

Withering Exceptions: Predicting Participation in the English Causative Alternation

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1 Introduction

Baker's Paradox (Pinker 1989, after Baker 1979):

- *Productivity*: An unbounded number of items can, in principle, instantiate a given syntactic pattern (as long as they satisfy certain criteria).
- *Arbitrariness*: There are arbitrary negative exceptions to productive patterns – particular items that fail to instantiate the pattern despite meeting the criteria.
- *No Negative Evidence*: Negative evidence is not used in language acquisition.

Overall goal: Questioning premise of arbitrariness.

Implications of arbitrariness for learning:

- Leads to a paradox? (Only if you assume “no negative evidence”)
- Implies “Conservative Attentive Learner” (Culicover 1999)?
- Statistical preemption, item-specific learning (Goldberg 2006; Bowerman and Croft 2008; Wonnacott et al. 2008)?
- Attentiveness, at least: The learner must be attentive to the uses of individual words.

Present case study: English causative alternation

- (1) a. I broke the glass.
b. The glass broke.

It is productive:

- (2) a. We have to de-Bushify U.S. foreign policy in Iraq.
b. U.S. foreign policy in Iraq is slowly de-Bushifying.

Yet certain restrictions exist:

- (3) a. *Don't giggle me!
 b. I giggled.
- (4) a. I lost my key.
 b. *My key lost.

The productivity of these patterns is governed by certain criteria:

- Pinker (1989): Only verbs in certain *narrow-range classes* alternate: change-of-state verbs (*melt, open, ...*) and manner-of-motion verbs (*roll, bounce, ...*).
- Levin and Rappaport Hovav (1995) [LRH95], building on Smith's (1970) analysis based on the notion of 'control': Alternating status is related to *internal vs. external causation*.

Bowerman and Croft (2008) claim that there are still arbitrary exceptions, i.e., "there are verbs that satisfy the restrictions [criteria] and yet do not alternate," (p. 284):

- Transitive-only: *knock down, lose*.
- Intransitive-only: *go, disappear, cling, glow*.

In the same vein, Braine and Brooks (1995: 364) list the following examples:

- Intransitive-only: *subside, wither, shrivel, fluctuate, quiver, totter, ripple, revolve, waver, stumble, oscillate, vibrate*.

Goal for today: Show that under close inspection, these examples can be understood on the basis of general criteria limiting the productivity of the relevant patterns.

2 Criteria for undergoing the causative alternation

Three verb classes relevant to causative alternation (LRH95):

- *internally caused*: "some property inherent to the argument of the verb is 'responsible' for bringing about the eventuality" (LRH95: 91). Includes:
 - Agentive intransitive verbs such as *play* and *speak*
 - Some nonagentive verbs such as *blush* and *tremble*, which describe eventualities that arise as the result of body-internal processes
 - Even some verbs with inanimate arguments, including verbs of emission, such as *bubble* (sound emission), *flash* (light), *stink* (smell), and *ooze* (substance).
- *externally caused*, e.g. *break, open*: "imply the existence of an 'external cause' with immediate control over bringing about the eventuality described by the verb" (LRH95: 92).
 - Exception: Some externally-caused verbs do not detransitivize, e.g. *cut*. These verbs lexicalize manner for the agent (LRH95, Fillmore 1970).

- *non-caused*: Includes verbs of existence and appearance such as *appear* and *emerge*, stative verbs of spatial configuration such as *stand* and *sit*, and verbs of inherently directed motion such as *come* (see LRH95: p. 298, fn. 4).

Note: In addition to the causative alternation proper, there are:

- A causativization process that applies to agentive verbs of manner of motion in the presence of a directional phrase (e.g. *march the soldiers to the tents*).
- A productive process (perhaps only for some speakers) that transitivizes intransitive internally caused change-of-state verbs (e.g. *Strong winds eroded the cliffs*). See Wright (2001), Levin (2007).

In the following section, I advance the claim that these are the generalizations that a learner must acquire, and that it is not necessary to memorize arbitrary exceptions to them.

3 Explaining the exceptions

3.1 Distinguishing internal and external causation

Two main modes of argumentation:

- Careful application of the definition of internal causation to the meaning of the verb
- Sortal properties of the subject (Atkins and Levin 1995): Internally-caused verbs tend to occur with subjects that have “self-controlled” bodies: humans, animals, machines, etc., but not teacups and furniture.

Unfortunately not reliable: *by itself* test (LRH95, see also Chierchia 2004)

- (5) The door opened by itself [‘without outside help’ or ‘alone’]
- (6) The girl giggled by herself [‘alone’ only]
- (7) The baby ate all by herself! [‘without outside help’ or ‘alone’]

3.2 Intransitive-only putative exceptions

Claim: all of these are internally caused, non-caused, or in fact have transitive uses: *go*, *disappear*, *cling*, *glow*, *subside*, *wither*, *shrivel*, *fluctuate*, *quiver*, *totter*, *ripple*, *revolve*, *waver*, *stumble*, *oscillate*, *vibrate*.

3.2.1 Non-caused verbs

go. Typical verb of inherently directed motion, like *come*.

- (8) a. *Don’t go/come her!
- b. She went/came.

disappear. Typical verb of existence and appearance, like *appear*.

- (9) a. *I disappeared/appeared it.
b. It disappeared/appeared.

3.2.2 Internally-caused verbs

glow. Typical verb of light emission.

- (10) a. *I glowed the lightbulb.
b. The lightbulb glowed.

cling. Requires the clinger to exert mutually opposed forces. Limp rag dolls cannot cling.

- (11) a. *I clung some brambles to his shirt.
b. Some brambles clung to his shirt.

subside. Subsiding is a reduction in the activity of something that is internally active: waves, pain, a fire.

- (12) a. *The doctor subsided the pain.
b. The pain subsided.

Other verbs with this property are also intransitive-only: *wane*, *ebb*, *dwindle*, *recede*, *settle*.

Verbs semantically similar to *subside* without this property have intransitive and corresponding causative uses: *decrease*, *diminish*, *ease*, *end*, *lessen*.

Possible counterexample: *abate*.

- (13) a. She ... abated the ardour of some. [OED citation]
b. The ardour of some abated.

Derives from French *battre* 'beat' which describes two entities in conflict, more like *break* or *destroy*. Other uses of *abate*: "to put an end to, do away with (as a nuisance, or an action)," "to render null and void."

wither and shrivel. These are typical internally caused change of state verbs. LRH95, p. 97: "the changes of state that they describe are inherent to the natural course of the development of the entities that they are predicated of." These actually do have transitive causative uses, with natural force subjects (Wright 2002: 341).

- (14) The onset of temperatures of 100 degrees or more, on top of the drought, has withered the crops.

- (15) In the tropics a saturated solution is much too strong, and shrivels up delicate tissues [OED]

stumble. Restricted to entities that are capable of walking-like motion – animate creatures with legs. The act of stumbling crucially involves taking steps; it is “to miss one’s footing” (OED).

- (16) a. *That bully stumbled me.
b. I stumbled.

quiver. Directly caused by a body-internal feeling (fear, cold, or disgust), like *quake*, *shiver*, *shudder*, and *tremble*.

- (17) a. *The monster quivered/shivered/shuddered/trembled the boy.
b. The boy quivered/shivered/shuddered/trembled.

See also Atkins and Levin (1995).

totter, waver. Describe intent – and failure – to maintain a steady or straight course. Require intentionality.

- (18) a. *He tottered her to her seat.
b. She tottered to her seat.
- (19) a. *He wavered her smile.
b. Her smile began to waver.

fluctuate, oscillate, revolve, vibrate. These are all listed in the OED with causative uses.

3.3 Transitive-only putative exceptions

Claim: *knock down* and *lose* are not arbitrary exceptions.

knock down. Falls into a wider class:

- (20) a. I knocked my block tower down.
b. *My block tower knocked down.
- (21) a. They struck the sign down.
b. *The sign struck down.
- (22) a. He kicked the chair over.
b. *The chair kicked over.
- (23) a. John punched his teeth out.
b. *His teeth punched out.

lose. Specifies a change of state on the part of the subject, rather than the object.

(24) a. I lost my key.

b. *My key lost.

(25) a. I ate the sandwich.

b. *The sandwich ate.

(26) a. I drank the soda.

b. *The soda drank.

4 Conclusion

- All of the examples brought up by Bowerman and Croft (2008) and Braine and Brooks (1995) can be understood based on general criteria.
- This undermines the “arbitrariness” premise of Baker’s Paradox in this domain, and the conclusion that learners must be attentive to the use of specific lexical items in specific constructions.
- Possible explanation for why there might be no arbitrary exceptions: The *explanation-seeking learner* – Learners prefer explanatory generalizations to individual stipulations
- Questioning the arbitrariness premise has the additional benefit of helping to deepen our understanding of the phenomena themselves.

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