Psych 131
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Presentation 17: Language variation

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From need to expertise + language

1. Cultures defined by particular needs and interests
   - hunter-gatherers — hunting, gathering
   - farmers — farming techniques
   - small communities — trading, government
   - industrialized urban — …
2. Cultures develop expertise for their *particular* needs and interests
   - forest dwellers — expertise in plants, animals, etc.
   - weavers — expertise in fibers, cloth, looms, dyes, etc.
3. Cultures develop *language needed* for their expertise
   - forest dwellers have many names for plants, animals; we don't
   - weavers have many names for fibers, cloth, looms, dyes, etc.

Bross on the language of surgeons

"How did the surgeon acquire his knowledge of the structure of the human body?

- In part this comes from the surgeon's firsthand experience during his long training.
- But what made this experience fruitful was the surgeon's earlier training, the distillation of generations of past experience which was transmitted to the surgeon in his anatomy classes. It has taken hundreds of years and millions of dissections to build up the detailed and accurate picture of the structure of the human body that enables the surgeon to know where to cut.
- A ***highly specialized sublanguage*** has evolved for the sole purpose of describing this structure.
- The surgeon ***had to learn this jargon of anatomy before the anatomical facts could be effectively transmitted to him."***

Thus, underlying the "effective action" of the surgeon is an "effective language."

The expertise-language hypothesis

1. You cannot use *certain* features of language without the right expertise
   - Legal terms require legal expertise
   - Medical terms require medical expertise
   - Sports terminology require sports expertise
2. At the same time, you cannot acquire the right expertise without acquiring those features of language
3. ***Conclusion***: Language and expertise are mutually dependent
   - You cannot have one without the other
   - You cannot change one without changing the other

Biological taxonomies (Brent Berlin)

Level	Examples
Unique beginner	plant, animal
Life forms	tree, bush, vine
Generic name	pine, oak, maple, elm, cedar, aspen, …
Specific name	Ponderosa pine, white pine, jack pine
Varietal names	Northern Ponderosa pine

Growth of nomenclature

1. Begin with *very large* number of ***generic names***
   oak, pine, maple, elm, cedar, aspen, …
2. Add ***life forms*** *(tree, grerb, bush, vine, grass)*
   Derive names by extending generic name (typical of region)
   bird = eagle in Shoshoni
   tree = cottonwood in SW Indian languages
   tree = fir in Sioux
   Add more forms the more industrial the society
3. Add ***specific names***
   Create specific names from generic name plus qualifications
   ʔic = chili pepper (Tzeltal)
   (bacʼil) ʔic = (genuine) chili pepper
   adj_1 + *ʔic* = round chili pepper
   adj_2 + *ʔic* = chicken feces chili pepper
   adj_3 + *ʔic* = stone chili pepper

Categories change to suit community needs

1. Historical changes in categories reflect technological expertise

   the case of **vehicle names**

   19th century: brougham, hack, barouche, cabriolet, fly, gig, hackney, hansom, landau, surrey

   21st century: car, pick-up, SUV, hybrid, hatchback

Categories change to suit community needs

2. New words to fill gaps needed by technological expertise

   Aeronautical terms (borrowed from nautical terms)

   pilot, cockpit, fore, aft, on board, rudder, to land

   Electronics

   learned inventions: *radio, television, aerial, PC*
   simple coinages: *ground, wireless telegraph*
   lost interpretations: *dial a telephone number*

   Physics and medicine

   technical: *electron, proton, neutrino, quark*
   named for discoverers: *Down's syndrome, Alzheimer's disease, F-ratio (for Fisher), Gaussian distribution (bell curve)*

Categories change to suit community needs

3. Vocabulary readjustments

   Shortening because of frequency and cultural importance

   television ➔ *TV or tele*

   radio-telephony ➔ *radio*

   wireless telephony ➔ *wireless*

   Fads and fashions

   davenport ➔ *couch or sofa*

   Oriental ➔ *Asian*

   crippled ➔ *disabled*

Change in meaning (in Tenejapa Tzeltal)

Phase	*Unmarked* term	*Marked* term
1	*cih* "deer"	Ø
2	*cih* "deer"	*tunim cih* "sheep" ("cotton deer")
3	*cih* "sheep"	*te?tikil cih* "deer" ("wild sheep")

sheep ➔ "deer"
deer ➔ "wild sheep"

(➔ = "got named …")

A term is "marked" if it contains *extra* morphemes, phonemes, or other material.

- *unhappy* is marked with respect to *happy* because of the extra prefix *un-*
- *tunim cih* with respect to *cih* because of the extra word *tunim*

(Berlin)

Change in meaning because of imported animals

(➔ = "got named …")

horse

horse ➔ "deer" deer ➔ "native horse"
horse ➔ "tapir" tapir ➔ "forest horse"

pig

pig ➔ wild pig (X) wild pig ➔ "wild, tree, forest, brush X"
pig ➔ opossum (X) opossum ➔ "swamp, forest X"

cattle and horse

cattle, horse ➔ caribou

Northern Eskimo: caribou vs. big caribou (horse)
Southern Eskimo: cattle vs. true cattle (caribou)

(Berlin)

Change in meaning because of imported animals

(➔ = "got named …")

gun, bullet

gun ➔ "bow" bow ➔ "wooden gun"
bullet ➔ "arrowhead" arrowhead ➔ "wooden bullet"

house (in Comanche)

house ➔ "teepee" teepee ➔ "Indian house"

(Berlin)

Cultures and categories

1. Categories get named when culturally important
   - They presuppose ***communal expertise***
   - They reflect ***need for communication***
2. Names borrowed or invented for gaps in expertise
   - By individuals or companies: margarine, PC
   - By analogies that catch on: to land a plane
3. Complexity of terms ***follows*** cultural importance
   - Less important, less common categories acquire more complex names: deer vs. wild deer
4. Language and expertise are ***mutually dependent***
   - When one changes, so does the other
   - Changes in expertise typically force changes in language, and not vice versa

Whorfian thoughts

Whorf's *linguistic relativity*

1. As languages differ, so do the thoughts of the people who use them.
2. English and Hopi encode different points of view—different perspectives or representations—of the physical and social world.
3. When people use the two languages, they buy into these differences.

Whorf's *linguistic determinism*

1. The language people speak helps determine the very way they think about their physical and social world.
2. English has both count and mass nouns: *many dogs* and *much sand*

   For speakers of English, according to Whorf, "the philosophic 'substance' and 'matter' [of mass nouns] are the naive idea; they are instantly acceptable, 'common sense.'"
3. Hopi has only count nouns

   For speakers of Hopi, the notions of substance and matter are not common sense.

Whorf's *linguistic determinism*

"We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to *an agreement to organize it in this way—an agreement that holds through our speech community and is codified in the patterns of our language*. The agreement is, of course, an implicit and unstated one, but its terms are absolutely obligatory; we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees" (Whorf, 1956).

Q: So what is "an agreement that holds through our speech community and is codified in the patterns of our language"?
A: ***A convention of language***
Q: And what do we know about conventions of language?
A: A lot

Structure of communal lexicons

Three types of lexical entries (illustrated for *mining*)

1. Specialized **form-meaning** pairings
   [*stope*, "type of mine cavity"]
   [*stull*, "supporting timber"]
2. Specialized **meanings**: raise, cut, drift, rill, fill
   [*raise*, "vertical mine shaft"]
3. Specialized **forms**:
   [*hoist*, "mine elevator"]

Lexical entries are indexed to communities

- [miners: *stope*, "type of mine cavity"]
- [miners: *raise*, "vertical mine shaft"]
- [North Americans: *raise*, "increase in salary"]
- [musicians: *clef*, "a symbol indicating pitch on a staff"]

Communal lexicons reflect needs, interests

Where do conventions come from?

- Must be *usable* in a cultural community
- Must be *useful* in a cultural community

Technical expertise of community: "technical terms"

- [biologists: *fruit*, "ripened ovaries of seed bearing plants"]
- [North Americans: *fruit*, "edible, sweet, fleshy, form of ripened ovaries of seed bearing plants"]

Community beliefs about "murder"

Community	Murder includes the killing of …
soldiers	enemy in battle, but not once captured
pacifists	all people regardless
pro-choice	fetuses after they are viable
pro-life	fetuses from conception on
Jains	*all* living things (though not plants)
vegans	all mammals or more
lawyers	people in home country, with many technical exclusions

Historical change

word	original use	current use
lady	"kneader of bread"	woman of means
carriage (UK)	horse-drawn wagon	railway car
humor	based on theory of humors	good temperament
humorous	in a good humor (sanguine, not melancholy)	funny
deer (Tzeltal)	deer	sheep

Conventional words change historically ***to reflect culture***
As culture changes, so do words.

Conventions beyond language *per se*

Many conventions are *not* of language, but of *culture*

- Numbering of floors on buildings, lack of floor 13
- Pairs of things, such as pants, glasses, and scissors

Properties of *pants, glasses, scissors* (in English, but not Dutch)

1. Pairings	*pants, glasses, scissors* *"a pair of pants" not "a pant"*
2. Demonstrative pronouns	*those,* not *that* [pointing at *pair* of glasses]
3. New coinages	*levis, briefs, shorts, thongs, pinks, etc.*
4. Entrenchment	not *pant, pink, levi*

Conceptual creativity

According to Whorf: We use *ready-made* concepts.

And yet we have great flexibility …

1. "I saw a bird"
   ("bird" = almost any bird)
2. "Running on the beach, I almost stepped on a bird"
   ("bird" = bird that would be on the sand at the beach)

People create *ad hoc* concepts on the spot (Barsalou)

- "things people take on a vacation"
- "things that might hit you on the head"
- "bird that would be on the sand at the beach"

Culture and language categories

Compared naming in …

1. American English
2. Argentine Spanish
3. Mandarin Chinese

60 types of containers, such as:

(Malt & Sloman)

Measures of *concept* similarity (max = 1.00)

	Chinese	Argentineans
Americans	.91	.94
Chinese		.91

Measures of *name* similarity (max = 1.00)

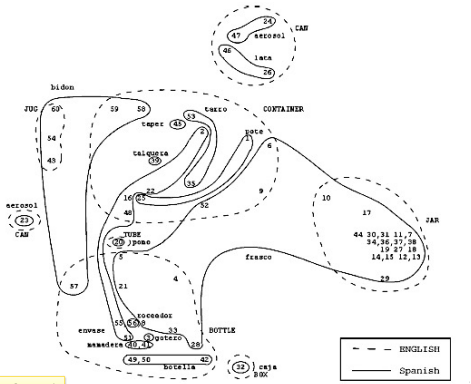
	Chinese	Spanish
English	.35	.54
Chinese		.55

(Malt & Sloman)

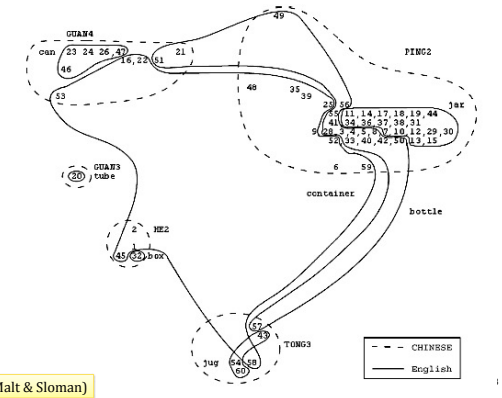
Names for 60 containers

English	N	Spanish	N	Chinese	N
jar	19	frasco	28	ping2	40
bottle	16	envase	6	guan4	10
container	15	bidón	6	tong3	5
can	5	aerosol	3	he2	4
jug	3	botella	3	guan3	1
tube	1	pote	2		
box	1	lata	2		
		tarro	2		
		mamadera	2		
		gotero	1		
		caja	1		
		talquera	1		
		taper	1		
		roceador	1		
		pomo	1		

(Malt & Sloman)



(Malt & Sloman)



(Malt & Sloman)

Language of location: English vs. Korean

English uses prepositions to code location

in the box
on the table

Korean incorporates location in the verb

kkita = "interlock, fit tightly"
nehta = "put loosely in or around"

(Bowerman & Choi)

Figure 1. Cross-cutting categories in Korean and English: Korean *kkita* ("fit tightly/interlock") vs. English (*put*) *in* and (*put*) *on*.

(Bowerman & Choi)

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English vs. Korean "open"

Korean	interpretation	English
yelta	"remove barrier to interior space"	open box, door, bag
pellita	"separate two parts symmetrically"	open mouth, clamshell, pair of shutters
ttuta	"rise"	open eyes
phyelchita	"spread out flat thing"	open hand, book, fan
ppayta	"un-interlock, remove from tight fit"	open latched drawer (take off ring)
ttutta	"tear away from base"	open envelope (take off wallpaper, unwrap package)

(Bowerman & Choi)

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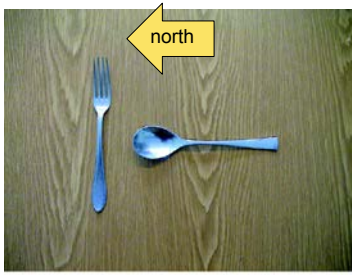
Frames of reference



Relative: The fork is to the left of the spoon
Absolute: The fork is to the north of the spoon
Intrinsic: The fork is at the nose of the spoon

(Levinson)

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Two types of languages

1. **Relative**-spatial terms preferred

   The boy is ***in front of*** the tree
   Take the first turning ***to the left***, then the second ***right***

2. **Absolute**-spatial terms exclusively

   The boy is ***north of*** the tree
   Take the first ***eastern turn***

(Levinson)

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Skills in dead reckoning vary by culture

Experiments in the field
Ask people to point to known distant locations (e.g., 80 km)
Mean vector length (1 = perfect, 0 = random directions)

Language type	Community	Mean vector length
Relative	British males	*.55*
	Dutch woodsmen	*.26*
Absolute	Tenejapan, Mayans (Mexico)	**.86**
	Hai//om, Kalahari Desert	**.93**
	Guugu Yimithirr, Queensland	**.95**

(Levinson)

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Thinking for speaking

(Dan I. Slobin)

Thinking for speaking

"We encounter the contents of the mind in a special way when they are being accessed for *use*. That is, *the activity of thinking takes on a particular quality when it is employed in the activity of speaking*. In the evanescent time frame of constructing utterances in discourse one fits one's thought into the available linguistic frames.

'Thinking for speaking' involves picking those characteristics of objects and events that …

(a) *fit some conceptualization of the event,* and
(b) are *readily encodable in the language*."

(Dan I. Slobin)

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How to think about motion events

Motion event has five main components

1. motion	presence of motion
2. figure	the moving object
3. ground	the reference-point object with respect to which the figure moves
4. path	the course followed by the figure with respect to the ground
5. manner	the manner of motion by the figure

English sentence

John	went	into	the room	quickly
[figure]	*[motion]*	*[path]*	*[ground]*	*[manner]*

(Len Talmy, Dan I. Slobin)

Two types of languages for motion verbs

S-languages (satellite-framed languages)

- *path* is expressed in a "satellite" of main verb (e.g., "out")
- *manner* is incorporated in main verb
- He ***"runs in"*** the room
- English, German, etc.

V-languages (verb-framed languages)

- *path* is incorporated in main verb
- *manner* is expressed ***separately***
- He ***"enters"*** the room ***"running"***
- Spanish, French, etc.

English vs. French

The dog *ran* into the house *1 verb*
Le chien *est entré* dans la maison en courant. 2 verbs
'The dog *entered* the house *by running*.'

(Len Talmy, Dan I. Slobin)

Two types of languages for motion verbs

Satellite-framed (S-languages)

Germanic: Dutch, English, German, Icelandic, Swedish, Yiddish
Slavic: Polish, Russian, Serbo-Croatian, Ukrainian
Finno-Ugric: Finnish, Hungarian
Sino-Tibetan: Mandarin Chinese

Verb-framed (V-languages)

Romance: French, Galician, Italian, Portuguese, Spanish
Semitic: Moroccan Arabic, Hebrew
Turkic: Turkish
Basque
Japanese
Signed languages: American Sign Language, Sign Language of the Netherlands

(Len Talmy, Dan I. Slobin)

Manner of motion in English vs. French

English vs. French

The dog *ran* into the house *1 verb*
Le chien *est entré* dans la maison en courant. 2 verbs
'The dog *entered* the house *by running*.'

English vs. French expressions of manner

In English, "manner comes for free: it is carried by the main verb"

In French, "manner is mentioned only when it is at issue"

(Dan I. Slobin)

Thinking for speaking in S- and V-languages

"S-languages will have a larger and more diverse lexicon of manner verbs, in comparison with V-languages"

Georges Sand in French:

"when the Count of Buondelmonte **entered** in his room"

English translation:

"when the Count of Buondelmonte **stepped into** his room"

(Slobin)

Thinking for speaking in S- and V-languages

Proportion of verbs of human movement that are manner verbs (Modern novels)

V-languages	
Spanish	19%
Turkish	21%
S-languages	
English	41%
Russian	56%

(Slobin)

Motion verbs in 60 narratives (*Frog, where are you?*)

English (N = 47)

buck, bump, buzz, carry, chase, climb, come, crawl, creep, depart, drop, dump, escape, fall, float, fly, follow, get, go, bead, hide, bop, jump, knock, land, leave, limp, make fall, move, plummet, pop, push, race, rush, run, slip, splash, splat, sneak, swim, swoop, take, throw, tip, tumble, walk, wander

Spanish (N = 27)

acercarse 'approach,' *alcanzar* 'reach,' *arrojar* 'throw,' *bajar(se)* 'descend,' *caer(se)* 'fall,' *correr* 'run,' *dar-un-empujón* 'push,' dar-un-salto 'jump,' *entrar* 'enter,' *escapar(se)* 'escape,' *hacer caer* 'make fall,' *huir* 'flee,' *ir(se)* 'go,' *llegar* 'arrive,' *llevar(se)* 'carry,' *marchar(se)* 'go,' *meterse* 'insert oneself,' *nadar* 'swim,' *perseguir* 'chase,' *ponerse* 'put oneself,' *regresar* 'return,' *sacarse* 'remove oneself, exit,' *salir* 'exit,' *saltar* 'jump,' *subir(se)* 'ascend,' *lirar* 'throw,' *traspasar* 'go over,' *venir* 'corne,' *valar(se)* 'fly,' *valver(se)* 'return'

(Slobin)

Translations between English and Spanish

English to Spanish:

He ***stomped*** from the trim house…
Salió *de la pulcra casa…* ['He ***exited*** from the trim house…']

Spanish to English:

…luego de diez minutos de asfixia y empujones, ***llegamos*** *al pasillo de la entrada*
['…after ten minutes of asphyxiation and pushes, ***we arrived*** at the entry-way']
…after ten minutes of nearly being smothered or crushed to death, we finally ***fought our way*** to the exit

Slobin: "English translators generally add manner descriptions, apparently finding the Spanish original too bland for English readers: 100% of Spanish non-manner motion verbs were replaced by manner verbs in English translations."

(Slobin)

Thinking for speaking with motion verbs

"Speakers of V-languages are more likely to devote attention to describing aspects of static scene which provides the physical context for a motion event"

- ***du Maurier***: "Then I, too, went down the steep twisting path through the dark woods to the beach below"
- Spanish translation: "Then I, too, took the steep and twisting path that, traversing the dark woods, descended to the beach"
- ***Montgomery***: "With this Mrs. Rachel stepped out of the lane into the backyard of Green Gables"
- Japanese translation: "When (she) finished saying this the lane ended, and (she) was in the backyard of Green Gables as a result of coming"

(Slobin)

Path segments in English vs. Spanish

English: (1 verb, 3 prepositions)

"I ***ran***
out the kitchen door,
past the animal pens,
towards Jason's house"

Spanish: (3 verbs)

"I **exited** through the kitchen door,
passed by the animal pens, and
directed myself to Jason's house"

(Slobin)

Thinking for speaking with motion verbs

"Comparable motion events will be described with fewer path segments in V-languages than in S-languages"

For one sample: more than *three event segments* in description

S-languages 80%

V-languages 30%

(Slobin)

In S-framed languages (like English) …

1. Manner verbs are ***easily accessed*** in a listing task.
2. Manner verbs are ***frequently used*** in conversation, oral narrative, and written narrative.
3. Speakers readily access ***many different types*** of manner verbs, attending to fine-grained distinctions between similar manners of movement.
4. A large portion of the manner-verb lexicon is ***used in the preschool period***, requiring learners to differentiate between types of manner.
5. Meanings of manner verbs are ***readily extended*** for purposes of evaluation and metaphorical descriptions of events and processes.
6. Listeners and readers tend to build up ***detailed mental images*** of manner of movement in reported events

(Slobin)

Thinking for speaking with English "he"

English teacher: *He* and *man*, as generic terms, are neutral.
- Each student should bring ***his*** lunch.
- Somebody left ***his*** book on the table.

Informal usage: People use *they* in these positions
- Each student should bring ***their*** lunch.
- Somebody left ***their*** book on the table.

Martyna compared:
- Name somebody who always hands ***his*** papers in late
- Name somebody who always hands ***his or her*** papers in late
- Name somebody who always hands ***their*** papers in late

Results:
- *His*: mostly male names
- *Their*: quite a few male names
- *His or her*: still quite a few males names, but fewer

Conclusion: *He* and *man* are ***not*** neutral

(Martyna)

How do languages vary?

Languages vary in …
- hierarchy of animal, plant names
  - growth of hierarchy
- historical origins vs. similar concepts
  - containers
- expressions of location
  - loose vs. tight fit
  - absolute vs. relative terms

Thinking for speaking
- components of motion verbs
- variety of verbs