

## Manner/result polysemy in Daakaka<sup>1</sup>

Jens Hopperdietzel

*The University of Manchester*

jens.hopperdietzel@manchester.ac.uk

### 1 Introduction

- In the underdocumented Vanuatu language Daakaka (Oceanic, Austronesian), a group of transitive verbs appear to be polysemous in lexicalizing either a manner or result meaning component.
- The verb *tiwiye*, for example, denotes an attempt of an agent to break something by applying manual force on its ends (~ a proto-typical 'breaking action'), without the entailment that the object actually breaks, when it occurs as an independent predicate.

(1) *Bong ma tiwiye pwesye ente.*  
Bong REAL press.manually.TR branch DEM  
'Bong pressed the branch manually.'

- Yet, *tiwiye* can also denote the result state of a change-of-state of an object, which can be translated as 'break', if it occurs in the non-initial position of a resultative serial verb construction (RSVC).

(2) *Bong ma ta tiwiye pwesye ente.*  
Bong REAL cut.ITR break.TR branch DEM  
'Bong broke the branch by cutting it.'

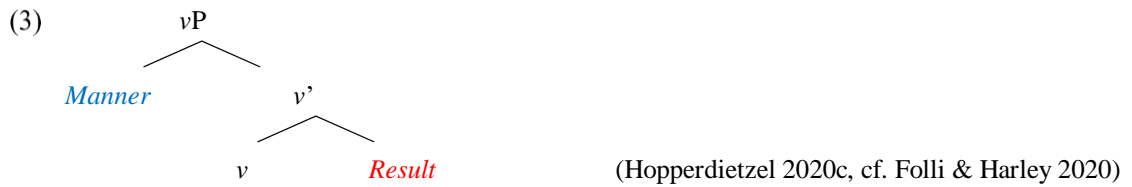
- By the application of manner/result diagnostics (e.g. Beavers & Koontz-Garboden 2020, Rappaport Hovav & Levin 2010), I demonstrate that while verbs like *tiwiye* can lexicalize manner and result meaning components, they do not simultaneously.
- Instead, the distribution of manner and result meaning is determined by the morphosyntactic environment:
  - ➔ independent *tiwiye* = manner interpretation (~ 'press manually')
  - ➔ serialized *tiwiye* = result interpretation (~ 'break')
- These observations have three major implications for a cross-linguistic study of lexicalization patterns and root meaning:
  - i) Roots can be underspecified, i.e. the same root can denote either the manner or result component of an event (i.e. manner/result polysemy; Levin & Rappaport Hovav 2013, 2014).

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**Glosses:** 1,2,3 = first, second, third person; DEM = demonstrative; INTR = intransitive; NEG = negation; PL = plural; REAL = realis mood; TR = transitive.

- ii) Manner and result meaning components are in complementary distribution, as polysemous verbs do not lexicalize manner and result components simultaneously (i.e. manner/result complementary; Rappaport Hovav & Levin 2010).
- iii) The complementary distribution of manner and result meaning components also suggests that manner/result polysemy is not derivational (cf. Monotonicity Hypothesis; Koontz-Garboden 2012).
- Focusing on the influence of the morphosyntactic environment, I propose a structural analysis of manner/result polysemy in Daakaka (Folli & Harley 2020, Alexiadou & Anagnostopoulou 2013, Mateu & Acedo-Matellán 2012).
- In particular, I argue that the relative syntactic position of a semantically underspecified, acategorial root to its event-introducing verbalizing head  $v$  determines the interpretation of the root as manner or result (cf. Arad 2005, Borer 2005).



- Therefore, Daakaka manner/result polysemy can be analyzed as a form of contextual root allosemy determined by the morphosyntactic context in which an underspecified root is inserted (Levinson 2014, 2010).

$$\begin{array}{ll}
 (4) \quad \sqrt{tiwiye} & \leftrightarrow \quad \lambda e. \text{press.manually}(e) \quad \backslash \quad [_{vP} \text{ } [_{v'} v (DP)]] \\
 & \leftrightarrow \quad \lambda s. \text{broken}(s) \quad \backslash \quad [_{vP} v \quad [_{ResP} \text{ } [_{Res'} Res DP]]]
 \end{array}$$

### **Outline:**

1. Introduction
2. The distribution of manner and result meaning
3. Manner/result polysemy in Daakaka
4. A configurational analysis
5. Discussion
6. Conclusion

## **2 The distribution of manner and result meaning**

- In this section, I provide some background on the (de)composition of verbal predicates regarding their event and argument structure that is relevant for the investigation of manner/result polysemy in Daakaka.
- Thereby, I discuss the distribution of manner and result meaning components in verbal predicates in English, showing that they are presumably in complementary distribution (i.e. manner/result complementary; Rappaport Hovav & Levin 2010).
- In particular, I show that the presence of a manner or result meaning component in verbal predicates can be detected by independent semantic and syntactic diagnostics.

## 2.1 Event (de-)composition

- In de-compositional approaches, verb meaning is divided into (i) event structure templates built from the combination of grammatical primitives (also: structural verb meaning) and (ii) roots (also: idiosyncratic verb meaning; Beavers & Koontz-Garboden 2020, Rappaport Hovav & Levin 1998, von Stechow 1996, Dowty 1979 inter alia).
  - The grammatical primitives that are relevant in this investigation are ACT, which denotes an abstract ACT(ion) event, and CAUSE, which introduces a causatives relation between two eventualities (Dowty 1979).
  - Predicates can differ with respect to their complexity and the contribution of the root:
    - Atomic predicates denote eventualities that cannot further be decomposed:
      - (i) dynamic ACTivities are modified by a (manner) root (5a);
      - (ii) states are named by stative roots themselves (5b).
- (5) a. **Activities:**  
       [x ACT<root> (y)]  
       [Peter ACT<wipe> (floor)]  
       *Peter **wiped** the floor.*
- b. **States**  
       [y <root>]  
       [floor <**clean**>]  
       *The floor is **clean**.*
- Complex predicates denote eventualities that can be further decomposed: In (causative) accomplishments, for example, an underspecified abstract ACTion event is in a CAUSative relation with a stative expression named by the root.<sup>2</sup>
- (6) **Causative accomplishments:**  
       [[x ACT] CAUSE [y <root>]]  
       [[Peter ACT] CAUSE [floor <**clean**>]]  
       *Peter **cleaned** the floor.*
- ⇒ Roots fall into ontological classes depending on their compositional function:
- (7) a.  $\sqrt{\text{manner}}$  (= event modifiers):  $\sqrt{\text{wipe}}$ ,  $\sqrt{\text{hammer}}$ ,  $\sqrt{\text{swim}}$ , etc.  
       b.  $\sqrt{\text{result}}$  (= event arguments):  $\sqrt{\text{clean}}$ ,  $\sqrt{\text{break}}$ ,  $\sqrt{\text{destroy}}$ , etc.

## 2.2 Manner result complementary

- Based on their investigation of the distribution of manner and result components in verbal predicates, Levin & Rappaport Hovav (1991 et seq.) propose the manner/result complementary as a lexicalization constraint on (verbal) predicates:<sup>3</sup>
- (8) **Manner/result complementary (Levin & Rappaport Hovav 2010: 25)**  
 Manner and result meaning components are in complementary distribution: a (mono-morphemic) verb lexicalizes only one.
- Therefore, the principle of manner/result complementary predicts that a single root cannot function as an event modifier and event argument simultaneously.
- (9) \* [[x ACT<root>] CAUSE [y <root>]]

<sup>2</sup> I follow Kratzer (2005) and Alexiadou et al. (2006) argumentation that a BECOME operator is superfluous as the CAUSative operator captures the semantic relation between the causing and the result eventuality. Note that the presence of a BECOME operator, as for example assumed by Beavers & Koontz-Garboden (2020), Levin & Rappaport Hovav (1998) or Dowty (1979) does not have an impact on the argumentation.

<sup>3</sup> For challenges and discussion see Beavers & Koontz-Garboden (2020), Melchin (2019) and Goldberg (2010).

- This constraint is based on several morphosyntactic and semantic diagnostics that are sensitive to the manner/result complementary, e.g. the conative and the anticausative construction (e.g. Beavers & Koontz-Garboden 2012, Rappaport Hovav & Levin 2010).
  - On the one hand, manner verbs, such as *wipe*, can appear in the conative construction whereas result verbs, such as *break*, cannot.
 

(10) a. *Peter **wiped** at the table.* CONATIVE CONSTRUCTION  
       b. # *Peter **broke** at the table.*
  - On the other hand, result verbs, such as *break*, can appear in the anticausative construction, whereas manner verbs, such as *wipe*, cannot.
 

(11) a. # *The table **wiped**.* ANTICAUSATIVE  
       b. *The table **broke**.*
- Cross-linguistic studies show the general tendency of manner/result complementary also holds for verbal predicates in many languages (e.g. Hopperdietzel 2020c, Gast et al. 2014, Alexiadou & Anagnostopoulou 2013).

### 2.3 Manner/result polysemy

- However, some verbs appear to lexicalize both manner and result meaning simultaneously, as they are sensitive to both manner and result diagnostics (Levin & Rappaport Hovav 2013, 2014, see also Beavers & Koontz-Garboden 2017, Alexiadou & Anagnostopoulou 2013).
  - In English, for example, the verb *cut* can appear in the conative construction (like manner verbs) (12a), but also in the anticausative construction (like result verbs) (12b).
 

(12) a. *Peter **cut** at the rope.* CONATIVE CONSTRUCTION  
       b. *The rope **cut** (on the rock).* ANTICAUSATIVE
  - While this observation seems to falsify the hypothesis of manner/result complementary, Levin & Rappaport Hovav (2013) demonstrate that in the manner use of *cut*, the result component drops out.
  - Therefore, it is possible to deny a result in the context of the conative construction (13a) but not in the anticausative construction (13b) (cf. Beavers & Koontz-Garboden 2012).
 

(13) a. *Peter **cut** at the rope,                      but the rope did not cut.*  
       b. *The rope **cut** (on the rock), # but the rope did not cut.*
- ⇒ Manner/result polysemy actually supports the underlying assumption of manner/result complementary as manner or result are not lexicalized simultaneously.

### 2.4 Summary

- Verbal predicates can be decomposed into semantic primitives providing the event structure template and lexical roots that contribute idiosyncratic meaning.
- Verbs differ in whether they lexicalize a manner or result meaning component. Crucially, both meaning components are in complementary distribution.
- Some verbs are polysemous in that they can realize either manner or result meaning.

### 3 Manner/result polysemy in Daakaka

- The distribution of manner and result meaning components has been primarily investigated in well-documented languages, such as English (but see Hopperdietzel 2020c, Gast et al. 2014, Majid & Bowermann (eds.) 2007 for notable exceptions).
- In this talk, I take a closer look on the distribution of manner and result in verbal predicates in the Oceanic language Daakaka which exhibits a class of polysemous verbs.
- The verb *tiwiye*, for example, appears to be ambiguous between a manner and a result verb determined by its morphosyntactic environment:
  - As an independent predicate, *tiwiye* denotes an attempt of an agent to break something by applying manual force on its ends (~ a proto-typical 'breaking action') without the entailment that the object actually breaks.

- (14) *Bong ma tiwiye pwesye ente.*  
 Bong REAL press.manually.TR branch DEM  
 'Bong pressed the branch manually.'



Figure 1: Manner *tiwiye* (Mokrane 2021.)

- In the non-initial position of resultative SVCs, it denotes a change into a broken state of the object.

- (15) *Bong ma tas tiwiye etastas ente*  
 Bong REAL sit break.TR bench DEM  
 'Bong broke the bench by sitting on it.'



Figure 2: Result *tiwiye* (Coquet 2021.)

- By the application of manner/result diagnostics, I demonstrate that polysemous verbs in Daakaka behave like their English counterparts in denoting either manner or result, but not simultaneously.

#### 3.1 Typological and methodological background

- Daakaka (Northern/Central Vanuatu, Oceanic, Austroneisan) is spoken by a relatively small community (~1,000 speakers) on the island of Ambrym, which belong to the Vanuatu archipelago in the Pacific Ocean (von Prince 2015).

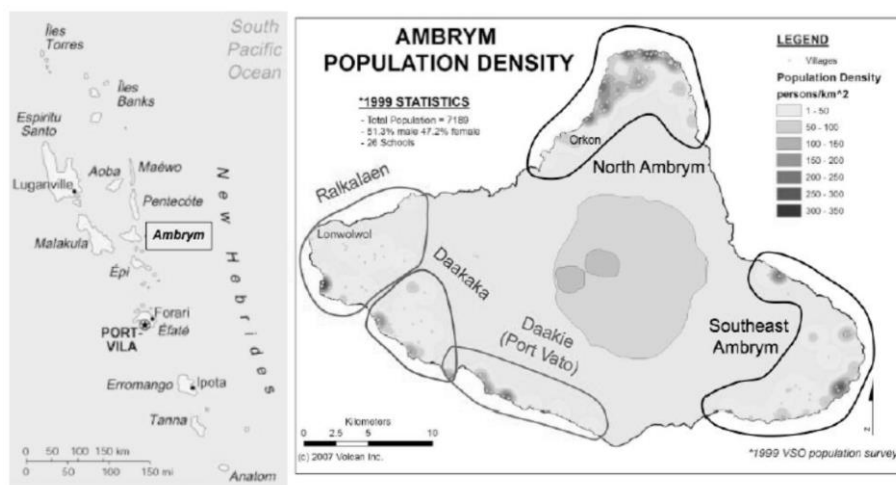


Figure 2: The island of Ambrym in Vanuatu (left) and its languages (right; Krifka 2011).

- This study part of my fieldwork on causativity and resultativity in Daakaka (2017-) whose data and elicitation material is partly accessible at the Kaipuleohone Language Archive at the University of Hawai'i at Mānoa (Hopperdietzel 2020a).
- Today's data comes from elicitation session with three native speakers (23, 30, 61) from the village of Emyotungan on Ambrym based on a self-designed questionnaire that targets manner and result meaning conducted in 2019.
- A basic clause in Daakaka has an SVO word order with pre-verbal TMA/subject marking and verb-final transitivity marking (Hopperdietzel 2020c, 2018, von Prince 2015).

(16) [*Base'e*]<sub>SUBJECT</sub> [*ya-m*      *kuku-ane*]<sub>VERB</sub> [*dom pepyo*]<sub>OBJECT</sub>.  
 birds                      3PL-REAL    cook-TR                      yam    white  
 'The birds cooked white yam.' (von Prince 2013: 4657)

### 3.2 Manner diagnostics

- Firstly, I apply diagnostics that have been argued to be sensitive to a manner component in the lexical semantic of verbal predicates, including instrumental modification (3.2.1), object roles (3.2.2.) and object deletion (3.2.3.)

#### 3.2.1 Instrumental modification

- Manner and result verbs differ regarding instrumental modification (cf. Bleotu & Bloem 2020, Rissman 2015, Levin & Rappaport Hovav 2014, 2013, Harley & Haugen 2007):
  - Manner verbs: more restrictive as the instrument must satisfy the manner component
  - Result verbs: less restrictive as the (causing) event is underspecified.

(17) a. [*x* ACT<*root*> (*y*)]    b. [[*x*      ACT] CAUSE [*y* <*root*>]]  
       [Mary ACT<*wipe*> (the floor)]                                      [[Peter ACT] CAUSE [the floor <*clean*>]]  
       Mary *wiped* the floor.    Peter *cleaned* the floor.

- In English, for example, the manner verb *wipe* is more restrictive than the corresponding a result verb *clean*, as illustrated in (18) (Levin & Rappaport Hovav 2011).

(18) a. Peter *wiped* the table    *with his hands* / *with a cloth*    / # *with a broom*.  
       b. Peter *cleaned* the table    *with his hands* / *with a cloth*    /    *with a broom*.

- In Daakaka, instrumental modification of *tiwiye* is sensitive to its syntactic environment:
  - As an independent predicate, *tiwiye* necessarily refers to a manual action, which is why instrumental modifiers like *ane tee* 'with an axe' are infelicitous.

(19) *Bong ma tiwiye pwesye ente (# ane tee)*.  
       Bong REAL press.manually branches DEM                      with axe  
       'Bong pressed the branches manually (#with an axe).'

- As a serialized predicate, instrumental modifier modifiers like *ane tee* 'with an axe' become felicitous, suggesting that the manner component drops out.

(20) *Bong ma ta tiwiye pwesye ente ane tee*.  
       Bong REAL cut.ITER break.TR branches DEM with axe  
       'Bong broke the branches with an axe by cutting them.'

- ⇒ While *tiwiye* entails a manner component as an independent predicate, it does not in the non-initial position of RSVCs.

## 3.2.2 Object theta roles

- Manner and result verbs differ in the theta role(s) they assign to the object (cf. Levin 2020, Kratzer 2005, Levin & Rappaport Hovav 1995):

- Manner verbs: object must be able to satisfy the patient role of the action event
  - Result verbs: object must be able to satisfy the holder role of the result state
- (21) a. [x ACT<root> (y)]  
           [Mary ACT<drink> (the tea)]  
           Mary *drank* the tea.
- b. [[x ACT] CAUSE [y <root>]]  
       [[Peter ACT] CAUSE [the tea pot <full>]]  
       Peter *filled* the tea pot.

- This is shown for English in (22), where *the tea pot* cannot satisfy the patient role of a manner verb such as *drink*, but the holder role of a result verb like *fill*.

- (22) a. Mary *drank* # the tea pot / the tea.  
       b. Mary *filled* the tea pot / #the tea.

- Similar restrictions on the theta roles of the object are observed in the context of Daakaka *tiwiye*:

- Independent *tiwiye* selects for long thin objects that an agent can take with his hands to perform a pressing action on its ends. Therefore, *pwesye* ‘branch’ but not *lee* ‘tree’ are felicitous objects.

- (23) Bong ma *tiwiye* pwesye ente / #lee ente.  
       Bong REAL press.manually branches DEM tree DEM  
       ‘Bong manually pressed the branches / # the trees.’

- Serialized *tiwiye* does not exhibit such restrictions. Instead, all object that qualify as the holder of a broken result state are available, which is why both *pwesye* ‘branch’ and *lee* ‘tree’ are now felicitous.

- (24) Bong ma ta *tiwiye* pwesye ente / lee ente.  
       Bong REAL cut break branches DEM tree DEM  
       ‘Bong broke the branches/ the trees by cutting them.’

⇒ The theta role assigned by *tiwiye* to its object is determined by its syntactic position.

## 3.2.3 Object deletion

- Object deletion has been shown to be subject to the argument-per-subevent condition (Beavers & Koontz-Garboden 2012, Wittek 2011, Levin & Rappaport Hovav 2001).

- (25) **Argument-per-subevent condition** (Levin & Rappaport Hovav 2001: 779):  
       There must be at least one argument XP in the syntax per subevent in the event structure.

- As manner verbs differ from result verbs in their event structure object deletion is only grammatical in the context of mono-eventive manner but not bi-eventive result verbs.

- (26) a. [x ACT<root> (y)]  
           [Peter ACT<scrub> (floor)]  
           Peter *scrubbed* (the floor).
- b. [[x ACT] CAUSE [y <root>]]  
       [[Peter ACT] CAUSE [floor <break>]]  
       Peter *broke* \*(the floor).

- In English, for example, manner verbs like *scrub* can occur without an object, whereas result verbs like *break* cannot (but see Rissman 2015, Mittwoch 2005, Goldberg 2001).

- (27) a. *Kim scrubbed the floor.*  
 b. *All night, Kim scrubbed.*  
 c. *Kim scrubbed and scrubbed and scrubbed.*

- (28) a. *Kim broke the vase.*  
 b. *#All night, Kim broke.*  
 c. *# Kim broke and broke and broke.*

(Beavers & Koontz-Garboden 2012: 339)

- Daakaka as a pro-drop language generally allows the omission of discourse prominent objects (29b). However, the syntactic absence of an object is indicated by the absence of transitive morphology on the verb (29c) (Hopperdietzel 2020b, von Prince 2015).

- (29) a. *Angela ma kuk-ane mees ente.*  
 Angela REAL cook-TR food DEM  
 ‘Angela cooked food.’

- b. *Angela ma kuk-ane.*  
 Angela REAL cook-TR  
 ‘Angela cooked (something).’

- c. *Angela ma kuk.*  
 Angela REAL cook  
 ‘Angela cooked.’

- Like other manner verbs, such as *kuk* ‘cook’ in (29), independent *tiwiye* has an intransitive (suppletive) verb from *tiwir* that indicates the absence of a (covert) object (30).

- (30) *Bong ma tiwir.*  
 Bong REAL press.manually.ITR  
 ‘Bong pressed manually.’

- Crucially, serialized *tiwiye* cannot appear in the intransitive verb form – as it is the case with other result verbs, such as *mwelili-ane* ‘to make small’ (31b).

- (31) a. *Bong ma ta \*(tiwir).*  
 Bong REAL cut.ITR break.ITR  
 ‘Bong broke by cutting.’

- b. *Bong ma ta \*(mwelili).*  
 Bong REAL cut.ITR be.small.ITR  
 ‘Bong made small by cutting.’

- ⇒ Object deletion indicates that independent *tiwiye* is a mono-eventive (manner) verb, whereas serialized *tiwiye* is a bi-eventive (result) verb.

### 3.3 Result diagnostics

- So far, the manner diagnostics indicate that the morphosyntactic context determines the entailment of a manner component in the polysemous verbs like *tiwiye*, in that *tiwiye* entails a manner component only as an independent predicate.
- In this section, I apply additional diagnostics that have been shown to be sensitive to the entailment of a result component, i.e. the denial of a result (3.3.1), serializing causatives (3.3.2) and the distribution in resultatives (3.3.3).

### 3.3.1 Denial of result

Due the different event structure properties manner and result verbs differ in whether the denial of a result state is contradictory (Beavers & Koontz-Garboden 2012, Beavers 2011, Rappaport Hovav & Levin 2010, but see Martin 2020 on defeasible causatives):

- Mono-eventive manner verbs: Denial of a result is not contradictory.
- Bi-eventive result verbs: Denial of a result is contradictory.

- (32) a. [x ACT<root> (y)]  
           [Peter ACT<wipe> (floor)]  
           Peter *wiped* (the floor).  
       b. [[x ACT] CAUSE [y <root>]]  
           [[Peter ACT] CAUSE [floor <clean>]]  
           Peter *cleaned* \*(the floor).

- This is illustrated by the English, where a denial of the result is only felicitous in the context of the manner verb *wipe* (33a) but not of the result verb *clean* (33b).

- (33) a. Mary *wiped* the table, *but the table did not become any clean(er)*.  
       b. Mary *cleaned* the table, # *but the table did not become any clean(er)*.

- This observations holds for polysemous verbs in Daakaka:

- Independent *tiwiye* allows for a denial of a result without contradiction.

- (34) Bong ma *tiwiye* pwesye ente, a pwesye ente to setyup.  
       Bong REAL press.manually branch DEM but branch DEM REAL.NEG be.broken  
       ‘Bong pressed the branch manually, but the branch did not break.’

- Serialized *tiwiye* does not allow a denial of a result, which indicates that the result state is part of the event structure in this context.

- (35) Bong ma ta *tiwiye* pwesye ente, #a pwesye ente to setyup.  
       Bong REAL cut.ITR break bench DEM but branch DEM REAL.NEG be.broken  
       ‘Bong broke the branch by cutting it (# but the branch did not break).’

- ⇒ The felicity of a denial of the result state is determined by the morphosyntactic position, showing that *tiwiye* entails a result component only in serialized contexts.

### 3.3.2 Resultatives

- The presence of a manner or result meaning component restricts the combinatorial properties of manner and result verbs in resultative constructions (cf. Williams 2015, Beavers & Koontz-Garboden 2012, Sæbø 2008).

- (36) a. Peter *pounded* the metal *flat by hammering it (quickly)* / \**by wiping it (quickly)*.  
       b. \*Peter *dimmed* the room *to level of starlight* / \**empty*.

- In Daakaka, resultative meaning is primarily expressed by RSVCs, in which an initial manner verb specifies the manner of the causing action with the result state realized by the non-initial predicate (Hopperdietzel 2020c, von Prince 2015).

- (37) Bong ma ta *mwelili-ane* lee ente.  
       Bong REAL cut be.small-TR tree DEM  
       ‘Bong made the tree small by cutting it.’

- Crucially, the distribution of verb classes in Daakaka RSVCs is fixed, as manner verbs, such as *ta/te* ‘cut’ cannot occur in the non-initial (result) position (38a), whereas result verbs, such as *wa* ‘split’ cannot appear in initial (manner) position (38b).

(38) a. \**Bong ma doko te pwesye ente.*

Bong REAL pull.ITSR cut.TR branch DEM

Intended: 'Bong cut the branches by pulling them.'

b. \**Bong ma wa mwelili-ane pwesye ente.*

Bong REAL split.ITSR be.small-TR branch DEM

Intended: 'Bong split the branches into small pieces.'

- Polysemous verbs such as *tiwiye*, however, can appear in both position of RSVCs.
  - In the initial position, *tiwiye* denotes the manner of the causing action (i.e. a manual pressing action) with the result state denoted by the non-initial causative verb.

(39) a. *Bong ma tiwir mwelili-ane pwesye ente.*

Bong REAL press.manually.ITSR be.small-TR branch DEM

'Bong made the branches small by pressing them manually.'

- In the non-initial position, *tiwiye* denotes the broken result state of causing action which is specified by a manner verb (here: *ta* 'cut').

(40) *Bong ma ta tiwiye lee ente.*

Bong REAL cut.ITSR break.TR tree DEM

'Bong broke the tree #(by cutting it).'

- Crucially, *tiwiye* combines with various manner- and result-denoting verbs in RSVCs in the respective initial or non-initial position, indicating that manner and result meaning is in complementary distribution.

(41) a. *Bong ma tiwir wa / veni. / mwelili-ane*

Bong REAL press.manually.ITSR split.TR kill.TR be.small-TR

'Bong split / killed it / made it small by pressing it manually.'

b. *Bong ma ta / tas tiwiye etastas ente.*

Bong REAL cut.ITSR sit.ITSR break.TR bench DEM

'Bong broke the tree by cutting/ sitting on it.'

- Strikingly, serialized *tiwiye* can even combine with its own manner variant in RSVCs without redundancy in meaning.

(42) *Bong ma tiwir tiwiye pwesye ente.*

Bong REAL press.manually.ITSR break.TR branch DEM

'Bong broke the branches by pressing them manually.'

⇒ The distribution of *tiwiye* suggests that *tiwiye* has a manner and a result variant.

### 3.3.3 Serializing causatives

- Daakaka causative result verbs exhibit the language specific property of being subject to a serializing condition (Hopperdietzel to appear, 2020c).

(43) **Serializing condition on Daakaka causatives (Hopperdietzel to appear)**

If a verb denotes a causative relation between an event and a state, it must combine with a manner that specifies the causing event.

- Thus, causative verbs, whether derived causatives, such as *mwelili-ane* 'make small' (44a), or the lexical causative, such as *wa* 'split' (44b), must combine with a manner verb in resultative SVCs and cannot occur as independent predicates.

(44) a. *Bong ma \*(ta) mwelili-ane lee ente.*  
 Bong REAL cut be.small-TR tree DEM  
 ‘Bong made the tree small by cutting it.’

b. *Bong ma \*(ta) wa lee ente.*  
 Bong REAL cut split tree DEM  
 ‘Bong split tree by cutting it.’

- The observation that the result interpretation of *tiwiye* is restricted to the non-initial position of RSVCs is therefore expected, as all causative result verbs in Daakaka are subject to this constraint.

(45) *Bong ma #(ta) tiwiye lee ente.*  
 Bong REAL cut.ITR break.TR tree DEM  
 ‘Bong broke the tree #(by cutting it).’

⇒ Serialized *tiwiye* does not entail a manner component.

### 3.4 Summary

	Independent <i>tiwiye</i> ‘press manually’	Serialized <i>tiwiye</i> ‘break’
Restrictions on instrumentals	Yes	No
Restrictions on patients	Yes	No
Object deletion	Yes	No
Denial of result	Yes	No
Initial position of RSVCs	Yes	No
Non-initial position of RSVCs	No	Yes
Serialized causatives	No	Yes

Table 1: Result of manner/result diagnostics applied to polysemous *tiwiye* ‘press manually, break’.

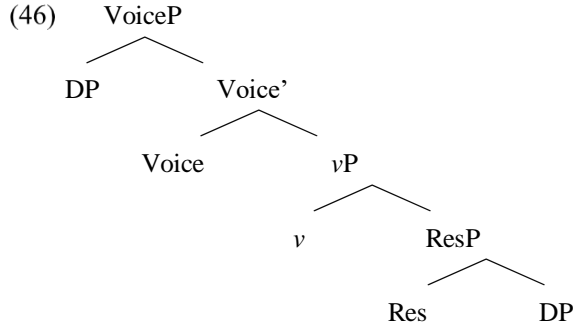
- The table of the result of manner/result diagnostics indicate that the verb *tiwiye* exhibits two variant which are determined by their morphosyntactic context.
  - manner *tiwiye* → independent predicate and initial position of RSVCs
  - result *tiwiye* → non-initial position of RSVCs only
- ⇒ Daakaka *tiwiye* is an instance of manner/result polysemy in that the same verb can either express the manner of an action or the result of an underspecified action.
- ⇒ Yet, manner and result meaning is in complementary distribution which further provides cross-linguistic support for manner/result complementary.

## 4 A configurational analysis

- To account for the contextually determined manner/result polysemy in Daakaka, I propose a syntactic analysis in which underspecified roots get their idiosyncratic meaning in the context of an event-introducing categorizer *v*.
- Thereby, I analyze manner/result polysemy as a case of contextual alloosemy.

#### 4.1 A syntactic approach on event decomposition

- Adopting a syntactic approach on event decomposition, event structure is built within the syntactic derivation by designated functional heads, namely Res(ult),  $\nu$  and Voice (46) (Alexiadou et al. 2015, Marantz 2013, also Ramchand 2008, von Stechow 1996).



- The categorizing head  $v$  introduces an event  $e$ ; the pre-categorial head Res(ult) introduces a stative eventuality  $s$  (Alexiadou et al. 2015, Ramchand 2008).

(47) a.  $\llbracket v \rrbracket = \lambda e. \dots$                       b.  $\llbracket Res \rrbracket = \lambda s. \dots$

- Causative semantics, if present, is contextually interpreted at LF when  $v$  embeds a state-denoting complement (Wood 2015, see Ramchand 2008, Alexiadou et al. 2015, Higginbotham 2000 for various implementations of the basic intuition).

$$(48) \llbracket v \rrbracket \leftrightarrow \lambda P_{\langle v, t \rangle}. \lambda e. \exists s. \text{Caus}(e, s) \wedge P(s) \quad \setminus \quad \_ \text{ (state)}$$

$$\leftrightarrow \lambda e. \dots$$

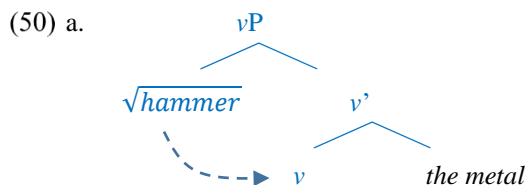
- The external argument is introduced on top by a separate agentive Voice head which combines with the vP via Event Identification (Alexiadou et al. 2006, Kratzer 1996).

(49)  $[[\text{Voice}]] = \lambda e. \text{Ag}(e)$

## 4.2 Root positions and idiosyncratic meaning

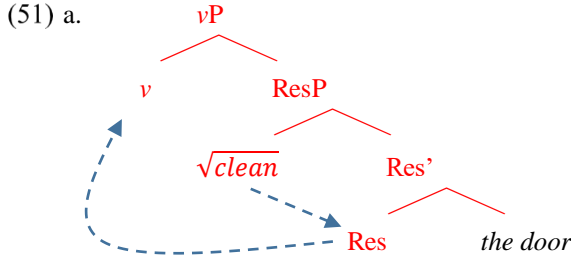
- In this syntactic configuration, a-categorial roots can be inserted in two ways, depending on their compositional status (Folli & Harley 2020, Alexiadou & Anagnostopoulou 2013, Mateu & Acedo-Matellan 2012, cf. Embick 2004).

- Manner roots like  $\sqrt{hammer}$  as event modifiers are merged in the position designated for event modification (sisters of  $v'$ ; Folli & Harley 2020, Hopperdietzel 2020c, Alexiadou & Lohndal 2011).



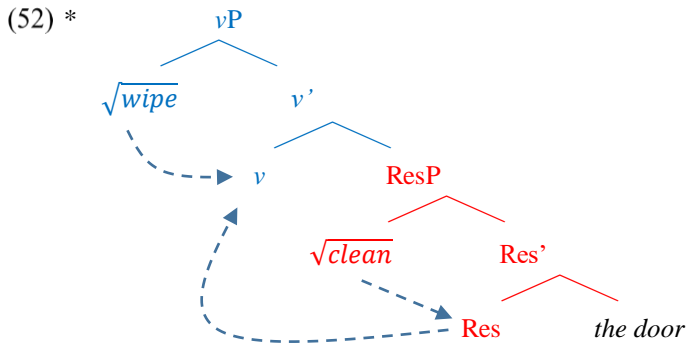
$$\begin{array}{ll} \text{b. } \llbracket v \rrbracket &= \lambda x \lambda e. \text{Pat}(x, e) \\ \text{c. } \llbracket v' \rrbracket &= \lambda e. \text{Pat}(\text{the metal}, e) \\ \text{d. } \llbracket vP \rrbracket &= \lambda e. \text{hammer}(e) \wedge \text{Pat}(\text{the metal}, e) \end{array}$$

- Result roots like  $\sqrt{flat}$  as an event arguments are merged in the complement position of  $v$  within an pre-categorial Res(ult)P (Folli & Harley 2020, Alexiadou et al. 2015, Ramchand 2008).



- b.  $\llbracket \text{Res} \rrbracket = \lambda x \lambda s. \text{Holder}(x, s)$
- c.  $\llbracket \text{Res}' \rrbracket = \lambda s. \text{Holder}(\text{the door}, s)$
- d.  $\llbracket \text{ResP} \rrbracket = \lambda s. \text{clean}(s) \wedge \text{Pat}(\text{the table}, s)$
- e.  $\llbracket v \rrbracket = \lambda P_{\langle v, t \rangle}. \lambda e. \exists s. \text{Caus}(e, s) \wedge P(s)$
- f.  $\llbracket vP \rrbracket = \lambda e. \exists s. \text{Caus}(e, s) \wedge \text{clean}(s) \wedge \text{Pat}(\text{the table}, s)$

- By the assumption that a single categorize can only categorize a single root, manner/result complementary follows from more general syntactic restrictions on the categorization of roots (Folli & Harley 2020, also Mateu & Acedo-Matellan 2012).



### 4.3 Manner/result polysemy as contextual allosemy

- To restrict that a root may occur in both positions, it is commonly assumed that roots are listed for their ontological class which defines their syntactic/semantic properties (e.g. Rappaport Hovav 2017, Alexiadou et al. 2015, Rappaport Hovav & Levin 2010).

- (53) a. **Manner roots:**  
 $\sqrt{wipe}, \sqrt{scrub}, \sqrt{run}, \sqrt{swim}$ , etc.
- b. **Result roots:**  
 $\sqrt{break}, \sqrt{melt}, \sqrt{open}, \sqrt{flat}$ , etc.

- However, the observation of manner/result polysemy, as in Daakaka *tiwiye*, questions this assumption, as the same root appears to function as a manner or as a result root, i.e. appear to be merged in both structural positions.
- As manner and result roots not only differ in their ontological class but also their eventuality type, i.e. event or state, polysemous verbs must be semantically underspecified and refer to abstract conceptual knowledge only (Arad 2005, Borer 2005).

- (54) a.  $\llbracket \sqrt{manner} \rrbracket = \lambda e. \text{Manner}(e)$   
 b.  $\llbracket \sqrt{result} \rrbracket = \lambda s. \text{Result}(s)$

- Therefore, I propose that roots that are subject to manner/result polysemy are underspecified with respect to their ontological class and can merge as either event modifier or event argument.

(55) **Underspecified roots:**

$\sqrt{tiwiye}$ ,  $\sqrt{sengave}$ ,  $\sqrt{cut}$ ,  $\sqrt{climb}$ , etc.

- Consequently, (such) roots receive their idiosyncratic interpretation only in the morpho-syntactic context they appear in, via contextual alloosemy (Levinson 2014, 2010).

(56)  $[\sqrt{underspecified}] \leftrightarrow \lambda e. \text{manner}(e) \setminus [_{vP} \text{ } [_{v'} v \text{ (DP)}]]$   
 $\leftrightarrow \lambda s. \text{result}(s) \setminus [_{vP} v \text{ } [_{ResP} \text{ } [_{Res'} Res \text{ DP}]]]$

- In particular, the root *tiwiye* in Daakaka gets its manner interpretation (‘manually press’) when it merges in the modifying position (sister of *v*’) but its result interpretation in the argument position (complement of *v*).

(57)  $[\sqrt{tiwiye}] \leftrightarrow \lambda e. \text{press.manually}(e) \setminus [_{vP} \text{ } [_{v'} v \text{ (DP)}]]$   
 $\leftrightarrow \lambda s. \text{broken}(s) \setminus [_{vP} v \text{ } [_{ResP} \text{ } [_{Res'} Res \text{ DP}]]]$

⇒ Manner/result polysemy suggests that idiosyncratic root meaning is ultimately configurational (though not still restricted completely unrestricted).

#### 4.4 Summary

- Manner and result can be re-interpreted as structural notions that are defined in relation to the event-introducing head *v*.
- Given the categorization restriction on roots, manner/result complementary follows from structure building constraints and does not operate on the verb or root level per sé.
- Manner/result polysemy suggests that roots can be underspecified with respect to their onto-logical class and receive their idiosyncratic meaning in the syntactic derivation.

### 5 Discussion

- In this section, I briefly discuss alternative accounts based on homophonicity (5.1), coercion (5.2) or derivation (5.3.) which all struggle to account for the Daakaka data.

#### 5.1 Prototypicality

- An alternative account may analyze manner/result polysemy as the result of (accidental) homophonicity, in that manner and result variant of the same verb are derived from two distinct roots that have the same phonological spell-out.

(58) a.  $[\sqrt{tiwiye_1}] = \lambda e. \text{press.manually}(e)$   
 b.  $[\sqrt{tiwiye_2}] = \lambda s. \text{broken}(s)$

- Yet, such an analysis hardly captures the regular “prototype” relation between manner and result variants of polysemous verbs (Levin & Rappaport Hovav 2014, 2013).

(59)

	Manner		Result
a. <i>cut</i>	‘action performed with blade-like instrument’	↔	‘a clean separation’
b. <i>climb</i>	‘force exertion against gravity’	↔	‘change in upward direction’

- Crucially, this observation holds for Daakaka, as all polysemous verbs denote a prototypical manual action in its manner variant that commonly results in the result state denoted by the result variant.

(60)	<b>Manner</b>	<b>Result</b>
a.	<i>tiwiye</i> ‘perform manual pressure’	↔ ‘break’
b.	<i>sengave</i> ‘rattle with your hands’	↔ ‘open’

- Under the configurational analysis proposed here, such regularities are expected, as the idiosyncratic meaning of both the manner and result variant of polysemous verbs are linked to the abstract conceptual meaning of the same root.

⇒ Manner/result polysemy is unlikely to be a case of homophonicity.

## 5.2 Suppletive paradigms

- Another account might analyze manner/result polysemy in Daakaka as a case of coercion (see Krajinovic 2020, Koontz-Garboden 2007 on the coercion of change-of-state reading in the Oceanic languages Nafsan and Tongan, respectively, see also Hohaus 2016, Matthewson et al. 2015 for further discussion).
- Under such an analysis, *tiwiye* would be manner verb which is coerced to a result interpretation only when it occurs in the syntactic environment, in which result verbs usually appear, i.e. the non-initial position of RSVCs.
- However, Daakaka exhibits two types of transitivity alternations in the contexts of manner and result verbs which are indicated by the absence of transitive morphology (Hopperdietzel 2020b, von Prince 2015; see also section 3.2.3).

- Manner verbs have unergative forms in the absence of a patient argument.

(61) a.	<i>Angela mwe kuk-ane dom ente.</i>	b.	<i>Angela mwe kuk.</i>
	Angela REAL cook-TR yam DEM		Angela REAL cook
	‘Angela cooked this yam.’		‘Angela cooked.’

- Result verbs have unaccusative forms in the absence of an agent argument.

(62) a.	<i>Bong ma ta mwelili-ane lee ente.</i>	b.	<i>Lee ente ma mwelili.</i>
	Bong REAL cut.1TR be.small-TR tree DEM		tree DEM REAL be.small
	‘Bong made the tree small by cutting it.’		‘The tree is small.’

- Crucially, polysemous verbs can participate in both types of transitivity alternations, as illustrated by *tiwiye*, which shows root suppletion in the context of result verbs:

- In the absence of a patient argument, manner *tiwiye* is realized by its intransitive/unergative form *tiwir*.

(63) a.	<i>Bong ma tiwiye pwesye ente</i>	b.	<i>Bong ma tiwir.</i>
	Bong REAL press.manually.TR branch DEM		Bong REAL press.manually.1TR
	‘Bong pressed the branches manually.’		Bong pressed manually.’

- In the absence of an agent argument, manner *tiwiye* is realized by its intransitive/unaccusative form *setyup*, which either denotes stative or inchoative meaning.

- (64) a. *Bong ma ta tiwiye pwesye ente.* b. *Pwesye ente ma setyup.*  
 Bong REAL cut.ITER break.TR branch DEM branch DEM REAL be.broken.ITER  
 ‘Bong pressed the branches manually.’ ‘The branches broke/are broken.’

- If manner/result polysemy in Daakaka were a case of coercion, such complex suppletive paradigms would be unexpected given that an intransitive manner variant already exists.
  - Under a configurational analysis instead, distinct morphological forms are expected given the different morphosyntactic environments a root appears in (see Moskal 2015, Bobaljik 2012, Embick 2010 on locality constraints on suppletion).
- ⇒ Manner/result polysemy is not a form of coercion.

### 5.3 The monotonicity hypothesis

- Finally, an alternative account may argue that manner and result meaning might be derived from one another by some (covert) morphosyntactic process.

- (65) a.  $\llbracket tiwiye \rrbracket = \lambda e. \text{press.manually}(e) \wedge \text{Pat}(x, e)$   
 b.  $\llbracket tiwiye + \phi \rrbracket = \lambda e. \lambda s. \text{Caus}(e, s) \wedge \text{broken}(s) \wedge \text{Holder}(x, s)$

- However, a semantic rule that would describe the derivational step from (65a) to (65b), or vice versa, would violate a fundamental principle on semantic word formation, namely monotonicity (Koontz-Garboden 2005, 2007, 2012).

(66) **The monotonicity hypothesis (Koontz-Garboden 2012)**

Word formation operations do not remove operators from lexical semantic representations.

- As neither the manner nor the result meaning is entailed in the respective manner or result verb form, the complementary meaning would need to be removed.<sup>4</sup>
- In a configurational analysis instead, polysemous verbs are derived independently from the same root which predicts a closely related meaning.

⇒ Manner/result polysemy is not a result of derivation.

## 6 Conclusion

- Daakaka exhibits a class of polysemous verbs, such as *tiwiye* ‘press manually, break’ which can either entail a manner or result meaning component, but not simultaneously.
- Daakaka manner/result polysemy therefore strengthens the underlying intuition of manner/result complementary as a fundamental lexicalization constraint on verbal predicates from the perspective of underdocumented Oceanic languages.
- However, the contextually determined distribution of manner and result meaning suggests that manner/result complementary does not operate on the verb or the root level, but follows from the morphosyntactic configuration in which a root appears in.
- Therefore, polysemous roots are underspecified and refer to only to abstract conceptual meaning and receive their idiosyncratic interpretation as manner or result roots in their relative configuration to the verbal categorizer *v*, via contextual allosemy.

<sup>4</sup> This argument also holds against coercion in which a meaning shift is monotonic (Koontz-Garboden 2007).

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