

## **Conceptual Categories and Linguistic Categories IV: Part 1: Manner/Result Complementarity**

### **1 Manner/result complementarity introduced**

- Lecture II introduced the manner/result dichotomy in the English verb lexicon, noting that:
  - Some result verbs specify results brought about using a conventionally associated manner.
  - Some manner verbs describe actions performed to bring about a conventionally associated result.

HOWEVER, such result verbs don't entail the manners, nor do such manner verbs entail the results.

- (1) a. I cleaned the silver by rubbing it with silver polish/soaking it in hot water/scrubbing it with steel wool/saying “abracadabra”.
- b. I just wiped the table, but it's still dirty/sticky/covered in crumbs.

- This observation is only reinforced once the notions of manner and result are grounded in the notions of scalar and nonscalar change.
- None of the verbs examined in the course of delineating typologies of the major types of scalar change verbs—change of state and directed motion verbs—lexicalize a manner.

Such verbs lexicalize information about either the change of state in their patient or their theme's direction of motion, but are silent about how this change comes about or how the motion is effected.

- (2) a. The chef melted the chocolate by putting it out in the sun/by heating it in the microwave/by stirring it over a low flame.
- b. I went to the theatre running/walking/by bus/by car/on a horse.

- This observation suggests the following constraint on lexicalized meaning:

- (3) MANNER/RESULT COMPLEMENTARITY: Manner and result meaning components are in complementary distribution: a verb lexicalizes only one (L&RH 1991, RH&L 2010).

- This constraint, if it holds, is another indication manner and result are grammatically relevant.
- The lexicalization constraint is precisely that: a constraint on what is lexicalized.

Thus, depending on the language, it may hold of a word, stem, or affix (RH&L 2010).

- In English complementarity is manifested in words, as most words are morphologically simple.
- In so-called “bipartite” verb languages like Lakhota manner/result complementarity holds of the pieces of words, rather than the words themselves.

(4) LAKHOTA (Foley & Van Valin 1984: 39-47, based on Boas & Deloria 1939):

- a. Verb stems describe states which are permanent results of actions:  
–*blečha* ‘be shattered (said of brittle material)’  
–*blaza* ‘be ripped open’
- b. Prefixes describe manner:  
*ya-* ‘with the mouth’  
*na-* ‘with the foot or leg’  
*yu-* ‘by pulling, with the hands’  
*wa-* ‘by a sawing motion, with a knife’  
*ka-* ‘by a sudden impact’
- c. Prefixes and verb stems combine to form verbs:  
*ya-blečha* ‘break or cut with the teeth’  
*na-blečha* ‘break by kicking or stepping on’

— Manner/result complementarity is not a constraint on what can be expressed in a VP; in English when a verb lexicalizes one of manner or result, the other can be expressed outside the verb.

- (5) a. A manner verb can combine with a result XP:  
*Pat wiped the table clean.*
- b. A result verb can be accompanied by an adverbial XP expressing manner:  
*Pat cleaned the table by wiping it.*

• An interpretation of manner/result complementarity:

It reflects a constraint on how and how much meaning can be “packaged” into a verb.

— It could have its source in root (core meaning)–event structure associations:

- (6) A root is associated with only one event structure position, as an argument or as a modifier.

As manner roots modify ACT and result roots are arguments of BECOME, a manner plus result root would modify ACT **and** be an argument of BECOME in an event schema, contra (6).

- (7) a. manner → [ x ACT<sub><MANNER></sub> ]
- b. result → [ [ x ACT ] CAUSE [ y BECOME <RES-STATE> ] ]

## 2 Putative counterexamples to manner/result complementarity (L&RH in press)

Potential counterexamples to manner/result complementarity are raised in the literature, calling into question whether it is indeed the consequence of a lexicalization constraint, rather than simply a preference regarding verb meanings.

ARGUE: The putative counterexamples actually do conform to manner/result complementarity:  
— the relevant verbs lexicalize manner in some uses and result in others.  
— they lack uses that simultaneously lexicalize manner and result, despite claims to the contrary.  
— thus, each use conforms to the lexicalization constraint.

The purported counterexamples are of two types:

- Type 1: exemplified by *cut*
  - the verb basically encodes a result brought about by a conventionally determined manner;
  - however, the verb has uses where the manner is lexicalized, but then the result drops out.
- Type 2: exemplified by *climb*
  - the verb basically encodes a manner of motion, associated with a default direction;
  - however, the verb has uses where the direction is lexicalized, but the manner drops out.

This approach is built on the assumption that in the unmarked case what is lexicalized in a verb remains constant across all its uses, except in special circumstances, such as those now examined, where what is lexicalized remains constant across all uses of EACH SENSE of a verb.

## 2.1 A potential counterexample from the change of state domain: *cut*

Guerssel et al. (1985) and Levin (1993: 8) suggest *cut* has manner and result meaning components. If this is correct, this verb violates the proposed lexicalization constraint.

- (8) *cut* LCS: x produce CUT on y, by sharp edge coming into contact with y  
(Guerssel et al. 1985: 51, (11))

AN ALTERNATIVE PROPOSAL: *cut* lexicalizes result in most uses, but manner in some uses; however, it lacks uses which lexicalizes both manner and result at once.

### 2.1.1 Evidence for *cut* as a result verb

- In its basic use, *cut* lexicalizes only a result: a clean separation.
- Its zero-related nominal *a cut<sub>N</sub>* refers to a result, a property it shares with other result verbs.

In contrast, nominals zero-related to clear manner verbs lack a result interpretation;  
they necessarily refer to the action and not the physical result of the action,  
which can be perceived only after the action is over.

- (9) a. break<sub>V</sub>/a break<sub>N</sub>, crack<sub>V</sub>/a crack<sub>N</sub>, split<sub>V</sub>/a split<sub>N</sub>  
b. (give it) a wipe, (give it) a kick, (go for) a walk/run

- In fact, an examination of cutting events shows that *cut* does not specify the instrument or the action that the instrument is involved in; an agent need not even wield the instrument.

- (10) “Cut verbs, too, are rather flexible about the action performed and the instrument used (I can *cut* an orange using anything from a knife or axe to a metal string or laser beam, and I can do it by bringing the blade to bear on the fruit or by dropping the fruit onto the blade from sufficient height).” (Bohnenmeyer 2007: 159)

- Despite this, *cut* is most often used to describe happenings in the world that involve the wielding of a sharp-edged instrument: this is the source of the perception that the verb lexicalizes manner.

— As stressed in Lecture I, the attributes of the real world happenings that a verb is most often used to describe need to be distinguished from the attributes lexicalized by the verb. Only a subset of the attributes of any happening are typically lexicalized in the meaning of the verb,

— Since various manners are possible in these happenings, manner is not lexicalized.

- Despite claims to the contrary, *cut* has anticausative uses—a hallmark of change of state verbs.

- (11) a. The rope **cut** and the climber landed on his feet, stumbled backward and fell ...  
(<http://rockanddice.com/articles/how-to-climb/article/1092-rope-chopped-by-carabiner>)
- b. ... the rope **cut** on the rock releasing Rod on down the mountain.  
(<http://www.avalanche-center.org/Incidents/1997-98/19980103a-Montana.php>)

Most likely, such uses were overlooked as most instances of cutting such as those involving food—the patient of most linguistic examples—violate a constraint on anticausatives: The event must happen without the agent’s continued intervention (Haspelmath 1993, L&RH 1995, RH&L in press).

- (12) I cut the bread/\*The bread cut.

The conditions allowing an anticausative are not purely lexical, but relate to properties of the happening described in the sentence with the verb. [Lecture V]

### 2.1.2 Evidence for *cut* as a manner verb

- *cut* is found in the conative construction, a property shared with manner but not result verbs.

- (13) a. Finally, she got the blade pulled out and started **cutting at** the tape on Alex ...  
([www.authorhouse.com/BookStore/ItemDetail~bookid~28127.aspx](http://www.authorhouse.com/BookStore/ItemDetail~bookid~28127.aspx))
- b. It had been a stupid act on her part, I thought to myself as I **cut at** the rope with my knife, aware that Sarnian Lady was sinking further ...  
([www.etext.org/Fiction/Warlady/unzipped/warlady-2/2565-62](http://www.etext.org/Fiction/Warlady/unzipped/warlady-2/2565-62))

- In these conative uses, as well as some other uses, *cut* crucially does not entail a result, but simply entails the handling of a sharp-bladed instrument as is necessary for its intended use.

- (14) Smith cut at the rope binding his ankles all night, but had nothing to show for his efforts.

- Bohnemeyer’s “dropping the fruit onto the blade from sufficient height” scenario, which does not involve actually wielding an instrument cannot be described by *cut at the orange*, even if the orange were repeatedly dropped.

- In these uses, *cut* is a manner verb and not a result verb; thus, these uses are consistent with manner/result complementarity,

HYPOTHESIS: Since *cut* is so strongly associated with a particular way of handling an instrument, this manner has become the default manner that the lexicalized result is associated with. Other manners are possible if explicitly stated, as in the examples given by Bohnemeyer in (10). In certain instances, the name of the verb is actually used to refer to this default manner. When this happens, due to manner/result complementarity, the lexicalized result drops out. For *cut*, the manner use that arises in this way is indicated by the conative.

## 2.2 A potential counterexample from the motion domain: *climb*

*climb* apparently expresses both manner (clambering) and direction (upward) in its transitive uses, contra manner/result complementarity (Fillmore 1982: 32, Jackendoff 1985, Kiparsky 1997: 490):

(15) Kelly climbed the tree.

AN ALTERNATIVE PROPOSAL: *climb* only lexicalizes manner in such uses, but also has uses which lexicalize result only; however, *climb* lacks uses which simultaneously lexicalize both manner and result, so that any given use meets manner/result complementarity.

Supporting this proposal first requires a better understanding the intransitive uses of *climb*.

### 2.2.1 The manner use of *climb*

- Some uses lexicalize manner of motion only, conforming to manner/result complementarity:

— uses with animate themes where other directions of motion, including downward, are explicitly expressed outside the verb; therefore, upward motion is NOT lexicalized in these uses.

(16) a. Kelly climbed down from the roof.  
b. Kelly climbed through the gap in the hedge.

— uses with animate themes lacking a directional PP where only the manner—and not the upward direction—is strictly entailed.

(17) a. The children climbed on the jungle gym all afternoon.  
b. The backpackers climbed all day.  
(motion needn't be upward, but simply over a terrain requiring the relevant manner)

- The lexicalized manner is one that allows movement involving “force exertion against gravity” (Geuder & Weisgerber 2008, Geuder 2009).

- This characterization properly predicts the range of situations where *climb* is applicable:

— With instances of downward motion involving “controlled, stepwise descent” (Geuder & Weisgerber 2008: 26), thus resisting the pull of gravity; i.e. climbing is what prevents falling.

— With instances of controlled horizontal motion by humans and animates along tree limbs or comparable entities located above the ground, where falling is a hazard.

- (18) a. The two children **climbed** along the branches until they were over-hanging the school wall. ([andofavalon.com/topic/231493/1/](http://andofavalon.com/topic/231493/1/))
- b. ... one [=spider monkey] **climbed** across the branches and stuck his head out of a tree to get a good look at us. ([www.flickr.com/photos/bmharvey/1139451388/](http://www.flickr.com/photos/bmharvey/1139451388/))

— With entities such as snails which lack limbs (contra Fillmore 1982: 32), if they move along a surface in a way that exerts a force against gravity.

- (19) a. ... it seems the snail **climbed** up the side of the tank ...  
([www.aqua-fish.net/show.php?h=siamesefightingfish](http://www.aqua-fish.net/show.php?h=siamesefightingfish))
- b. As this snail **climbed** down, his shell was pulling him.  
([http://www.flickr.com/photos/phoo\\_tographer/page9/](http://www.flickr.com/photos/phoo_tographer/page9/))
- c. Watch this crazy snail **climb** across the tops of my plants, and bend them over ...  
([www.aquaticcommunity.com/aquariumforum/archive/.../t-20939.html](http://www.aquaticcommunity.com/aquariumforum/archive/.../t-20939.html))

— (19) shows that an alternative proposal, that the lexicalized manner is “clambering”, i.e. using hands and feet (Fillmore 1982, Jackendoff 1985), cannot be right since snails lack limbs.

Most likely, this proposal seems plausible since the prototypical instantiation of *climb*'s lexicalized manner in humans and some mammals is clambering.

• Uses with vehicles as themes are said to be direction-only uses (e.g., Jackendoff 1985: 275); however, they actually instantiate manner *climb*.

— Certain vehicles such as planes and elevators are designed to move against the force of gravity using their own energy source.

— A PP may express direction, even downward, inconsistent with lexicalized upwardness.

- (20) Blue, white, grey flitting past, a blur of faded colours melting into a wash of dirty brown as the jet **climbed** down. ([www.fanfiction.net/s/2827319/1/GW\\_Lightning\\_Arc\\_1\\_Burning](http://www.fanfiction.net/s/2827319/1/GW_Lightning_Arc_1_Burning))
- (21) The doors closed and the elevator **climbed** down to the next floor, where it stopped again. ([gravitation.nine-tales.net/gravi/story.php?no=22&chp=2](http://gravitation.nine-tales.net/gravi/story.php?no=22&chp=2))

— The direction-only characterization was prompted by the understood upward motion in (22).

- (22) The plane/elevator climbed.

AN EXPLANATION OF THIS INTERPRETATION: Given the manner that it lexicalizes, *climb* is associated with a default direction of motion: upward. This default direction can be cancelled by a constituent which explicitly contradicts it, as in (19), (20), and (21), or with heavy contextual support, as in (17b).

While with animate climbers, contextual support does in some circumstances induce a non-upward reading, as in (17b) (see also Section 2.2.3), with vehicles this reading is only available in the presence of overt material, as in (20) and (21).

### 2.2.2 The direction-only use of *climb*

- Unlike most manner of motion verbs, *climb* has a direction-only use roughly meaning *rise*.

- (23)
- a. The price/temperature climbed.
  - b. Despite the new measures, the inflation/unemployment rate climbed.
  - c. During the recession, the number of foreclosures climbed.

- The themes in (23) are measurable scalar-valued attributes of entities, and a change in the value of this attribute can be understood as an increase or decrease in value along the associated scale.
- When these attributes are arguments of *climb*, the upward direction associated with this verb is understood figuratively and translated into an increase in the value of the relevant attribute.
- Most likely, this use arises from a default association of *climb*'s manner with upward movement:
  - A manner that allows motion while resisting the pull of gravity is typically necessary for an entity to move upward, thus, establishing a default association of this manner and upward direction.
  - This association of direction with a particular manner is the inverse of *cut*'s association with a specific type of instrument. The first leads to a result use of a manner verb, and the second to a manner use of a result verb.
- This use is accompanied by a concomitant loss of manner since the themes are abstract entities incapable of motion, consistent with manner/result complementarity.
- Only a handful of manner of motion verbs pattern like *climb* because few involve manners that by their very nature are associated with default directions: e.g., *dive*, *scale*, *soar*.

### 2.2.3 Transitive *climb* revisited

- Previous work drew attention to transitive uses of *climb* because they appear to express both a clambering manner and an upward direction.

Indeed, (24) can ONLY be given an interpretation involving upward direction.

- (24) Kelly climbed the tree.

- However, despite this observation, if *climb*'s meaning conforms to manner/result complementarity, then *climb* must lexicalize either manner only or direction only in its transitive uses.

PROPOSAL: The transitive uses of *climb* ONLY lexicalize manner.

THE NEW PROBLEM: Why can't (24) mean 'climb down the tree'?

THE PROPOSED ANSWER: Contextual factors conspire against this interpretation.

### Transitive *climb* lexicalizes manner and not direction

- The direction of motion is not always understood as upward in transitive uses of *climb*, as expected if it were lexicalized.

— Typically, motion on the path involving the reference object—the object of *climb* in these uses—is understood as upward, as in (24), where the reference object has a prominent vertical dimension.

— When the reference object is a barrier (e.g., wall, fence), the path is understood as over it.

(25) So I thought that if I **climbed** the fence I'd be able to reach the entrance and the machine where I can buy some chocolate. (BNC; JY9 971)

- Transitive uses of other manner of motion verbs also do not lexicalize direction (L&RH in press).

— Transitive *ride* is usually understood as 'ride along':

(26) At appointed intervals the burgesses formally **rode** the boundaries to make sure that no encroachments or neglect had occurred. (BNC; EF2 1025)

— Yet other directions are possible; the larger context in (27) indicates that the direction is down.

(27) He was descending a hill of a four-lane arterial, on a bicycle equipped with the all-reflector system of nighttime protection that is required by federal regulation, but not using a head-lamp. . . . I testified to two accurate ways to determine speed on a slope. The first is plain experimentation. **Ride the slope** and see what speed develops. (<http://johnforester.com/Consult/GreenJM/derby.htm>)

THE GENERAL RULE: The direction of motion in transitive uses of manner of motion verbs is determined contextually from the combination of the manner, the nature of the reference object, and the way an agent typically interacts with it.

### Why can't *climb the tree* mean 'climb down the tree'?

- The major factor involved in the absence of a downward interpretation for *climb the tree*: the nature of the reference object.

— Trees, like walls, are perceived as projecting upward from the ground, so both are typically encountered as something to ascend.

— In contrast, cliffs are encountered projecting either upward or downward from ground-level.

- Indeed, with the appropriate context, downward transitive uses of *climb* are attested.

(28) 'Bring the Governor's reply straight back,' shouted Master Mace as Mungo **climbed** the rope ladder into the ship's rowing boat. (James Riordan and Beaula Kay McCalla, *Rebel Cargo*, Frances Lincoln, 2007, p. 149; [books.google.com/books?isbn=1845077741](http://books.google.com/books?isbn=1845077741))

*into* does not contribute the direction in (28) as it is found with upward motion also, as in (29).

(29) Marian **climbed** the rope ladder into the ship unaided, and was back on board within 15 minutes of jumping. ([www.geocities.com/jckingham/ATL/content/56Minnekahda.htm](http://www.geocities.com/jckingham/ATL/content/56Minnekahda.htm))

- Transitive *climb* can cooccur with *down* without seeming contradictory, suggesting that the sense of upward movement in *climb(ed) the/a ladder* is due to a strong inference.

(30) You **climb** the ladder down into the crew quarters, and encounter a Protagonist, lying on a cot and brooding. ([kol.coldfront.net/thekolwiki/index.php/Random\\_Lack\\_of\\_an\\_Encounter](http://kol.coldfront.net/thekolwiki/index.php/Random_Lack_of_an_Encounter))

- In contrast, there are only a handful of *down* examples with *climb(ed) the/a tree*, suggesting that this reference object is interacted with differently.

(31) Once a mother came with three or four of her babies and one was stuck on the roof since it was too afraid to **climb** the tree down to join the others . . . ([artizek.deviantart.com/art/Raccoon-39425624?offset=0](http://artizek.deviantart.com/art/Raccoon-39425624?offset=0))

### 2.3 The lessons from problematic verbs

- Two representative counterexamples to manner/result complementarity receive similar accounts:

- A lexicalized meaning component is associated with a default nonlexicalized inference.

- This inference can be negated either explicitly or with heavy contextual support.

- The name of the verb can sometimes be lexically associated with this default notion.

- When this happens, the original lexicalized meaning component drops out.

- In particular, we proposed that this happens in two distinct ways via the studies of *climb* and *cut*:

- When a manner has a conventionally associated result, the result may get lexicalized in some uses of the verb, but only if the manner drops out, as with *climb*.

- When a result verb has a conventionally associated activity, the associated activity may get lexicalized in some uses of the verb, but only if the result drops out, as with *cut*.

- A proper understanding of the range of uses of these verbs involves distinguishing lexicalized meaning from meaning derived from the use of the verb in context and lexicalized meaning from inferences associated with a verb by default.

- Purported exceptions involve forms of polysemy that are natural consequences of manner/result complementarity and are insightfully understood in the context of such complementarity.

- Though Goldberg (2010) and Koontz-Garboden & Beavers (2010) present further potential counterexamples, we believe that many do not stand up; see also Arsenijević (2010) and Husband (2011).

(Domains of the counterexamples: verbs of cooking, verbs of manner of death, and additional verbs involving motion in a vertical direction.)

- The analysis here suggests that certain manners and results can be conceptually associated, but when they have to interface with the grammatically relevant lexical semantic representation, only one of the two components can be integrated into a lexical representation of word meaning.
- Further support for the proposal that components that are conceptually associated cannot be jointly integrated into a verb meaning comes from the study of signing events involving manner and direction of motion in Nicaraguan Sign Language, as discussed in Senghas, Kita & Özyürek (2004).

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