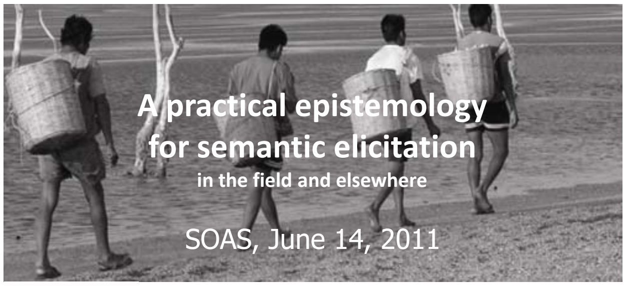

Mondok. Fotografía Samuel Herrera Castro

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Overview

- the Prime Directive
- field semantics
- understanding elicitation
- the empirical basis of (field) semantics
- diagnostics in lexical semantics
- folk definitions and the lexicon
- summary

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The Prime Directive

- the business at hand
  - sketch a classification of elicitation methods in language documentation and description
  - focus on (field) semantics and semantic typology
    - which happen to be my primary areas of interest
    - observations should apply to other areas of language documentation/description as well
      - and in fact to linguistic research in general
  - based on an analysis of
    - the sources of evidence linguists can draw on
    - the principal components of any elicitation

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The Prime Directive (cont'd)

- the Prime Directive

(1.1) **Prime Directive of linguistic research:** no linguist should ever rely on their own native speaker intuitions as their sole source of evidence.

Figure 1. *~~Babes~~ Linguists in space (gratuitous and misleading Star Trek reference)*

- why
  - to the extent that linguists adhere to (1.1)
    - their work may fall in the social/behavioral sciences
  - to the extent that linguists disregard (1.1)
    - their work may fall in the humanities

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The Prime Directive (cont'd)

- the point
  - this maxim applies to any form of linguistic research
  - but it has special implications for semantic fieldwork
  - embracing (1.1) entails rejecting **relativist agnosticism**
    - the assumption that it is impossible to study meaning without native speaker intuitions (cf. Matthewson 2004)
  - (1.1) entails that semantic fieldworkers are in the same epistemological boat as
    - every other semanticist
    - every documentary/descriptive linguist

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Field semantics

- field semantics in language description
  - descriptive grammars and dictionaries ideally offer semantic analyses
    - of the lexical items, function words, inflections, and constructions of the language
  - but since field workers often lack the training and resources (time, funding!) to accomplish this
    - all too often, all they provide are rough English glosses
      - based on random sets of examples they happen to have come across
  - one consequence is rampant Eurocentrism
    - e.g.,
      - perfective aspects are misdiagnosed as past tenses
      - inferential evidentials are misdiagnosed as perfects
      - path-neutral place-function-denoting adpositions are misdiagnosed as goal/allative adpositions

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Field semantics (cont'd)

- the quality of subsequent typological and theoretical work is of course limited by the quality of the descriptions it is based on
  - that's *one* reason why semantic typology requires the collection of primary data and cannot generally be carried out in the library
    - » unlike syntactic typology
- field semantics and linguistic theory
  - a growing number of researchers work in the field on topics inspired by semantic theory
  - examples in lexical/conceptual semantics include
    - work inspired by Wierzbicka's Natural Semantic Metalanguage Program
      - » e.g., the contributions to Goddard & Wierzbicka (eds.) 1994, 2002; Goddard (ed.) 1997
    - work inspired by Talmy's work on lexicalization patterns
      - » e.g., O'Connor 2004 on Lowland Chontal (isolate; Oaxaca) and Kawachi 2007 on Sidaama (Cushitic; Ethiopia)
    - work inspired by Jackendoff's Conceptual Semantics framework
      - » e.g., Bohnemeyer 2010 on Yucatec Maya

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Field semantics (cont'd)

- examples in compositional/formal semantics include
  - the work presented at the SULA conferences
    - *Semantics of Under-Represented Languages in the Americas*
      - » http://web.mit.edu/sula5/SULA5_program.pdf
      - » http://ulwa.humanities.manchester.ac.uk/sula6/sula6-program.pdf
- field semantics and semantic typology
  - semantic categorization and language specificity

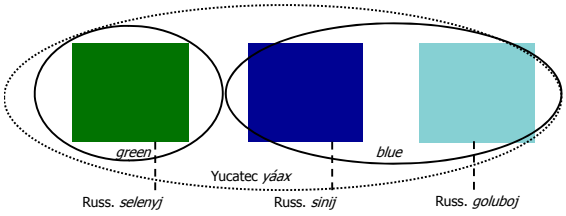

Figure 2. *Basic color terms in the "grue" domain*

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Field semantics (cont'd)

- distribution and generalizations

Figure 3. *Green and blue terms in WALS (Kay & Maffi 2008)*

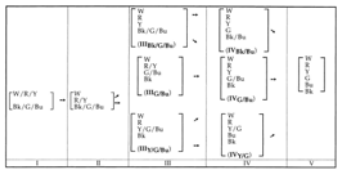

Figure 4. *Stage model of implicational generalizations, covering 83% (91/110) of the languages of the World Color Survey (Kay & Maffi 1999: 748)*

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Field semantics (cont'd)

- semantic categorization data is *extensional*
  - to get at the semantics of the elicited expressions, semantic and pragmatic analyses must be performed
    - to separate *entailments* of lexical and compositional semantics from pragmatically generated meaning components
- example: *BowPed* (Bowerman & Pederson ms.) data from two Mexican Spanish speakers

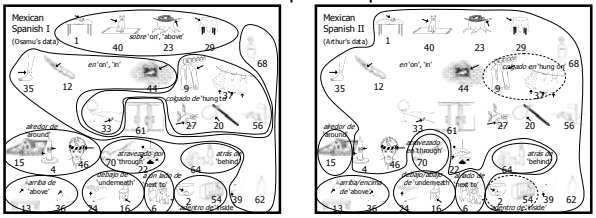

Figure 5. *Linguistic categorization of a subset of the BowPed scenes by two Spanish speakers (data elicited by Osamu Ishiyama and Arthur Photidiadis)*

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Understanding elicitation

- linguistic data collection involves maximally three components
  - a **stimulus**, a **task**, and a **response**

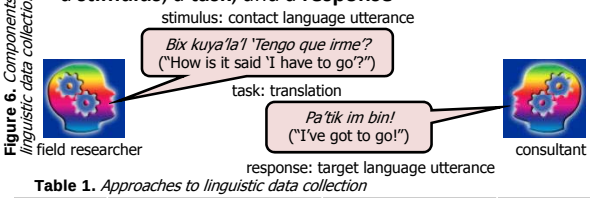

Figure 6. *Components of linguistic data collection*

Table 1. *Approaches to linguistic data collection*

	recording of spontaneous speech events	recording of "staged" speech events	elicitation
response	+	+	+
task	-	+	+
stimulus	-	-	+

cf. Himmelmann 1998 on the spontaneous-staged distinction

(3.1) **Linguistic elicitation** is the collection of responses to verbal or nonverbal stimuli designed to study the respondents' linguistic competence and/or their practices of language use.

Table 2. *Linguistic elicitation techniques – from stimulus via task to response*

response / **stimulus**	target L utterance	contact L utterance	judgment	linguistic representation	nonverbal representation
target L utterance	**type I –** completion; association	**type II –** translation	**type V –** judgment (wellformedness, truth, felicity)	**type VI –** explication by paraphrase, scenario	**type VII -** demonstration of referents; act-out tasks
contact L utterance	**type II –** translation	(beyond linguistic elicitation)			
linguistic represent-ation	**type III –** production in a given contextual scenario				
nonverbal represent-ation	**type IV –** description				

- elicitation often involves combinations of these

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- most of these can play a role in semantic field work
  - from meaning to expression
    - completion/association; translation; contextualized production; description
  - from expression to meaning
    - entailment/contradiction/felicity judgments; explication by paraphrase/scenario; demonstration/acting out

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- type I: target L utterance -> target L utterance
  - completion and association tasks
  - example: verbs of cutting and breaking (C&B verbs)
    - objective: determine which verbs impose narrow selection restrictions on the theme/patient
      - and which impose such restrictions on the instrument
      - the hypothesis to be tested is that the former have syntactic properties similar to those of English *break*
        - » and the latter have syntactic properties similar to those of *cut*
        - » cf. Guerssel *et al.* 1985; Bohnemeyer 2007
    - procedure

(3.2) **Typical theme prompt:** "I want you to tell me the kinds of objects that can be VERBed. If you hear that somebody VERBed something, what kind of thing are you going to think it is that they VERBed?"

(3.3) **Typical instrument prompt:** "I want you to tell me the kinds of objects that one can VERB with. If you hear that somebody VERBed something, what kind of thing are you going to think it is that they VERBed it with?"

- what the data might look like
  - a theme-specific verb: *hat* 'tear'
    - » theme associations: clothes; paper; leather; a plastic bag; a letter; one's hand; one's mouth/lips; shoes
  - a non-theme-specific verb: *xot* 'cut'
    - » theme associations: rope; melons, squash, tomatoes; one's hand; one's clothes; a plank or the table; another person;…
  - an instrument-specific verb: *xot* 'cut'
    - » instrument associations: handsaw; knife; machete; reaping hook; hacksaw; axe; shards of glass; pieces torn off an aluminum can; …
  - a non-instrument-specific verb: *hat* 'tear'
    - » instrument associations: one's hands, feet, or mouth; a stick; a machete, knife, or axe; a piece of wire; scissors; …
- classic readings on association: Ervin & Landar 1963; Clark 1970
- a very interesting recent application: Evans & Wilkins 2000

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- type II: contact L utterance -> target L utterance
  - translation
  - example: Dahl's (1985) tense-aspect-mood questionnaire – *contextualized* translation
    - background: the problem with translation
      - insufficient control over how the speaker construes the stimulus
        - » e.g., b/c speaker and consultant differ in their competence in the contact language or use different varieties of it
        - » or due to differences between speaker and researcher in inferences as a result of differences in cultural knowledge
      - the risk that the speaker attempts to translate not just the meaning but the form of the stimulus
        - » by trying to find one-to-one equivalents of particular words or constructions

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Understanding elicitation (cont'd)

- Dahl's questionnaire tries to overcome these problems
  - by providing each target sentence with a context that restricts its interpretation

(3.4) **TMA Questionnaire item (example):**
A (16) [Q: What your brother DO when we arrive, do you think? (= What activity will he be engaged in?)]
He WRITE letters.

  - » the question that constitutes the context defines a reference/topic time for the target
  - the infinitives in caps are used to avoid interference effects
  - the best way to make sure that the speaker appropriately considers the context
    - » is to have them translate it along with the target
- the contextualization aspect makes Dahl's questionnaire a combination of Types II and III

Understanding elicitation (cont'd)

- type IV: non-verbal representation -> target L utterance
  - description of non-verbal stimuli
    - the method of choice in semantic typology
    - (mostly) visual stimuli may be used in production tasks
      - but also in various types of comprehension tasks and in *referential communication* tasks
    - visual stimuli in production tasks
      - it is crucial to give the speaker a sufficiently specific task
        - » e.g., a description of Figure 7 may be just a list of objects
        - » to focus the speaker on the spatial relation, their description is framed as the answer to a question

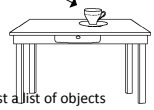

Figure 7. *Item #1 of the "Topological Relations Picture Series" aka* BowPed

(3.5) **BowPed elicitation question (Bowerman & Pederson ms.)**
Where is the [FIGURE]?

(3.6) *Uh, right here, in the picture?*
- » to avoid something like (3.6) as an answer, the elicitation question needs to be contextualized itself in a scenario

Understanding elicitation (cont'd)

(3.7) **A possible elicitation scenario for BowPed:** "Imagine you're talking to somebody who is looking for the [FIGURE]. This person knows where the [GROUND] is, but doesn't know where the [FIGURE] is. You know where the [FIGURE] is; but neither of you can see the [FIGURE] and the [GROUND] right now. The person asks you *Where is the [FIGURE]?* Imagine you want to tell the person where the [FIGURE] is. How do you respond?"

- » even with a slight tweaking of this context, the properties of the responses you get already changes!

- visual stimuli in comprehension tasks
  - the visual stimulus is presented along with a target language utterance – a typical example of a "hybrid" technique
  - verification tasks
    - » the speaker's task is to determine whether the utterance can serve as a description of the visual stimulus
  - matching tasks
    - » select among two or more visual representations the one best described by the utterance
    - » or select among two or more utterances the one that best describes a given visual representation

Understanding elicitation (cont'd)

- "application range elicitation"
  - a combination of production and comprehension
    - » designed to elicit the full range of possible descriptions of a given stimulus
    - » cf. Bohnemeyer *et al.* 2007
- referential communication tasks
  - a combination of production and comprehension
    - » distributed across two participants
    - » cf. Clark & Wilkes-Gibbs 1990
  - involve (at least) two speakers
    - » one describes the content of a stimulus
    - » the other re-matches the description to a set of non-verbal stimuli
  - numerous realizations
    - » picture to picture; picture to toy model; …

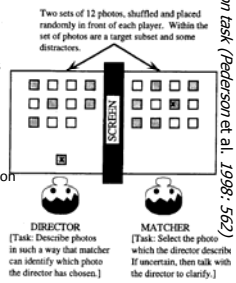

Figure 8. *Layout of the Men and Tree referential communication task (Pederson* et al. *1998: 562)*

Understanding elicitation (cont'd)

- the interpretation of visual stimuli is subject to non-trivial cultural conventions
  - Figure 9, interpreted by Westerners as a horse in full gallop
    - » is understood by Arrernte children in central Australia as showing a dead horse lying in the dirt (Wilkins 1997)
- it is inherently difficult to visually represent abstract states of affairs
  - e.g., events
    - » by single snap-shot images vs. cartoon-strip sequences vs. video clips
    - » this, too, is subject to cultural conventions – e.g., medieval and non-western artists often represent temporal as spatial relations

Figure 9. *The role of cultural conventions in the interpretation of visual representations (Wilkins 1997: 157)*

Figure 10. *Time represented by space: the Bayeux Tapestry (detail, showing the death of Edward the Confessor)*

Understanding elicitation (cont'd)

- type V: target L utterance -> judgment
  - of entailment/contradiction, wellformedness/anomaly
    - and felicity
  - example: testing for telicity
  - background: telicity has no syntactic reflexes in Yucatec
    - e.g., no distinction b/w duration (i.e., *for*-type) and time-span (i.e., *in*-type) adverbials
      - » *spend X time VERBing* and *take X time to VERB* have identical translations
      - » the aspectual verb translating 'finish'/'complete' is compatible with telic and atelic VPs alike
    - the only way to test for telicity is by tapping into the entailment pattern known as the *imperfective paradox* (Dowty 1979)
      - » cf. also Bohnemeyer & Swift 2004

(3.8) a. *Floyd was pushing a cart*
∴Floyd pushed a cart
hence, *push a cart* is atelic

b. *Floyd was drawing a circle*
not *∴Floyd drew a circle*
hence, *draw a circle* is telic

Understanding elicitation (cont'd)

- method
  - negotiate with a consultant a scenario in which
    - » the VP to be tested applies in the progressive
    - » the event described by the VP is plausibly interrupted at a time at which the progressive applies
  - ask whether a perfective or perfect form of the same VP can be truthfully asserted at the time of the interruption

(3.9)
Pedro=e' táan u=k'àay,
Pedro=TOP PROG A3=sing\ATP
'Pedro, he was singing,'

káa=t-u=k'at-ah u=báah Pablo.
CON=PRV-A3=cross-CMP(B3SG) A3=self Pablo
'(when/and then) Pablo interfered.'

Pedro=e' t-u=p'at-ah u=k'àay.
Pedro=TOP PRV-A3=leave-CMP(B3SG) A3=sing\ATP
'Pedro', he stopped singing.'

Be'òora=a' ts'o'k=wáah u=k'àay Pedro?
now=D2 TERM=ALT A3=sing\ATP Pedro
'Now, has Pedro sung?'

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Understanding elicitation (cont'd)

- be prepared for surprises!
  - e.g., in (3.9), most consultants answer negatively
    - » since *kàay* 'sing', the antipassive stem of the transitive root *k'ay* 'sing', is normally interpreted as 'sing a song'
  - cf. Bohnemeyer 2002: 172-199 for the full story
- if possible, use a visual stimulus to clarify the scenario against which you wish to test entailments
  - this is the "verification" method mentioned above
  - example: do Yucatec verbs of "inherently directed motion" (Levin 1993) entail translational motion of the figure
    - » or merely change of location, as described by Kita 1999 for Japanese *hairu* 'enter' and *deru* 'exit'?
  - test: e.g., is it possible in reference to the clip in Figure 11 to say (3.10)?

(3.10)
H-na'k le=chan kanìika
PRV-ascend(B3SG) DET=DIM marble
y=óok'ol le=tàabla=o'
A3=on DET=plank=D2
'The marble, it went up the plank'

Figure 11. First and last frame of *"FIGURE_GROUND 14" (Levinson 2001; click to play)*

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Understanding elicitation (cont'd)

- type VI: utterance -> verbal representation
  - explication by scenario or paraphrase
    - ask the speaker to come up with a scenario
      - in which a given sentence could be used to make a truthful assertion or ask a pragmatically felicitous question, etc.
    - example: a scenario in which (3.10) is acceptable as a description of the clip in Figure 12
      - the problem: (3.10) carries a **stereotype implicature** to the effect that the ball moves
        - » this implicature needs to be **defeated** in context for (3.10) to be applicable to Figure 12 – cf. Bohnemeyer 2010

(3.11)
Le=chan tàabla=o' h=péek-nah-ih,
DET=DIM plank=D2 PRV=move-CMP-B3SG
káa=h-na'k le=chan kanìika
CON=PRV-ascend(B3SG) DET=DIM marble
y=éetel che' te'l y=óokol=o'.
A.3=with wood there A3=on=D2
'The little plank, it moved, and the little marble and the tree ascended there on top.'

Figure 12. *First and last frame of FIGURE_GROUND 14*

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Understanding elicitation (cont'd)

- type VII: target L utt. -> nonverbal representation
  - demonstration/act out tasks
  - example: the semantics of "dispositional" roots
    - background: Mayan languages have hundreds of roots that lexicalize non-inherent spatial properties
      - "dispositions" can be thought of as a generalization over the posture domain, extending it to inanimate objects
      - distinctions that enter the conceptualization of dispositions include
        - » support, suspension, blockage of motion
        - » orientation (mainly in the gravitational field)
        - » shape, configuration of parts of the figure wrt. one another
      - dispositionals function as "manners of location"
      - dispositional roots produce transitive and intransitive verb stems, derived stative predicates, numeral classifiers, and more
        - » depending on the derivational morphology used
      - cf. Bohnemeyer & Brown (2007); Belloro et al. 2008
      - the greatest challenge in analyzing dispositional semantics
        - » we don't know the dimensions of contrast, since dispositions are largely not lexicalized in Indo-European languages

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Understanding elicitation (cont'd)

- method
  - in a first step, typical theme/figure objects are elicited for each known dispositional root
    - » applying the association task described above
  - then participants are asked to illustrate the dispositions that can be ascribed to a given object
    - » by putting the object in the relevant disposition
  - dispositions applicable to the same theme/figure are elicited contrastively
  - the demonstrations are video-taped

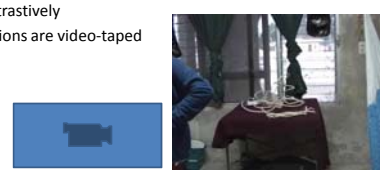

Figure 13. *Demonstration of dispositional semantics: ropes (click to play)*

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Understanding elicitation (cont'd)

- comparing elicitation to experimental research
  - elicitation is structurally similar to experiments in psycholinguistics and acquisition research (etc.)
    - both involve responses to stimuli and tasks
  - elicitation is often mislabeled as experimentation
    - especially when it involves nonverbal stimuli
  - linguists, anthropologists, and psychologists alike have been confused on this issue
  - the key difference is that experimentation in the narrow sense is aimed at **hypothesis testing**
    - whereas elicitation is a purely observational method
  - in practice, there is a grey area
    - quite a bit of research in psycholinguistics (etc.) is exploratory, but still considered experimental b/c the designs are the same

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Understanding elicitation (cont'd)

- interpreting elicitation responses
  - "raw" elicitation responses don't document much of anything about the speakers' knowledge
    - except for the fact that they are able to produce them
      - which doesn't even tell us whether the responses are wellformed, etc.
    - due to the lack of a direct causal link between task/stimulus and response
      - the linguistic knowledge the researcher is after isn't "in" the response, but needs to be inferred from it
    - the questions involved
      - how did the speaker construe the task?
      - how did the speaker construe the stimulus?
      - how did the speaker intend his/her response to be understood?

(3.12) The Golden Rule of elicitation: An elicitation response only becomes a data point in the reconstruction of a speaker's linguistic competence once the speaker's interpretation of the task and stimulus and the intended interpretation of the response have been ascertained.

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The empirical basis of (field) semantics

- field semanticists face the same problem as children during language acquisition

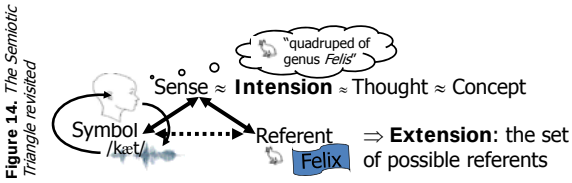

Figure 14. *The Semiotic Triangle revisited*

  - since they aren't mind readers, they have to infer senses/**intensions** from observed **extensions**
    - avoiding overgeneralizations and undergeneralizations

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The empirical basis of (field) semantics (cont'd)

Table 3. *Overextension, underextension, overlap, and mismatch in the acquisition of lexical semantics (Barrett 1995: 372)*

Word	Referents	Source
1 Overextension		
dog	Dogs, lambs, cats, wolves, cows.	Anglin (1983)
kick	The kicking of a ball, a fluttering moth, cartoon turtles doing the can-can, making a ball roll by bumping it with the front wheel of a kiddicar, pushing a teddy bear's stomach against the chest of another child, pushing own stomach against a mirror, pushing own chest against a sink.	Bowerman (1978)
tick-tock	Clocks, both analog and digital watches, wallpaper circles with radiating spikes, a circular roadsign, a barometer with a circular dial.	Barrett (1986)
2 Underextension		
bottle	Plastic baby bottles only.	Anglin (1983)
cut	The action of cutting, but only when performed with a knife.	Barrett (1986)
teddy	One particular teddy bear only.	Harris et al. (1988)
3 Overlap		
umbrella	Open umbrellas, a large green leaf, kites (but not closed umbrellas).	Anglin (1983)
4 Mismatch		
TV guide	Television sets (but not the program guide).	Reich (1976)

  - the child and the field semanticist rely on versions of Roger Brown's (1958) **Original Word Game**
    - in fact, while it can be argued that the child can often *not* rely on explicit negative evidence from the "tutor"…
      - » i.e., the parents/caregivers, older children, etc.
    - …the field semanticist is in a position to *elicit* such negative evidence from the tutors – the native speaker consultants

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The empirical basis of (field) semantics (cont'd)

"The tutor names things in accordance with the semantic customs of the community. The player **forms hypotheses about the categorical nature of the things named**. He **tests his hypothesis by trying to name new things** correctly. The tutor **compares the players utterances with his own anticipations** of such utterances and, in this way, **checks the accuracy of fit** between his own categories and those of the player. He improves the fit by correction. We play this game as long as we continue to extend our vocabularies and that may be as long as we live." (Brown 1958: 194; emphasis *JB*)

  - we test what an expression can refer to
    - by examining what a real or imagined situation has to be like
      - in order for the expression to be part of a truthful description of the situation according to native speaker intuitions

Figure 15. *The Original Word Game in field semantics*

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The empirical basis of (field) semantics (cont'd)

- the empirical basis of (field) semantics
  - the meanings of linguistic expressions are part of the speakers' procedural knowledge
  - this knowledge manifests itself in their productions and in judgments of
    - truth conditions
      - or conditions of successful reference
      - often accessible as entailments in the form of judgments of contradiction or logical consistency
    - the "satisfaction" of non-representative speech acts
    - pragmatic felicity
    - wellformedness or anomaly (based on selection restrictions)
    - discourse coherence

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The empirical basis of (field) semantics (cont'd)

- truth conditions and the domain of semantic/pragmatic research
  - even semanticists who view meaning in terms of mental representation (usually) aren't mind readers
    - and thus in the field have to rely on consultants' intuitions about conditions for successful reference
      - to intersubjectively observable or constructible circumstances
  - the core phenomena contemporary semantic theory attempts to account for
    - entailment, contradiction, synonymy, ambiguity, anomaly, implicature, presupposition
  - truth conditions play a direct or indirect role in all of these

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The empirical basis of (field) semantics (cont'd)

– **entailment**

(4.1) **Entailment:** A (set of) sentence(s) *A* entails (set of) sentence(s) *B* if and only if every situation in which *A* is true also makes *B* true

- it is impossible to examine every situation in which *A* is true
- one way around this is to consider a situation in which *B* is false
  - if *A* is acceptable as a description of such a situation, then *A cannot* entail *B*
- example: does (4.2) entail movement of the ball ("marble")?
  - answer: not if it is compatible with the scenario in Figure 16

(4.2)

H-na'k	le=chan	kanìika
PRV-ascend(B3SG)	DET=DIM	marble
y=óok'ol	le=tàabla=o'	
A3=on	DET=plank=D2	

'The marble, it went up the plank'

Figure 16. *First and last frame of FIGURE_GROUND 14*

The empirical basis of (field) semantics (cont'd)

- if it is *impossible* to construct a situation in which *A* is true and *B* is false
  - then it is safe to conclude that *A* entails *B*
- similarly in (4.3), the question is
  - whether it is *possible* to assert *ts'o'k uk'* àay "he has sung" in this scenario – if it is, then *k'* àay 'sing' is atelic

(4.3)

Pedro=e'	táan	u=k'àay,
Pedro=TOP	PROG	A3=sing\ATP

'Pedro, he was singing,'

káa=t-u=k'at-ah	u=báah	Pablo.
CON=PRV-A3=cross-CMP(B3SG)	A3=self	Pablo

'(when/and then) Pablo interfered.'

Pedro=e'	t-u=p'at-ah	u=k'àay.
Pedro=TOP	PRV-A3=leave-CMP(B3SG)	A3=sing\ATP

'Pedro', he stopped singing.'

Be'òora=a'	ts'o'k=wáah	u=k'àay	Pedro?
now=D2	TERM=ALT	A3=sing\ATP	Pedro

'Now, has Pedro sung?'

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The empirical basis of (field) semantics (cont'd)

- entailments can also be tested via contradictions
  - if *A* entails *B*, then "*A and not B*" must be a contradiction

– **contradictions**

(4.4) **Contradiction:** Two (sets of) sentence(s) *A* and *B* are contradictions of one another if and only if any situation in which *A* is true makes *B* false and vice versa

- example: Yucatec compound verb stems such as *túup+ùust* extinguish+blow
  - is the V1 a resultative secondary predicate?

(4.5)

T-u=**túup+ùust**-t-ah		le=kib=o',
PRV-A3=**extinguish+blow**-APP-CMP(B3SG)		DET=wax=D2
pero	ma'	h-**túup**-ih.
but	NEG	PRV-**extinguish\ACAUS**(CMP)-B3SG

'(S)he extinguish-blew the candle (i.e. blew at it so as to extinguish it), but it didn't extinguish.'

  - since (4.5) is not considered contradictory, the first clause does not entail that the candle was extinguished
    - » so *túup+ùust* doesn't really mean "blow *out*", but rather "blow *at, in a manner as if to* extinguish"

The empirical basis of (field) semantics (cont'd)

– **synonymy**

(4.6) **Criterion of synonymy:** If two sentences *A* and *B* are synonymous, then every situation in which *A* is true makes *B* true as well and vice versa.

  - synonymy of lexical items is attested in terms of synonymy of otherwise identical sentences in which they occur
    - » in general, truth conditions can only be ascribed to clauses and sentences
    - » lexical items contribute to the truth conditions of sentences, but don't have themselves truth conditions in isolation
- the inverse of (4.6) does *not* hold: sentences with identical truth conditions aren't necessarily synonymous

(4.7) a. *The glass is half full*
b. *The glass is half empty*

(4.8) a. *Kryten is a mechanoid*
b. *Kryten is a mechanoid, and he's not an anteater*

  - these have identical extensions, but different senses/intensions
- this is one of the principled limits of extensional/ referential semantics

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The empirical basis of (field) semantics (cont'd)

– **ambiguity**

(4.9) **Ambiguity:** A sentence *A* with two interpretations φ and ψ is ambiguous if *A* can be truthfully denied under interpretation φ in a situation in which ψ clearly applies (or vice versa).

  - examples from Cruse 1986: 59-61

(4.10) *Is the subject of this poem a monarch?*
–?No, it is a king.
⇒ *monarch* is vague (underspecified) re. gender

(4.11) *Is that a dog? –No, it's a bitch.*
⇒ *dog* is polysemous re. gender (pace Cruse!)

(4.12) *John prefers bitches to dogs*
⇒ *dog* is polysemous re. gender (pace Cruse!)

(4.13) ?*Mary likes mares better than horses*
⇒ *horse* is vague (underspecified) re. gender

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- in the above examples, a single utterance contains both the assertion of φ and the negation of ψ
  - this is possible because of the relation between φ and ψ in these examples – one entails the other
  - it generally takes some creativity to construct such an utterance
    - » e.g., (4.14a) alone doesn't do the job, but (4.14b) does

(4.14) *Has Charles changed his position?*

a. - *No, he still supports corporal punishment*

b. - *No, he still supports corporal punishment. He's now sitting next to the chairman, though.*

- polysemy is the result of semantic transfer – metaphor and metonymy
  - these are conceptual processes and, unlike ambiguity, cannot be diagnosed by referential methods alone

– anomaly

- anomaly (in the narrow sense of the term) is caused by a "crash" of semantic composition
  - most commonly due to violations of selection restrictions

(4.15) a. ferocious paperback

b. sleep carefully

c. whistle a hamburger

- anomaly is detected by native speakers in the same way ungrammaticality is
  - they may not even be aware of the difference
- however, selection restrictions strongly correlate w/ entailments
  - *ferocious'(x)* → *animate'(x)*; *paperback'(x)* → *~animate'(x)*
  - *sleep'(e,x)* → *~conscious'(x)*; *careful'(e,x)* → *conscious'(x)*
  - *whistle'(e,x,y)* → *~material'(y)*; *hamburger'(y)* → *material'(x)*

– implicature

(4.16) **Conversational implicature:** A (set of) sentence(s) *A* conversationally implicates φ if and only if
(i) *A* implies φ in certain contexts
(ii) *A* does not entail φ
(iii) *not A* does not imply φ

- since implicatures are pragmatic meanings, diagnosing them goes beyond the scope of extensional semantics
- but demonstrating that they are **defeasible** (= non-monotonic) – i.e., not entailed – is an indispensable step
  - example: does the connective *káa* encode sequential order?

(4.17) Pedro=e' káa=**t**-u=ts'íib-t-ah
Pedro=TOP CON=**PRV**-A.3=write-APP-CMP(B3SG)
hun-p'éel kàarta=e',
one-CL.IN letter=TOP
káa=**t**-u=ts'u'ts'-ah hun-p'éel chamal
CON=**PRV**-A3=suck-CMP(B3SG) one-CL.IN cigar
'Pedro, (when/and then) he wrote a letter,
(when/and then) he smoked a cigarette'
preferred interpretation: sequential

- answer: sequential order is no more than a *stereotype implicature* (Atlas & Levinson 1981) based on Grice's Q2-Maxim
  - » e.g., the sequential interpretation in (4.17) vanishes if the two *káa*-clauses have different subjects

(4.18) Pedro=e' káa=**t**-u=ts'íib-t-ah
Pedro=TOP CON=**PRV**-A.3=write-APP-CMP(B.3.SG)
hun-p'éel kàarta=e', Juan=e',
one-CL.IN letter=TOP Juan=Top
káa=**t**-u=ts'u'ts'-ah hun-p'éel chamal
CON=**PRV**-A.3=suck-CMP(B.3.SG) one-CL.IN cigar
'Pedro, (when/and then) he wrote a letter,
Juan, (when/and then) he smoked a cigarette'
preferred interpetation: overlap

- another example: *preemption* = *scalar implicature* based on Grice's Q1-Maxim
  - » illustrated in Figure 17 with Yucatec deictic particles

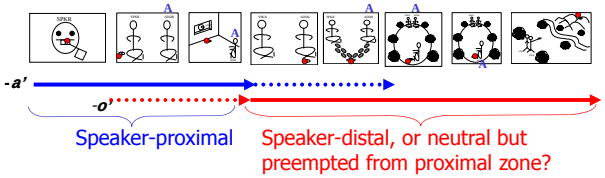

Figure 17. *Preemption (scalar implicature) in Yucatec deictic particles (Bohnemeyer ms.)*

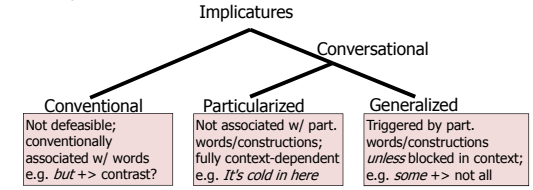

Figure 18. *Grice's typology of implicatures (e.g., Grice 1975)*

Table 4. *Major types of generalized conversational implicatures*

Grice (1975)	Levinson (2000)	Examples of implicatures
First Quantity Maxim (Q1): *Make your contribution as informative as is required*	Q-Heuristic: *What isn't said, isn't*	Scalar implicatures (*Steve ate some of the cookies* +> not all of them); clausal implicatures (*Sue is either in the attic or in the garden* +> don't know which)
Second Quantity Maxim (Q2): *Do not make your contribution more informative than is required*	I-Heuristic: *What is expressed simply is stereotypically exemplified*	Conjunction buttressing (*She went to the movies and saw a film* +> in that order); bridging inferences (*The lecture was awful. JB was unintelligible* +> JB gave the lecture)
Manner Maxims: *Be perspicuous*	M-Heuristic: *What's said in an abnormal way isn't normal*	Coreference of NPs (*JB gave the lecture and the guy bored us out of our wits* +> the guy ≠ JB)

– presupposition

(4.19) **Presupposition:** A (set of) sentence(s) *A* presupposes φ if and only if
(i) *A* implies φ
(ii) *not A* likewise implies φ (as does the polar question *A?*, etc.)
(iii) ~φ entails that *A* is false (Russel) or undecidable (Strawson)

- example: the Yucatec remote past marker *sáam* does not entail that the event happened in the (relative) past
  - but presupposes this – what it really encodes is the distance b/w event time and reference time, not the ordering relation
    - » cf. Bohnemeyer 2002: 328-342

(4.20) Ma' sáam sùunak le=kòomby=o';...
NEG REC turn\ATP:SUBJ(B3SG) DET=van=D2
'It's not a while ago that the bus returned;...'

a. ...inw=a'l-ik=e', h-ts'o'k mèedya òora.
A1SG=say-INC(B3SG)=TOP PRV-end(B3SG) half hour
'...I think it was half an hour ago.'

b. ??...tuméen ma' sùunak=i'.
CAUSE NEG turn\ATP:SUBJ(B3SG)=D4
'...because it hasn't returned yet.'

- **speech act meanings** of course do not have truth conditions
  - but they, too, impose conditions on referential success – what one might call *satisfaction conditions*
    - e.g., the meaning of a question can be spelled out in terms the conditions of answering it
      - » the meaning of a command in terms of what it takes to execute it
      - » and the meaning of performative speech acts in terms of what it takes to perform it
  - in general, speech acts are goal-directed actions
    - and their meanings can be captured in terms of the conditions of the accomplishment of the goal
- the objectivism charge
  - mentalists (e.g., Lakoff 1987; Jackendoff 2002) have attacked the truth-conditional approach
    - charging that it presupposes a naïve "objectivist" view of both meaning and truth

- if real, this problem would be exacerbated in field semantics
  - by cross-cultural variation in the conceptualization of "truth"
- what the objectivism charge misses

(4.21) **The relation between meaning and truth:**
The truth of a sentence depends on its meaning; its meaning is independent of its truth.

- whether one believes that truth is objective or subjective is irrelevant to truth-conditional semantics
  - meaning doesn't depend on truth, but on truth conditions
  - and few are denying that truth conditions are "in the mind"
    - » in the sense that a speaker's judgment of the truth of a sentence depends on her knowledge of the truth conditions
    - » and that knowledge is just simply part of her linguistic competence

- whether a sentence is actually true, or whether it is even knowable whether it is true
  - is again irrelevant in truth-conditional semantics
  - even a sentence in a perfectly fictional context is amenable to a truth-conditional analysis
    - » as long as speakers know what would *have to be* the case for the sentence to be true
    - » hence we can, e.g., evaluate the truth of (4.22) in the fictional context of Tolkien's *The Return of the King*

(4.22) "The quest has failed, Sam. Even if we get out of here, we can't escape. Only Elves can escape. Away, away out of Middle-earth, far away over the Sea. If even that is wide enough to keep the Shadow out."

Overview

- the Prime Directive
- field semantics
- understanding elicitation
- the empirical basis of (field) semantics
- diagnostics in lexical semantics
- folk definitions and the lexicon
- summary

Diagnostics in lexical semantics

- there are by and large just two types of diagnostics for lexical-semantic relations – tests based on
  - entailments/contradictions
  - wellformedness/anomaly in semantic composition
- ambiguity revisited

(5.1) **Ambiguity:** A sentence *A* with two interpretations φ and ψ is ambiguous if *A* can be truthfully denied under interpretation φ in a situation in which ψ clearly applies (or vice versa).

- the ambiguity test encapsulated in (5.1) relies on intuitions about entailments/contradictions

– in contrast, the popular **zeugma**-test of lexical ambiguity relies on intuitions about anomaly

(5.2) ?*John and his driving license expired last Thursday*
(Cruse 1986: 61) ⇒ *expire* is ambiguous

(5.3) ?*John's driver's license expired last Thursday. So did John*
(Cruse 1986: 62) ⇒ *expire* is ambiguous

(5.4) *My cousin, who is pregnant, was born on the same day as Arthur's, who is the father*
(Cruse 1986: 62) ⇒ *cousin* is vague

- the source of these anomalies is the activation of different senses in a single lexeme
  - this is thus a different source of anomaly than the violation of selectional restrictions
    - » although such violations often occur as secondary effects

- hyponymy and meronymy

(5.5) **Hyponymy:** Word form (lexical unit) ρ is a hyponym of word form σ if and only if the extension of ρ is properly included in the extension of σ (in any given situation)

– elements in a hyponymy relation participate in a characteristic entailment pattern
  - when used as predicates

(5.6) a. *This is a **dog*** ∴ *This is an **animal***
b. *That is a **stallion*** ∴ *That is a **horse***
c. *This is a **scarlet** flower* ∴ *This is a **red** flower*
d. *He **murdered** someone* ∴ *He **killed** someone*
(based on Cruse 1986: 89)

– but it is a surprisingly tricky proposition to define hyponymy through this pattern

– **meronymy** has a very similar characteristic pattern

(5.7) **Meronymy:** Word form (lexical unit) ρ is a meronym of word form σ (the *holonym*) if and only if entities in the extension of σ have parts that fall in the extension of ρ

(5.8) a. *The boil is on his **elbow*** ∴ *The boil is on his **arm***
b. *Sally painted the **house** purple*
∴ *Sally painted the **front** purple*
c. *Floyd wrote a **book*** ∴ *Floyd wrote a **page***

- the difference between these patterns
  - the meronymy pattern is restricted to expressions of spatial relations (5.8a), contact (5.8b),
    - » and "incremental change" (5.8c; cf. Dowty 1991, Krifka 1998)
  - the hyponymy pattern is restricted to predication

- beware – both patterns reverse under the influence of *downward entailing expressions*
  - such as negative polarity items

(5.9) *All **animals** are forbidden*
∴ *All **dogs** are forbidden*

(5.10) *There's no boil on his **arm***
∴ *There's no boil on his **elbow***

– anomaly-based tests for hyponymy

(5.11) **Test-frame for taxonomy:** *An _ is a kind/type of _*

- word forms that enter the test frame in (5.11) without producing anomaly stand in a taxonymic relationship

(5.12) **Taxonymy:** Word forms (lexical unit) $\rho_1, \rho_2, \ldots, \rho_n$ are taxonyms of word form σ if and only if
(i) $\rho_1, \rho_2, \ldots, \rho_n$ are hyponyms of σ
(ii) $\rho_1, \rho_2, \ldots, \rho_n$ are incompatible with one another (i.e., anything that falls in the extension of ρ_1 *can therefore not also be in the extension of* ρ_2 *etc.*

(5.13) a. *A spaniel is a kind of dog*
b. *A rose is a type of flower*
c. *A mango is a kind of fruit*

(5.14) a. ?*A kitten is a type of cat*
b. ?*A queen is a type of monarch*
c. ?*A spinster is a kind of woman*

- problem: *kind of* has other uses as well – e.g., as a hedge

(5.15) **Test-frames for meronymy:**
(i) *A _ has _s/an _*
(ii) *A _ is a part of an _*

- Cruse argues that the safe identification of meronymy requires both diagnostic to apply simultaneously

(5.16) a. *A wife has a husband*
b. ?*A husband is part of a wife*

(5.17) a. *A huge bank balance is a part of his attractiveness to women*
b. ?*His attractiveness to women has a huge bank balance*

– the same goes for the various kinds of *opposites*
  - complementaries, antonyms, converses

– again, there are both entailment/contradiction-based diagnostics and anomaly-based diagnostics

- Cruse 1986 mentions a third kind of diagnostic
  – analogy/proportion

(5.18) a. *I like him*
b. *I dislike him*

(5.19) a. *They approved of the idea*
b. *They disapproved of the idea*

(5.18a) : (5.18b) = (5.19a) : (5.19b)

Diagnostics in lexical semantics (cont'd)

- bonus: a fun paper on antonyms in the field
  - Hale 1971: *A note on the Warlbiri tradition of antonymy*
    - during the *kankaḷu* initiation ritual, initiated Warlpiri men use *tjiliwiri*, or 'upside-down Warlpiri'
    - a secret language generated from Warlpiri by replacing all content words with antonyms of sorts
      - uninitiated men are exposed to this practice as observers for weeks until they get the hang of it

(5.20)

A: karḷa ka-Z kakaraŋa njina-mi-ra.
(other present-he east stay-nonpast-hence)
'I am going west'.
B: njuntu ka-npa kaḷara ya-ni.
(you present-you west go-nonpast)
'You are going west'.
A: yupa.
(yes)
'Yes'.
waḷu A-ŋa-ḷa puṛumada-ni karḷa-ki.
(fire definite-I-him withhold-nonpast other-dative)
'Give me water'.
B: ŋapa A-ŋa-ŋku yi-nji njuntu-ku.
(water definite-I-you give-nonpast you-dative
'I should give you water'.
A: yupa.
(yes)
'Yes'.
karḷa A-Z yaḷjaki.
(other stative-he quenched)
'I am thirsty'.

B: njuntu A-npa puraku.
(you stative-you thirsty)
'You are thirsty'.
A: yupa.
(yes)
'Yes'.
waḷu ka-Z njina-mi-ṇi ḍiwaṛaṭji-kiḷi.
(fire present-it stay-nonpast-hither calm-having)
'Rain and wind are approaching'.
B: ŋapa ka-Z ya-ni-ṇi waḷpa-kuḷu.
(rain present-it come-nonpast-hither wind-having)
'Rain and wind are approaching'.
A: yupa.
(yes)
'Yes'.

Hale 1971: 474-475

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Folk definitions and the lexicon

- the lexicon in the field: a script

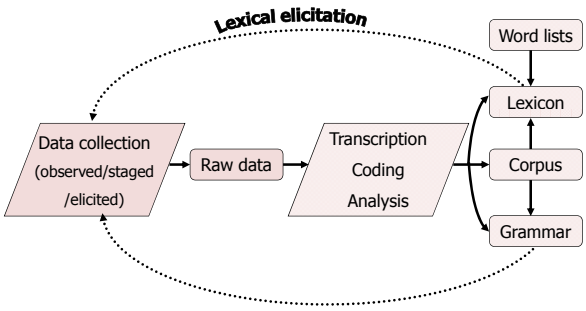

Figure 19. *The lexicon in field research: flow chart*

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Folk definitions and the lexicon (cont'd)

- the bulk of the information about the grammar of a language is stored in its lexicon

Table 5. *Grammatical information in the lexicon*

Lexical categories ("V, N, A, P")	**Functional categories and bound morphology**
– carry information about the phrases they head/govern/modify – down to fine-grained distinctions (e.g. subcategorization frames ⇒ argument structure; N classes ⇒ possessive constructions) – encode the basic semantic ontology of the language	– provide "reference points" for the definition of lexical (e.g., person, tense; derivation) and phrasal categories (e.g., case, agreement) – encode the semantic distinctions grammaticalized in the language (tense, aspect, noun class, honorific level, …)

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Folk definitions and the lexicon (cont'd)

- the lexicon also "contains" vast amounts of ethnographic information
  - kinship terms
  - folk taxonomies of flora & fauna
  - economical production (game animals; agricultural techniques; …)
  - body part terms & ethnomedicinal terminology
  - terms for political institutions
  - religious/spiritual practices
  - speech genres
  - artifacts (garment, vessels, tools, …)
  - …
- the lexicon is the basis for generating dictionaries

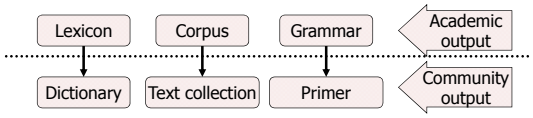

Figure 20. *Output of a language description project*

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Folk definitions and the lexicon (cont'd)

- folk definitions are not semantic analyses
  - not even inexpert ones
  - they do not
    - distinguish between semantics and pragmatics/ encyclopedic knowledge
    - exhaustively account for all the uses of an expression and for polysemy and homophony
- then why elicit folk definitions?
  - because they provide rich material as a starting point for a semantic analysis
    - they tend to access the extensional prototype
    - they provide evidence of the structure of the mental lexicon entry
      - e.g., how much information is needed by a speaker to "triangulate" the target?

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Folk definitions and the lexicon (cont'd)

- they specify hyponyms and other semantic relations
- they are or include examples
- they come w/ rich ethnographic information

- a method for eliciting folk definitions: "Taboo"

(6.1) -FEE: Be'òora=a' in=k'áat káa a=na't tèen
now=D1 A.1.SG=wish(B.3.SG) SR A.2=intuit(B.3.SG) me
'This time, I'd like you to guess me'

le=chan t'àan he'l=e', le=chan ts'íib he'l=a',
DET=DIM speak\ATP PRSV=D3 DET=DIM write PRSV=D1
'the little word here, this little note here,'

y=òolal, estée, hun-p'éel y=ich. Bix inw=a'l-ik
A.3=CAUSE HES one-CL.IN A.3=eye/fruit how A.1.SG=say-INC(B.3.S
'about, uhm, a fruit. How am I gonna tell you,'

hun-p'éel ba'l **k-u=pa'k'-al ich kòol,**
one-CL.IN thing **IMPF-A.3=plant\PASS-INC in clear\ATP**
'a thing that's **planted on the milpa**,'

k-u=hàan-t-a'l, ki' uy=u'b-a'l.
IMPF-A.3=eat-APP-PASS.INC sweet(B.3.SG) A.3=feel-PASS.INC
'it's eaten, sweet/nice is how it tastes.'

- SME: Estée, ma' ha's=i'?
HES NEG(B.3.SG) banana(B.3.SG)=D4
'Uhm, it's not banana?'

- FEE: Ma', dée **wi'-ankil k-u=mèet-ik.** - SME: **Chi'kam**!
NEG ATR **tuber-ITER IMPF-A.3=make-INC(B.3.SG) jicama(B.3.S**
'No, **it produces tubers**.' **'It's *jícama*!'**

Figure 21. *An elicitation game for folk definitions: Taboo*

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Folk definitions and the lexicon (cont'd)

- a classical paper on folk definitions: Casagrande & Hale 1967
  - supposition: every speaker of every language must be able to lay out the meanings of lexical items
    - every language "must thus in some degree serve as its own metalanguage to explicate semantic usage" (p. 165)
      - » this is the view that has been advocated by Wierzbicka and collaborators – cf., e.g., Bohnemeyer 2003 for discussion
  - analysis of around 800 Papago (= O'odham) folk definitions
    - folk definitions establish a network of relations between the target lemma and other lexicon entries
      - » although not all of these relations are semantic relations – a problem that C&H don't touch
    - C&L classify the definitions in their corpus on the basis of the relations that constitute them into 13 types
      - » "attributive", "contingency", "function", "spatial", "operational", "comparison", "exemplification", "class inclusion", "synonymy", "antonymy", "provenience, "grading", "circularity"

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Summary

- field semantics – the elicitation of semantic data from native speaker consultants
  - and the semantic analysis of these data
    - based on the consultants' intuitions for entailments/contradictions and pragmatic felicity
- linguistic data collection techniques can be classified in terms of three components
  - stimulus, task, and response
- methods for eliciting expressions of a given meaning
  - completion, association; translation; contextualized production; description

Summary (cont'd)

- methods for eliciting meanings of a given expression
  - entailment, contradiction, felicity judgments
  - explication by paraphrase or scenario
  - demonstration, acting out
- the epistemology of elicitation
  - native speakers apply their linguistic knowledge to solving a certain problem
  - researchers reconstruct the speakers' knowledge based on the observation of the solution
- the Golden Rule of elicitation
  - a response becomes a data point in the reconstruction of a speaker's linguistic competence
    - once the speaker's interpretation of task, stimulus, and response have been ascertained

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Summary (cont'd)

- the empirical basis of field semantics
  - field semanticists have to infer senses/intensions from observed extensions
    - since they aren't mind readers
  - to achieve this they manipulate real or imagined situations and observe how this affects
    - native speakers' intuitions about the applicability of certain expressions in reference to these situations
- the core phenomena of semantics and pragmatics…
  - entailment, contradiction, ambiguity, anomaly, implicature, presupposition, and speech act meanings
  - …can be explored in the field directly or indirectly
    - on the basis of native speaker intuitions for conditions of successful reference – or truth conditions

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Summary (cont'd)

- this is not to say that these phenomena can be captured exhaustively in referential terms
  - this is clearly not the case with semantic transfer (metaphor, metonymy)
    - and pragmatically generated aspects of utterance meaning (speech acts, implicatures, presupposition)
  - but an analysis of reference conditions can and must always be the starting point in field semantics
- the objectivism charge against referential semantics
  - arguable misconstrues the relation between meaning and truth
    - truth depends on meaning
      - meaning doesn't depend on truth
    - meaning is reflected in truth conditions
      - and truth conditions are undeniably "in the mind"

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Summary (cont'd)

- diagnostics of lexical-semantic relations
  - are always based on intuitions for either entailments/contradictions or for anomaly
    - in many instances, there are alternative tests for the same property based on the two sources
      - however, intuitions for anomaly may ultimately reside in intuitions for referential conditions as well
- folk definitions should not be confused with semantic analyses
  - but they often are a useful starting point for the exploration of lexical meaning

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