you’) as an accusative direct object.

- (2) (...) *án sáso saatáanin áff bajigáamm.*
 án sás-o saat-áni-n áff bajig-áamm
 1SG.NOM three-M.OBL hour-M.LOC-EMP start.1SG.PFV.CVB become_happy-1SG.IPFV
 ‘(...) I will start to be happy at three o’clock.’ (Saint-Exupéry 2018: 69)
- (3) (...) *ankarí samáa xúudu kées abbíshsh bajigísánohe.*
 ankar-í sam-áa xúud-u kées abb-íshsh
 night-M.ACC sky-M.ACC look-M.NOM 2SG.ACC become_much-CAUS1.3M.PFV.CVB
 bajig-is-áno-he
 become_happy-CAUS1-3M.IPFV-2SG.OBJ
 ‘(...) looking at the night sky makes you very happy.’ (Saint-Exupéry 2018: 86)

GROUP CAUS2 (MAJORITY): TRANSITIVE VERBS

The majority of verbs that take CAUS2 as the first causativizer are transitive verbs that govern an accusative-marked direct object and can be passivized. Examples of such verbs are given in (4).

- (4) *il-* ‘give birth (to)’ > *il-siis-* ‘assist in giving birth (to)’
qorab- ‘wait (for), take care of’ > *qorab-siis-* ‘make wait (for), make take care (of)’
haangaar- ‘scratch’ > *hangaar-siis-* ‘make scratch; itch’
ass- ‘do’ > *ass-isiis-* ‘cause to do’
waajj- ‘fear’ > *waajj-isiis-* ‘make fear’
hab- ‘forget’ > *hab-siis-* ‘make forget’
y- ‘say (to)’ > *y-isiis-* ‘make say (to)’
wiit- ‘grind’ > *wiit-(i)siis-* ‘make grind’ — see (5)
shol- ‘cook, prepare food’ > *shol-siis-* ‘make cook, make prepare food’
sunq- ‘kiss’ > *sunq-isiis-* ‘make kiss’ — see (6)

In (5), the causative of *wiit-* ‘grind’ is seen in an excerpt from a procedural text; *wiit-(i)siis-* is used whenever someone takes grain to the mill to have it ground. The direct object of *wiit-(i)siis-* (here: the malt) is understood from the linguistic context.

- (5) (...) *arriichchóon mooshshít moolló bari massít wiitisiis te majjin wiitimáan gágunkuse wiitt móolata odáan afuushshitáa ’u.*

arr-iichch-óon moosh-sh-ít mooll-ó bar-í
 sun-SGV-F.LOC become_dry-CAUS1-3F.PFV.CVB become_dry-3M.PFV.REL day-M.ACC
 mas-s-ít wiit-isiis-s te majj-ín wiitim-áan
 go-CAUS1-3F.PFV.CVB grind-CAUS2-3F.PFV.CVB or top_stone-M.ICP lower_stone-M.LOC
 gág-u<n>ku-se wiit-t móol-ata od-áan afuush-sh-itáa ’u
 self-M.NOM<EMP>-3F.POSS grind-3F.PFV.CVB dry-F.OBL item-F.LOC sit-CAUS1-3F.IPFV

‘(...) she dries (the malt) in the sun; on the day when it is dry, she takes (it to the mill), makes (someone) grind (it)/has (it) ground or grinds (it) herself with the (small, hand-held) upper stone on the (large) lower grinding stone and keeps (it) in a dry (household) item.’
 (AL2006-01-06)

In spontaneously produced, non-elicited data, the causee is rarely expressed overtly in the causative clause. It is either filled in by the extralinguistic context, e.g. the mill workers who do the grinding in (5), or is present in the linguistic context, see the introduction of the causee ‘(to the) people’ in a converb clause dependent on the CAUS2 verb ‘make kiss’ in (6).

- (6) (...) *qáwut óosut xaaccít duli sakkí bari ollée manniha zaraarúta massít sunqisiisiyan kohiséennossa.*

qáw-ut óos-ut xaac-c-ít
 small-F.NOM children-F.NOM gather-MID-3F.PFV.CVB
 dul-í sak-kí bar-í
 slaughter-M.GEN three-ORD day-M.ACC
 oll-ée mann-iha zaraar-úta mas-s-ít
 neighborhood-F.GEN people-M.DAT flower-F.ACC go-CAUS1-3F.PFV.CVB
 sunq-isiis-si-yan koh-is-éenno-ssa
 kiss-CAUS2-3F.PFV.CVB-DS guest-CAUS1-3HON.IPFV-3PL.OBJ

‘(...) little children gather, they take flowers to the people of the neighborhood on the third slaughtering day and make (them) kiss (the flowers), and one invites (the children in return).’ (Kambaata Education Bureau 1989: 5.9, corr.)

If speakers are pressed to include an overt causee in the clause headed by the causative verb, it occurs in an instrumental-comitative-perlative NP (7).⁶ As the causee of a causativized transitive verb is generally backgrounded, a causative-passive construction ‘make/have/let (s.o./s.th.) be VERB-ed’ is often an appropriate English translation.

- (7) *Woshichchiin ga 'mmisiissókkoonte 'e!*
 wosh-ichch-íin ga'mm-**isiis**-sókkoonte-'e
 dogs-SGV-M.ICP bite-CAUS2-2SG.APPR-1SG.OBJ
 ‘Don’t make/let the dog bite me! / Don’t have/let me be bitten by the dog!’ (elicited)

While the distributional rule that links the choice of CAUS1 and CAUS2 to the (in)transitivity of their base verb covers a majority of verbs, there are also many exceptions, which will be discussed below.

GROUP CAUS2 (MINORITY): INTRANSITIVE VERBS

A number of intransitive verbs require CAUS2, while the suffixation of CAUS1 yields an ungrammatical word form. The intransitive, CAUS2-taking verbs seem to be especially represented in the semantic domains of (manner of) motion and staying (8), emotions (9), illness/pain and bodily functions (10), and sound emission and speaking (11).

- | | | | |
|------|--|---|--|
| (8) | <i>dagud</i> - ‘run’ | > | <i>dagud-siis</i> - ‘make run’ |
| | <i>fikk</i> - ‘run very fast’ | > | <i>fikk-isiis</i> - ‘make run very fast’ |
| | <i>baad</i> - ‘crawl’ | > | <i>baad-siis</i> - ‘make crawl’ |
| | <i>waachch</i> - ‘swim’ | > | <i>waachch-isiis</i> - ‘make swim’ |
| | <i>hun</i> - ‘flee, escape’ | > | <i>hun-siis</i> - ‘make flee, make escape’ |
| | <i>korj</i> - ‘jump’ | > | <i>korj-isiis</i> - ‘make jump’ |
| | <i>eger</i> - ‘stay, take time’ | > | <i>eger-siis</i> - ‘make stay; postpone’ |
| (9) | <i>saal</i> - ‘get/feel embarrassed’ | > | <i>saal-siis</i> - ‘embarrass’ |
| | <i>tuur</i> - ‘become ashamed’ | > | <i>tuur-siis</i> - ‘shame’ |
| | <i>nadad</i> - ‘get angry, upset’ | > | <i>nadas-siis</i> - ‘make angry, upset, pester’ |
| | <i>maalal</i> - ‘be surprised’ | > | <i>maalal-siis</i> - ‘surprise’ |
| | <i>qarab</i> - ‘sulk’ | > | <i>qarab-siis</i> - ‘make sulk’ |
| (10) | <i>xid</i> - ‘become painful, hurt’ ⁷ | > | <i>xis-siis</i> - ‘make ill, make feel pain’ |
| | <i>baal</i> - ‘be in labor’ | > | <i>baal-siis</i> - ‘assist during labor’ ⁸ |
| | <i>shuma</i> - ‘urinate’ | > | <i>shuma-isiis</i> - ‘make urinate’ |
| (11) | <i>yaar</i> - ‘shout’ | > | <i>yaar-siis</i> - ‘make shout’ |
| | <i>wod</i> - ‘roar, moo, howl, etc.’ | > | <i>wod-siis</i> - ‘make roar, make moo, make howl, etc.’ |
| | <i>o</i> - ‘cry’ | > | <i>o-isiis</i> - ‘make cry’ |
| | <i>hashaashsh</i> - ‘whisper’ | > | <i>hashaashsh-isiis</i> - ‘make whisper’ |

6. Cf. the encoding of the demoted agent in a passive clause (§3.2).

7. The verb *xid*- ‘become painful, hurt’ also has a passive counterpart *xid-am*- ‘fall ill’.

8. Kambaata causatives can express both direct (‘make s.o. VERB’) and indirect causation (‘let s.o. VERB, ‘assist s.o. in VERB-ing’, ‘provide s.o. with the means to VERB’); see, for instance, *it-is*- ‘make s.o. eat, feed s.o.’ (direct causation) but also ‘offer, serve s.o. food’ (indirect causation). The causative *baal-siis*-, however, is (so far) only attested with an indirect causation meaning.

However, not all verbs of the above-mentioned semantic fields require CAUS2. Counterexamples are easily found in each field; see (12) for motion, (13) for emotion, (14) for illness and (15) for speaking verbs.

- (12) *mar-* ‘go’ > *mas-s-* ‘take along, make go’
fad- ‘go away’ > *fad-is-* ‘chase away’
friix- ‘gallop’ > *friix-is-* ‘make gallop’
- (13) *hiliq-* ‘get a shock/fright’ > *hiliq-is-* ‘shock, frighten’
kichche- ‘feel sad’ > *kichche-is-* ‘make sad’
- (14) *gansh-* ‘cough’ > *gansh-is-* ‘make cough’
- (15) *haasaaww-* ‘chat’ > *haasaaww-is-* ‘make chat’

The choice of CAUS2 on intransitive verbs, such as those in (8)-(11), seems lexically determined, even though they cluster in certain semantic fields. At this stage of research, there seems no obvious way around listing all exceptional intransitive verbs taking CAUS2.

GROUP CAUS1 (MINORITY): TRANSITIVE VERBS

While most transitive verbs require CAUS2, as illustrated in (4)-(7), there are also a significant number of exceptions to this rule. Prominent counterexamples come from the semantic fields of ingestion (16), perception (17) and achievements (18); some miscellaneous examples are given in (19).

- (16) *qoxx-* ‘take (a mouthful of)’ > *qoxx-iis-* (CAUS1) ‘feed (a mouthful of)’
gubb- ‘sip’ > *gubb-iis-* (CAUS1) ‘make sip’
ag- ‘drink; rip off’⁹ > *ag-is-* (CAUS1) ‘feed (a liquid), offer (a drink)’
> *ag-siis-* (CAUS2) ‘cause to be ripped off’
it- ‘eat, rip off’ > *it-is-* (CAUS1) ‘feed, offer (food)’
> *it-siis-* (CAUS2) ‘cause to be ripped off’
ga'mm- ‘eat, bite’ > *ga'mm-iis-* (CAUS1) ‘feed’
> *ga'mm-isiis-* (CAUS2) ‘make bite’
- (17) *xuud-* ‘see, look (at)’ > *xuud-is-* (CAUS1) ‘show’
maccooc- ‘hear, listen (to)’ > *maccooc-is-* (CAUS1) ‘make hear, make listen (to)’
assi'mm- ‘see, spot (in mid-distance)’ > *asi'mm-is-* (CAUS1) ‘show (in mid-distance)’
kul- ‘tell’ > *kul-is-* (CAUS1) ‘point out’
> *kul-siis-* (CAUS2) ‘make tell’
- (18) *luus-* ‘miss’ > *luus-is-* (CAUS1) ‘mislead’
tol- ‘cross (e.g. a river)’ > *tosh-sh-* (CAUS1) ‘make cross (e.g. a river)’
ros- ‘get used (to); learn’ > *ros-is-* (CAUS1) ‘cause to get used (to); teach’
iill- ‘reach; ripen (intr.)’ > *iill-is-* (CAUS1) ‘make reach’
> *iill-isiis-* (CAUS2) ‘make ripen (intr.)’
- (19) *iy-* ‘carry’ > *iy-iis-* (CAUS1) ‘cause to be carried’
awwan- ‘follow’ > *awwan-s-* (CAUS1) ‘guide’
> *awwan-siis-* (CAUS1) ‘make follow (a third participant)’

9. The ingestion verbs *it-* ‘eat’ and *ag-* ‘drink’ are both highly polysemous. Here only two of many meanings of the verbs are given.

The verbs of this group, e.g. *luus-* ‘miss’, are passivizable (20) and can govern an accusative-marked direct object (21), but they take the short causative (CAUS1) as their primary causativizer (22).

- (20) *Dagáamma ikke téesu minus luusámmee’e.*

dag-áammi-a ikke tées-u mínu-s
know-1SG.IPFV.REL-M.COP2 PST now-OBL house-M.NOM-DEF

luus-ámm-ee-’e
miss-PASS-3M.PRF-1SG.OBJ

‘I knew it before, but now I can’t find the house any more (lit. the house is missed for me).’
(elicited)

- (21) *Woqqáa lúushsheemm.*

woqq-áa lúushsh-eemm
road-M.ACC miss-1SG.PRF

‘I have missed the road.’ (elicited)

- (22) *Oosúta luusiséen farráta roshsháta awwansíisu xúmaaba’a.*

oos-úta luus-is-éen farr-áta roshsh-áta
children-F.ACC miss-CAUS1-3HON.PFV.CVB bad-F.ACC lesson-F.ACC

awwan-síis-u xúm-a-a-ba’a
follow-CAUS1-M.NOM good-M.PRED-M.COP2-NEG1

‘It is not good to mislead children and make them follow a bad example.’ (elicited)

Although the causativization leads conceptually to the addition of another participant, the number of syntactic arguments in the clause does not necessarily increase. The causer becomes the subject of the causative verb but usually only one other participant, either the causee or the patient, is overtly expressed. An overt patient is always encoded in the accusative case. An overt causee can be marked for the dative (e.g. with *xuud-is-* ‘show’ in (23)), the accusative (e.g. with *luus-is-* ‘mislead’ in (22)) or another peripheral case (e.g. with *íyy-iis-* ‘cause to carry’ in (24)), depending on the verb and on semantic and syntactic factors that are still to be explored.

- (23) *Hambarrichchúta kohíi xuudísi!*

Hambarrichch-úta koh-íi xuud-ís-i
PN-F.ACC guests-M.DAT see-CAUS1-2SG.IMP

‘Show the guests Mount Hambarrichcho!’ (elicited)

- (24) *Mátó ciiláan (~ ciilíin) zambeelá iyyíishsheemm.*

mát-o ciil-áan ~ ciil-íin zambeel-á iyy-íishsh-eemm¹⁰
one-M.OBL little_child-M.LOC little_child-M.ICP basket-M.ACC carry-CAUS1-1SG.PRF

‘I had a little child carry the basket (home from the market) (lit. I had the basket be carried on/by a child).’ (elicited)

Among the examples in (16)-(19), we find verbs that belong to Group CAUS1/2. Verbal lexemes of this group permit either the causativization with CAUS1 or CAUS2 — but, as the translations show, with important meaning differences. The two causatives can, for instance, target different senses of polysemous verbs, as in the case of *ag-*, which combines with CAUS1 in its reading ‘drink’ > ‘feed (a liquid)’ and with CAUS2 in its reading ‘rip off’ > ‘cause to be ripped off’ (25).

10. See §3.1.3 on the realization of CAUS1 and CAUS2 with a final <shsh> /f:/.

(25) *Adiiló dikkúta mári yí agsiishshos.*

Adiil-ó dikk-úta már-i y-í ag-síishsh-o-s
 PN-F.GEN market-F.ACC go-2SG.IMP say-3M.PFV.CVB drink-CAUS2-3M.PFV-3M.OBJ
 ‘He sent (him) to Adiilo market and (thus) caused him to be ripped off.’ (elicited)

3.1.2 Double causatives

Causative-derived verbs can again be causativized. The second causative, which adds yet another causer participant, is necessarily a CAUS2-morpheme; see *waal-* ‘come’ > *waash-sh-* (CAUS1) ‘bring’ > *waash-sh-isiis-* (CAUS1-CAUS2) ‘make bring, cause to be brought’ in (26). The added second causer is expressed as the subject of the double causative verb — see the 1SG subject index on the main verb in (26). As Kambaata speakers generally avoid rendering more than two arguments explicit in a noun phrase, the intermediate causer (i.e. the person who was sent to bring the doctor) is not expressed here — either because the referent is retrievable from the context or considered to be irrelevant.

(26) *Ciilí íibu bata’óbii sarbí doktoorchú waashshisiishshóomm.*

ciil-í íib-u bat-a’-ó=bii
 little_child-M.GEN fever-M.NOM become_much-MID-3M.PFV.REL=REAS
 sarb-í doktoor-ch-ú waash-sh-isiishsh-óomm
 do_fast-1SG.PFV.CVB doctor-SGV-M.ACC come-CAUS1-CAUS2-1SG.PFV
 ‘I made (someone) bring the doctor/I had the doctor be brought (by someone) quickly because the little boy’s fever was very high.’ (elicited)

Double causativization is not restricted to intransitive verbs such as *waal-* ‘come’ in (26) but is also possible with transitive verbs such as *ag-* ‘drink’. The event expressed by the doubly causative-derived verb in (27) has four participants, a causer who instigates the action, an intermediate causer who facilitates or transmits the order for the action, a causee who realizes the action and a patient who undergoes the action. In (28), the 2SG-subject is the causer; the intermediate causer (‘Teshome’) is encoded in a subordinate converb clause (marked by square brackets); the causee (‘guests’) is the accusative-marked object of the causative verb, while the patient (‘drinks’) remains unexpressed.¹¹

- (27) *ag-* ‘drink (a drink)’ [2 participants]
ag-is- (CAUS1) ‘offer, feed (s.o.) (a drink)’ [3 participants]
ag-is-siis- (CAUS1-CAUS2) ‘make offer, make feed (s.o.) (a drink)’ [4 participants]

(28) *Ka kohá Tashoomíi kúlt agissíisi!*

ka koh-á [Tashoom-íi kúl-t] ag-is-siis-i
 A_DEM1.M.ACC guests-M.ACC PN-M.DAT tell-2SG.PFV.CVB drink-CAUS1-CAUS2-2SG.IMP
 ‘Tell to Teshome (and) make (him) offer (drinks) to the guests!’ (elicited)

Examples (26) and (28) have illustrated the re-causativization of CAUS1-stems. In the same way, CAUS2-stems can be the input of another causativization process, as shown in (29), in which two of four participants are expressed overtly, the patient (‘thief’) and the causer (2SG-subject on the verb).

(29) *Mogga’aanchú ga’mmisiissiisi!*

mogga’aan-ch-ú ga’mm-isiis-siis-i
 steal-AG-SGV-M.ACC bite-CAUS2-CAUS2-2SG.IMP
 ‘Have (the dog owner) make (the dog) bite the thief!’ (elicited)

11. If it was expressed overtly, it would be marked for the accusative case.

Though considered fully acceptable by the speaker who provided the examples in this subsection and explained possible usage contexts, double causatives are so far not yet attested in spontaneously produced and recorded language data. Note, however, that double causatives are also reported for related languages, e.g. Hadiyya (Sim 1985: 35f.) and Oromo (Dubinsky *et al.* 1988). See also Kulikov (1993) for a typological study of second causatives.

3.1.3 Morphophonology

It has become apparent in the segmented and glossed examples above that the causative suffixes are subject to allomorphy. This section explains these morphophonological processes in more detail.

The realization of the short causative (CAUS1) *-s* {-s, -is, -sh, -iis} is determined by a mixture of phonotactic and lexical constraints. The first allomorph *-s* is the default after roots ending in a single sonorant, e.g. *xur-* ‘become dirty’ > *xur-s-* ‘make dirty’. The second allomorph *-is* is the default after all other single and double consonants e.g. *mut-* ‘sprout’ > *mut-is-* ‘make sprout’ and *farr-* ‘become bad’ > *farr-is-* ‘make bad’.

These general tendencies are overruled by lexically determined and thus unpredictable realizations of the short causative. The third CAUS1 allomorph *-sh* is found after many roots ending in *l*, which totally assimilates to the causative morpheme (30).¹² Not all verb roots ending in *l* form their causative with *-sh*, as in the regular derivation *caal-* ‘become tactile cold’ > *caal-s-* ‘make tactile cold’, but the higher the frequency of a verb ending in *l*, the more likely its causative realization as *-sh*.

- | | | | |
|------|--|---|---|
| (30) | <i>wiliil-</i> ‘smoke (intr.)’ | > | <i>wiliish-sh-</i> ‘smoke (tr.)’ |
| | <i>mool-</i> ‘dry (intr.)’ | > | <i>moosh-sh-</i> ‘dry (tr.)’ — see (5) and (61) ¹³ |
| | <i>laal-</i> ‘become ripe’ | > | <i>laash-sh-</i> ‘make ripe, cultivate’ |
| | <i>giggil-</i> ‘shed (leaves), drop (fruit)’ | > | <i>giggish-sh-</i> ‘shake, make drop (leaves, fruit)’ |

The *-sh*-allomorph is also found after two roots ending in *m*, which assimilates in place to the causative suffix (31). All other *m*-final verb roots take the default allomorph *-s* if they combine with the short causative; here, too, the root-final consonant assimilates in place to the causative suffix (32).

- | | | | |
|------|--|---|---|
| (31) | <i>wiim-</i> ‘fill (intr.)’ | > | <i>wiin-sh-</i> ‘fill (tr.)’ |
| | <i>sham-</i> ‘ferment (intr.), decay; be drenched’ | > | <i>shan-sh-</i> ‘ferment (tr.), make decay; drench’ |
| (32) | <i>damuum-</i> ‘have a head-ache’ | > | <i>damuun-s-</i> ‘cause to have a head-ache’ |

Unpredictable assimilatory processes are not only observed with the *-sh*-allomorph but also with the *-s*-allomorph. Root-final *b*, *z* and *r* assimilate to the causative suffix in a dozen verbs, of which four are presented in (33); see also (40).

- | | | | |
|------|--------------------------------|---|--|
| (33) | <i>sagab-</i> ‘become thirsty’ | > | <i>sagas-s-</i> ‘make thirsty’ |
| | <i>beeb-</i> ‘be covered’ | > | <i>bees-s-</i> ‘cover’ |
| | <i>zaaz-</i> ‘flow’ | > | <i>zaas-s-</i> ‘make flow’ |
| | <i>mar-</i> ‘go’ | > | <i>mas-s-</i> ‘take (somewhere)’ — see (5)-(6) |

12. The realization of the causative as a postalveolar fricative <sh> /ʃ/ is probably the result of a historical palatalization process triggered by the front vowel *i* that is still found in the second CAUS1 allomorph *-is*. It might well be that, historically, *-is* was also the default realization of CAUS1 after sonorants. A similar historical development is described for the causative in Bantu languages in Dom *et al.* (this issue).

13. In (61), the verb *mooshsh-* ‘dry (tr.)’ has the extended meaning ‘check, verify’.

The occurrence of the last allomorph of the short causative, *-iis*, is entirely lexically determined and unpredictable (34).¹⁴

- (34) *lall-* ‘appear, become visible’ > *lall-iis-* ‘appear (to s.o.), make visible, show, illuminate’
dirr- ‘descend’ > *dirr-iis-* ‘take down, bring down’
qoxx- ‘take (a mouthful of)’ > *qoxx-iis-* ‘feed (a mouthful of)’
gubb- ‘sip’ > *gubb-iis-* ‘make sip’

Some short causatives take a variant root as their base. The causative of *iib-* ‘become hot’, *iibb-is-* ‘heat (up), cause to feel hot’, is inexplicably based on a variant root ending in a final geminate *bb* that is not attested in any other grammatical form of the lexeme. The causative of *oroqq-* ~ *oroo-* ‘go away, leave’, *oroo-s-* ‘take out, take away’, selects the shorter of two root variants as its base.¹⁵ Finally, Kambaata has three suppletive causatives that are presented in §4.7.

The realization of the long causative (CAUS2) *-siis* {-*siis*, *-isiis*} is predominately determined by the phonotactic rules of the language. The first allomorph is found after verb roots ending in a single sonorant, e.g. *il-* ‘give birth’ > *il-siis-* ‘assist in giving birth’, which creates a licit sonorant-obstruent cluster. To avoid illicit three-consonant clusters, *i*-epenthesis applies after verb roots that end in a two-consonant cluster, e.g. *ass-* ‘do’ > *ass-isiis-* ‘make do’. After root-final single obstruents, the picture varies and may also be speaker-dependent; epenthesis tends neither to occur after voiced stops, e.g. *dagud-* ‘run’ > *dagud-siis-* ‘make run’, nor after the fricatives *-s* and *-ʃ*, e.g. *gaf-* ‘boil (tr.)’ > *gaf-siis-* ‘make boil (tr.)’. Epenthesis is required after the glottal stop, e.g. *ze-* ‘herd (cattle)’ > *ze-isiis-* ‘make herd (cattle)’. Evidence for the realization of the long causative after other obstruents is inconclusive. As with the short causative (33), we observe the anticipatory assimilation of root-final consonants to the following causative suffix for a small number of verbs, e.g. *tuf-* ‘vomit’ > *tus-siis-* ‘make vomit’.

In (35) as well as in (3) and (24)-(26), the causative suffixes are realized with a final *shsh* /ʃ:/ as *-(i)ishsh* (CAUS1) and *-(i)siishsh* (CAUS2). The long postalveolar *shsh* /ʃ:/ is the result of a morphophonological process of palatalization and gemination that targets any single alveolar stem-final obstruent in the 1SG and 3M perfect and perfective (Treis 2008: 68-72).¹⁶

- (35) *Aassú dagumbii aaqqú áy rosishshos?*
aass-ú dag-umb-ii aaqq-ú áy
give-M.ACC know-3M.NEG5-M.DAT take-M.ACC who.M.NOM
ros-**ishsh**-o-s
learn-CAUS1-3M.PFV-3M.OBJ
‘Who taught taking to the one who doesn’t know giving?’ (Alamu & Alamaayyo 2017: 3)

3.1.4 Causatives with unpredictable meanings and argument structures

While most deverbal causatives express causation in a wider sense and are translatable as ‘make/cause to VERB’, ‘let VERB’ and ‘help VERB’, some causatives are semantically idiosyncratic (at least in their most common uses) — see, for instance, the verbs in (36)-(38).

14. The examples in (34) might give the false impression that root-final geminate consonants trigger the use of *-iis*. However, this is not the case, as numerous verb roots which end in CC but still take *-is* are attested; see, e.g., *maccoocc-is-* ‘make hear, make listen (to)’ in (17). See also *agud-iis-* ‘pretend’ in (41) where the *-iis*-allomorph attaches to a verb root ending in a single C.

15. We find a similar type of stem variation with the verb *maccoocc-* ~ *maccoo-* ‘hear, listen (to)’, but for this verb, the short causative is derived from the first variant: *maccoocc-is-* ‘make hear, make listen (to)’.

16. Palatalization and gemination are, of course, also observed with underived verbs; see *luus-* ‘miss’ > *líushsh-eem* /lu:ʃe:m/ (PRF) ‘I have missed’ in (21) and *gid-* ‘become non-tactile cold; cause to feel cold’ > *gijj-o-sé* /gidʒ:oːse/ (PFV) ‘it has made her feel cold’ in (71).

- (36) *moos-* ‘fall ill’ > *moos-is-* ‘care (for a patient = ACC)’; (less common:) ‘cause to fall ill’
*nubaaph-ph*¹⁷ ‘become old’ > *nubaas-s-* ‘care (for an old person = ACC)’; (less common:) ‘make old’
- (37) *birr-* ‘stop (of rain)’ > *birr-is-* ‘take shelter (from rain = ACC)’
- (38) *gal-* ‘spend the night’ > *gash-sh-* ‘govern, rule; (also:) offer a bed for the night’

Whereas the causativization in the above examples leads to the addition of a causer, no increase in participants is observed in (39)-(42). Instead, the arguments of the causativized verb are chosen from a different semantic field, as shown for transitive base verbs in (39). The underived intransitive verb in (40) takes *iru* ‘land’ as the subject, whereas the causative verb has a human subject. The causativization in (41) enables the verb to take a simulative clause as a complement.

- (39) *cung-* ‘drink the last drop (of a drink = ACC)’ > *cung-is-* ‘empty (a container) to the last drop’
af- ‘hold, seize (s.th./s.o.)’ > *af-siis-* ‘light (a fire, candle etc.)’; (less common:) ‘cause to hold, cause to seize (s.th./s.o.)’
moog- ‘bury (s.th./s.o.)’ > *moog-siis-* ‘attend a burial service’¹⁸
- (40) *sooz-* ‘dawn’ > *soos-s-* ‘stay up all night’
- (41) *agud-* ‘resemble (s.o./s.th.)’ > *agud-iis-* ‘pretend, do as if (+ finite complement clause marked by ‘like’)’

In (42), the causativization leads to a remapping of semantic roles onto syntactic functions. The theme object of the base verb becomes the theme subject of the causative verb. The experiencer subject of the base verb is expressed in a dative NP with the causative verb. So causativization here actually turns a transitive into an intransitive verb.

- (42) *has-* ‘look for, want (s.o./s.th. = ACC)’ > *has-is-* ‘be needed, become necessary (for s.o. = DAT)’

At least three of the semantically idiosyncratic causatives are shared by other languages in the area; see, e.g., Hayward (1991: 150f./III.1, 3 and 7) on parallels of (36), (38) and (42) in Amharic (Semitic), Oromo (Cushitic) and Gamo (Omotic).¹⁹

Compared to passivization and middle derivation, the causativization leads to a significantly higher number of derived forms with idiosyncratic meanings. These forms must be listed in the dictionary.

3.1.5 Denominal causatives

It is not possible to determine a verbal root for all causative-derived verbs, either because the root has fallen out of use in the history of the language or because there has never been a verbal base in the

17. This verb pair is also a member of the doubly derived verb pairs discussed in §4.5.

18. Speakers consulted rejected the translation of *moog-siis-* as ‘cause to bury (s.th./s.o.)’. The argument structure of *moog-siis-* ‘attend a burial service’ is still unclear, as it is never used with a direct object in my database.

19. Ronny Meyer (2022 p.c.) notes differences between the idiosyncratic causatives of Kambaata and Amharic. In Amharic, the verb ‘fall ill, have pain’ (*ammämä*) has two morphologically different causatives: *asammämä* ‘cause to fall ill, cause (s.o.) pain’ vs. *astammämä* ‘care for a patient’. Similarly, the verb *addärä* ‘spend the night’ forms two causatives: *asaddärä* ‘cause to spend the night’ vs. *astädaddärä* ‘govern’. Unlike the *a-* and *as-* causatives, the *astä-* causative is unproductive and restricted to some verbs.

first place. For the non-exhaustive list of short causatives given in (43), one has to assume that they are directly derived from a nominal base, i.e. that the causative has a word-class changing, verbalizing function (see also the denominal passive and middle verbs in §§3.2-3.3). The meaning of the denominal causatives is not always deducible from the translation of the base. However, many can be paraphrased as either ‘turn (tr.) into N’ or ‘apply/use N’.

- | | |
|---|--|
| (43) <i>bir-íta</i> (F) ‘front’ | > <i>bir-s-</i> ‘precede (tr.), do before’ — see (56) |
| <i>zakk-ú</i> (M)/ <i>etar-ú</i> (M) ‘back’ | > <i>zakk-is-/etar-s-</i> ‘follow (tr.)’ |
| <i>fokk-úta</i> (F) ‘taboo’ | > <i>fokk-is-</i> ‘shame by breaking a taboo’ |
| <i>ball-ú</i> (M) ‘father-in-law’ | > <i>ball-is-</i> ‘pay respect to (one’s in-laws = ACC) through avoidance’ |
| <i>woll-úta</i> (F) ‘counting’ | > <i>woll-is-</i> ‘count (tr.)’ |
| <i>zabb-ú</i> (M) ‘medicine’ | > <i>zabb-is-</i> ‘treat with medicine’ |
| <i>arr-ú</i> (M) ‘sunlight’ | > <i>arr-iis-</i> ‘spread (tr.) in the sun’ |
| <i>sang-á</i> (M) ‘castrated animal’ | > <i>sang-is-</i> ‘castrate (an animal)’ |
| <i>gamaam-á</i> (M) ‘fermented enset corm’ | > <i>gamaan-s-</i> ‘mix with the fermented enset corm’ |
| <i>gennan-ú</i> (M) ‘shoulder’ | > <i>genann-s-</i> ‘cut off all the leaves (of an enset plant = ACC)’ |
| <i>koh-á</i> (M) ‘guests’ | > <i>koh-is-</i> ‘cater (for guests = ACC)’ — see (6) |
| <i>babbar-ú</i> (M) ‘red pepper’ | > <i>babbar-s-</i> ‘add red pepper to (a dish = ACC)’ |
| <i>qeess-á</i> (M) ‘cheese’ | > <i>qeess-is-</i> ‘turn (tr.) into cheese’ |
| <i>xaban-á</i> (M) ‘cheek’ | > <i>xaban-s-</i> ‘slap the cheek (of s.o. = ACC)’ |
| <i>xibb-íta</i> (F) ‘hundred’ | > <i>xibb-is-</i> ‘have lots (of cattle = ACC)’ |
| <i>qiin-á</i> (M) ‘chaff’ | > <i>qiin-s-</i> ‘winnow’ |

Whereas the causatives in (43) are transitive and take a direct accusative-marked object, some denominal causatives are, unexpectedly, intransitive (44). (But recall the intransitive deverbal causative in (42).)

- | | |
|-------------------------------------|---|
| (44) <i>bobir-á</i> (M) ‘wind’ | > <i>bobir-s-</i> ‘blow (of wind)’ — see (61) |
| <i>oos-úta</i> (F) ‘children’ | > <i>oos-is-</i> ‘behave like a child’ |
| <i>wodall-áta</i> (F) ‘adolescents’ | > <i>wodall-is-</i> ‘become an adolescent’ |

The degree of productivity of the denominal (CAUS1)-causative formation is still to be examined. CAUS2-causatives with an unequivocal denominal origin are so far unattested — but see the discussion of doubly derived noncausal/causal pairs in §4.5.

3.2 Passive

Kambaata marks the passive by *-am*, e.g. *hiir-* ‘untie, solve, translate’ > *hiir-am-* ‘be untied, solved, translated’. In (45), the base verb is used with an overt nominative subject expressing the agent (‘I’) and an accusative object expressing the patient (‘all riddles’). In the passivized counterpart (46), the patient (‘the book’) becomes the subject. The agent is dropped or, although rarely attested in spontaneously produced, non-elicited data, expressed as an instrumental-comitative-perlative adjunct to the passive verb (47).

- (45) *Án horántas xinkúta hiiríi dandáammia.*
 án hor-á<n>ta-s xink-úta hiir-íi dand-áammi-a
 1SG.NOM all-F.ACC<EMP> riddle-F.ACC untie-M.DAT be_able-1SG.IPFV.REL-M.COP2
 ‘I can solve all riddles.’ (Saint-Exupéry 2018: 62)
- (46) *Kú’nn, maxáafus Kambaatissaanii hiirám ki’nne’ée anabbabaannii hinc=íkkee’nne.*
 kú’nn, maxáaf-u-s Kambaat-iss-aaní-i hiir-ámm²⁰
 PRES_DEM1.M book-M.NOM-DEF Kambaata-GLOT-F.LOC-ADD untie-PASS.3M.PFV.CVB
 ki’nne’ée anabbab-aan-n-íi hinc=íkk-ee-’nne
 2PL.DAT read-AG-PLV-M.DAT come_closer=become-3M.PRF-2PL.OBJ
 ‘There, the book has even been/is even translated into Kambaata and has been brought to you readers.’ (elicited)
- (47) *Antabéechchut sulliin itánte’u.*
 antab-éechch-ut sul-íin it-án-tee’u²¹
 chicken-SGV-F.NOM predator_sp-M.ICP eat-PASS-3F.PRF
 ‘The hen has been eaten up by a sula (undetermined predator).’ (elicited)

In (48), the passive verb seems to govern a direct object (‘your hip’). However, on closer inspection, the example illustrates a frequently attested construction in which a (whole) patient is expressed as the subject of a passive verb and its affected body part as an accusative constituent, whose syntactic function is likely to be adverbial.²²

- (48) *Nuré woggáa foo’ákk biixánteent*
 Nur-é wogg-áa foo’-á-kk biix-án-teent
 last_year-M.GEN year-M.ACC hip-F.ACC-2SG.POSS break-PASS-2SG.PRF
 ‘Last year you broke your hip (lit. you were broken (with respect to) your hip).’ (AL2006-01-02_kineeto)

In contrast to the causative, few formal and semantic idiosyncrasies occur in the formation of the passive. Kambaata has two monoconsonantal verb stems, *y-* ‘say’ and *sh-* ‘kill’, of which the former requires a reduplicated passive, i.e. *y-am-am-* ‘be said’ (**y-am-*), and the latter has a suppletive passive (§4.7). Furthermore, Kambaata has a small number of intransitive verbs which combine with the passive morpheme, albeit without a change in their argument structure. The derived and underived variants of *amu’rr-* ~ *amu’rr-am-* ‘get angry’, *sarb-* ~ *sarb-am-* ‘be/do in a hurry’ and *da’ll-*²³ ~ *da’ll-am-* ‘speed up, be/do faster’ are, to the best of my knowledge, synonymous. The meaning of the passive forms of *mar-* ‘go’ > *mar-am-* ‘walk’ and *lall-* ‘appear, become visible’ > *lall-am-* ‘become famous’ are unpredictable, though not semantically unrelated to the underived forms. The passive of *maccooc-* ‘hear’ > *maccooc-am-* can mean ‘be heard’ in some contexts; it is, however, predominately used to express ‘feel’, in which case it takes the stimulus as the subject and the experiencer as an indirect dative-marked object (Treis 2009: 320ff.; see also Hayward 1991: 152/III.10 for parallels in other languages). The passive of *azzaz-* ‘order’ > *azzaz-am-* is usually translated as ‘obey’, and less commonly as ‘be ordered’.

For a few formally passive but semantically reciprocal verbs, no underived verbal base but only a nominal base is attested: *daayy-á* ‘eating together from one plate’ > *daayy-am-* ‘eat together from

20. In the 1SG and 3M perfect(ive) verb forms the stem-final consonant is geminated and, if alveolar, palatalized (cf. fn. 10).

21. As seen in (47) and (48), the morpheme *-am* is realized as *-an* in front of *t*-initial inflectional morphemes.

22. The syntactic function of the body part in (48) is comparable to that of the adverbial ‘with respect to’-constituents of property verbs and adjectives (§2).

23. See the use of *da’ll-* in (66).

one plate’, *seel-ú* ‘(local) beer’ > *seel-am-* ‘drink together from one cup/glass’ and *er-á* ‘discussion’ > *er-am-* ‘discuss (with each other)’ (recall the denominal causatives in §3.1.5).

3.3 Middle

The middle morpheme has two (predominately) phonologically conditioned allomorphs, -’ /ʔ/ and *-aqq*. The allomorph -’ /ʔ/ is added to verb stems ending in a single consonant. If the consonant is a sonorant, the glottal stop is infixal to satisfy phonotactic rules (49).²⁴ If the root-final consonant is a non-ejective obstruent, the glottal stop assimilates in place to it and triggers its ejectivization (50).

- (49) *wor-* ‘put into’ > *wo<’>rr-* ‘put into for one’s own benefit’
ul- ‘touch’ > *u<’>ll-* ‘touch oneself’
im- ‘dig’ > *i<’>mm-* ‘dig for one’s own benefit’
min- ‘build a house’ > *mi<’>nn-* ‘build a house for oneself’
- (50) *dag-* ‘find’ > *daq-q-* /dak’:/ ‘find for one’s own benefit’
saad- ‘praise’ > *saax-x-* /sa:t’:/ ‘praise oneself’ — see (56)
huf- ‘comb’ > *huph-ph-* /hup’:/ ‘comb oneself’
has- ‘seek, want’ > *hac-c-* /hatʃ’:/ ‘seek, want for one’s benefit’

The allomorph *-aqq* is suffixed to all roots that end in a cluster or that are monoconsonantal (51). For some verbs, it is also found after single plosives where the glottal stop allomorph would have been expected (52). The choice of the middle allomorph after single plosives seems to be partly lexically determined, partly a case of free variation.

- (51) *sull-* ‘hang’ > *sull-aqq-* ‘hang oneself’
quss- ‘rub, massage’ > *quss-aqq-* ‘rub, massage oneself’
y- ‘say’ > *y-aqq-* ‘say to oneself’
- (52) *eeb-* ‘bring’ > *eeb-aqq-* ‘bring for oneself, (of a man) marry’
xuud- ‘see’ > *xuud-aqq-* ‘see oneself, see for one’s benefit’
maax- ‘hide’ > *maax-aqq-* ‘hide for one’s benefit’

As for passive verbs (§3.2) and even more so for causative verbs (§3.1.5), no verbal base can be determined for certain middle-derived forms; a non-exhaustive list is given in (53). It is unclear whether the base verb has been lost or whether the middle form is based on a noun.

- (53) *galat-á* (M) ‘thanks’ > *galax-x-* ‘thank’ — see (56)
gam-íta (F) ‘pain’ > *ga<’>mm-* ‘cause pain, hurt, bite’
gulub-íta (F) ‘knee’ > *guluph-ph-* ‘kneel (down)’
shoom-a (M) ‘little hunger’ > *shoo<’>mm-* ‘get a little hungry, eat a little’
hem-íta (F) ‘gossip’ > *he<’>mm-* ‘gossip’

The middle derivation does not reduce the valency of the verb. The most productive interpretation of the middle morpheme is to express that the subject of the clause is the beneficiary of the event expressed by the verb. There are apparently no semantic restrictions on the verbs that can be used with

24. Due to an idiosyncratic convention of the Kambaata official orthography (see fn. 1), single consonants following a glottal stop are written as double, e.g. /woʔr/ and /uʔl/ are written <wo’rr> and <u’ll>, respectively.

an autobenefactive middle marker. In (54), the middle morpheme expresses autobenefactivity with the verb *laa'll-* ‘search and call (for a missing animal)’.

- (54) *Laa'llaqqayyoo'ii xuudeemmadáa má yéen maassa'éennola?*

laa'll-**aqq**-ayyoo'í-i xuud-eemma=dá-a
 search_call-**MID**-3M.PROG.REL-NMZ1.M.ACC see-3HON.PFV.REL=COND-ADD

m-á y-éen maassa'-éenno-la
 what-M.ACC say-3HON.PFV.CVB bless-3HON.IPFV-MIT

‘And if one comes across (lit. sees) someone who is searching and calling (for a missing animal) for his/her own benefit, what does one say to bless (him/her)?’ (AN2016-02-19_002)

The middle morpheme is also found on verbs of grooming and bodily care, i.e. on verbs expressing actions that are typically self-directed and where the coreference of the carer and the cared is expected, as, for instance, *miiq-* ‘brush (teeth)’ in (55) (see Treis forthcoming for a list of grooming verbs).

- (55) *Méxxit inqut yoosii cuphiin miiqaqqáno.*

méxx-it inq-ut yoo-sí-i cuph-íin
 single-F.NOM tooth-F.NOM COP1.3-3M.OBJ.REL-NMZ1.M.NOM pestle-M.ICP

miiq-**aqq**-áno
 brush-**MID**-3M.IPFV

‘The one who has only a single tooth (left) brushes (it) with a pestle.’ (Proverb) (Alamu & Alamaayyo 2017: 114)

The middle morpheme is rarely used as the only reflexivizer in prototypical reflexive situations, i.e. in cases of non-default coreference of the subject and the direct object. Here, the middle-marked verb occurs usually only in combination with the primary reflexivizer, the noun *gag-á(-POSS)* ‘self’ (56).

- (56) *Isú mánnu galaxxu'nnáachchis birsinin ís gagás saaxxán biiróochch biirúta zaháyoo'u.*

isú mánn-u galax-x-u'nnáachchi-s
 3M.ACC people-M.NOM thank-MID-3M.NEG4-3M.OBJ

birs-í-ni-n ís **gag-á-s**
 before-CAUS1-3M.PFV.CVB-EMP-EMP 3M.NOM self-M.ACC-3M.POSS

saax-x-án biir-óochch biir-úta zah-áyoo'u
 praise-**MID**-3M.IPFV.CVB office-F.ABL office-F.ACC walk-3M.PROG

‘Before people (could) thank him (for the job), he walked from office to office praising himself.’ (elicited)

4. NONCAUSAL/CAUSAL ALTERNATIONS

The description of verbal derivation from a semasiological perspective in the first part of this article has set the scene for a discussion of noncausal/causal alternations from an onomasiological perspective in this section. In accordance with other contributions to this special issue and the typological literature, I understand under “noncausal/causal alternation” an alternating verb pair whose members share the same basic meaning but differ in the absence/presence of a ‘cause’ meaning component (Haspelmith *et al.* 2014: 590), as, e.g., English *rise* vs. *raise*, *break* (intr.) vs. *break* (tr.) and *laugh* vs. *make laugh*. Starting with a list of verbal concepts, which is introduced in §4.1, this section investigates the coding differences between the noncausal and causal members of the verb pairs in

Kambaata. The description of the coding strategies proceeds from the most common (§4.2: causativization, §4.3: decausativization) to the least common strategies (§4.4: light verb change strategy, §4.7: suppletion). I also take a detour to investigate coding strategies that are unattested in the list of verbal concepts but found in the Kambaata off-list verbal lexicon, i.e. in the entire documented verbal lexicon (§4.5: double derivation, §4.6: lability). For an overview of the relevant comparative-typological literature on noncausal/causal alternations that serves as the background to the following description of Kambaata, the reader is referred to the Introduction to this special issue.

4.1 Data

Haspelmath's (1993) list of 31 verb pairs served as the starting point for the analysis of noncausal/causal alternations in Kambaata (see Appendix A). While the list is useful to ensure a certain degree of cross-linguistic comparability, its use posed three types of problem for Kambaata:

- For the verb pair ‘sink (intr./tr.)’, a Kambaata translational equivalent was difficult to determine. The Kambaata dictionary (Alemu 2016: 450, 516 and 859) contains three ideophonic entries that are translated as ‘sink’,²⁵ none of which is found in my fieldwork data. My Kambaata consultant proposed instead *ag-am-* ‘be drunk; be made to drown’.
- For a number of verb pairs, more than one translational equivalent was found in my database or proposed by my consultant. If none of these equivalents could be argued to be semantically more general than others, all were included in the verb list; see the entries for the verb pairs ‘gather (intr./tr.)’, ‘spread (intr./tr.)’, ‘be destroyed/destroy’, ‘rise/raise’, ‘turn (intr./tr.)’, ‘roll (intr./tr.)’ and ‘split (intr./tr.)’ in Appendix A.
- Four verb pairs are represented by two polysemous verb pairs: The lexeme *ba’-ba’-is-* ‘1. be destroyed/destroy, 2. get lost/lose’ and *shiiil-* ‘1. melt (intr./tr.), 2. dissolve (intr./tr.)’.

Given these complications, the resulting Kambaata verb list contains 44 verb pairs, which are categorized into morphological coding strategies — causativization, decausativization, equipollence, lability and suppletion — according to Haspelmath's (1993) typology and, building on this work, Creissels (this issue).²⁶ The count for each strategy proceeds as follows:

- If one verb pair has one pair of Kambaata translational equivalents, then the applied strategy counts as 1;
- If one verb pair has two pairs of Kambaata translational equivalents and if the applied strategies in these pairs are different, each strategy counts as 0.5 (e.g. pair 14a/b: ‘be destroyed/destroy’);
- If one verb pair has three pairs of Kambaata translational equivalents and if the applied strategies in these pairs are all different, each strategy counts as 0.33 (e.g. pair 9a/b/c: ‘gather (intr./tr.)’).

Figure 2 presents the distribution of the formal strategies across the 31 verb pairs.

In the following sections, the morphological strategies attested in the verb pair list are discussed in detail and contrasted with the strategies that are found in the off-list verbal lexicon.

4.2 Causativization

Of the 31 verb pairs, 15.66 (50.5%) have the noncausal (nC) form as the underived base and the causal (C) form overtly causative-derived; as shown in selected pairs in (57).

25. *harfá=y-* ‘sink (go down in)’, *hurgúf=y-* ‘sink’ and *qúrc=y-* ‘sink (in water, mud, etc.)’ (Alemu 2016: 450, 516 and 859). Their meaning could not be verified, as they are unknown to the speakers I worked with.

26. There are slight differences in the terminology of coding strategies between Haspelmath (1993) and Creissels (this issue). Haspelmath speaks of “anticausative alternation” and “labile alternation” where Creissels uses “decausativization” and “ambitransitivity”.

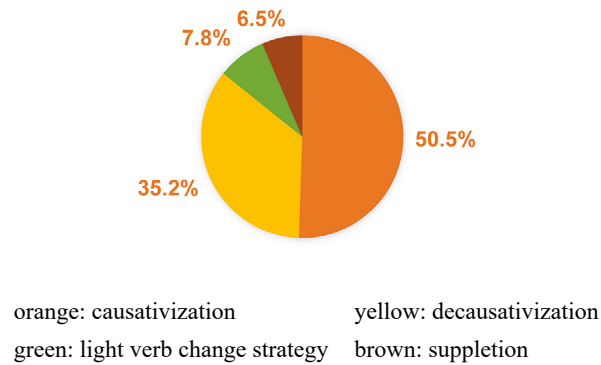


Figure 2 — Derivational strategies in the Kambaata verb pair list.

- (57) nC: > C:
- | | |
|--------------------------------|---|
| <i>bub-</i> ‘burn (intr.)’ | <i>bus-s-</i> (CAUS1) ‘burn (tr.)’ |
| <i>wiim-</i> ‘fill (intr.)’ | <i>wiin-sh-</i> (CAUS1) ‘fill (tr.)’ |
| <i>xa”-</i> ‘go out (of fire)’ | <i>xa”-is-</i> (CAUS1) ‘put out (a fire)’ |
| <i>woyy-</i> ‘improve (intr.)’ | <i>woyy-is-</i> (CAUS1) ‘improve (tr.)’ |

In all but one causativized form in the list of verb pairs, the short causative (CAUS1) is used, which is expected given the preference of CAUS1 with intransitive verbs (§3.2). The only verb pair in the list in which the long causative (CAUS2) is attested is *tar-/tar-siis-* ‘spread (intr./tr.) (e.g. disease)’. The lexeme *tar-* ‘spread (intr.)’ belongs to the lexically determined group of intransitive verbal lexemes requiring CAUS2 *-siis* and is thus comparable to the motion verbs in (8). Examples in my corpus and in Alemu (2016: 140, 383) show that *tar-* ‘spread (intr.)’ marks the source of motion by the ablative and the goal of motion either by the locative (58) or dative case or the directional marker =*b-á*. The intransitive use of the underived form is illustrated in (58), where the understood subject of *tar-* is the grammatically masculine noun ‘disease’, which serves as the head noun of the relative clause. The causative form *tar-siis-* ‘spread (tr.)’ in (59) has ‘sick enset plant’ as its subject and *moos-ú* ‘disease’ as the direct object; the goal of motion (‘healthy plants’) is expressed in a directional phrase marked by the enclitic =*b-á*.

- (58) *matíichch wolóon tarán batinaashshá manna shanó moosú*

[mat-íichch wol-óon tar-án
one-M.ABL other-M.LOC spread-3M.IPFV.CVB

batinaashsh-á mann-á sh-anó]REL moos-ú
many-M.ACC people-M.ACC kill-3M.IPFV.REL disease-M.ACC

[Monolingual definition of entry *bobann-á* ‘epidemic’:] ‘a disease which spreads from one (person) to the other (lit. on the other) and kills many people’ (Alemu 2016: 140)

- (59) (...) *mooshshó wéeshshu hítta jáanta buqqá’ fadumbóochch moosú fáyyata weeséba tarsiiisan* (...)

mooshsh-ó wéesh-sh-u hítta j-áa<n>ta
fall_ill-3M.PFV.REL ensets-SGV-M.NOM A_DEM2.F.ACC time-F.ACC<EMP>

buqq-á’ fad-umb-óochch
be_uprooted-MID-3M.PFV.CVB go.away-3M.NEG5-ABL

moos-ú fáyy-ata wees-é=b-á tar-siis-án
disease-M.ACC healthy-F.OBL ensets-F.GEN=PLC-M.ACC spread-CAUS2-3M.IPFV.CVB

‘(...) if at the time the sick enset plant is not immediately uprooted it spreads the disease to healthy enset plants (...).’ (Kambaata Education Bureau 1989: 8.32)

4.3 Decausativization

Of the 31 verb pairs, 10.91 (35.2%) have the causal form as the base, while the noncausal form is overtly passive-derived; see the passive morpheme *-am* in the noncausal column in (60).

(60) nC:	< C:
<i>biix-am-</i> (PASS) ‘break (intr.)’ — see (48)	<i>biix-</i> ‘break (tr.)’
<i>fan-am-</i> (PASS) ‘open (intr.)’ — see (61)	<i>fan-</i> ‘open (tr.)’
<i>xuf-am-</i> (PASS) ‘close (intr.)’	<i>xuf-</i> ‘close (tr.)’
<i>lenqeeqq-am-</i> (PASS) ‘move, shake (intr.)’	<i>lenqeeqq-</i> ‘move, shake (tr.)’

The use of the pair *fan-am-* ‘open (intr.), be opened’ and *fan-* ‘open (tr.)’ in two excerpts from the same text is illustrated in (61)-(62).

(61) (...) *qachchó nafisé xalalláakkat fanantoogáa náfus bobirsumbú wudú ikkogáa mooshshí dirráamm.*

qachch-ó naf-i-sé xalall-áakk-at
 beehive-F.GEN front_end-M.GEN-3F.POSS hole-PLV-F.NOM

fan-an-too=g-á-a náf-u-s
 open-PASS-3F.PFV.REL=SIM-M.ACC-ADD front_end-M.NOM-DEF

bobir-s-umb-ú wud-ú ikk-o=g-á-a
 wind-CAUS1-3M.NEG5-M.ACC side-M.ACC become-3M.PFV.REL=SIM-M.ACC-ADD

moosh-sh-í dirr-áamm
 become_dry-CAUS1-1SG.PFV.CVB descend-1SG.IPFV

‘(...) I check (lit. make dry) that the holes at the front end of the beehive are open and that the front end does not face the wind, and (then) I climb down (from the tree).’ (AYZ2021-06-25_006)

(62) (...) *ziishshus kaakkúta gaffárunta tuphúta fänn wiliilíta qachchó afóon úff assán sharráamm.*

ziishsh-u-s kaakk-úta gaffár-unta
 bees-M.NOM-DEF honeycomb-F.ACC let_go_off-3M.PUR.DS

tuph-úta fänn wiliil-íta qachch-ó af-óon
 back_end-F.ACC open.1SG.PFV.CVB smoke-F.ACC beehive-F.GEN mouth-M.LOC

úff=ass-án sharr-áamm
 blow=do-1SG.PFV.CVB chase-1SG.IPFV

‘(...) so that the bees let go of the honeycombs, I open the back end and blow smoke into the opening of the beehive and chase (them out).’ (AYZ2021-06-25_007)

It is important to note that Kambaata does not make a distinction between passives and anticausatives. Thus (63) allows for two translations.

(63) *Bíxu biixámmo.*

bíx-u biix-ámm-o
 stick-M.NOM break-PASS-3M.PFV

1. ‘The stick broke (spontaneously).’ or
2. ‘The stick was broken (by s.o.).’

The list of verb pairs also illustrates another decausativization strategy. The noncausal counterpart of the causal verb lexeme *xaaz-* ‘gather (tr.), assemble (tr.)’ is the middle-derived form *xaacc-* ‘gather (intr.), come together’; see (6). As described in §3.3, the fusion of the root-final /z/ with the middle morpheme /ʔ/ results in <cc> /tʃː/. It is unclear how common this decausativization is in the entire verbal lexicon; see, however, the use of the middle as a decausativization strategy in doubly derived pairs (§4.5).

4.4 Equipollence I: Light verb change strategy

The equipollent correspondence type splits up into two subtypes, the light verb change strategy discussed here and the double derivation strategy discussed in §4.5. Of the 31 verb pairs, 2.47 (7.8%) are expressed by ideophones. The noncausal/causal pair shares an underived ideophonic root, but each member of the pair makes use of a different light verb. In intransitive clauses, ideophones combine with the light verb *y-* ‘say’, in transitive clauses with the light verb *a’-* ‘do’ (64);²⁷ the light verb then encliticizes to the ideophone.

- (64) nC: > C:
- | | |
|-----------------------------------|----------------------------------|
| <i>báqq=y-</i> ‘wake up (intr.)’ | <i>báqq=a’-</i> ‘wake up (tr.)’ |
| <i>xóqq=y-</i> ‘rise’ | <i>xóqq=a’-</i> ‘raise’ |
| <i>qú’mm=y-</i> ‘gather (intr.)’ | <i>qú’mm=a’-</i> ‘gather (tr.)’ |
| <i>xáphph=y-</i> ‘gather (intr.)’ | <i>xáphph=a’-</i> ‘gather (tr.)’ |

Kambaata ideophones are morphologically invariant and must combine with ‘say’ and ‘do’ to be inflected. In (65), the light verb accompanying the ideophone is marked for the accusative case in its function as the head of the object complement clause governed by ‘start’; the combination of the ideophone *xóqq* with ‘say’ expresses the noncausal meaning ‘rise’. In (66), the causal meaning ‘raise, make rise’ is the result of a combination with ‘do’; the light verb here allows the ideophone to be inflected as an imperfective relative form modifying the head noun *mateemínn-it* ‘shortage of manpower’.

- (65) (...) *qahú godábuse xóqq yú* (...) *jammarróochchin*, “*Hay, Maaráamit, iillitohe,*” *yéenno*.

qah-ú godáb-u-se xóqq=y-ú, (...) jammarr-óochchi-n
small-M.ACC belly-M.NOM-3F.POSS rise=say-M.ACC start-3M.PFV.ABL-EMP

háy Maaráam-it iill-ító-he y-éenno
INTJ Saint_Mary-F.NOM reach-3F.BDV-2SG.OBJ say-3HON.IPFV

‘(...) when her belly starts to rise (here: protrude), (...), one blesses (lit. says) (the expectant mother): “Please, may Saint Mary reach you!”’ (EK2016-02-23_002)

- (66) (...) *iséta da’llít xóqq-xóqq attáa mateemínnit yooba’idda* (...).

iséta da’ll-ít xóqq-xóqq=at-táa
3F.ACC do_quickly-3F.PFV.CVB rise-rise=do-3F.IPFV.REL

mateemínn-it yoo-ba’í=dda
shortage_of_manpower-F.NOM COP1.3-NEG1.REL=COND

‘(...) if there is no shortage of manpower (in the new mother’s household) that forces her to try to rise quickly (from childbed) (...)’ (EK2016-02-23_002)

As Kambaata has a large number of ideophones, the question arises whether 7.8% of the 31 verb pairs being expressed by ideophones is in any way representative of their occurrence in the entire Kambaata lexicon. In response to this question, I consulted Alemu’s (2016) dictionary and found that it

27. In intransitive contexts, the light verb *ih-* ‘become’ may also be used. The transitive light verb *a’-* ‘do’ alternates with the synonymous verb *ass-* ‘do’; for the latter, see (62).

contains 968 ideophonic roots, which are easily countable because they are marked by an asterisk (*). In contrast, quantifying the number of verb roots requires considerably more effort, as not only verb roots but also all derived stems, ideophone-light verb combinations and even verbs in cross-references are marked as “(sh)” for *shoosawwá* ‘verb’. To be able to provide a rough estimate of the number of verbal roots in the dictionary, I counted the verbs on 20 randomly chosen pages (pp. 368-389). The result was an average of 2.05 verb roots per page, which led to an estimate of 2388 verb roots for the whole dictionary (1,165 pages). This means that, among all Kambaata lexemes expressing verbal concepts, ideophones amount to 29% and verbs to 71%. From this, in turn, I deduce that ideophones are vastly underrepresented in the 31 verb pair list — which is partly attributable to their often high semantic specificity. Note, however, that Kambaata also uses ideophones for semantically fairly broad concepts, as the list assembled in Appendix B illustrates.

4.5 Equipollence II: Double derivation

The second subtype of equipollent strategy is entirely absent from the list of 31 verb pairs. However, in the off-list verbal lexicon, we find about two dozen noncausal/causal verb pairs whose members are both morphologically derived and for which no underived root verb is attested, e.g. *qeraa* <’>*rr-* (MID) ‘become long, tall’ — *qeraar-s-* (CAUS1) ‘lengthen, make tall’, but **qeraar-*. For some doubly derived verb pairs, the reconstructable root is, however, found in semantically related nouns or adjectives; see, e.g., *osa* <’>*ll-* ‘laugh’ (MID) — *osal-siis-* (CAUS2) ‘make laugh’ and *osal-úta* ‘laughter’.²⁸ A list of doubly derived verb pairs is assembled in Appendix C. The semantic fields in which most pairs are found are those indicating (change of) posture, grooming, bodily functions, emotions and properties. Among the doubly derived pairs are a number of high frequency verbs such as *afuu* <’>*ll-* (MID) ‘sit (down)’ — *afuush-sh-* (CAUS1) ‘put down, make sit’ (5) and *bat-a’-* (MID) ‘multiply, become much, become numerous’, as in (26) and (70), and *bat-is-* (CAUS1) ‘multiply, make much, make numerous’.

With the exception of one example,²⁹ the noncausal members of the doubly derived pairs are always middle-derived — and not passive-derived, as one could have expected from the analysis of the 31 verb pairs, where passivization is by far the dominant decausativization strategy (§4.3); The causal counterparts of the doubly derived pairs are always causative. The middle derivation is realized as *-aqq* or *-’/?/*, according to the rules laid out in §3.3; see, e.g., *odd-aqq-* ‘get dressed, put on’, *afuu* <’>*ll-* (< *afuul-’/?-*) ‘sit (down)’ and *nubaaph-ph-* (< *nubaab-’/?-*) ‘become old’. Apart from noncausal members being marked by the productive middle derivation, there are also six noncausal verbs in Appendix C that carry the unproductive (frozen) middle suffix *-a’*, e.g. *buqq-a’-* ‘be uprooted’ (59).³⁰

The majority of doubly derived verbs mark the causal form by the short causative (CAUS1), which is realized with different allomorphs (67) (§3.1.3).

- | | | | |
|------|---|---|---|
| (67) | <i>sabi</i> <’> <i>rr-</i> ‘be consoled’ | — | <i>sabir-s</i> (CAUS1) ‘console’ |
| | <i>gabboox-x-</i> ‘become short’ | — | <i>gabboot-is-</i> (CAUS1) ‘shorten’ |
| | <i>oss-a’-</i> ‘lie down, go to bed’ | — | <i>oss-iis-</i> (CAUS1) ‘put down, put to bed’ |
| | <i>gunguu</i> <’> <i>ll-</i> ‘cover (one’s) head’ | — | <i>gunguush-sh-</i> (CAUS1) ‘cover (s.o.’s) head’ |

28. Recall that nouns are always cited in their accusative form (fn. 2): the suffix of *osal-úta* is the marker of the feminine accusative of declension F3a.

29. The only doubly derived pair of which the noncausal member is passive-marked is *ba’-am-* (PASS) ‘quarrel, fight (with each other)’ — *ba’-is-* (CAUS1) ‘pick, start a fight’. Note that the passive morpheme here marks reciprocity — see other examples in the last paragraph of §3.2.

30. The stems of about 50 verbs attested in my database end in *a’*. Six belong to the doubly derived pairs discussed here. Furthermore, for at least 17 verbs, there exists a semantically related, morphologically simpler noun, e.g. *shum-a’-* ‘urinate’ < *shum-áta* ‘urine’ and *quphph-a’-* ‘lay eggs’ < *quphph-áta* ‘egg’, which suggests that the verbs are historically derived (from the nouns?); unlike the doubly derived forms of §4.5, they build their causative on the basis of the *-a’*-stem, e.g. *shum-a’-isiis-* (CAUS2) ‘make urinate’. For most of the remaining two dozen verbs, there is no reason to assume that their root-final *a’* represents a derivational morpheme; see, e.g., *ota’-* ‘thresh’ and *guba’-* ‘warm (oneself) by the fire’.

Only five doubly derived pairs take the long causative (CAUS2), among them two verbs from the domain of emotion (68); compare with the examples in (9).

- (68) *amu*<’>*rr-* ‘get angry, annoyed’ — *amur-siis-* (CAUS2) ‘make angry, annoy’
osa<’>*ll-* ‘laugh’ — *osal-siis-* (CAUS2) ‘make laugh’

Double derivation is also found with denominal verbs. Kambaata has a (semi-)productive³¹ derivational process that generates noncausal/causal verb pairs from nouns. The members of these pairs are marked by *-eeh* and *-ees*, respectively, and can generally be translated as ‘turn (intr.) into N, develop/obtain N, have N applied’ for the noncausal counterpart and ‘turn (tr.) into N, make develop/obtain N, apply N’ for the causal counterpart (69). My database contains 18 denominal verb pairs of this type and more than 30 denominal verbs attested with either the *-eeh-* or the *-ees-* derivation (and potentially being members of a doubly derived pair of which the missing counterparts simply represent accidental gaps in my database).

- (69) *gorr-eeh-* ‘get hungry’ — *gorr-ees-* ‘make hungry’ < *gorr-ú* ‘hunger’
inx-eeh- ‘crack (intr.)’ — *inx-ees-* ‘crack (tr.)’ < *inx-áta* ‘crack (n.)’
maz-eeh- ‘be wounded’ — *maz-ees-* ‘wound (tr.)’ < *maz-áta* ‘wound (n.)’

4.6 Lability

The list of 31 verb pairs includes no labile verbs, which is unsurprising given the overall rarity of this verb type. To my knowledge, Kambaata has only a single labile verb, namely the temperature verb *gid-* ‘1. become non-tactile cold, 2. cause to feel non-tactile cold’, whose use is discussed in Treis & Deginet (2019: 244ff.).³² The noncausal, intransitive use with the geographic stimulus (‘Hangacca’) as the subject is illustrated in (70). The causal, transitive use in which the experiencer is encoded as the direct object is seen in (71). The experiencer object (‘her’) is expressed by an object suffix on the verb ‘become/cause to feel non-tactile cold’; if it were expressed in an independent object (pro)noun phrase it would be marked for the accusative case. The unexpressed masculine subject of the temperature verb in (71) is understood to be *ír-u* ‘weather, (atmospheric, political) situation’.

- (70) *Hangáccu abbishsh gidánona xéenuhuu abbishsh bata’ánoa hegéegu.*

Hangácc-u abb-íshsh **gid-áno-na**
 PN-M.NOM become_much-CAUS1.3M.PFV.CVB become_non_tactile_cold-3M.IPFV-CRD

xéen-uhu-u abb-íshsh
 rain-M.NOM-ADD become_much-CAUS1.3M.PFV.CVB

bat-a’-áno-a hegéeg-u
 become_much-MID-3M.IPFV.REL-M.COP area-M.PRED

‘Hangacca is an area that is very cold (lit. that “colds” very much) and rainy.’ (Kambaata Education Bureau 1989: 2.106)

31. The productivity of this process has not yet been systematically studied.

32. Interestingly, the antonym of *gid-*, which is *iib-/iibb-is-* ‘become hot’/‘heat (up), cause to feel hot’, is not labile but follows the causativization strategy (§4.2).

(73) *Uujjántee ciiláta dagéen le'iséemmaa'u.*

uujj-án-tee ciil-áta dag-éen le'-is-éemmaa'u
 drop-PASS-3F.PRF.REL little_child-F.ACC find-3HON.PFV.CVB grow-CAUS1-3HON.PRF

‘(Someone) found an abandoned little girl (lit. a little girl that had been dropped) and raised her.’ (elicited)

5. CONCLUSION

This paper has provided a first description of the productive processes of word class-maintaining verbal derivation in Kambaata. The description has centered on the tricky and hitherto unresolved distribution of the short and long causative, and has shown that the choice of CAUS1 (-s) and CAUS2 (-siiis) is partly grammatically, partly lexically determined. Whereas most intransitive verbs are causativized with CAUS1 and most transitive verbs with CAUS2, the numerous exceptions to these general rules make it necessary to record the causative forms of many verbs in the dictionary. In contrast to the passive and the middle derivation, causativization gives rise to a number of derived verbs whose meaning and argument structure cannot easily be predicted — an aspect which should also be registered in future dictionary entries of these verbs. Without known exceptions, all transitive verbs can be passive-derived with *-am*. Passive verbs take the direct object (but never the indirect object) of the corresponding underived verb as their subject; the agent usually remains unexpressed in the passive construction. Kambaata does not formally distinguish between passives and anticausatives. The middle derivation is marked by the phonologically conditioned allomorphs -’/ʔ/ and *-aqq*. Unlike the causatives and the passive, it does not reduce the valency of the verb. In its most productive use, the middle morpheme marks that the subject is the beneficiary of the verbal action. Furthermore, it is found on verbs of grooming and bodily care but is rarely the only reflexivizer in prototypical reflexive situations.

The analysis of the verbal derivation system set the stage for the study of the expression of non-causal/causal alternations in the second part of the paper. If Haspelmath’s list of 31 verb pairs is taken as an instrument to determine the preferred morphological patterns to express these alternations in Kambaata, the causativization strategy turns out to be dominant (50.5%), with the decausativization strategy (which is essentially a passivization strategy) following closely behind (35.2%). Of the two common equipollent marking patterns, the light verb change strategy is represented in 7.8% of the pairs, namely when verbal concepts are expressed by morphologically invariant ideophones that require the light verbs *y-* ‘say’ and *a’-* ‘do’ to inflect. Off list, another equipollent marking pattern occurs: For about two dozen, frequently used middle- and causative-derived verb pairs, no base verb is attested — it is unknown whether it was lost or never happened to exist. The translational equivalents of the Haspelmath list also contain two suppletive noncausal/causal pairs, namely ‘die’/‘kill’ and ‘finish (intr./tr.)’.

While the Kambaata version of the Haspelmath list gives a good first impression of the expression of noncausal/causal alternations, the picture becomes much more varied when the entire documented verbal lexicon of Kambaata is considered. A larger lexical database sheds light on the actual importance of the equipollent strategies. Not only are none of the doubly derived verb pairs captured by the Haspelmath list but the significance of the light verb change strategy is also underrepresented. Kambaata can, however, be shown to express a very significant portion of verbal concepts through lexemes belonging to the word class of ideophones, which apply the light verb change strategy to differentiate between the noncausal and causal member of a verb pair.

Creissels’ exploratory study (this issue) is based on a convenience sample of 30 African languages. While lability, or in his words ambitransitivity, ranks first among the noncausal/causal strategies in his study, it is notably absent from the Kambaata list. In this case, the extension of the database from the list of 31 verb pairs to the entire documented verbal lexicon does not substantially alter the assessment, because according to the current state of knowledge, Kambaata has only a single labile verb. In other languages of the Horn of Africa that are represented in the World Atlas of Transitivity Pairs and/or Creissels’ exploratory study, lability is equally uncommon: Sidaama (Cushitic) 1; Wolaitta (Omotic)

0; Amharic (Semitic) 1; Afar (Cushitic) 0 (Kawachi 2014; Wakasa 2014a and 2014b; Creissels this issue). Kambaata thus seems to confirm a tendency observed in other Ethiopian languages. Furthermore, it shares with Sidaama (Kawachi 2014) a clear preference for causativization (Sidaama: 46.7%, Kambaata: 50.5%) and decausativization (Sidaama: 28.5%, Kambaata: 35.2%).³⁶ The only major difference between the two closely related languages concerns suppletive verb pairs, of which Sidaama has as many as five in the Haspelmath list.

Concerning the preferred formal strategies to express noncausal/causal alternations, the similarities and differences between Kambaata and the other languages of its genetic group or of its linguistic area remain to be explored. Among many potentially interesting aspects, the distribution of the suppletive noncausal/causal alternation of ‘finish’ in languages of the Horn of Africa would merit examination on a larger scale.

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ABBREVIATIONS

A_	adjectival
ABL	ablative
ACC	accusative
ADD	additive
AG	agentive
APPR	apprehensive
BDV	benedictive
CAUS1	short causative
CAUS2	long causative
COND	conditional
COP1	copula <i>yoo-</i>
COP2	copula <i>-(h)a(a)/-ta(a)</i>
CRD	coordinator
CVB	converb
DAT	dative
DEF	definite
DEM1	proximal demonstrative
DS	different subject
EMP	emphasis
F	feminine
GEN	genitive
GLOT	glottonym
HON	honorific, impersonal

36. I have excluded the periphrastic second variant of the Sidaama pair ‘dry (intr./tr.)’, *moola ikk-/ass-*, in this count.

ICP	instrumental-comitative-perlative
IMP	imperative
INTJ	interjection
intr.	intransitive verb
IPFV	imperfective
LOC	locative
M	masculine
MID	middle
MIT	mitigator
NEG1	standard negator
NEG4	converb negator
NEG5	relative negator
NMZ1	nominalizer -V
NOM	nominative
OBJ	object
OBL	oblique
ORD	ordinal
PASS	passive
PFV	perfective
PL	plural
PLC	place nominalizer
PLV	plurative
PN	proper noun
POSS	possessive
PRED	predicative
PRES_	presentative
PRF	perfect
PROG	progressive
PST	past
PURP	purposive
REAS	reason clause
REL	relative
SBJ1	first subject index
SBJ2	second subject index
SG	singular
SGV	singulative
SIM	similative
s.o.	someone
s.th.	something
tr.	transitive verb

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APPENDIX A: THE KAMBAATA LIST OF 31 VERB PAIRS

This is a list of 31 noncausal/causal verb pairs and their Kambaata translational equivalents, following Haspelmath (1993). The coding strategies (column 5) are abbreviated as: C = causativization, D = decausativization, E = equipollence, S = suppletion; verbal derivational morphemes are highlighted in bold. The data is written in the official Kambaata orthography (cf. Treis 2008: 73-80; Alemu 2016).

#	English	Noncausal	Causal		
1	wake up	<i>báqq=y-</i>	<i>báqq=a'-</i>	E	1
2	break	<i>biix-am-</i>	<i>biix-</i>	D	1
3	burn	<i>bub-</i>	<i>bus-s-</i>	C	1
4	die/kill	<i>reh-</i>	<i>sh-</i>	S	1
5	open	<i>fan-am-</i>	<i>fan-</i>	D	1
6	close	<i>xuf-am-</i>	<i>xuf-</i>	D	1
7	begin	<i>jammár-am-</i>	<i>jammár⁻³⁷</i>	D	1
8	learn/teach	<i>ros-</i>	<i>ros-is-</i>	C	1
9a	gather (e.g. what is scattered)	<i>qú'mm=y-</i>	<i>qú'mm=a'-</i>	E	0.33
9b	gather (a large number)	<i>xáphph=y-</i>	<i>xáphph=a'-</i>	E	0.33
9c	gather, assemble	<i>xaac-c⁻³⁸</i>	<i>xaaz-</i>	D	0.33
10a ³⁹	spread, scatter (solids)	<i>bínn=y-</i>	<i>bínn=a'-</i>	E	0.25
10b	spread, scatter (solids)	<i>fínc-am-</i>	<i>fínc-</i>	D	0.25
10c	spread (e.g. news)	<i>iíll-</i>	<i>iíll-is-</i>	C	0.25
10d	spread (e.g. disease)	<i>tar-</i>	<i>tar-siis-</i>	C	0.25
11	sink	<i>ag-am-</i>	<i>ag⁻⁴⁰</i>	D	1
12	change	<i>door-am-</i>	<i>door-</i>	D	1
13	melt (see #26)	<i>shiil-</i>	<i>shiish-sh-</i>	C	1
14a	be destroyed/destroy (see #15)	<i>ba'-</i>	<i>ba'-is-</i>	C	0.5
14b	be destroyed/destroy (of construction)	<i>zirr-am-</i>	<i>zirr-</i>	D	0.5
15	get lost/lose (see #14)	<i>ba'-</i>	<i>ba'-is⁻⁴¹</i>	C	1
16	develop	<i>le'⁻⁴²</i>	<i>le'-is-</i>	D	1
17	connect	<i>daq-q-am⁻⁴³</i>	<i>daq-q-an-s-</i>	C	1
18	boil	<i>gaf-am-</i>	<i>gaf-</i>	D	1
19	rock	<i>lenqeeqq-</i>	<i>lenqeeqq-is-</i>	C	1
20	go out (of fire)/put out (a fire)	<i>xa''-</i>	<i>xa''-is-</i>	C	1
21a	rise/raise, get up/lift	<i>ke'-</i>	<i>ke'-is-</i>	C	0.25
21b	rise/raise	<i>xóqq=y-</i>	<i>xóqq=a'-</i>	E	0.25

37. Amharic loanword.

38. The middle verb *xaacc-* is especially used for people coming together/assembling.

39. It is difficult to pick a translational equivalent for English *spread*, especially because the English verb is so polysemous. Here only verbs with the meaning of 'spread = scatter, disperse' and 'spread = circulate' are given; verbs with the meaning 'spread = straighten out, roll out, unfurl' and 'spread = smear, plaster' are excluded.

40. Literally 'be drunk' (noncausal)/'drink' (causal).

41. The verb *ba'-* is polysemous (see lines 14 and 15) and means, among others, 'get lost, disappear, break (intr.), be destroyed, malfunction, spoil (intr.), die, do extremely, be very/too [+ PROPERTY]'.
42. Literally: 'grow' — see (73).

43. Literally: 'find each other' (reciprocal)/'make find each other' (causative of reciprocal); see *dag-* 'find' > *daq-q-* 'find oneself' (MID) > *daq-q-am-* 'find each other' (MID-PASS) > *daq-q-an-s-* 'make find each other' (MID-PASS-CAUS1).

#	English	Noncausal	Causal		
21c	rise/raise, go up, go out/take up, take out	<i>ful-</i>	<i>fush-sh-</i>	C	0.25
21d	rise/raise, go upwards/take upwards	<i>bizz=y-</i>	<i>bizz=a'-</i>	E	0.25
22	finish	<i>goof-</i>	<i>xoof-</i>	S	1
23a	turn around (from one side to the other)	<i>zahh-</i>	<i>zahh-is-</i>	C	0.5
23b	turn upside down	<i>gombis-am-</i>	<i>gombis-</i>	D	0.5
24a	roll (e.g. of a ball)	<i>onkolo'll-</i>	<i>onkolo'll-is-</i>	C	0.33
24b	roll (back and forth on one spot)	<i>birqiiqq-</i>	<i>birqiiqq-is-</i>	C	0.33
24c	roll up (e.g. a mat)	<i>xaax-am-</i>	<i>xaax-</i>	D	0.33
25	freeze, curdle	<i>ge'-</i>	<i>ge'-is-</i>	C	1
26	dissolve (see #13)	<i>shiil-</i>	<i>shiish-sh-</i>	C	1
27	fill	<i>wiim-</i>	<i>wiin-sh-</i>	C	1
28	improve	<i>woyy-</i>	<i>woyy-is-</i>	C	1
29	dry	<i>mool-</i>	<i>moosh-sh-</i>	C	1
30a	split (e.g. of firewood)	<i>hiq-am-</i>	<i>hiq-</i>	D	0.25
30b	split, tear apart	<i>zar-am-</i>	<i>zar-</i>	D	0.25
30c	split, tear apart (vertically, into two parts)	<i>beg-am-</i>	<i>beg-</i>	D	0.25
30d	split (vertically)	<i>fil-am-</i>	<i>fil-</i>	D	0.25
31	stop, stand (up), be erected/stop, erect, make stand	<i>uurr-</i>	<i>uurr-is-</i>	C	1

APPENDIX B: ILLUSTRATIVE LIST OF SEMANTICALLY FAIRLY BROAD IDEOPHONES

#	Noncausal	English	Causal	English
1	<i>biddíqq=y-</i>	become flat, even, level; spread (intr.) out	<i>biddíqq=a'-</i>	make flat, even, level; spread (tr.) out
2	<i>biishsh=y-</i>	become red	<i>biishsh=a'-</i>	redden
3	<i>búrr=y-</i>	fly	<i>búrr=a'</i>	make fly
4	<i>cál~cál=y-</i>	hang (intr.) freely, be suspended	<i>cál~cál=a'-</i>	hang (tr.) freely, suspend
5	<i>dákk=y-</i>	be hidden	<i>dákk=a'-</i>	hide
6	<i>fógg=y-</i>	bend over/down	<i>fógg=a'-</i>	make bend over/down
7	<i>gaff=y-</i>	sit down for a short while	<i>gáff=a'-</i>	put down for a short while
8	<i>gambáll=y-</i>	become black	<i>gambáll=a'-</i>	blacken
9	<i>gíphph=y-</i>	pause	<i>gíphph=a'-</i>	make pause
10	<i>hínc=y-</i>	come close(r)	<i>hínc=a'-</i>	bring close(r)
11	<i>lácc=y-</i>	go slow, slow (intr.) down	<i>lácc=a'-</i>	slow (tr.) down, do slowly
12	<i>qúrc=y-</i>	be swallowed, sink in	<i>qúrc=a'-</i>	swallow
13	<i>sá'mm=y-</i>	become quiet, fall silent	<i>sa'mm=a'-</i>	silence (tr.)
14	<i>shigíg=y-</i>	become repugnant, repulsive	<i>shigíg=a'-</i>	trigger (a feeling of) repugnance, repulsion (about s.o.)
15	<i>shúrr=y-</i>	slide, slip	<i>shúrr=a'-</i>	make slide, make slip
16	<i>tákk=y-</i>	fall suddenly	<i>tákk=a'-</i>	drop suddenly, simply
17	<i>wójj=y-</i>	become white	<i>wójj=a'-</i>	whiten
18	<i>xább=y-</i>	do (intr.) well	<i>xább=a'-</i>	do (tr.) well
19	<i>xambáq=y-</i>	stick, be attached	<i>xambáq=a'-</i>	stick, attach
20	<i>xíshsh=y-</i>	be tightened, strengthened	<i>xíshsh=a'-</i>	tighten, strengthen

APPENDIX C: DOUBLY DERIVED NONCAUSAL/CAUSAL VERB PAIRS

This is a list of all doubly derived verb pairs attested in my database, most of which express a non-causal/causal relation. The derivational morphemes are separated from the (hypothetical) roots by hyphens or, in the case of infixes, by angular brackets. No verbal roots are attested for the verbs in this list; however, for some pairs, there exists an underived nominal (n.) or adjectival (adj.) root.

#	Noncausal	English	Causal	English	Strategy
1	<i>aa<>ll-</i>	wash (oneself)	<i>aan-sh-</i>	wash (tr.)	D/C
2	<i>afuu<>ll-</i>	sit (down)	<i>afuush-sh-</i>	put down, make sit	D/C
3	<i>akk-a'-</i>	inhale	<i>akk-is-</i>	treat, fumigate, cleanse by exposure to smoke	D/C
4	<i>alaph-ph-</i>	play	<i>alas-siis-</i>	make play; lead a game as referee ⁴⁴	D/C
5	<i>amu<>rr-</i>	get angry, annoyed	<i>amur-siis-</i>	make angry, annoy	D/C
6	<i>anka<>rr-</i>	become night, get late	<i>ankar-s-</i>	stay up late	D/C
7	<i>bat-a'-</i>	multiply, become much, become numerous	<i>bat-is-</i>	multiply, cause to be much, cause to be numerous	D/C
8	<i>ba'-am-</i>	quarrel, fight (with each other)	<i>ba'-is-</i>	pick, start a fight	D/C
9	<i>bork-a'-</i>	lay one's head on a headrest	<i>bork-is</i>	provide (s.o.) with a headrest	D/C
10	<i>buqq-a'-</i>	be uprooted, be dug out	<i>buqq-is-</i>	uproot, dig out	D/C
11	<i>debee'll-</i>	belch	<i>debeesh-sh-</i>	make belch	D/C
12	<i>dikk-a'-</i>	lean (oneself) on/ against	<i>dikk-is-</i>	make lean on/against, support	D/C
13	<i>gaa<>nn-</i>	become fat	<i>gaan-s-</i>	fatten	D/C
14	<i>gabboox-x-</i>	become short	<i>gabboot-is-</i>	shorten	D/C
15	<i>gunguu<>ll-</i>	cover one's head	<i>gunguush-sh-</i>	cover the head (of s.o.)	D/C
16	<i>goo<>nn-</i>	become strong, hard- working	<i>goon-s-</i>	strengthen, make work hard	D/C
17	<i>hodee<>mm-</i>	become pregnant (of animal)	<i>hodeen-s-</i>	make (an animal) pregnant	D/C
18	<i>nub(-)aaph-ph-</i>	become old	<i>nub(-)aas-s-</i>	care for (an old person), make old	D/C
19	<i>odd-aqq-</i>	get dressed, put on	<i>odd-iis-</i>	dress (tr.)	D/C
20	<i>osa<>ll-</i>	laugh	<i>osal-siis-</i>	make laugh	D/C
21	<i>oss-a'-</i>	lie down, go to bed	<i>oss-iis-</i>	put down, put to bed	D/C
22	<i>qee<>rr-</i>	become, turn out to be far	<i>qeer-s-</i>	take far away, make move far away	D/C
23	<i>qeraa<>rr-</i>	become long, tall	<i>qeraar-s-</i>	lengthen, make tall	D/C
24	<i>qo<>rr-</i>	gird (oneself), put on (one's belt, skirt, trousers)	<i>qor-siis-</i>	gird (tr.), make (s.o.), put on (a belt, skirt, trousers)	D/C

44. Second translation found in Alemu (2016: 38).

#	Noncausal	English	Causal	English	Strategy
25	<i>sabi</i> <'> <i>rr-</i>	be consoled	<i>sabir-s-</i>	console	D/C
26	<i>salee</i> <'> <i>nn-</i>	become pregnant (of woman)	<i>saleen-s-</i>	make (a woman) pregnant	D/C
27	<i>xaw-aaqq-</i>	speak	<i>xaw-isiis-</i> = (~ <i>xas-siis-</i>) ⁴⁵	make speak	D/C

Roots: #6 *ankar-í* (n.) 'night'; #13 *gaan-á* (adj.) 'fat'; #16 *goon-á* (n.) 'male'; #17 *hodeem-á* (adj.) 'pregnant'; #18 *nub-áta* (n.) 'old age', *nubaab-ú* (n.) 'old people'; #20 *osal-úta* (n.) 'laughter'; #21 *oss-úta* (n.) 'sleep; sleeping-place'; #24 *qor-á* (n.) 'waistband; waistline'; #25 *sabir-á* (n.) 'consolation'.

45. Alternative form attested in Alemu (2016: 1096).

