

pragmatics!

language?

Psycholinguistics

LING/PSYC 27010

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lecture #11
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last time...

- semantic processing
 - >> incremental interpretation
 - >> reference resolution
 - >> visual world paradigm
- extra-linguistic context affects how people interpret referential expressions
- linguistic form interacts with contextual information to produce **referential contrast effects**

agenda for today (Tues)

1. semantics versus pragmatics
 - >> **entailment**, and
 - >> **implicature**
2. the notion of "pragmatic processing"
 - >> purely linguistic?
 - >> fast/automatic or slow/effortful?!
 - >> comparison to other components of language processing
3. **scalar implicature** -- overview and a couple of nice experimental results
4. midterm review!

semantics + pragmatics

some guy: *My car is out of gas, can you pls help me?!*

some other guy: *There's a gas station around the corner.*

- what does this sentence "mean"?
- another way of asking:
what does the sentence **convey**?

assertion: "there is a gas station around the corner"

implicature: "there is available gas at that gas station"

implicature: "me telling you this qualifies as 'helping you'"

...

semantics + pragmatics

Mary ate some of the cookies.

- what does this sentence "mean"?
- another way of asking:
what does the sentence **convey**?

many other things conveyed by even a simple sentence like this one! e.g.:

- there is a contextually identifiable collection of cookies
- there is more than one cookie in that collection
- Mary is the kind of thing that is capable of eating things (e.g. has a mouth)
- ...

assertion: "Mary was the agent of some cookie-eating event"

implicature: "Mary did not eat *all* of the cookies"

semantics + pragmatics

the various "implications" of a sentence (in a context) do not all have the same status!

some are more "central" than others; some reinforce mutually known information where others introduce new information; etc.

(these roles are themselves context-dependent as well)

entailments of a sentence are inferences that are guaranteed to be true if the assertion of the sentence is true (e.g. the **assertion** of a sentence is an entailment)

implicatures of a sentence are inferences that people tend to make from a sentence (but aren't guaranteed to), or messages that the audience is intended to receive

presuppositions of a sentence are (roughly) conditions that have to be met for the sentence to be true or false -- presuppositions "survive" **negation**

ex. *It was Mary who brought the puppy* → someone brought the puppy

*It was **not** Mary who brought the puppy* → someone brought the puppy

semantics + pragmatics

lots of research on the processing of implicatures

evidence mixed, but largely a consensus that implicatures require general-purpose **reasoning** mechanisms not recruited in computing literal meaning

some implicatures are more attractive than others; this varies by *expression* and also by *context*

some ~~~> *not all*

lots ~~~> *not all*

question: why might one sentence imply *exactly* 3 more than the other?

Bill's life is a handful because he has three children. ~~~> *exactly 3*




Bill gets a tax credit because he has three children. ~~~> *exactly*

semantics + pragmatics

some experimental paradigms for studying implicature

covered box paradigm: choose between given option and unknown option

truth-value judgment task: used when truth depends on implicature

| Target | Distractor |
|--|--|
|  |  |
|  | |
| Sentence: <i>Some of the giraffes have scarves.</i> | |

Underinformative

- Some eels are fish.
- Some carp are fish.
- Some oaks are trees.
- Some beeches are trees.
- Some sparrows are birds.
- Some robins are birds.
- Some flies are insects.
- Some mosquitoes are insects.
- Some roses are flowers.
- Some tulips are flowers.

semantics + pragmatics

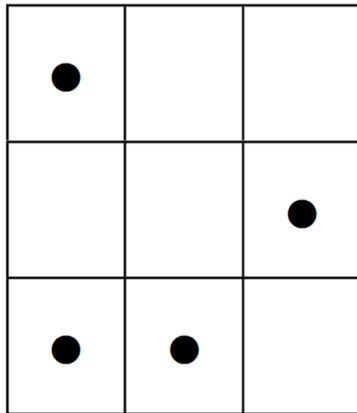
de Neys & Schaeken (2007) -- a cool study about implicature

motivation:

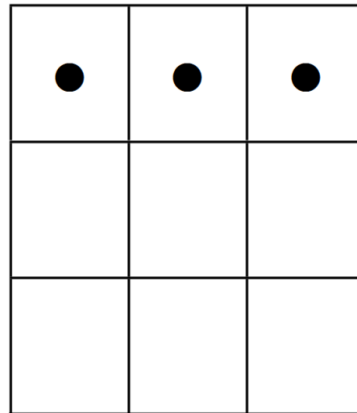
- if implicatures arise from purely linguistic information processing, then they should be automatically generated without conscious effort or control
- but if they recruit a domain-general reasoning capacity over and above language processing *per se*, then tapping cognitive resources should/could interfere with implicature computation

semantics + pragmatics

format: truth-value judgment task,
(a) under high cognitive load; or
(b) under no/minimal cognitive load



a.



b.

Underinformative

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Some sparrows are birds.
Some robins are birds.
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Some roses are flowers.
Some tulips are flowers.

Filler

Some birds are magpies. (true)
Some insects are wasps. (true)
Some pigeons are insects. (false)
Some beetles are flowers. (false)
All Chrysanthemum are flowers. (true)
All hazels are trees. (true)
All trees are elms. (false)
All fish are herrings. (false)
All daffodils are trees. (false)
All sycamores are fish. (false)

Figure 1. Examples of the dot patterns in the load (a) and control group (b).

de Neys & Schaeken (2007)

semantics + pragmatics

key result: "...participants made significantly fewer pragmatic interpretations when they had to memorize the demanding complex patterns than when memorizing the easy control patterns"
(also important: no difference in performance on fillers)

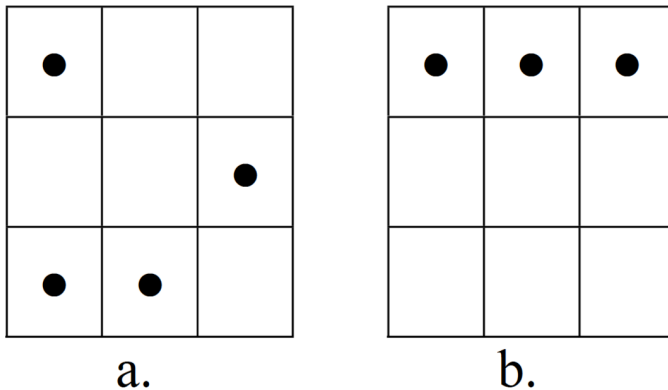


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midterm review!