

Backwards resultatives in Kimaragang Dusun

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1. Introduction¹

In English resultatives, the main verb names an action or process while a dependent predicate phrase names either the result state or the extent of the action. Simpson (1983) points out that if the main verb is transitive or unaccusative, the dependent predicate names the result state which the patient achieves, as in (1a). If the main verb is unergative, or a transitive verb with unexpressed patient, the dependent predicate names the extent of the action as in (1b).

- (1) a. I painted the car *yellow*.
 I cooked the meat *to a cinder*.
 I shot John *dead*.
 The milk froze *solid*.
 The vase broke *into little pieces*.
- b. I laughed myself *sick*.
 I shouted myself *hoarse*.
 I cried myself *to sleep*.
 I worked my fingers *to the bone*.
 She drank him *under the table*.

The structure of resultatives in most well-known languages seems to be quite similar to that of English. This paper discusses an unusual resultative construction in Kimaragang Dusun, a Philippine-type language spoken in northeastern Borneo, in which the order and prominence of the elements is reversed. The independent verb form (V_1), which occurs in initial position, names the result, while the activity is expressed by a dependent verb (V_2). (Note that Kimaragang is a strongly head-initial language.) This pattern is illustrated in (2).

- (2) a. N-a-rasak do karabau monginum(m-poN-inum) a weeg.
 PST-NVOL-dry.up GEN buffalo AV-TR1-drink NOM stream
 ‘The stream was drunk dry by buffaloes.’
- b. P[in]i-toning-Ø kuh it sapi om karabau Ø-po-ogot.
 RECIP[PST]-near-OV 1S.GEN NOM cow and buffalo AV-TR2-tie
 ‘I tied up the cow and the buffalo near each other.’
- c. Pi-apat-on nuh mangalapak(m-poN-lapak) inoh niyuw.
 RECIP-four-OV 2S.GEN AV-TR1-split that.NOM coconut
 ‘Split that coconut into four parts.’

¹ I would like to thank Jim Johansson for giving me access to his field dictionary, and for providing and/or checking many of the examples in this paper.

- d. P[in]i-so-sokot-Ø dialo ah=babas monombir.
 RECIP[PST]-REDUP-join-OV 3sg.GEN NOM=cloth.scrap AV-TR1-sew
 ‘She joined the scraps of cloth together sewing (i.e., sewed the scraps together).’
- e. Irot-on noh pootub i pati ki.
 tight-OV² FOC AV-TR2-close.lid NOM box okay?
 ‘Close the box tight, okay?’
- f. Pa-rasak-ai mangansak ino rinapa ki.
 CAUS-dry.up-DV.IMPER AV-TR1-cook that.NOM viand okay?
 ‘Cook that food until it is dry, all right?’
- g. Adan-o’ yalo mamasut!
 faint-OV.IMPER 3sg.NOM AV-TR1-whip
 ‘Whip him unconscious!’

In all of the examples in (2), the main verb specifies a result state that is achieved through the action named by V₂. However, in other cases V₂ expresses the extent of the action, as illustrated in (3).

- (3) a. N-o-rikot kuh momilay(m-poN-pilay) i walay nuh sid tupak.
 PST-NVOL-arrive 1S.GEN AV-TR1-throw NOM house your DAT other.side
 ‘Your house across the river was reached by my throwing / I threw (something) all the way to your house across the river.’
- b. N-a-awi di=Jaiwan mangakan(m-poN-akan) i=rinapa.
 PST-NVOL-finish GEN=Jaiwan AV-TR1-eat NOM=cooked.food
 ‘Jaiwan finished the food eating (i.e., ate up all the food).’
- c. N-o-tuus do karabau mongotop(m-poN-kotop) i paray kuh.
 PAST-NVOL-eat.up-OV GEN buffalo AV-TR1-graze NOM rice 1sg.GEN
 ‘My rice field was grazed bare by buffaloes.’
 (lit: ‘My rice plants were finished off by buffaloes grazing.’)
- d. N-o-onong dialo monokon do=tandus i=koridai.
 PST-NVOL.OV-hit 3sg AV-TR1-hurl ACC=spear NOM=deer
 ‘He hit the deer with a spear.’ (lit: ‘He hurling a spear hit the deer.’)

This construction has many of the defining properties of a typical serial verb construction (SVC): a single clause contains two verbs which express a single event and share at least one semantic argument; neither of the verbs is an auxiliary; there are no markers of subordination or coordination; and the clause contains only a single grammatical subject. (Evidence for monoclausality will be presented in the following section.) On the other hand, SVCs are quite rare

² loan word? Malay *erat* ‘tight, close, firm’

among verb-initial languages, and are virtually unheard of in the Philippines.³ A serial verb analysis would be surprising on other grounds as well. For example, a number of authors have pointed out that the order of verbs in a SVC tends to be iconic. Thus the result predicate in a resultative SVC almost always follows the action verb, whether the basic word order of the language is SVO or SOV; see examples in (4). However, as pointed out in the second paragraph, the order of verbs in the Kimaragang resultative is anti-iconic.

(4) a. **Sranan** (Suriname; Sebba, 1987)

Kofi naki Amba kiri.
Kofi hit Amba kill
'Kofi struck Amba dead.'

b. **Tok Pisin** (PNG)

Ol i-sutim pik i-dai.
they shoot pig die
'They shot the pig dead.'

c. **Yoruba** (W. Africa; Bamgboše, 1974; tone not shown)

olu ti m naa šubu.
Olu push child the fall
'Olu pushed the child down.'

d. **Saramaccan** (Suriname; Byrne, cited in Seuren 1990)

Kofi nyan di ganya kabá.
Kofi eat the chicken finish
'Kofi has already eaten the chicken.' (***) replace w/ Tok Pisin ?? (***)

A classic feature of a true serial verb construction is that, while the SVC may be negated as a whole, neither verb can be negated on its own. This fact is illustrated in (5).

(5) **Ewe** (W. Africa; Agbedor 1993)

a. Me-šle agbale ná Áma.
1sg-buy book give Ama
'I bought a book for Ama.'

b. Nye me-šle agbale ná Áma o.
1sg NEG-buy book give Ama NEG
'I did not buy a book for Ama.'

c. *Me-šle agbale me-ná Áma o.
1sg-buy book NEG-give Ama NEG

In the Kimaragang resultative, however, this is not the case. The examples in (6) demonstrate that the result verb (V_1) may be negated without denying the action named by the

³ At the SWL-1 conference in Leipzig, Prof. Huang Shuanfan and Prof. Naomi Tsukida informed me that they have found serial verb-like constructions in some Formosan languages that they have studied. Prof. Huang is currently preparing some of this data for publication.

The tentative representation in (8) captures the following intuitions: V_1 may be either transitive or unaccusative when used by itself, but the complex predicate as a whole is always transitive, and both the Actor and Undergoer are governed and case marked by V_1 . V_2 may be transitive or unergative, and may even introduce additional arguments such as instruments (see ex. (3d)); but its Actor and Undergoer (if any) may not be distinct from the Actor and Undergoer of V_1 . Shared arguments are identified by the process of argument structure merger (Alsina, 1993?), and receive a single syntactic expression.

Some evidence supporting this general approach will be presented in section 4. Before discussing the details of the proposal, I will sketch out the core features of Kimaragang morpho-syntax which will be relevant to this discussion, and show how the resultative construction differs from other Kimaragang construction types, thus ruling out several other possible analyses.

2. Structural features and contrast with other constructions

In Kimaragang, as in most Philippine-type languages, any argument of the verb can be selected as subject. A definite Undergoer will normally be selected as subject unless some other argument of the clause is extracted. Non-subject arguments carry semantically determined case marking that reflects their thematic role, but subjects always carry nominative case. The case-marking particles of Kimaragang are summarized below:⁴

(9)		NOM	GEN/ACC	DAT/LOC
	Definite	i(t)	di(t)	sid
	Indefinite	o(t)	do(t)	sid

The thematic relationship of the subject argument to the predicate is signalled by a voice-marking affix on the verb. The use of the voice markers in Kimaragang is illustrated in the following examples. In each sentence the subject is italicized.

- (10) a. Mangalapak(m-poN-lapak) *okuh* do niyuw.
 AV-TR1-split 1sg.NOM ACC coconut
 ‘I will split a coconut/some coconuts.’
- b. Lapak-on kuh *it* niyuw.
 split-OV 1sg.GEN NOM coconut
 ‘I will split *the coconut(s)*.’
- c. Lapak-an kuh do niyuw *it* wogok.
 split-DV 1sg.GEN ACC coconut NOM pig
 ‘I will split some coconuts for *the pigs* (to eat).’

⁴The genitive and accusative cases are distinguished only in pronominal forms, but for ease of exposition I will gloss non-pronominal NP’s as bearing ACC or GEN case depending on which form a pronominal argument would take in that same position. Another possible analysis would be to say that non-pronominal objects take genitive case, while pronominal objects take accusative case. This pattern finds parallels in other Philippine-type languages. For example, in Tagalog definite animate objects take dative case, while indefinite and most inanimate objects take genitive case. (***) case forms vs. case functions; Wierzbicka, Jakobson?? ***)

- d. Nokuroh.tu' n-i-lapak nuh do niyuw inoh dangol kuh?
 why PST-IV-split 2sg.GEN ACC coconut that(NOM) bush.knife my
 'Why did you use *my bush knife* to split coconuts?'

In example (10a), the Active Voice marker (*m- ~ -um-*) signals that the agent ('I') is subject, and so must be marked with NOM case. Default case assignment marks the patient ('coconut') as ACC. In example (10b), the Objective Voice marker (*-on*) indicates that the patient is the subject, and the agent takes its default case marking, GEN. In example (10c), the Dative Voice marker (*-an*) indicates that the subject is a Beneficiary. The agent takes GEN case and the patient ACC. In example (10d), the Instrumental Voice marker (*i-*) indicates that the subject is an instrument. Instrumental Voice is also used for 'Displaced Themes' with transitive verbs of motion such as *give, throw, hang up, plant, put away*, etc. A fifth voice category, not illustrated in (10), is locative voice, which is homophonous with the objective except in the past tense. Locative voice is used primarily when the subject of the sentence is the location or destination of an intransitive verb of motion, posture or position.

The Kimaragang TAM affixes are summarized in (11). Kimaragang exhibits a simple two-tense system, past vs. non-past. The past tense marker is the infix *-in-*, inserted after the initial consonant of the base form. Before vowel-initial forms, this infix reduces to a prefixed *n-*. Verb forms which lack this tense marker are interpreted as non-past. In addition, three of the voice markers have a distinct atemporal form which is used for imperatives, for the main verb when an auxiliary is present (see next section), and for main-line narrative events as illustrated in (12), taken from a folk-tale. Finally, a distinct non-volitive form (glossed "NVOL") is used to express ability, involuntary actions, result states, and indefinite time reference; see Kroeger (1990), Dell (1983).

(11) TAM affixes:

Voice Category	Non-past	Past	Imperative/ atemporal	Non-volitive
Actor (AV)	m- / -um-	m-in- / -in-um-	Ø-	(no)ko-
Objective (OV)	-on	-in-__-Ø	-o?	(n)o-
Dative (DV)	-an	-in-__-an	-ai	(n)o- -an
Instrument (IV)	i-	n-i-	---	(no)ko-
Locative (LV)	-on	-in-__-on	---	---

- (12) *Ongoy-o* noh di tasi-asi om *patay-o* noh
 fetch-OV.ATMP FOC GEN orphan and kill-OV.ATMP FOC

 om *tunuw-ai* noh.
 and roast-DV.ATMP FOC
 'The orphan boy fetched (the lizard) and killed it and roasted it.'

The sentences in (10) illustrate several facts about normal word order in basic verbal clauses: the verb always comes first, pronouns almost always precede full NPs, and NP subjects tend to occur in clause-final position. The position of pronominal elements is fairly strictly determined by various constraints which will be discussed below. The relative order of full NPs, on the other hand, is relatively free. There is a general tendency for NPs to precede PPs, and for genitive NPs to precede dative NPs. When the verb is marked for actor voice, the nominative Actor NP may either occur in final position or immediately after the verb. In other voices, the Actor NP normally precedes all other non-pronominal elements of the clause. But non-human Actors, as well as inanimate effectors, may also occur after the subject.

Genitive pronouns for all persons, and first and second person nominative pronouns, are second-position (or “2P”) elements; that is, they must always follow the first constituent in their clause. (Third person nominative pronouns optionally occupy this position.) In a normal verb-initial clause, this means following the verb, as illustrated in (10a-d): all four of those examples contain a pronominal Actor immediately following the verb.

When a negative or other adverbial element is fronted to pre-verbal position, 2P clitics will also precede the verb; this is exemplified in (13). In addition to pronouns, a variety of other particles also occur in this position, as seen in (13c). Sentence-level conjunctions do not function as a part of the minimal clause, and so do not affect clitic placement.

- (13) a. Suwab-suwab *okuh* manalu do pulut.
 every.day 1s.NOM AV:TR:tap GEN rubber
 ‘Every day I tap rubber.’
- b. Sid tana *yah* n-odop-on.
 DAT earth 1pe.GEN PST-sleep-LV
 ‘We slept on the ground (after the house burned down).’
- c. Amu *okuh poh dati ko-guli dot suwab*
 NEG 1s.NOM yet probably POT.AV-return LNK tomorrow
 sitih kumaraja.
 PRX.LOC AV:work
 ‘Tomorrow I probably cannot return to work here.’

2.1 Auxiliary verbs

There is at least one auxiliary verb in Kimaragang. This verb has the basic form *mangan*, often shortened to *maan*, with past tense forms *minangan*, *minaan*, or *naan*.⁵ It is sometimes used alone as a kind of pro-verb meaning ‘make’ or ‘do’, as in (14).

- (14) a. Okon.ko ogumu o mamangan, ka-basug ino.
 don’t much NOM doing NVOL-AV-imbecile that
 ‘Don’t be doing lots [of things] (=don’t go messing around like that), it can result in [you] becoming imbecilic.’

⁵ These forms appear to have no root, but consist entirely of affixes.

- b. Nunuh ot maan nuh?
 what NOM do 2sg.GEN
 'What are you doing?'

By far the most frequent use, however, is in combination with an agentive transitive main verb in objective or dative voice. The main verb in this construction always carries the atemporal form of the voice marker. Basic word order seems to be Aux-V-Actor-Subject, as in examples (15a); but the Actor phrase can also appear between the auxiliary and content verb, as in (15b). Any clitic pronouns or particles in the clause appear in second position, between the auxiliary and content verb, as in (15c-e).

- (15) Minaan akan-o' do tusing ilot sada.
 PAST.AUX eat-OV.ATMP GEN cat that(NOM) fish
 'That fish was eaten by a cat.'
- b. Minaan da manuk kakay-o' it sayur kuh.
 PAST.AUX GEN chicken scratch-OV.ATMP NOM vegetable my
 'My vegetable plants were scratched by the chickens.'
- c. Naan okuh tinduk-o' do wulanut.
 PAST.AUX 1.SG.NOM bite-OV.ATMP GEN snake
 'I was bitten by a snake.'
- d. Maan tekau(kuh-ikau) jarum-ai.
 AUX 1.SG.GEN-2.SG.NOM needle-DV.ATMP
 'I will give you a shot.'
- e. Mangay okuh poh dagang-ay do buduy.
 AUX.IMPER 1.SG.NOM yet buy-DV.ATMP ACC watermelon
 'Please buy some watermelon for me.'

The word order of the Aux+V construction is quite similar to that of the resultative construction, because both are monoclausal. However, the distribution of inflectional features is very different. In the Aux+V construction, inflectional features are divided between the two verbs. The auxiliary is inflected for tense and mood, as illustrated above, but unspecified for voice. The main verb which follows it appears in the atemporal form, unspecified for tense and mood, but is inflected for voice; and it is this voice marking that determines the case assigned to each of the arguments in the clause. Thus there is no conflict between the two verbal elements in terms of tense, mood or voice, and the two can be thought of as "co-heads".

In the resultative construction, however, the two verbs may clash in all three of these categories. V_2 is invariant, appearing fully specified for active voice, non-past tense, and non-imperative mood. V_1 is normally inflected for a non-active voice, often takes past tense, and may appear in the imperative (see [2f,g]). Moreover, V_1 often appears in the non-volitive modality, as in (2a) and (3a-d), while V_2 cannot. But V_1 is clearly the syntactic head, and its features determine the properties of the clause as a whole

2.2 Evidence for monoclausality

In a subordinate clause, whether complement or adjunct, clitic pronouns and particles appear immediately after the first element of their minimal clause; this clearly indicates the location of sentence-internal clause boundaries. Example (16a), for example, contains three internal clause boundaries as indicated by the location of the italicized clitic elements. In the resultative construction, however, there is no medial position that can host such clitics; note the position of the two clitic arguments in (16b), immediately following the fronted NEG. This is especially striking in the nominative subject pronoun, since non-pronominal subject NPs normally follow V_2 in this construction. Thus the position of the 2P clitics in examples like (16b) provides strong evidence that the resultative construction is monoclausal (see also [3a,b,c]).

- (16) a. Ela'an *ku-i'* dot magaago *yalo* nga'
 know 1sg.GEN=EMPH COMP hurry(AV) 3sg.NOM but
- nantara *ku* tu' waro binoros *ku* sid=dialo.
 PAST-intercept-OV 1sg.GEN because EXIST say-NMLZ 1sg.GEN DAT=3sg
 'I knew that he was in a hurry but I held him up because I had something to say to him.'
- b. Amu *kuh* *yalo* n-o-onong monimbak.
 not 1sg.GEN 3sg.NOM PST-NVOL.OV-hit AV-shoot
 'I didn't hit him when I shot.'

Additional evidence for the monoclausal status of the resultative construction comes from the pattern of voice marking and case assignment. As discussed above, the case marking of an NP argument depends in part on the voice marking of the verb which selects it. In the resultative construction, V_2 always appears in the active voice. V_1 typically appears in a non-active voice, and it is this verb which determines the case assignment for both actor (GEN) and undergoer (NOM). The nominative case marking of the undergoer, even when it follows V_2 as in (2a, c, e, f) etc., is quite surprising, and is one of the main defining features of this construction.

In a bi-clausal structure, in contrast, each verb may (in principle) take the full range of voice markers, each verb can be marked for tense, and each verb determines the case marking of its own arguments. A bi-clausal result-reason sentence is illustrated in (17). Notice that both verbs are marked for past tense, each verb is followed by its own arguments, and each verb assigns nominative case to its own subject.

- (17) [Naandab i=togilai] tu' [minonutud okuh di=sakot id=tompil].
 PST-NVOL-wilt NOM=corn because AV-PST-TR1-burn 1S.NOM ACC=grass DAT=side
 'The corn wilted (from heat) because I burned some grass right next to it.'

The conjunction *tu'* 'because' is frequently omitted in such constructions when the subject of the second clause is co-referential with the subject of the first. The result is a biclausal sentence pattern that looks superficially similar to the resultative construction. The diagnostic features that distinguish examples like those in (18) from the resultative include: the second verb may be inflected for tense and may occur in non-active voices; either clause may contain an auxiliary verb (see [18c]); an optional pause may occur between the two clauses, as in (18d-e); each verb

Consider the pair of sentences in (20). Example (20a) is a biclausal sentence like those discussed in the previous section. However, there is no way to paraphrase this example using the resultative complex predicate construction. The attempted paraphrase in (20b) is ungrammatical because the two verbs have distinct Actors. The root *odop* ‘sleep’ is an unergative verb, as seen in the use of *noko-* rather than *no-* for the non-volitive form; its only argument (‘child’) is an Actor.⁶ The Actor of the second verb is ‘mother’. Because the two Actors are distinct, the complex predicate is ungrammatical

- (20) a. Noko-odop it tanak b[in]ayuk dit tidi.
 PST-NVOL-sleep NOM child PST-swing-IV GEN mother
 ‘The child fell asleep when its mother swung it (in a cloth sling/baby hammock).’
- b. *Nokoodop dit tidi mamayuk it tanak.
 PST-NVOL-sleep GEN mother AV-swing NOM child

The pair of sentences in (21) illustrates the uniqueness constraint for Undergoers. The biclausal sentence in (21a) cannot be paraphrased using the resultative complex predicate construction. The attempted paraphrase in (21b) is ungrammatical because the two verbs have distinct Undergoers: the sole is the U of ‘wounded’, while the nail is the U of ‘stepped on’.

- (21) a. Nopilat itit lukap kuh nokoolok do pansang.
 PST-NVOL-wound this.NOM sole my PST.NVOL.AV-step.on ACC nail
 ‘The sole of my foot got wounded from stepping on a nail.’)
- b. *Nopilat kuh mongulok do pansang itit lukap kuh.
 PST-NVOL-wound 1S.GEN AV-TR1-step.on ACC nail this.NOM sole my
 (intended: ‘The sole of my foot got wounded from stepping on a nail.’)

It is possible for V_2 to introduce a new argument, provided that argument is not an Undergoer. In example (3d), repeated in (22), V_2 introduce an instrument (the spear) which is not an argument of V_1 .

- (22) N-o-onong dialo monokon do=tandus i=koridai. (=3d)
 PST-NONVOL.OV-hit 3sg AV-TR1-hurl ACC=spear NOM=deer
 ‘He hit the deer with a spear.’ (lit: ‘He hurling a spear hit the deer.’)

Another biclausal example involving two Undergoers is presented in (23a). The closest equivalent resultative construction (23b) is ungrammatical, as predicted, because the Undergoer of ‘fall, drop’ is not the leg but the whole person.

- (23) a. Notipu i takod dialo noliwan ad tukad.
 PST-NVOL-break-OV NOM leg 3sg PST.NVOL-fall DAT steps
 ‘His leg broke because/when (he) fell on the steps.’

⁶ There is no such form as **no-odop* for ‘was put to sleep’. In order to express the meaning ‘put to sleep’, one must use the causative prefix as in *po-odop(-on)*.

- b. *Notipu dialo l[um]iwan montod kayu tasawat i=takod yoh.
 PST-NVOL-break-OV 3sg [AV]-drop from tree high NOM=leg 3sg
 (for: ‘He broke his leg jumping down from a tree.’)

The problem with (23b) is not simply the use of an intransitive verb for V₂, as demonstrated by the grammatical example in (24). The intransitive verb used in (24) literally means ‘to use the *gamas*’; it is derived from the noun *gamas* ‘a long, thin bush-knife used to cut grass’. Since this verb has no Undergoer, there is no conflict.

- (24) Amu nuh naawi g[um]amas i parai.
 not 2sg.GEN PST-NVOL-finish [AV]-cut.grass NOM rice
 ‘You didn’t finish cutting grass around the rice plants.’

Kimaragang morphology provides another way to demonstrate the single Undergoer constraint. When the Undergoer of a transitive verb is not selected as subject, the verb bears one of two “transitivity” prefixes, glossed here as TR1 and TR2. These prefixes provide partial information about the semantic role of the Undergoer: TR1 is used when the Undergoer is a patient, goal or recipient, while TR2 is used when the Undergoer is an instrument or displaced theme. (See Kroeger, 1996 for details.)

We can illustrate this pattern with the verb ‘give’. The act of giving involves three participants: an actor (the giver), a theme (the gift), and a recipient. When the TR1 prefix (*poN-*) is used, the Undergoer is the recipient. The action is viewed as primarily affecting, or being directed towards, the recipient, and must involve a change of ownership. When the TR2 prefix (*po-*) is used, the Undergoer is the theme. In this case there need not be any change of ownership, but there must be a physical transfer of possession. This semantic contrast is illustrated in (25). The noun *tana* is ambiguous between the meanings ‘land’ and ‘dirt’. Thus example (25a) could mean either ‘I will give you some land’ or ‘I will give you some dirt’; but the former meaning is more likely, since the *poN-* form implies change of ownership and dirt is seldom given as a gift. However, the *po-* form in (25b) implies a physical transfer of possession. Since a piece of land cannot be physically moved (at least, not by human agency), example (25b) can only mean ‘I will give you some dirt’.

- (25) a. Mana’ak okuh dikau do tana.
 m-poN-ta’ak okuh dikau do tana.
 AV-TR1-give 1s.NOM 2s.DAT GEN earth
 ‘I will give you some land/dirt.’
- b. Ø-pa-ta’ak okuh dikau do tana.
 AV-TR2-give 1s.NOM 2s.DAT GEN earth
 ‘I will hand you some dirt (*land).’

The contrast between TR1 and TR2 provides a valuable probe for testing the structure of the resultative construction. Since the second verb in a resultative construction must appear in active voice, it will (if it is transitive) bear one of these two prefixes. If the transitivity prefix on V₂ selects an argument other than the Undergoer of V₁, the construction is ungrammatical. To illustrate, the resultative examples in (26b-c) are both intended to be equivalent to the biclausal

sentence in (26a). In all three sentences, the Undergoer of the first verb (*naawi*) is the theme ('money'). However, in (26b) the use of TR1 indicates that the Undergoer of the second verb (*manaak*) is the recipient. This violation of the single Undergoer constraint renders the sentence ungrammatical. Sentence (26c) is identical except for the use of TR2, and is fully grammatical.

- (26) a. Naawi it siin kuh nitaak kuh sid tongo tanak.
 PST-NVOL-finish NOM money my PST-IV-give 1sg.GEN DAT PL child
 'I used up all my money giving it to my kids.'
- b. *Naawi kuh *manaak* sid tongo tanak it siin kuh.
 PST-NVOL-finish 1sg.GEN AV-TR1-give DAT PL child NOM money my
- c. Naawi kuh *pataak* sid tongo tanak it siin kuh.
 PST-NVOL-finish 1sg.GEN AV-TR2-give DAT PL child NOM money my
 'I used up all my money giving it to my kids.'

A similar contrast can be shown with the root *pilay* 'throw'. The examples in (27) are based on (3a). The use of TR1 in (27a) indicates that the Undergoer of V₂ is the goal or target ('throw at, pelt'). Since the nominative argument ('mangoes') must be interpreted as the Undergoer of V₁, the use of this prefix forces a bizarre interpretation under which the house is being thrown at the mangoes. The intended interpretation is only possible when V₂ bears the TR2 prefix, as in (27b), indicating that the Undergoer is the theme.

- (27) a. *Naawi kuh momilay dit walay nuh it tongo mangga.
 PST-NVOL-finish 1sg.GEN AV-TR1-throw ACC house your NOM PL mango
 (can only mean: 'I finished off the mangoes by throwing your house at them.')
- b. Naawi kuh popilay sid walay nuh it tongo mangga.
 PST-NVOL-finish 1sg.GEN AV-TR2-throw DAT house your NOM PL mango
 'I threw all the mangoes at your house.'

4. Evidence for complex predicate analysis

When the lexical rule of complex predicate formation (8) was introduced, we noted that V₁ may be either transitive or unaccusative when it is used by itself. In the resultative complex predicate, however, V₁ is always syntactically transitive as indicated by the pattern of case assignment for the Actor and Undergoer. Along with this shift in valence, there may be minor but unpredictable changes in semantic content, a characteristic feature of lexical processes.

Some examples of these changes are presented in (28). The verb form that appears as V₁ in (28a), *norikot*, can be used alone as an unaccusative verb meaning 'has arrived'; but in the resultative (28a), it functions as a transitive verb meaning 'to reach (e.g. by throwing)'. If the second verb were not present, *norikot* could not be used in this way. Similarly, the verb form *narasak* in (28b) is an unaccusative verb meaning 'dried up'. It takes on a transitive sense in the resultative construction; but to be used in this sense without the second verb, e.g. if someone

dries up a stream or pond to catch the fish, an extra suffix would be needed: *narasakan* or *rinasakan*.

- (28) a. N-o-rikot kuh *(momilay) i walay nuh. (cf. 3a)
 PST-NVOL-arrive 1S.GEN AV-TR1-throw NOM house your
 ‘I threw (something) all the way to your house.’
- b. N-a-rasak do karabau *(monginum) a weeg. (cf. 2b)
 PST-NVOL-dry.up GEN buffalo AV-TR1-drink NOM stream
 ‘The stream was drunk dry by buffaloes.’

A somewhat similar pattern also occurs in English. Unergative verbs occurring in resultative constructions often take on a slightly different sense, as illustrated in (29). Some authors have interpreted this to mean that these verbs must undergo a change in argument structure in order to appear in the resultative (but see Levin and Rappaport Hovav (1995) and Carrier and Randall (1992) for a different interpretation).

- (29) I shouted myself *(hoarse).
 I cried myself *(to sleep).
 I worked my fingers *(to the bone).
 She drank him *(under the table).

Another possible type of evidence supporting the complex predicate analysis is illustrated in (30). In both of these examples, V_1 is a morphological causative. At first glance, these sentences seem to violate the single Actor constraint: the Actor of V_1 is the causer, but the Actor of V_2 is the causee.

- (30) a. Ipobirud nopo dialo manganu at tobu toh.
 IV-CAUS-twist only 3sg AV-TR1-take NOM sugar.cane PRT
 ‘Just have him twist the sugar cane off (pick by twisting).’
- b. Subai ipeerot noh di tanak pootub i tuung.
 PRT IV-CAUS-tight FOC ACC child AV-TR2-cover NOM box
 ‘You’d better make the child close the lid of the box tightly.’

However, if the rule of resultative complex predicate formation can apply before the rule of causative formation, there would be no violation here. A basic, non-causative resultative construction would serve as input to the morphological causative rule. This input form would have a single, unambiguous Actor (e.g. ‘the child’, in (30b)), and this Actor would become the causee of the derived causative. A simplified sketch of a the derivation for (30b) is presented in (31). However, more investigation is needed to determine whether this is the correct analysis for these examples.

- (31) a. **Base form:** *tighten* < A , U >
- b. **complex pred.** *tighten* < A , U , MEANS >

