

OBJECT ALTERNATIONS IN KIMARAGANG

PAUL KROEGER
Graduate Institute of Applied Linguistics
paul_kroeger@gial.edu

JIM JOHANSSON
SIL
jim_johansson@sil.org

Many English verbs that allow object alternations have Kimaragang translation equivalents which alternate in very similar ways, in spite of the major morphological and syntactic differences between the two languages. This observation suggests that there must be a semantic basis for such alternations. We consider several different alternation patterns in Kimaragang in light of a proposal by Levin and Rappaport Hovav, who suggest that object alternations are impossible when the lexically specified event structure of the verb is complex; and we propose independent tests for event complexity in Kimaragang.

Levin and Rappaport Hovav (L&RH; see references below) observe that the potential for object alternations in English is to some extent predictable based on the meaning of the verb.¹ They note that verbs which allow alternations, like those in (1–5), are primarily transitive activity verbs. In contrast, verbs like those in (6–8), which specify a caused change of state, do not allow such alternations. They propose that the complexity of the verb's event structure is the critical factor. Only verbs whose inherent, lexically specified event structure is simple can alternate. Verbs with complex lexical event structures cannot alternate.

- (1) a. Jack sprayed paint on the wall.
b. Jack sprayed the wall with paint.
- (2) a. Mary wiped the crumbs off the counter.
b. Mary wiped the counter (clean / ??of crumbs).
c. Mary wiped the cloth across/over counter.
- (3) a. Sam dug a hole.
b. Sam dug a bushel of potatoes.
c. Sam dug the sand out of his foxhole.
d. Sam dug his shovel into the ground.
- (4) a. Arthur made a fur coat (out of the rabbit skins).
b. Arthur made the rabbit skins into a fur coat.
- (5) a. Will carved a toy pistol (out of a block of soap).
b. Will carved the block of soap into a toy pistol.
- (6) a. Jack covered the wall with paint.
b. *Jack covered paint onto the wall.

¹ Our thanks to Beth Levin for comments on an earlier draft of this paper.

- (7) a. The cook cracked the eggs into the mixing bowl.
 b. #The cook cracked the mixing bowl with eggs. (cannot mean that the eggs cracked.)
- (8) a. Mary broke the window with a hammer.
 b. #Mary broke the hammer against/into the window.
 (cannot mean that the window broke.)

Not all accomplishment verbs in the traditional sense are considered to have complex event structures. For example, *build a house* and *recover from a disease* are often cited as typical accomplishments. L&RH argue that events of this type are not structurally complex, because the sub-events that make up the event are “necessarily temporally dependent.” As soon as the house is built, the process of building is complete. As soon as the patient is well, the process of recovering is complete. No time can elapse between the process or activity and the resulting change of state. Notice that many verbs of creation can in fact alternate, as illustrated in (4–5).

Contrast this situation with a lexical causative like *kill*. I can kill a rat by putting out poison bait. I may put out the bait on Monday, the rat may eat the bait on Friday and die three days later. Thus there can be a considerable time lapse between the causing event and the result event. L&RH state that verbs with complex lexical event structures are always lexical causatives whose sub-events are not related by necessary temporal dependence. It is verbs of this type which are predicted never to alternate.

Notice that the alternations illustrated in (1–5) are not triggered by the presence of any affix on the verb, e.g. an applicative. Rather, the alternate senses are both available for the same root form. Notice also that all of the forms in these examples involve monotransitive clauses. L&RH argue that the Dative alternation illustrated in (9), which creates a double object construction (a ditransitive clause) in which the primary object is a recipient, is a very different kind of pattern (see L&RH 2002 and references cited there). The alternations illustrated above involve not a change in transitivity but a choice as to which participants in the event will be syntactically expressed, and how they will be expressed (term vs. oblique argument).

- (9) a. Arthur gave a fur coat to his grandmother.
 b. Arthur gave his grandmother a fur coat.

Of course, the term “object alternation” does not refer simply to the identity of the surface direct object. Passive forms of the sentences in (1–5) are grammatical and exhibit the same semantic contrasts as their active counterparts: *paint was sprayed on the wall* vs. *the wall was sprayed with paint*, etc.

Kimaragang, a Dusunic language of northeastern Borneo, is quite different from English in both morphological and syntactic structure; yet we find similar alternations with a number of verbs, as illustrated in the following section. Because the encoding of grammatical relations is so different from English, it may not be immediately obvious what kinds of examples should count as “object alternations” in Kimaragang. We adopt the following criteria: (a) both/all of the

alternate forms should be transitive; (b) the alternation involves a change in the identity of the Undergoer (see section 2 for a clarification of the term UNDERGOER); and (c) the alternation is not triggered by the presence of an affix.

In Kimaragang as in English, the effects of voice are largely orthogonal to the issues under discussion here. However, Kimaragang's rich Philippine-type voice system makes it somewhat more difficult in many cases to determine whether or not the alternations are in fact triggered by an affix. For this reason, we begin in section 1 with examples where exactly the same verb forms (and in particular the same voice categories) are used for both of the alternate senses. The existence of such examples is somewhat surprising, given the tendency for Philippine-type languages to use a distinct voice marker for each argument.

In section 2 we discuss alternations which do not involve any re-assignment of voice categories, but do involve a contrast in the stem prefix (seen most clearly in the active voice). We suggest that these alternations reflect a change in the speaker's PERSPECTIVE on the event, in the sense of Fillmore (1977). In section 3 we discuss alternations in which the different senses of the verb assign different voice categories to the same participant (e.g., the goal in a verb of imparted motion). We conclude in section 4 by assessing the Kimaragang facts in light of L&RH's theory of alternations, and suggesting ways in which additional Kimaragang data could be used to test that theory more directly. The reader should bear in mind that this study is still in its preliminary stages, and the conclusions presented here are highly tentative.

1. ARGUMENT ALTERNATIONS

Let us begin by considering the examples in (10) using the verb *ukad* 'dig'. As these examples illustrate, this verb has two uses corresponding to the English alternation between 'dig a hole' vs. 'dig potatoes'. Moreover, the same verb forms can be used in either of these senses. In (10a) the verb appears in Active Voice (AV), with the actor as subject, and in (10b) in Objective Voice (OV) with the patient as subject. Both of these forms permit the same alternation, illustrating our earlier statement that voice is largely orthogonal to the kind of object alternations we are interested in.

- (10) a. Mong-ukad i ama do bayag/luwang suwab.
 AV.U_t-dig NOM father ACC sweet.potato/hole tomorrow
 'Father will dig sweet potatoes/a hole tomorrow.'
- b. Siomboh it bayag/luwang dit n-ukad-Ø nu?
 where NOM sweet.potato/hole REL PAST-dig-OV 2sg.GEN
 'Where are the sweet potatoes/is the hole that you dug?'

The chart in (11) lays out a paradigm for the voice, tense and mood categories in Kimaragang. In the examples that follow we have tried to control for tense and mood, although this is not always possible with the data available. Nevertheless, it is clear that tense and mood are irrelevant to the issues being discussed here.

(11) Kimaragang verbal inflection (Kroeger, 2005)

VOICE CATEGORY	NON-PAST	PAST	IMPERATIVE/ ATEMPORAL	POTENTIVE
Actor (AV)	<i>m- / -um-</i>	<i>m-in- / -in-um-</i>	\emptyset -	(no)ko-
Objective (OV)	<i>-on</i>	<i>-in-__-\emptyset</i>	<i>-o'</i>	(n)o-__- \emptyset
Dative (DV)	<i>-an</i>	<i>-in-__-an</i>	<i>-ai</i>	(n)o-__-an
Instrument (IV)	<i>i-</i>	<i>n-i-</i>	---	(no)ko-
Locative (LV)	<i>-on</i>	<i>-in-__-on</i>	---	(n)o-__-on

Object alternations like the one illustrated in (10) are attested for a number of other activity verbs including *urud* ‘squeeze out, express’ (12), and the denominal verb *monurud* ‘to rake’ from the noun *surud* ‘rake’ (13). (Only the Objective Voice forms are presented here, but in each case the same alternation would be possible in the AV as well.)

(12) a. *Urud-on dogon iti kupos diti.*
 squeeze-OV 1sg this.NOM boil this
 ‘Squeeze this boil for me.’

b. *Urud-on dogon it nana mantad sid kupos diti.*
 squeeze-OV 1sg NOM puss from DAT boil this
 ‘Squeeze the puss out of this boil for me.’

(13) a. *Surud-o’ noh pogi i susut owoh....*
 rake-OV.IMPER FOC PRTCL NOM *kolong* PRTCL
 ‘You’d better rake the space under the house (or father will scold you).’

b. *Surud-o’ poh ilo sinupot.*
 rake-OV.IMPER FOC that.NOM trash
 ‘Rake up that trash.’

1.1 Action distributed over a surface

The alternations illustrated in (10) and (12–13) involve verbs marked for Objective Voice (OV). Transitive verbs expressing action that is distributed over a surface often appear in the Dative Voice (DV) rather than OV. Some of these verbs alternate in a similar way to those above, as illustrated in (14–15). As these examples demonstrate, the Undergoer of *woog-an* ‘wash (DV)’ may be either the surface being washed (‘wash the porch’) or the material being washed away (‘wash the dirt off the porch’). Similarly, the Undergoer of *tutud-an* ‘burn (DV)’ may be either a field which is being burned off for planting, or specific combustible items (logs, letters, etc.).

(14) a. *Awasi tu w[in]oog-an dialo i tilob yoh.*
 good because [PAST]wash-DV 3sg NOM vomit 3sg.GEN
 ‘It is a good think he washed up his vomit.’

- b. N-o-woog-an ku noh i burunsut di ki-tetee.
 PAST-POTENT-wash-DV 1sg.GEN COMPL NOM porch REL EXIST-feces
 ‘I have washed the porch, that was covered with droppings.’
- (15) a. O-tutud-an poh i rilik diri om
 POTENT-burn-DV INCOMPL NOM cleared.field that and
 tanam-an nogi do togilai.
 plant-DV then ACC maize
 ‘Burn off the cleared field first, and then plant it with maize (corn).’
- b. T[in]utud-an dialo i tongo surat di kakawan yoh ...
 [PAST]burn-DV 3sg NOM PL letter GEN sweetheart 3sg.GEN
 ‘She burned the letters from her sweetheart...’

The verb *wuaw* ‘scare away’ (e.g., birds from a rice field) follows the same morphological pattern, although it does not involve actual contact with the affected surface. The Undergoer may be either the field being guarded or the pests being driven away.

- (16) a. Subai.ko wuaw-an i pirit tu mang-awi di parai.
 must shoo-DV NOM sparrow because AV-finish.off ACC rice
 ‘You have to scare away the sparrows or they will eat up all the rice.’
 (said when the rice is almost ready to harvest)
- b. Wuaw-ai noh inoh sayur.manis tu kotop-on do kambing.
 shoo-DV.IMPER FOC that(NOM) sweet.veg because graze-OV GEN goat
 ‘Guard (lit. chase (pests) away from) the *sayur manis* (a favorite vegetable species) or the goats will eat it up.’

1.2 *Verbs of removal from a surface*

Verbs that express the removal of “stuff” from a surface often allow a similar kind of alternation. In the Active Voice, either the stuff or the surface may be expressed as a core argument, as illustrated in (17); compare the English examples in (2). The choice of non-active voice category depends on which of these participants is chosen for syntactic expression. If the stuff is expressed as subject, the verb will be marked for Objective Voice, as in (18a). If the surface is expressed as subject, the verb will be marked for Dative Voice, as in (18b).

- (17) Mong-imuaw yalo do saap / lapik.
 AV.U₁-sweep 3sg.NOM ACC dead.leaves / floor
 ‘He is sweeping the dead leaves / floor.’
- (18) a. Imuaw-o’ poh iti togis, ogumu sitid lapik.
 sweep-OV.IMPER yet this(NOM) sand much here.DAT floor
 ‘Sweep this sand (up/away), there is a lot here on the floor.’

- b. Imuaw-ai poh at lamin tokou osupot.
 sweep-DV.IMPER yet NOM room 1pl.INCL trashy
 ‘Sweep our room, it is filthy.’

The same pattern of alternation occurs with *piid* ‘wipe’ and *gamas* ‘clear grass; mow’, as illustrated in (19–21). In the latter case, DV is used for either the land being cleared of grass (20b) or the crops planted on the land where grass is cleared (21a). When the crop itself has a long soft stalk like grass, OV may be used to signal an unwanted result (21b).

- (19) a. Piid-ai poh ilo mija dat p[in]ang-akan-an tokou didiri.
 wipe-DV.IMPER yet that(NOM) table REL [past]U_t-eat-DV 1pl.INCL just.now
 ‘Wipe the table where we ate just now.’

- b. Piid-o’ poh ilo milo dit n-o-bubus-Ø nu.
 wipe-OV.IMPER yet that(NOM) Milo REL PAST-NONVOL-spill-OV 2sg.GEN
 ‘Wipe up the Milo that you spilled.’

- c. Momiid yalo dit langou / todung yoh.
 AV.U_t-wipe 3sg.NOM ACC snot / nose 3sg.GEN
 ‘He is wiping his nose / snot.’

- (20) a. N-a-gamas-Ø ku noh it sakot sid gopu ku.
 PAST-POTENT-mow-OV 1sg.GEN COMPL NOM porch DAT garden 1sg.GEN
 ‘I mowed/cleared the grass in my garden.’

- b. N-a-gamas-an ku noh it gopu ku.
 PAST-POTENT-mow-DV 1sg.GEN COMPL NOM garden 1sg.GEN
 ‘I cleared my garden (of grass).’

- (21) a. G[in]amas-an dialo i kasang t[in]anom-Ø ku.
 [PAST]mow-DV 3sg NOM bean [past]-plant-OV 1sg.GEN
 ‘He cut the grass around the beans that I planted.’

- b. G[in]amas-Ø dialo i kasang t[in]anom ku bala diri.
 [PAST]mow-OV 3sg NOM bean [past]-plant-OV 1sg.GEN PRCL this
 ‘He mowed down the beans that I planted!’

1.3 Verbs of creation

The alternations we have discussed thus far involve a choice among two or more possible participants, only one of which can be expressed as an argument in any particular clause. (Other participants are occasionally expressed as adjuncts, as in [12b] and [20a], or by using an additional predicate, as in [14b].) Some verbs of creation also allow object alternations, including *waal* ‘make, build’ (22); *watuw* ‘weave (mat or basket)’ (23); and *awol* ‘weave (cloth)’

(24); cf. the English examples in (4–5) above. With these verbs, either the material or the product can be expressed as subject using the OV form of the verb. When the material is expressed as subject, the product can still be expressed as a core argument as in (22a), (23b), (24a).

- (22) a. Waal-o' noh dialo i tapung do kuui.
 make-OV.IMPER FOC 3sg NOM flour ACC cake
 'Make that flour into cakes for him.'
- b. Minomoli yalo dot kuui di w[in]aal-Ø ku.
 AV.PAST.buy 3sg.NOM ACC cake REL [PAST]make-OV 1sg.GEN
 'He bought the cakes that I made.'
- (23) a. W[in]atuw-Ø di aki iti saab.
 [PAST]weave-OV GEN grandfather this.NOM tray
 'Grandfather wove this winnowing tray.'
- b. W[in]atuw-Ø dialo do bakul bala i lias diri.
 [PAST]weave-OV 3sg ACC basket PTCL NOM cane that
 'He wove that cane into a basket.'
- (24) a. Amu a-awol-Ø ot kulit do kayu do baju.
 NEG POTENT-weave-OV NOM skin GEN basket ACC dress
 'Bark cannot be woven into a dress.'
- b. N-awol-Ø ku iti tapi diti.
 PAST-weave-OV 1sg.GEN this.NOM sarong this
 'I wove this sarong.'

Notice that many of the verbs used in the examples presented thus far are translation equivalents of verbs that alternate in English. This supports the hypothesis that there is a semantic basis for this type of object alternation; it is not just an idiosyncratic property of a random set of verbs. In fact, cross-linguistically it appears to be fairly common for verbs in these same semantic classes to allow object alternations. Some Warlpiri examples from Laughen (1988) are presented in (25–26), and a Hebrew example from RH&L (1996) in (27). Section 2 will discuss a somewhat different type of object alternation.

- (25) a. Watiya=rna paka-rnu ngajulu-rlu (jurlarda-ku).
 tree=1sg chop-PAST 1sg-ERG (honey-DAT)
 'I chopped the tree (for honey).'
- b. Jurlarda=rna paka-rnu ngajulu-rlu (watiya-rla).
 honey=1sg chop-PAST 1sg-ERG (tree-LOC)
 'I chopped out the honey (in the tree).'

- (26) a. Walya=rna pang-rnu ngajulu-rlu.
 earth=1sg dig-PAST 1sg-ERG
 ‘I dug the earth.’
- b. Yarla=rna pang-rnu ngajulu-rlu.
 yam=1sg dig-PAST 1sg-ERG
 ‘I dug yams.’
- (27) a. Titeti et ha-ricpa.
 I.swept ACC the-floor
 ‘I swept the floor.’
- b. Titeti et ha-perurim me-ha-xeder.
 I.swept ACC the-crumbs from-the-room.
 ‘I swept the crumbs from the room.’

2. “PERSPECTIVE” ALTERNATIONS

2.1 *The Theme-Goal alternation*

Both sentences in (28) contain transitive verbs formed from the intransitive root *suwang* ‘enter’. Both verbs are marked for Active Voice; they differ only in the choice of stem prefix, *po-* vs. *poN-*. (The AV marker is realized as \emptyset - before *po-*.) The choice of prefix correlates with a difference in the case marking of the goal, ‘basket’: dative in (28a), but accusative in (28b). The contrast in the stem prefix also has semantic consequences, such as wholistic interpretation and potential individuation. For talking about a single fish, only (28a) would be appropriate, and not (28b); but (28b) implies that the basket is completely filled, while (28a) does not carry this implication. Thus, as indicated in the English glosses, the verb *posuwang* is best translated ‘put into’, while *monuwang* is best translated ‘fill with’.

- (28) a. \emptyset -po-suwang okuh diti sada sid pata’an.
 AV-U_n-enter 1sg.NOM this(ACC) fish DAT basket
 ‘I will put this fish in a/the basket.’
- b. Monuwang(m-poN-suwang) okuh do pata’an do sada.
 AV-U_t-enter 1sg.NOM ACC basket ACC fish
 ‘I will fill a basket with fish.’

While these contrasts are clearly correlated with the choice of stem prefix, *po-* vs. *poN-*, the prefixes themselves do not trigger the changes in case marking and semantics. Both of the sentences in (29) share the same semantic properties as (28a), and (29a) also marks the goal in the dative case. (The goal is the subject, and thus gets nominative case, in [29b].) But notice that the verb in (29a) does not bear any stem prefix. In fact, the three verb forms in these examples, *po-suwang* (AV), *i-suwang* (IV) and *po-suwang-an* (DV), share no affix in common; yet all three

express the same ‘put into’ sense of the verb. Similarly, the two verb forms in (30) share the same ‘fill with’ sense as (28b), but the three verbs have no affix in common.

- (29) a. Subai.ko i-suwang inoh parai sid kadut.
 should IV-enter that(NOM) rice DAT gunnysack
 ‘You should/must put that rice into a gunnysack.’
- b. Nunuh ot po-suwang-an nu dit togilai nu?
 what NOM U_n-enter-DV 2sg.GEN ACC corn 2sg.GEN
 ‘What will you put your corn into? (to store or carry)’
- (30) a. S[in]uwang-an dialo dot togilai ilo bakul yoh.
 [PAST]enter-DV 3sg ACC corn that(NOM) basket 3sg.GEN
 ‘He filled his basket with corn.’
- b. Amu kosukup ilo weeg dot Ø-poN-(s)uwang do botung.
 NEG enough that(NOM) water COMP IV-U_t-enter ACC paddy.field
 ‘There is not enough water to fill up the paddy field.’

Thus the alternation between the two senses in (28–30) is technically not affix-driven, since there is no affix whose presence or absence determines the intended sense. On the other hand, this alternation is different from most of those discussed in the previous section in that it does have morphological consequences. None of the individual verb forms in (28–30) can be used in both senses, unlike the forms illustrated in section 1. Rather, it appears that both of the transitive senses (as well as an intransitive sense) are available for the root *suwang*, and that an inflected form from the appropriate paradigm is selected based on which sense is intended. The two transitive paradigms are spelled out in (31). Notice that for each argument, the same voice category is used in both paradigms.

(31) **Theme-Undergoer and Goal-Undergoer paradigms**

VOICE / SUBJECT	U = THEME	U = GOAL
AV / Actor	<i>Ø-po</i> -Root (28a)	<i>m-poN</i> -Root (28b)
IV / Theme	<i>i</i> -Root (29a)	<i>Ø-poN</i> -Root (30b) ²
DV / Goal	<i>po</i> -Root- <i>an</i> (29b)	Root- <i>an</i> (30a)

The contrast between these two paradigms seems to involve a choice between two PERSPECTIVES (in the sense of Fillmore, 1977) which a speaker may adopt to describe the same basic action. From one perspective, the speaker’s primary interest is the effect of the action on

² We are assuming a zero allomorph of the IV marker before *poN*-. The voice marker is overt in the corresponding Labuk Kadazan forms, e.g. *ipongotob* (*i-poN-kotob*) ‘cut (IV)’; see Hurlbut (1988:61).

the displaced theme. From the other perspective, the speaker's primary interest is the effect on the goal.

Following Jackendoff (1990), we assume that "affectedness" (the relation between the Actor and the thing acted upon) is to some extent independent of thematic relations such as source, theme, goal etc. We will use the term UNDERGOER (Foley and Van Valin, 1984), rather than Jackendoff's term "patient", to refer to the argument which is viewed as being acted upon or whose affectedness is of primary interest. The verb forms in (28a) and (29) share the same perspective on the event, taking the displaced theme as Undergoer. The verb forms in (28b) and (30) share the opposite perspective, taking the goal as Undergoer.

Kroeger (1996) describes the distribution of the two stem prefixes, *po-* and *poN-*, as follows: no stem prefix is used when the Undergoer is selected as subject, by the appropriate voice marker. Whenever the Undergoer of a transitive verb is not selected as subject, the verb must bear one of the two stem prefixes. The *poN-* prefix is used if the Undergoer is the argument which delimits the event (the terminus or end-point of the event, e.g. the goal), while *po-* is used if the Undergoer is not the argument which delimits the event (e.g. a displaced theme or instrument).

The contrast between the Theme-Undergoer and Goal-Undergoer perspectives can be considered a type of object alternation, under the definition we adopted in the introduction to this paper: both senses are transitive, the alternation involves a change in the identity of the Undergoer, and the alternation is not triggered by a particular affix. A substantial number of other transitive motion or transfer verbs also participate in this alternation, using the same inflectional paradigms listed in (31). One of these is *ta'ak* 'give'. The forms \emptyset -*pa-ta'ak* (AV), *i-ta'ak* (IV) and *pa-taak-an* (DV) share the Theme-Undergoer perspective. They always imply a physical change of location or possession for the displaced theme, whether or not there is a change of ownership. The forms *m-poN-ta'ak* (AV), \emptyset -*poN-ta'ak* (IV) and *taak-an* (DV), on the other hand, share the Goal-Undergoer perspective. These always imply a change of ownership, whether or not there is a physical change of location. See Kroeger (1996) for examples.

The semantic contrast between these two perspectives is illustrated in (32). The noun *tana* is ambiguous between the meanings 'land' and 'dirt'. Thus example (32a) 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 Goal-Undergoer form with *poN-* implies change of ownership and dirt is seldom given as a gift. However, the Theme-Undergoer form with *po-* in (32b) implies a physical transfer of possession. Since a piece of land cannot be physically moved (at least, not by human agency), example (32b) can only mean 'I will give you some dirt'.

- (32) a. Mana'ak(m-poN-ta'ak) oku dikau do tana.
 AV-U_t-give 1sg.NOM 2sg.DAT ACC earth
 'I will give you some land/dirt.'

- b. Ø-pa-ta'ak oku dikau do tana.
 AV-U_n-give 1sg.NOM 2sg.DAT ACC earth
 'I will hand you some dirt (*land).'

Another example of a verb that participates in the Theme-Goal alternation is *tuntug* 'pour'. This root follows the same morphological paradigms listed in (31). To save space, only a single example is cited here from each paradigm: (33a) for the Goal-Undergoer perspective, and (33b) for the Theme-Undergoer perspective. (The semantic contrast between these two senses is difficult to reproduce in English, because the English verb 'pour' does not alternate.)

- (33) a. Tuntug-an tekaw(ku-ikaw) do weeg.
 pour-DV 1sg.GEN-2sg.NOM ACC water
 'I'm going to pour water on you.'
- b. N-i-tungtug dialo i p[in]oN-woog-an do wagas sid bunga.
 PAST-IV-pour 3sg NOM [PAST]U_t-wash-DV ACC rice DAT flower
 'He poured the (water) that the uncooked rice was washed in onto the flowers.'

2.2 *The Affected Instrument alternation*

Another interesting pattern of perspective alternation is illustrated in (34–35). The sentences in (34) show the normal transitive (accomplishment) usage of the root *lapak* 'split'. (This same root also has an unaccusative sense, with different affixation.) In this normal usage, the speaker's perspective is focused on the effect of the action on the patient, in this case the coconut. Following the generalization stated in the previous section, when the Undergoer patient is selected as subject (34b), the verb does not bear any stem prefix. In all other voices (34a,c), the stem prefix *poN-* must occur.

- (34) a. Mangalapak(m-poN-lapak) oku do niyuw.
 AV-U_t-split 1sg.NOM ACC coconut
 'I will split a coconut / some coconuts.'
- b. Lapak-on ku do kapak ilo' niyuw ku.
 split-OV 1sg.GEN ACC axe that(NOM) coconut 1sg.GEN
 'I will split my coconuts with an axe.'
- c. Tongoh ot pangalapak(Ø-poN-lapak) nu dilo' niyuw?
 what REL IV-U_t-split 2sg.GEN that(ACC) coconut
 'What will you split those coconuts with?'

Under unusual circumstances, the instrument (rather than the patient) may be encoded as the Undergoer, as illustrated in (35). In these examples, the speaker adopts a perspective which is more concerned with effect of the action on the instrument than on the patient. Sentence (35a) carries the implication that the speaker wants to test the sharpness or strength of the instrument

(the axe), while the implication in (35b) is that the action will be harmful to the instrument (the bush knife). Since the Undergoer (the instrument) is selected as subject in (35b), no stem prefix appears on the verb. In (35a), however, the Actor is selected as subject and the verb bears the stem prefix *po-*. The paradigms associated with these two senses are listed in (36).

- (35) a. Ø-pa-lapak oku poh diti kapak nu do niyuw.
 AV-U_n-split 1sg.NOM yet this(ACC) axe your ACC coconut
 ‘I will (or ‘Let me’) split some coconuts with your axe.’
- b. Nokuroh.tu n-i-lapak nu do niyuw inoh dangol ku?
 why PAST-IV-split 2sg.GEN ACC coconut that(NOM) bush.knife 1sg.GEN
 ‘Why did you use my bush knife to split coconuts?’

(36) **Patient-Undergoer and Instrument-Undergoer paradigms**

VOICE / SUBJECT	U = Patient	U = Instrument
AV / Actor	<i>m-poN</i> -Root (34a)	<i>Ø-po</i> -Root (35a)
OV / Patient	Root- <i>on</i> (34b)	??
IV / Instrument	<i>Ø-poN</i> -Root (34c)	<i>i</i> -Root (35b)

The verb *lapak* ‘split’ is clearly a result verb (an accomplishment), but the affected instrument construction occurs with manner (activity) verbs as well. Some examples are presented in (37).

- (37) a. Nokuroh.tu’ n-i-ansap nu do poring inoh dangol ku?
 why PST-IV-scrape 2sg.GEN ACC bamboo that(NOM) bush.knife my
 ‘Why did you use my bush knife to scrape bamboo?’
- b. Sagai bala amu noh a-tarom iti pisou
 PRTCL PRTCL not COMPL STAT-sharp this(NOM) knife
 n-i-gamas nu boh.
 PST-IV-cut.grass 2sg.GEN PRTCL
 ‘No wonder this knife isn’t sharp any more, you used it to cut grass!’
- c. Nokuroh.tu’ i-piid nu ino tapi ku
 why IV-wipe 2sg.GEN that(NOM) sarong 1sg.GEN
 dino sobu do tanak oi?
 that urine GEN child Q
 ‘Why are you using that sarong of mine to wipe up the child’s urine?’

3. VERB CLASS ALTERNATIONS

In section 1 we discussed alternations that were morphologically unmarked: the identical verb forms could be used with either sense. In section 2 we discussed alternations that were reflected

in the choice and distribution of the stem prefix, although the assignment of arguments to voice categories remained the same in both senses. In this section we discuss alternation patterns in which the two senses of the verb assign different voice categories to what seems to be the same argument. The verb meaning ‘throw’, for example, uses DV for the goal argument in one sense but OV in its other sense. These patterns are less well understood than those discussed in sections 1–2, but our tentative hypothesis is that in these cases, the alternation involves a shift in the event type or semantic class of the verb.

Verbs of imparting motion normally take the same pattern of voice marking as ‘put’ and ‘give’, illustrated in (28–32). The verb *pilay* ‘throw’ is typical in this regard, using IV for the displaced theme (38b) and DV for the goal (39).

- (38) a. Amu elo’ yalo Ø-po-pilay do bula.
 not know 3sg.NOM AV-U_n-throw ACC ball
 ‘He doesn’t know how to throw a ball.’
- b. Ababak ot kasa ong i-pilai sid pampang.
 break NOM bottle if IV-throw DAT rock
 ‘A bottle will break if it is thrown against a rock.’
- (39) P[in]ilay-an ku nopoh ilo’ tasu do takanon
 [PAST]-throw-DV 1sg.GEN only that.NOM dog ACC rice
 ‘I just threw the rice to that dog (because I was afraid he would bite me).’

However, the root can also mean ‘throw at; pelt’, and in this sense it follows the paradigm of typical verbs of impingement such as ‘beat’, ‘whip’, etc. (Many accomplishment verbs also follow this paradigm, as seen in [34].) This alternate sense is illustrated in (40). Notice that the goal argument, which takes the DV form in (39), takes the OV form in (40b), like a patient of a typical verb of impingement. This shift in voice category is an indicator that a different type of event is being described.

- (40) a. M-ongoi oku poh momilay(m-poN-pilay) dilo mangga.
 AV-go 1sg.NOM yet AV-U_t-throw that mango
 ‘I’m going to knock down those mangoes (by throwing something at them).’
- b. P[in]ilay-Ø dialo do pampang i tulu di manuk.
 [PAST]-throw-OV 3sg ACC rock NOM head GEN chicken
 ‘He threw a rock at (and hit) the chicken’s head.’

A minimal pair showing the contrast between OV and DV is presented in (41). The OV form in (41a) has only the impingement sense, ‘throw at; pelt’. The DV form in (41b) is ambiguous, and may be interpreted in either of the two senses discussed above. The first translation involves the imparting motion sense, with DV used for the goal or recipient as in (39). The second translation involves the benefactive usage of DV (Kroeger 1996) with the impingement sense of the verb.

(41) a. Pilay-on tekaw(ku-ikaw) do mangga!
 throw-OV 1sg.GEN-2sg.NOM ACC mango
 ‘I’m going to throw a mango at you!’

b. Pilay-an tekaw(ku-ikaw) do mangga.
 throw-DV 1sg.GEN-2sg.NOM ACC mango
 ‘I will toss you a mango.’ or:
 ‘I will knock down some mangoes for you (by throwing something at them).’

The root *tunguw* ‘pour’ allows the same pattern of alternation. In its imparting motion sense it seems to be more or less synonymous with the root *tuntutug* and follows the same inflectional paradigm; compare (42) and (43) with (33a,b) above. In its impingement sense the root means ‘to water; to pour something (usually water) on’, as illustrated in (44).

(42) I-tunguw sid poonumadan do tasu it weeg di sada ...
 IV-pour DAT U_t-feed-DV GEN dog NOM water GEN fish
 ‘Pour the water from (cleaning) the fish into the dog’s feeding dish.’

(43) Tungu-ay po do tinasak ilot lampu ku.
 throw-DV.IMPER yet ACC oil that.NOM lamp 1sg.GEN
 ‘Fill my lamp with oil.’

(44) a. Yoku ot m[in]onunguw dino tinorimo dino ...
 1sg.TOP NOM AV-[PAST]-U_t-pour that.ACC cooked.rice that
 ‘I was the one who added water to the rice (being cooked)...’

b. Tungu-on it sada ki-owoh ...
 pour-OV NOM fish PRCL
 ‘Add water to the fish, okay?’ (when cooking; to make gravy)

The verb ‘plant’ in English exhibits an interesting pattern of alternations:

- (45) a. The farmer planted wheat in his field.
 b. The farmer planted his field with wheat.
 c. Sir Edmund Hillary planted a flag on the summit.
 d. *Sir Edmund Hillary planted the summit with flags.

A very similar pattern is found in the Kimaragang translation equivalent, *tanom*. When discussing crops, this verb follows the paradigm discussed in section 1.2 above for verbs of removal from a surface; OV is used for the crop (46c) and DV for the land (see [15a] above).

(46) a. M[in]ananom okoi dit tinorodok sid botung yah.
 AV-[PAST]-U_t-plant 1pl.ex.NOM ACC rice.seedling DAT field 1pl.ex.GEN
 ‘We planted the rice seedlings in our paddy field.’

- b. M[in]ananom okoi dit botung yah do togilai.
 AV-[PAST]-U_t-plant 1pl.ex.NOM ACC field 1pl.ex.GEN ACC maize
 ‘We planted our paddy field with maize.’
- c. Tonom-on nu poh i bibit di sayur sid batas.
 plant-OV 2sg.GEN yet ACC seedling GEN veggie DAT bund
 ‘Plant the vegetable seedlings on the bund/bank.’

When the root is used simply to mean ‘stick something in the ground’ a different paradigm is used, as illustrated in (47). This paradigm is typically associated with verbs of imparting motion (see sec. 2.1, in particular the first column of [31]). However, there does not seem to be a way for the goal (i.e., the ground) to be selected as subject in this sense. The bare (unprefixed) DV form only allows the crop-planting sense, as demonstrated in (48). We predict that *patanaman* should be possible in the second sense, but speakers seem reluctant to accept it. This remains a question for further research.

- (47) a. Ø-pa-tanom ino tatangan ki.
 AV-U_n-plant that(NOM) softwood.species PRCL
 ‘Stick those *tatangan* poles in the ground (for fenceposts), okay?’
- b. Subai i-tanom babanar ino torigi...
 PRCL IV-plant truly that(NOM) house.post
 ‘You must plant those house posts firmly into the ground.’
- (48) a. Amu awasi iti tana diti tanam-an do togilai/*torigi.
 not good this(NOM) land this plant-DV ACC corn/house.post
 ‘This land is no good to be planted with corn/*house posts.’
- b. T[in]anam-an ku it natad ku do bunga/*bandera.
 [PAST]plant-DV 1sg.GEN NOM yard 1sg.GEN ACC flower/*flag
 ‘I planted my yard with flowers/*flags.’

The root *ogot* ‘tie’ involves at least three distinct senses, but no two of them appear to fit into any of the alternation patterns discussed above. The OV form *ogot-on* means ‘tie a knot’; *i-ogot* (IV) means ‘tie x to y’ (e.g., tie a buffalo to a tree); and *ogot-an* (DV) means ‘tie something up’ (e.g. tie the legs of a pig together, or tie a door shut). Further study is required to account for these forms.

4. PREDICTED CORRELATIONS

L&RH claim that complex event structures block object alternation of the kinds illustrated in the English examples (1–5). Intuitively, the verbs involved in the alternations discussed in section 1 seem consistent with this hypothesis, while those in section 2 do not (i.e., both activity and accomplishment verbs seem to allow the “perspective” type of alternation). The alternations

discussed in section 3 need further investigation before any judgement can be made. One way to test the L&RH hypothesis would be to identify other constructions in Kimaragang which are possible only for roots whose lexically specified event structure is complex. If L&RH are correct, we would predict that alternating verb roots can never occur in these constructions.

We have tentatively identified two constructions that may have the desired properties. The first is a resultative construction in which the first verb names the result while the second verb names the manner or means, as illustrated in (49). Kroeger (2004) shows that the first verb must be either an unaccusative or an accomplishment predicate. It seems plausible that, in the latter case, the first verb must have a complex event structure. Since the result state is expressed by a separate lexical item from the activity that brings it about, there is unlikely to be a “necesary temporal dependence” between the two. If this hypothesis is correct, we would predict that alternating verb roots can never occur as the first verb in this construction. Based on the very limited corpus of examples we have examined thus far, this does in fact seem to be the case.

(49) a. N-a-rasak do karabau monginum(m-poN-inum) a weeg.
 PST-NVOL-dry.up GEN buffalo AV-U_t-drink NOM stream
 ‘The stream was drunk dry by buffaloes.’

b. N-a-patay-Ø kuh momobog i wulanut.
 PST-NVOL-kill-OV 1sg.GEN AV-U_t-beat NOM snake
 ‘I beat the snake to death.’

The second construction that may provide an independent test for complex event structure is illustrated in (50). We have not investigated the limits of this construction, but the oddness of (50c) suggests that it may not be possible to deny the result of an action in this way if the first verb names a simple event. If so, then this would be another context in which we would predict that alternating verb roots cannot occur. Obviously more work is required to confirm or disprove these hypotheses.

(50) a. M[in]amatay oku do wulanut nga’ amu m[in]atay.
 AV-[PAST]-U_t-die 1sg.NOM ACC snake but not AV-[PAST]-die
 ‘I killed a snake, but it didn’t die.’

b. M[in]angalapak oku do niyuw nga’ amu n-a-lapak.
 AV-[PAST]-U_t-split 1sg.NOM ACC coconut but not PAST-NONVOL-split
 ‘I split a coconut, but it didn’t split.’

c. ??M[in]omobog oku do tasu nga’ amu n-o-bobog.
 AV-[PAST]-U_t-beat 1sg.NOM ACC dog but not AV-[PAST]-beat
 ‘I beat a dog, but it wasn’t beaten.’

REFERENCES

- FILLMORE, CHARLES. 1977. The case for case reopened. In P. Cole & J. Sadock (eds.) *Grammatical Relations, Syntax and Semantics 8*, pp. 59–81. New York: Academic Press.
- FOLEY, WILLIAM. and ROBERT VANVALIN. 1984. *Functional syntax and universal grammar*. New York: Cambridge University Press.
- HURLBUT, HOPE. 1988. *Verb morphology in Eastern Kadazan*. *Pacific Linguistics* B-98.
- JACKENDOFF, RAY. 1990. *Semantic Structures*. Cambridge MA: MIT Press.
- KROEGER, PAUL. 1996. The morphology of affectedness in Kimaragang Dusun. In H. Steinhauer (ed.), *Papers in Austronesian Linguistics No. 3*. Pacific Linguistics A-84.
- . 2004. Backwards resultatives in Kimaragang Dusun. Paper presented at Syntax of the World's Languages-1, Leipzig, Germany. draft available at: <http://email.eva.mpg.de/~cschmidt/SWL1/handouts/Kroeger.pdf>
- . 2005. Kimaragang. In S. Adelaar & N. Himmelmann (eds.) *The Austronesian Languages of Asia and Madagascar*, pp. 397–428. London & New York: Routledge.
- LAUGHREN, MARY. 1988. Toward a lexical representation of Warlpiri verbs. In W. Wilkins (ed.) *Thematic Relations, Syntax and Semantics 21*, pp. 215–242. New York: Academic Press.
- LEVIN, BETH. 1999. Objecthood: An Event Structure Perspective. *Chicago Linguistic Society 35, volume 1*: 223-247.
- . 2003 ms. Objecthood and object alternations. Handout, Dept. of Linguistics, UCLA, May 2, 2003.
- . and MALKA RAPPAPORT HOVAV. 2002 ms. What Alternates in the Dative Alternation? Handout, The 2002 Conference on Role and Reference Grammar, Universidad de La Rioja, Logrono, Spain, July 27-28, 2002.
- . and ———. 2003 ms. Roots and Templates in the Representation of Verb Meaning. Handout, Dept. of Linguistics, Stanford University, Stanford, CA, May 15, 2003.
- PINKER, STEPHEN. 1989. *Learnability and cognition*. Cambridge MA: MIT Press.
- RAPPAPORT, MALKA and BETH LEVIN. 1988. What to do with theta-roles. In W. Wilkins (ed.) *Thematic Relations, Syntax and Semantics 21*, pp. 7–36. New York: Academic Press.
- RAPPAPORT HOVAV, M. and B. LEVIN. 1996. Two Types of Derived Accomplishments. In M. Butt and T.H. King (eds.) *Proceedings of the First LFG Conference*. Stanford, CA: CSLI Publications, pp. 375-388. available on-line at: <http://www-csli.stanford.edu/pubs/>
- and ———. 1998. Building Verb Meanings. In M. Butt and W. Geuder (eds.) *The Projection of Arguments: Lexical and Compositional Factors*, pp. 97-134. Stanford, CA: CSLI Publications.