Lexical Semantics
Week 4: Denominal verbs

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1   Conceptual and grammatical knowledge

Plato's problem: we know more about the meanings of words than we could have learned from exposure alone:

- e.g., we plausibly know that the verb *paint* means "to cover with paint"

- and we readily extend painting from something done with brushes to something done with a roller, a spray can, or even by dipping

- but there are some ways in which we cannot extend it:

  (1) a. #The explosion painted the workers red.
           Cannot be used to describe a situation where a vat of paint exploded, covering the workers in red paint.
       b. #Velázquez painted his brush.
           Cannot be used to describe Velázquez dipping his paintbrush.

- there must be general principles that govern our understanding of how words can and cannot be extended in meaning

- these principles have to be fairly rich, in order to constrain our use of words of different types

- we want them to relate basic concepts/conceptual knowledge/world knowledge with certain universal constraints on semantic representations (constraint on possible words/word meanings), as well as with certain kinds of syntactic properties

- denominal verbs are a good case study for examining these kinds of interactions, because they break down into several categories that share certain important features of meaning and argument structure

2 Overview of denominal verbs

English allows many verbs to be derived from nouns without adding or changing any morphology.

- this process is productive or innovative, and certain denominal verbs can fall in and out of use (within different speech communities)

  - e.g., *hoover*, from a proper noun, as a verb for *vacuum* (itself a denominal verb) in British but not American English
  - *Xerox* for *photocopy*, now falling out of regular usage

- some more innovative examples:

  (2) a. It's time to PJ the children.
      b. She was marmalading another scone.
      c. They gondolaed through Venice
      d. She stiletto-heeled down the hall.
      e. He tweezered the splinter from his palm.

- Clark & Clark (1979): children often do this spontaneously, sometimes because they don't know the existing word

  (3) a. Mummy trousers me.   [talking about getting dressed]
      b. I broomed her.   [after hitting his sister with a toy broom]
      c. You have to scale it first.   [wanting to have cheese weighed]
      d. Is it all needled?   [asking if pants had been mended]

- the patterns that children spontaneously adopt tell us something about the basic principles of noun-verb derivation

Denominal verbs can be interpreted systematically:

- any denominal verb can be paraphrased in terms of the noun it is derived from

- many of these paraphrases share a basic structure, allowing us to classify denominal verbs according to aspects of the nature of the base noun:

  (4) base noun names a (concrete) thing or substance   **locatum verbs**
      paraphrase of verb: to put N on OBJ
      example: *to plaster a wall* $\rightarrow$ to put plaster on a wall
      other verbs: *blanket, saddle, wallpaper, paint, grease, glaze, cloak*

  (5) base noun names a place (surface, container)   **location verbs**
      paraphrase of verb: to put OBJ in/on N
      example: *to cage the hamster* $\rightarrow$ to put the hamster in a cage
      other verbs: *bag, bottle, pasture, box, corral*

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(6) base noun names a thing/stuff
paraphrase of verb: to remove N from OBJ
example: *to shell a walnut* → to remove the shell from a walnut
other verbs: *core, gut, husk, pit, scalp, weed*

(7) base noun names a place
paraphrase of verb: to remove OBJ from N
example: *to mine gold* → to remove gold from the mine
other verbs: *quarry*

(8) base noun names an instrument   **instrument verbs**
paraphrase of verb: to use N for its intended purpose
example: *to rake the leaves* → to use the rake on the leaves
other verbs: *brush, hammer, microwave, mop, shovel*

(9) base noun names an occupation or role (of a person)   **agent verbs**
paraphrase of verb: to act as in occupation or role N
example: *to volunteer* → to act as a volunteer
other verbs: *butcher, captain, clerk, tutor, umpire*

(10) base noun names a time period   **duration verbs**
paraphrase of verb: to perform activities associated with N
example: *to vacation* → to perform vacation activities
other verbs: *breakfast, brunch, holiday, summer, winter*

Broad generalization of denominal verb meaning: to use N in its characteristic (typical, canonical) function

- this explains certain restrictions

(11) *bush* $\nrightarrow$ to put something on a bush
 a. I put some fertilizer on the bush.
 b. *I bushed some fertilizer.

(12) *house* $\nrightarrow$ to put something on a house
 a. I put a coat of paint on the house.
 b. #I housed a coat of paint.

(13) *house* → to put something in a house/give it a house to live in
 a. I put the frog in a terrarium.
 b. I housed the frog in a terrarium.

3   Case study: locatum vs. location verbs

Locatum and location verbs both involve a locational relation:

- but they differ with respect to which role (the location or the thing being located - the locatum) is the basis for the verb

- we can reliably identify which relation is important for a particular denominal verb

- this is true even if the verb is an innovation (or is new to the hearer)

- these relationships are cross-linguistically robust:

  - German forms most of its denominal verbs via affixation (unlike English)
  - but, where both English and German have verbs corresponding to a particular noun, the meaning is almost always identical
  - this is because denominal verbs are derived on the basis of general semantic/argument structure principles, not idiosyncrasies of a particular language

  (14) **Principle:** If an action is named after a noun, it involves a canonical use of the noun

  - this straightforwardly explains the uses of instrumental verbs
  - to *tape* something is to apply or use tape to fasten it in some way (or, more recently, to record it on tape), but it cannot refer to arbitrary uses of tape (e.g., using tape to weigh down papers)

Principle (14) fixes the meanings of locatum and location verbs as follows:

(15)   a. **Locatum verbs:** putting N in or on OBJ is a canonical use of N
       b. **Location verbs:** putting OBJ in or on N is a canonical use of N

- Caution: "canonical" uses do not mean that an object has to be put in its canonical location (or that a canonical object has to be put in some location)

  - we can *flag a table* or *imprison a politician*, even though tables and prisons are not the salient canonical locations for flags or politicians
  - in either case, the noun from which the verb is formed has to be used for its canonical purpose (signaling, incarcerating)
  - you could, for example, use a flag to wipe down a table, but you could not describe this with the denominal verb *flag*:

    (16)   #The table was filthy, but we flagged it clean.

  - some objects have two kinds of canonical use, leading to two separate denominal verbs:

    (17)   a. *index* $\rightarrow$ to put an index in/on something (provide an index) OR to put something in an index
           b. *string* $\rightarrow$ to put strings on something OR to put something (e.g. beads) on strings

3.1 Decompositional analyses for denominal verbs

Locatum and location verbs both involve two nouns:

- one noun forms the verb, and plays a particular role in the argument structure of a *put in/on* paraphrase (or in Clark & Clark's 'parent clauses')

- the other role remains as a direct object

  (18) a. *Locatum verb:* She blanketed the bed.
        Location as direct object
        b. *Location verb:* She shelved the book.
        Locatum as direct object

- in cases where both nouns work as denominal verbs, reversing the roles can lead to different meanings:

  (19) a. John papered the shelves.
        b. John shelved the papers.

- this suggests an asymmetry in the two relevant roles

- we augment Principle (14) with the following syntactic/argument structure constraint

  (20) **Principle.** Only the lowest role can be expressed by the noun corresponding to a denominal verb

- *Assumption:* semantics roles (like Fillmore's JUDGE, DEFENDANT, etc) are hierarchically ordered

  - ostensibly, 'lower' roles are less central to the event described

- if this principle is correct, then there are two kinds of locational relationship relevant for locatum and location verbs

  - if only one relation was involved, and assuming a fixed hierarchy of roles, we would only expect one type of denominal verb involving locatum-location pairs of nouns

- proposed relations:

  (21) pure location: BE-ON, BE-IN, BE-AT
        a. location verbs: CAUSE(x, (BE-ON(y, z))) & PRED(z)
        b. examples: *shelve, hook, string*
        c. Juno shelved the book.
            CAUSE (Juno, (BE-ON(book, z))) & SHELF(z)
        d. The book is on the shelf.
  (22) possession: HAVE, HAVE-ON, HAVE-IN

    a. locatum verbs: CAUSE(x, (HAVE-ON(y, z))) & PRED(z)

    b. examples: *paint, saddle, shoe*

    c. The blacksmith shoed the horse.
       CAUSE (blacksmith, (HAVE-ON (horse, z))) & SHOE(z)

    d. The horse has a shoe/shoes on.

- evidence for these two separate relations comes from Finnish, where there are separate cases corresponding to each

(23)   a. **inessive:** HAVE-ON / internal location

       Satula on hevose-n   selä-ssä
       saddle is horse-GEN back-INESS

       'The saddle is on (lit: 'in') the horse's back.'

    b. **adessive:** BE-ON

       Mylly on ylähyllyllä
       grinder is top-shelf-ADESS

       'The grinder is on (lit: 'at') the top shelf.'

3.2   Flexibility in meaning

- some locatum and location verbs are very strict about the nouns involved, others are more flexible

(24)   *Location verbs*

    a. to box a present (#in a paper bag)

    b. to greenhouse orchids (#on a windowsill)

    c. to pocket change (#in a handbag)

(25)   *Locatum verbs*

    a. to fence an area (#with a mine strip)

    b. to oil a hinge (#with graphite)

- in these cases, the specified additional object/adjunct is acceptable only if it's a subtype of the source noun (e.g., a bag is not a type of box)

- there are also cases where the nominal meaning is "bleached" (weakened, made more general)

(26)   *Location*

    a. to shelve a book on a windowsill

    b. to land a (hydro)plane on water

    c. to skewer a page with a pencil

(27)   *Locatum*

    a. to butter toast with margarine

    b. to dust a pan with flour

c. to blanket a wall with advertisements

- how can we make sense of these as uses for denominal verbs?

- part of our world knowledge involves certain sets of properties of objects

    - e.g., we not only know what the canonical purpose of a shelf is
    - but we also know that it is a physical object, is long and flat
    - things put on shelves are stored there, not there incidentally

- so, we could relax the SHELF component in a denominal analysis:

(28) a. Strict:
      $shelve := \lambda x \lambda y \lambda z.\text{CAUSE}\ (x, \text{BE-ON}\ (y, z))\ \&\ \text{SHELF}(z)$
      b. Flexible (bleached):
      $shelve := \lambda x \lambda y \lambda z.\text{CAUSE}\ (x, \text{BE-ON}\ (y, z))\ \&\ \text{SHELF-LIKE-THING}(z)$

- for *butter* or *dust*, what matters is the kind of substance being applied, as well as the way in which it is applied

(29) a. Strict:
      $butter := \lambda x \lambda y \lambda z.\text{CAUSE}\ (x, \text{HAVE-ON}\ (y, z))\ \&\ \text{BUTTER}(z)$
      b. Flexible (bleached):
      $butter := \lambda x \lambda y \lambda z.\text{CAUSE}\ (x, \text{HAVE-ON}\ (y, z))\ \&\ \text{BUTTER-LIKE-SUBSTANCE}(z)$

- notice that the 'extended' properties are often physical or structural, not based on colour or taste (this tells us something about what we know about nouns)

- innovations work in a similar fashion, by picking up on salient properties rather than strict identity (necessarily)

3.3   True or apparent denominal verbs?

Some other examples of apparent denominal verbs that seem to be flexible:

(30)   Juno dumped the garbage by the roadside.

(31)   We ditched the car in an empty lot.

- *dump* and *ditch* both have nominal uses, but even the resemblance to these nouns can be done away with in verbal uses

- proposal: the noun and the verb might be related, but these don't seem to be cases where the verb can be derived from the noun (at least synchronically)

- if anything, they seem like 'manner' verbs (which are less focused on physical properties of objects involved)

- there is a similar split between 'true' instrumental denominal verbs and instrumental verbs that really describe manners of motion/action:

(32) Denominal instrumental verbs:
  - a. #They chained the prisoner with rope.
  - b. #Jim buttoned his pants with a zipper.
  - c. #He snowplowed the sidewalk with a shovel.

(33) "Pseudo"-instrumental verbs, denoting manner of motion:
  - a. He hammered on the door with his fist.
  - b. She anchored the papers with a rock.
  - c. We wedged the window open with a magazine.

- The derivational account of both location and instrumental manner verbs might postulate a principle where the verb meaning is derived from the type/manner of action and the instrument (noun) meaning is associated with an instrument dedicated to that manner of action

- true denominal verbs and verbs that may share a root with nouns pattern differently with respect to morphology/phonology:

  - denominal verbs share the stress pattern of the noun:

    (34) *to páttern, to índex* (compare with: *discérn, assért*)

  - mutually derived verbs and nouns may contrast:

    (35) *to protést* vs. *a prótest*; *to admít* vs. *an ádmit*

  - denominal verbs should never be irregular in inflection: only basic verbs are irregular
    * *string ↦ strung, sting ↦ stung*
      suggests that these are basic verbs
    * but: *ink ↦ inked, ring ↦ ringed* (not *rang*
      true denominal verbs

- so there are two kinds of bleaching

  - attenuation of the noun's meaning, as with *paint* and *shelve*

    (36) He painted his throat with iodine.
    (37) I shelved the book on the windowsill.

  - no synchronic noun to verb derivation, but instead both noun and verb derived from a common root:

    (38) We strung up the lights with twine.
    (39) He brushed his coat with his hand.

* in these cases, the verb carries an 'adverbial' component describing a particular manner or way of performing the relevant action
* so we can think of the difference here as one in which the denominal verb selects nominal/physical/structural properties of the noun from which it is derived, while the pseudo-denominal verb selects attributes associated with the way in which the related noun is used
* i.e., we either lexicalize nominal information OR adverbial information
* this is related to *manner/result* duality, which we'll discuss later in the course

4 References

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