

Lexical Semantics

Week 13: Manner/result complementarity

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1 Back to *hitting* and *breaking*

Fillmore (1970) observed a set of important differences between *hit* and *break*:

- possibilities for syntactic realizations:
 - (1) Verbs of breaking:
 - a. The stick broke (*with a rock). *intr.*, PATIENT subj.
 - b. John broke the stick (with a rock) *trans.*, AGENT subj.
 - c. The rock broke the stick (#with a hammer). *trans.*, INSTR subj.
 - (2) Verbs of hitting:
 - a. John hit the tree (with a rock). *trans.*, AGENT subj.
 - b. A rock hit the tree (#with a stick). *trans.*, INSTRUMENT subj.
- and, corresponding differences in the semantic roles they select/subcategorize for:
 - (3) *break*: (AGENT) (INSTRUMENT) PATIENT
 - (4) *hit*: AGENT—INSTRUMENT THEME
- we saw that verbs of breaking (*bend, break, crack, fold, shatter*) participate in the **causative alternation**, but verbs of hitting (*bump, hit, strike, stroke, tap*) do not

What makes these differences important and interesting to look at (from the lexical semantic perspective) is that *hit* and *break* are also closely connected:

- the instrument-subject realization is shared
- at the semantic level, certain events can be described as either *hitting* or *breaking* events, depending on the part of the event we want to emphasize:
 - (5) *Context*: A protestor swings a sign and hits a window, which breaks.
 - a. The protestor hit the window with a sign.
 - b. The protestor broke the window with a sign.
- the *break* description focuses on the change of state undergone by the window as a result of the *hitting* event – the **result**

- the *hit* description focuses on way in which the change of state in the *break*-event came about – the **manner** of breaking
 - the basic difference:
 - *break* is a change of state verb, which is connected to a result state, but we don't know exactly *how* the result came about
 - *hit* does not inform us about potential results; we know that surface contact was made with force, but not about any effects:
- (6) a. I broke the window with a hammer; #it didn't faze the window, but the hammer shattered.
- b. I hit the window with a hammer; it didn't faze the window, but the hammer shattered.
- **General point:** verbs describing events of impact/damage have two subclasses
 - *hitting* verbs: surface contact, with force
 - * describe *means* of potentially damaging objects
 - * examples: *hit, kick, punch, slap, whack*
 - *breaking* verbs: changes in structural or material integrity of object
 - * describe specific types of damage *resulting* from impact
 - * examples: *break, crack, shatter, splinter*

2 The Manner vs. Result Dichotomy

The *hit/break* split – i.e. the two-way split in verbs of damaging – is an example of a more general split in the (English) verb inventory:

- other verb subclasses (sim. to 'verbs of damaging') can be split into two groups: a **manner** subgroup and a **result** subgroup
- manner verbs describe actions used to bring about the types of results described by the result verbs

verb class*	manner		result
damaging	<i>hit</i>	vs.	<i>break</i>
motion	<i>run</i>	vs.	<i>come</i>
putting	<i>pour</i>	vs.	<i>fill</i>
combining	<i>shake</i>	vs.	<i>mix</i>
sound	<i>shout</i>	vs.	<i>say</i>
killing	<i>stab</i>	vs.	<i>kill</i>

*NB: These verb classes should not be taken to be as syntactically/semantically robust as the 'change of state' or 'surface contact' classes – as we've seen, *hit* and *break* have different semantic roles and different syntactic realizations. The manner and result subclasses of, e.g., verbs of sound, can be expected to show robust and class-identifying syntactic and semantic patterns

Verbs of motion:

- *come, arrive, go* describe the result of motion, by describing where the patient ends up (relative to a deictic centre)
- *run, walk, bike* don't indicate where patient ends up:

(7) Casey ran

(entails that Casey moved, but does not convey where to)

- *means* or *manner of motion* seems to be in **complementary distribution** with the result component of a verb like *come*
 - that is, a verb of motion can *either* specify where the patient ended up *or* how she moved, but not both
 - *run* denotes a type of pedestrian movement, *bike* a type of movement involving a bicycle as the means (or instrument)
 - *come, arrive, go* don't have a means/manner component, just directionality
 - you can *go* by running, walking, cycling, driving, etc

Lexicalization constraint:

A verb is lexically specified either for manner or for result

(8) Verbs of putting:

- He poured (the) water into the tub.
- He poured (the) water out of the tub.
- He poured (the) water in.
- He poured (the) water out.

(9) He filled the tub with water.

⊢ *The tub is full of water.*

(10) He emptied the tub of water.

⊢ *There is no water in the tub.*

<i>pour</i>	Direct Object substance theme (material)	directional PP into/out of container goal/source
<i>fill</i>	Direct Object container patient	with-PP substance theme (material)
<i>empty</i>	Direct Object container patient	of-PP substance theme (material)

(11) a. Water kept pouring into the garden.

b. Water kept pouring out of the hose.

(12) a. pour money into the operation

b. contributions began to pour in

- c. the soldiers poured into the battlefield
 - d. pouring out apologies about being late
- (13) a. The tub filled with water.
- b. The crowd filled the square.
- (14) a. The classroom emptied.
- b. Slowly the room emptied of the few student council members left, until Mira was left wondering if there was another way out of the room.

Troponym. A verb V_1 is a *troponym* of a verb V_2 if V_1 describes doing V_2 in a particular manner.

- *amble, strut, trudge* are troponyms of *walk*
- *swat, thwack, whack* are troponyms of *hit*

Miller & Fellbaum (1991)

Manner and result verbs differ systematically in meaning and behaviour:

- within a language, manner/result dichotomy figures in:
 - characterizing distributional patterns (as with Fillmore on *hit* vs. *break*)
 - characterizing language acquisition patterns (below)
- across languages, the dichotomy figures in characterizing cross-linguistic similarities and divergences (below)

3 Manner/result pairs

Question: Why do we feel that certain pairs of manner and result verbs belong to a single ‘meaning’ class (e.g., verbs of damaging)?

- manner verbs describe actions typically associated with particular results (which are lexicalized by certain result verbs)
- result verbs describe ‘conventionally-intended’ results of manner verbs
 - *walk, run, jog* all name actions performed with the intention of going somewhere
 - *pour, dump, dribble* (put stuff into containers or onto surfaces) are actions performed with the intention of filling containers or covering surfaces
 - *stir, shake, beat* (stuff) are actions performed with the intention of blending or mixing the stuff (with itself or something else)
- but, the ‘conventionally-expected’ result is NOT part of what is entailed by manner verbs

4 Acquisition and the manner/result dichotomy

Children often misinterpret result verbs as manner verbs (Bowerman 1982, Gentner 1978):

- example: children will use the result verb *fill* to indicate the manner *pour*:

- (15) Can I fill some salt into the bear? Bowerman 1982, p.338
a. Can I pour some salt into the bear?
b. Can I fill the bear with salt?

– note: acceptable in many American English dialects

The reverse, using manners for results, does NOT happen:

- when result verbs are mistaken for manner verbs, this usually happens with respect to a manner conventionally associated with bringing about the result encoded in the misapplied verb
- *fill* can be used to mean *pour*, but not to mean *dribble*, because dribbling is not a manner of filling a container
- some result component often remains (e.g., kids won't use *fill* as *pour* unless the container winds up more than three-quarters full; Gropen et al 1991)

5 Cross-linguistic manifestations of the dichotomy

5.1 Language-specific generalizations:

1. English:

- simple verbs describe results (e.g., *break*, *arrive*, *dry*, *kill*)
- simple verbs can describe manners (e.g., *run*, *hit*, *pour*)
- adjectives can describe result states (e.g., *full*, *dry*, *free*, *open*)
- manner verbs can often be paired with a result adjective to indicate both that a result was achieved as well as the way in which it was brought about:

- (16) Tom wrung the clothes dry.

2. Lakhota:

Boas & Deloria (1939)

- Lakhota has 'bipartite' verbs formed by pairing a manner-expressing prefix with a verb stem

- (17) verb stems describing states that are permanent results of actions:

- a. *blečha* 'be shattered (said of brittle material)'
b. *blaza* 'be ripped open'

- (18) prefixes describing manner:

- a. *ya-* ‘with the mouth’
 - b. *na-* ‘with the foot or leg’
 - c. *yu-* ‘by pulling, with the hands’
 - d. *wa-* ‘by a sawing motion, with a knife’
 - e. *ka-* ‘by a sudden impact’
- (19) prefixes and verb stems combined:
- a. *yablečha* (= *ya-* + *-blečha*) ‘break or cut with teeth’
 - b. *nablečha* (= *na-* + *-blečha*) ‘break by kicking or stepping on’

3. Washo:

Jacobsen (1980)

- Washo stems are similar to Lakshota stems
 - verb “stem expresses a change of state in an entity”
 - “prefix expresses a different entity or agency causing this effect”
 - prefixes and stems combine to create verbs:
- (20) *?l^ei-biw* ‘to bite off’
- a. *?l^ei-* ‘to bite, hold in teeth’
 - b. *biw* ‘to cut off’
- (21) *liw-ápaw* ‘to burst by pressing’
- a. *liw-* ‘by pressing’
 - b. *ápaw* ‘to burst, explode’
- “... the stem expresses a change of state in an entity, while the prefix expresses a different entity or agency causing this effect. Most of the stems imply a deleterious change, such as the termination of life or combustion, or the cutting or breaking up or distortion or harming of an object, or at least the exertion of force upon an object to move or otherwise change it.” (Jacobsen 1980, p.91)

Note: English resultative constructions are like Lakshota and Washo prefix-stem combinations, but at the verbal level

(22) Janine kicked the door open.

(23) The smith pounded the metal flat.

Upshot: All languages have words, stems, affixes describing either manners or results, but since their lexical structure and lexical resources are different, the notions are lexicalized in different ways, and they consequently have different ways of describing the same events.

5.2 Verbs of motion and specification of trajectories

As Slobin (1996) observes, certain languages seem to ‘prefer’ manner or result verbs in particular semantic fields:

- English has a lot of manner of motion verbs, but fewer ‘direction’ of motion (result) verbs
- Spanish shows the reverse pattern
- some verbs of motion like *come*, *arrive*, *leave*, *go* describe the result of motion, giving more or less specific information about where the theme ends up

- (24) a. Mary came/arrived.
b. Mary left.
c. Mary went.

- (25) Mary ran/biked/walked.

- (24) tells us about where Mary moved to or from
- other motion verbs don’t tell us where the patient ends up
- with motion verbs, the dichotomy is between means and direction (result)
- verbs can be paired with particles (*out*, *in*, *up*, *off* or directional PPs, in order to express both manners and results
- languages vary as to availability of verbal particles and which PPs are direction:

- (26) a. The bottle floated out. [English]
b. *La botella salió flotando*
the bottle exited floating
‘The bottle came out floating.’ [Spanish]
c. *To boukali vgike epipleondas*
the bottle exited floating
‘The bottle came out floating’ [Greek]

- for some verbs, context can force either the manner or result interpretation:

- (27) a. Mary went under the bridge.
(goal: a location under the bridge)
b. Mary ran under the bridge.
(running took place under the bridge OR the goal was under the bridge)
c. Mary ran under the bridge to the cave.
(the goal of the movement was a location in the cave, the trajectory passed under the bridge)

(28) Greek:

- a. *I Maria pige kato apo tin gefira*
the Mary went under from the bridge
'Mary went under the bridge.'
- b. *I Maria etrekse kato apo tin gefira.*
the Mary ran under from the bridge.
'Mary ran under the bridge' (only locative reading)
- c. *I Maria pige kato apo tin gefira trehondas.*
the Mary went under from the bridge running
'Mary ran under the bridge' (directional)
- d. *I Maria ektrekse pros tin spilia, pernondas kato apo tin gefira.*
the Mary ran to the cave passing under from the bridge
'Mary ran under the bridge to the cave.'

6 References

1. Boas, F. & E. Deloria. 1939. *Dakota Grammar*, Memoirs of the National Academy of Sciences, vol. 23, no. 2.
2. Bowerman, M. 1982. Reorganizational processes in lexical and syntactic development. In E. Wanner & L.R. Gleitman, eds., *Language Acquisition: The State of the Art*. Cambridge: Cambridge University Press.
3. Fillmore, C. 1970. The grammar of *hitting* and *breaking*. In R. Jacobs and P. Rosenbaum, eds., *Readings in English Transformational Grammar*, 120–133. Waltham: Ginn.
4. Gentner, D. 1978. On relational meaning: the acquisition of verb meaning. In *Child Development* 49: 988–998.
5. Gropen, J., S. Pinker, M. Hollander, & R. Goldberg. 1991. Affectedness and direct objects: the role of lexical semantics in the acquisition of verb argument structure. *Cognition* 41: 153–195.
6. Jacobsen, W.H. 1980. Washo bipartite verb stems. In K. Klar, M. Langdon, & S. Silver, eds., *American Indian and Indoeuropean Studies*. The Hague: Mouton.
7. Rappaport Hovav, M. & B. Levin. 2010. Reflections on manner/result complementarity. In M. Rappaport Hovav, E. Doron, & I. Sichel, eds., *Syntax, Lexical Semantics, and Event Structure*. Oxford: Oxford University Press.
8. Slobin, D. 1996. Two ways to travel: verbs of motion in English and Spanish. In M. Shibatani & S.A. Thompson, eds., *Grammatical Constructions: Their Form and Meaning*. Clarendon Press, Oxford.