522 Lecture 9 April 19, 2000

1 Possible Names: Bloom 1994

1. The mystery of acquisition again:

Super-simple case: learning a new word to describe a concrete object in the immediate environment. (dog)

Granted: shared attention, intended referent, segmentation of speech string into words, and identification of word with intended referent

STILL: many potential ambiguities.

a. Is the word the name of an individual?
b. the name of a breed?
c. The basic kind?
d. The superordinate kind?
e. The shape?
f. the color?
g. the size?
h. a part of the dog?
i. To dogs until 2000 and then to pigs?
j. to dogs and pencils?
k. to dogs and Richard Nixon?

} silly but real possibilities

2. Some proposals for assumptions the child brings to the word-learning process:

Whole Object constraint	(Bias against h-k.)
Taxonomic constraint	(Bias towards *same kind*)
Solid Object vs. Mushy Substance constraint	(Bias against h.)
Shape constraint	(Bias towards c, e)

3. All of these seem like plausible candidates for mental constraints on language learning. Bloom: none of them are actually true.

In adult language, there are plenty of words that violate all these constraints:

a. Whole Object: *happy, hit, under, water*
   Even restricted to count nouns: *forest, bikini, flock, finger, foot handle, surface, coating, nap, idea, dream*
b. Shape: *army, family, animal, weapon, brother, friend*
c. Taxonomic: *Fred, Canada*
d. Solid whole vs. mushy part: *wood, metal, pile, puddle.*

4. Biggest problem for all of the above: only work for nouns! but kids learn more than nouns, and do so very early: *more, bye, hit, want, up, no*

Survey of 20-month olds' vocabulary revealed that only half of their nouns referred to basic kinds of solid objects. Other types of words included location (*beach*), temporal entities (*day*) and events (*party*). Words like *friend* and *uncle* also appear early, as do pronouns and proper names.

5. Secondary issue: are these constraints supposed to be innate? Really seems like they must be. Then, are they specific to the language-learning problem? or can they be shown to fall out from some other recognized system?

6. Bloom's proposal — essentially Gleitman's syntactic bootstrapping hypothesis, applied to the domain of nominals.

I NPs refer to individuals
II Count Ns refer to kinds of individuals (they occur with *a*, plural marker).
III Mass Ns refer to kinds of portions (they occur with *some* without plural).

7. (I) takes care of the problem of proper names and pronouns; because they're NPs, they must refer to individuals.

N.B. the special pronominal forms in the genitive in English constitute evidence for this analysis (as do many other phenomena — but the genitive is positive evidence), because that *'s* affix attaches to NPs, not Ns, and hence there are no irregular N genitives, unlike, e.g., plurals. However there are "irregular" pronominal genitives (*his, mine*) as well as regulars (*hers, theirs, its, yours*).

8. Some problems:

a. *Non-referential NPs*: 'it is raining', 'there's trouble brewing'. Even idioms: 'John kicked the bucket.' There is a claim that kids *can't* learn these until they already know the non-expletive or non-idiomatic meaning of the pronoun or NP. (Kids can't learn *kit and caboodle*, then?)

b. *Italian*: what about languages where it's not clear syntactically what's a proper name and what's not? Or perhaps there's other clues. But the determiner+proper name thing would be worth looking into.

c. *Mass nouns in English*: often look like NPs, not just Ns. In order to distinguish between an N and an NP reading of *water* in a string like *I like water*, (vs. *I like Fido*) the child would also have had to have heard and remembered, *Give me some water* or similar (**Give me some Fido*).

d. *'Individuals' can't just be whole concrete objects*: otherwise you'd be falling into the same trap as above w/r to *nap, joke, forest, army, day, dream, conference*.

e. *Lack of mass/count distinction* in Chinese or other lgs?

9. a. But, claim some researchers, kids DON'T associate 'individuals' with count nouns and 'portions' with mass nouns. That is, lots of experiments demonstrate that the linguistic cue (i.e. 'N preceded by *a*' or 'bare N') overrides the semantic cue (i.e. blob of amorphous stuff or well-defined solid object). They conclude that sorting into mass vs. count categories is a *purely* syntactic procedure, without any semantic repercussions or implications: the association between 'individuals' vs 'portions' and 'count' vs. 'mass' happens later.

b. Bloom points out, rightly, that this might not be the case: *what if kids already know the meaning of* 'a'? Then, the fact that a noun occurs as sister to *a* will tell them that it has the appropriate semantics, i.e. refers to an individual, because that's the only kind of noun that can occur with that kind of quantifier.

c. So, he owes us a demonstration that this is the case, *and* an account of how a child could learn the meaning of *a*. He doesn't give the latter, although there is evidence for the former…

10. Evidence that kids are doing some semantic categorization, differentiating between II and III

a. They make mistakes more often with non-canonical mass nouns like *furniture* and *money*, and less often with canonical ones like *juice* and *milk*.

b. They preferentially choose a referent for an unfamiliar word (substance vs. object) based on the syntax they hear. (*sib* vs. *a sib*)

c. They assume that a novel count noun in the presence of unfamilar amorphous substance refers not to the substance but to the bounded pile of it. (Doesn't work in reverse — they really want words referring to discrete bounded objects to refer to the object, not the stuff it's made of)

d. The mass/count distinction was relevant in a study testing kids' assignment of reference to ambiguous substances/sounds. (*fep* vs. *a fep*). (Nice study because included non-material substances)

11. Evidence that kids are doing some semantic categorization, differentiating between I and II:

a. Kids presented with "This is wug" in the context of a bounded object assumed that *wug* was a name, an NP. (Very little kids, <2 yrs old), while "This is a wug" resulted in the assignment of a *kind*, N meaning to *wug*.

12. The syntax/semantics mapping hypothesis basically subsumes all the independent, 'cognitive'-y constraints mentioned above.

13. The lack of a "vice versa" in 10c above results from an independent cognitive bias towards construing discrete physical objects as individuals — that is, a kind of *additional* constraint that says, Individual = Discrete Physical Object. So even when instructed to count "kinds of animals" or properties, like "how many colors"? when presented with a bunch of objects, some the same kind of animal or color, kids like to count each object.

14. Do kids really know 'individual' and 'portion' as categories applicable to non-concrete objects? or do they simply learn it w/r to concrete objects and then extend it to other realms (sounds, events). Three sources of evidence to suggest that the abstract categories exist very young:

a. Infants who were played two sounds and then presented with two pictures, one with two objects and one with three, looked longer at the two-object picture. Also, as soon as you can count at all, you can count all kinds of things.

b. Kids learn words referring to non-material entities very early

c. 3-4 year olds understand how quantification works w/r to non-material entities.

15. So, what kind of cognitive category is 'kind of individual'?

Something (e.g. an object or a set of objects) can be encoded as an 'individual' if we can construe it as playing an independent causal role in some conceptual domain

16. The bias towards objects as individuals may spring from the evolutionarily produced capacity to recognize distinct bounded objects in the world and recognize that they persist over time. This conceptual scheme is essential to good functioning in the world, because it provides a way to analyze causal relationships.

If the desire to categorize individuals springs from the need to analyze causal relationships, then in social animals anyway, groups of individuals like *family* etc. should be as salient as discrete individuals. And discovering new relevant individuals in new domains should be possible:

- when trying to understand geography, the concept of *Canada* as a discrete causal individual is essential.
- Or, if there were a religious ceremony that called for the special use of one shoe and one glove together, that pair of items could receive a name as a count noun. (E.g. *a uniform* or *a habit*).
- or, in the world of abstract art, random collections of items get named as an individual solely by virtue of the artist's intention that it should *be* an individual which people interact causally with.

17. Experiment to manipulate interpretation of groups of objects as causal individuals:

Two conditions:

a. "dumping": pile of objects dumped in front of subject, "Here's a fendle""

b. "placing": same objects deliberately placed in a regular arrangement.

c. In the dumping condition, 'a fendle' was usually interpreted as one of the objects

d. In the placing condition, a single object was 'part of a fendle' and the whole assemblage was interpreted as 'a fendle'

18. The problem of figuring out the meaning of *a*

a. by 2 1/2, kids understand count-mass syntax

b. semantic bootstrapping?

c. and what about Chinese, anyway?

d. "Mappings 2 and 3 limit possible word meanings even before children can distinguish the grammatical markings of count nouns from those of mass nouns, because once children know that the word is a noun, they know it must be either count or mass, and the mappings limit its meaning to two semantic classes — either it refers to a kind of individual or it refers to a kind of portion."

19. Ruling out the silly interpretations is still not accomplished, neither is the motherese telepathy problem resolved.

2 Talmy: Lexicalization patterns

20. *Identifies elements of meaning that a clause can express*:
Motion, Path, Figure, Ground, Manner, Cause
Identifies syntactic constituents that can express them:
Verb, Adposition, Subordinate clause, Satellite.

Example

a.	John painted the wall.	V *painted* expresses "Figure" (or Cause)
b.	John covered the wall with paint.	Satellite *with paint* expresses "Figure" (or Cause)

21. (Note problem of periphrasis --you can usually take as long as you want to say something, but who's to say that's a significant semantic result?)

22. Usual strategy: *John opened the door* seems to include the same meaning elements as *John made the door open*.

23. Case at issue: motion events
Figure: thing located or moving
Ground: place of location
Path: course of movement or site of location on the Ground
Cause: a distinct external event resulting in the motion/location event
Manner: way in which event transpires

Figure = *pencil* Ground = *table*

	Manner	Cause
Location	The pencil *lay* on the table	The pencil *stuck* to the table
Motion	The pencil *rolled* off the table	The pencil *blew* off the table

Note: *cause* and *manner* not lexicalized simultaneously.

24. Meanings lexicalized in motion verb roots: typologically

I. **Motion + Manner or Cause**
English
Stative: The lamp stood on the table
para The lamp was-located on the table, lying there
Eventive: The gate creaked shut on its rusty hinges
para The gate moved until shut, creaking the while
Causative: I bounced the keg into the storeroom
para I moved the keg into the storeroom, bouncing it the while I limped my way down the stairs.
para I went down the stairs, limping the while.
?same phenomenon? She wore a green dress to the party.

b. *Manner without motion:*
The craft floated on a cushion of air.
Same verb with motion:
The craft floated into the hangar on a cushion of air.
Same thing?
I kicked the chair
I kicked the chair into the next room.

c. *Non-ambiguous verbs:*
Manner without motion — The pen lay on the table/*The pen lay down the slope
Manner of motion only — *The canoe drifted on the same spot for an hour.

d. Change of state as metaphoric motion?
— He died from choking on a bone
He choked to death on a bone
— The shirt dried by flapping in the wind.
The shirt flapped dry in the wind.
— I made the fence blue by painting it
I painted the fence blue
— I made a cake out of fresh ingredients, by baking
I baked a cake out of fresh ingredients

II **Motion + Path**

a. La botella *entró* a la cueva, flotando
the bottle entered to the cave
b. La botella *salió* de la cueva
exited from
c. La botella *pasó* por la piedra
passed by the rock.
d. El globo *subió* por la chimenea
the balloon rose through the chimney
e. *bajó*
sank
f. *se fué* (reflexive??)
left
g. *volvió*
returned
h. *dió vuelta*
gave turn
i. *cruzó*
crossed
j. *iba*
moved-along (went?)
k. *se juntaron*

met / joined

l. *se separaron*
separated

No Manner or Cause with Motion:

Metí el barril a la bodega rodandolo
moved/put the keg to the storeroom by rolling

The English translations are borrowings. (What about Chinese, then?)

III. **Motion + Figure**

The verb expression motion of a particular kind of object.

From English: *rain, spit, pee, drool, sweat, bleed, feed*
What about locatum verbs? *paint, saddle, roof, powder, scale,* etc.

Atsugewi: classificatory verbs. Also, *Navajo*: our examples from earlier

a. **si'ą́** (default category): can include roundish/squarish things (bottle, book), large small things (hoghan, ring).

b. **siką́** mostly things held in by a container, often liquid: coffee in a cup, puddle of water, dishes in a dishpan (without water).

c. **silà** rope-like objects or things that come in pairs, also songs.

d. **siyį́** large loads or bundles of something: a 25-lb bag of flour, load of firewood, or a large body of water like a lake.

e. **shijool** wool-like or fluffy objects, as well as dried-up plants.

f. **shijaa'** a group of multiple items of the same type, like a bunch of houses, a pile of beads or coins, or even a litter of kittens

g. **sitį́** animate things in a reclining position: man or horse lying down.

h. **sitą́** stick-like or flat objects: a cane, an unattached door, a sheet of ice.

i. **sitɬéé'** moist or mushy stuff: oatmeal, playdoh, mashed potatoes

j. **siɬtsooz** flexible, foldable things: paper, blankets, clothing

k. **sinil** like (f), can refer to multiple items, or like (c), things that come in pairs.

Note that this is NOT the same thing as the English verbs above: *every* noun in the language has to have its motion or position described with these verbs.

25. No Motion/Ground verbs?
what about location verbs? *box, corral, shelve, seat,* etc.

26. On to Aspect, i.e. Aktionsart

Some types of event:

'one-way non-resettable'	*die, kill*
'one-way resettable'	*fall, drop*

'full-cycle' *flash, hit*
'multiplex' *breath, beat*
'steady state' *sleep, carry*
'gradient/change of state' *widen, clear, open,* etc.

27. Compare with our four aktionsart types:
achievement/accomplishment, activity, semelfactive, state

28. Proposes a universal requirement that aspect be lexicalized as part of veb root meaning. Some languages don't lexicalize 'multiplex'; rather, iterative aspect represents 'multiplex'. He also claims that some languages don't lexicalize states qua states, but only as inchoatives.

29. *Causation* types:

a. Discussion is somewhat incoherent here, but it's worth noting the difference between :

i) *non-animately caused event*
"The article in the NYTimes frightened Mary."
ii) *intentionally/animately caused event*
"The mean prankster deliberately frightened Mary."

This distinction can be important:

"Bill separated the two dogs."
"The appearance of impropriety separated Jim and Tammy Faye."
"Bill's separation of the two dogs was just in time"
*The appearance of impropriety's separation of Jim and Tammy Faye was timely.

And in lexicalization: *kill* vs. *murder*
Talmy claims that Japanese doesn't allow causation of the ii) type

b. And also noting that in many otherwise causative-seeming syntactic frames, the subject is an *experiencer* not a causer:
"I broke my arm"
"I had a car roll over my foot today"

c. Of course, some verbs lexicalize *cause* and some don't:
destroy-class vs. *open*-class verbs.

d. Some languages, claims Talmy, lexicalize basically the causative, and the inchoative is derived (witness reflexive-clitic requirement in Spanish for *se abrió* 'self-open' vs causative affixation in Japanese for *ak-e-ta* 'causative open'). Ditto for 'being in a state' w/r to causative and inchoative. (*freeze/freeze/was frozen*)