Relevance Theory

Read: Wilson & Sperber 2004

Communication

- ## Code model of communication
  - A communicator encodes her intended message into a signal, which is decoded by the audience using an identical copy of the code

- ## Inferential model of communication
  - A communicator provides evidence of her intention to convey a certain meaning, which his inferred by the audience on the basis of the evidence provided

- ## Both are used in understanding utterances:
  - An utterance is a linguistically coded piece of evidence, but the decoded linguistic meaning is just one of the inputs to a non-demonstrative inference process which yields an interpretation of speaker's meaning.

- The goal of inferential pragmatics is to explain how the hearer infers the speaker's meaning on the basis of the evidence provided.
- Grice: utterances automatically create expectations which guide the hearer towards the speaker's meaning.
  - These expectations can be described in terms of the CP and the maxims, which speakers are expected to observe.
- S&W: utterances do raise expectations of relevance
  - But we don't need the CP and the maxim
  - Other aspects of Grice's account are also rejected:
    - That pragmatics contributes only to implicit content
    - The role of maxim violation in utterance interpretation
    - The treatment of figurative utterances.

Relevance Theory

- The expectations of relevance raised by an utterance are precise and predictable enough to guide the hearer toward the speaker's meaning.

- The aim is to explain in cognitively realistic terms what these expectations amount to, and and how they might contribute to an empirically plausible account of comprehension

- Sperber & Wilson, *Relevance: Communication and Cognition*, 1986, 1995.

Relevance and Cognition

- What sorts of things may be relevant?
  - Utterances, sights, sounds, thoughts, memories, conclusions of inferences.
- When is an input relevant?
  - When it connects with background information to yield conclusions that matter, by answering a question, settling a doubt, confirming a suspicion, correcting a mistaken impression
  - When its processing in a context of available assumptions yields a positive cognitive effect.
- What is a positive cognitive effect?
  - A worthwhile difference to the individual's representation of the world, e.g. a true conclusion.

- – The most important type of cognitive effect is a contextual implication, a conclusion deducible from input and context together, but from neither input nor context alone.

- – Other types of cognitive effect include the strengthening, revision or abandonment of available assumptions

- – An input is RELEVANT to an individual when, and only when, its processing yields such positive cognitive effects.

- • What about processing effort?

  - – Also the greater the effort of perception, memory, and inference required, the less rewarding the input will be to process, and hence the less deserving of attention.

Relevance of an Input to an Individual

a) Other things being equal, the greater the positive cognitive effects achieved by processing the input, the greater the relevance of the input to the individual at that time.

b) Other things being equal, the greater the processing effort expended, the lower the relevance of the input to the individual at that time.

(1) *We are serving meat.*
(2) *We are serving chicken.*
(3) *Either we are serving chicken or (7^2 - 3) is not 46.*

Cognitive Principle of Relevance

- Human cognition tends to be geared to the maximization of relevance.

  - Humans have an automatic tendency to maximize relevance because of the way our cognitive systems have evolved.

  - As a result of constant selectional pressure towards increasing efficiency, the human cognitive system has developed in such a way that our perceptual mechanisms tend to automatically pick out relevant stimuli, our memory retrieval mechanisms tend automatically to activated potentially relevant assumptions, and our inferential mechanisms tend spontaneously to process them in the most productive way.

Relevance and Communication

- The universal cognitive tendency to maximize relevance makes it possible (to some extent) to predict and manipulate the mental states of others.
- Knowing your tendency to pick out the most relevant inputs and process them so as to maximize their relevance, I may be able to produce a stimulus which is likely to attract your attention, activate an appropriate set of contextual assumptions and point you toward an intended conclusion.
  - **Leave an empty glass in your field of vision.**
- But, inferential communication involves two layers of intention.

Grice 1957: Meaning-nn

- Natural meaning:
  - *Those black clouds mean rain.*
- Non-natural meaning:
  - S **meant-nn** z by uttering U if and only if:
    - (i) S intended U to cause some effect z in recipient H.
    - (ii) S intended (i) to be achieved simply by H recognizing that intention (i).

Ostensive-Inferential Communication

a) **The informative intention**
   The intention to inform an audience of something.

b) **The communicative intention**
   The intention to inform the audience of one's informative intention.

Ostensive stimulus

- An ostensive stimulus is designed to attract an audience's attention and focus it on the communicator's meaning.
  - Use of an ostensive stimulus may create precise and predictable expectations of relevance not raised by other inputs.
    - **Wave the empty glass in front of you.**
      - Not only might I like a drink, but I would like a drink.
  - By producing an ostensive stimulus, the communicator encourages her audience to presume that it is relevant enough to be worth processing.
- This need not be a case of Gricean cooperation.
  - The communicator may be self-interested, deceptive or incompetent.

Communicative Principle of Relevance

- Every ostensive stimulus conveys a presumption of its own optimal relevance.

  - **Presumption of optimal relevance**

    a) The ostensive stimulus is relevant enough to be worth the audience's processing effort.

    b) It is the most relevant one compatible with communicator's abilities and preferences.

      - *I've already written a third of the paper.*

- Improves on Grice:
  - My silence when you ask me a question may not be an ostensive stimulus, in which case you will conclude I am unable or unwilling to answer.
  - My silence may be an ostensive stimulus, in which case I implicate that I am unable or unwilling to answer.
  - Grice allows for inability to answer, when I violate Quality in case of a maxim clash, but unwillingness would violate the CP, and thus can't be implicated in Grice's framework.

- Suggests a procedure for the hearer to follow in inferring speaker meaning, which may involve a lot of pragmatic subtasks.
  - There may be ambiguities and referential indeterminacies to resolve, ellipses to interpret, and other underdeterminacies of explicit content to deal with.
  - There may be implicatures to identify, illocutionary indeterminacies to resolve, metaphors and ironies to interpret.
  - All of this requires an appropriate set of contextual assumptions, which the hearer also must supply.

Relevance-Theoretic Comprehension Procedure

a) Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc,) in order of accessibility.

b) Stop when your expectations of relevance are satisfied (or abandoned).

– A speaker who wants her utterance to be as easy as possible to understand should formulate it (within the limits of her abilities and preferences) so that the first interpretation to satisfy the hearer's expectation of relevance is the one she intended to convey.

– Thus, when a hearer following the path of least effort arrives at an interpretation that satisfies his expectations of relevance, in the absence of contrary evidence, this is the most plausible hypothesis about the speaker's meaning.

  • This hypothesis may well be false, but it is the best a rational hearer can do.

Relevance and Comprehension

- In verbal communication, speakers can convey a very wide range of meanings because utterances encode logical forms which the speaker has manifestly chosen to provide as input.
  - As a result, verbal communication can achieve a degree of explicitness not available in non-verbal communication:
    - *My glass is empty.*

- It is now increasingly recognized that even the explicit content may go well beyond what is linguistically encoded.
  - Grice invoked his CP and maxims to deal with implicatures, thus there has been a tendency to assume that all "primary processes" involved in the recovery of explicit content are less inferential or pragmatic than the "secondary processes" involved in the recovery of implicatures. Not so in relevance theory.

Subtasks in the overall comprehension process

a) Constructing an appropriate hypothesis about explicit content (EXPLICATURES) via decoding, disambiguation, reference resolution, and other pragmatic enrichment processes.

b) Constructing an appropriate hypothesis about the intended contextual assumptions (IMPLICATED PREMISES).

c) Constructing an appropriate hypothesis about the intended contextual implications (IMPLICATED CONCLUSIONS).

- – Comprehension is an on-line process, and hypotheses about explicatures, implicated premises and implicated conclusions are developed in parallel against a background of expectations which may be revised or elaborated as the utterance unfolds.

- – Each subtask involves a non-demonstrative inference process embedded within the overall process of constructing a hypothesis about the speaker's meaning.

- *Peter: Did John pay back the money he owed you?*
  Mary: No. He forgot to go to the bank.

(a) Mary has said to Peter, "He$_x$ forgot to go to the BANK$_1$/BANK$_2$." [He$_x$ = uninterpreted pronoun] [BANK$_1$ = financial institution] [BANK$_2$ = river bank]	*Embedding of the decoded (incomplete) logical form of Mary's utterance into a description of Mary's ostensive behavior.*
(b) Mary's utterance will be optimally relevant to Peter.	*Expectation raised by recognition of Mary's ostensive behavior and acceptance of the presumption of relevance it conveys.*
(c) Mary's utterance will achieve relevance by explaining why John has not repaid the money he owed her.	*Expectation raised by (b), together with the fact that such an explanation would be most relevant to Peter at this point.*
(d) Forgetting to go to the BANK$_1$ may make one unable to repay the money one owes.	*First assumption to occur to Peter which, together with other appropriate premises, might satisfy expectation (c). Accepted as an implicit premise of Mary's utterance.*

(e) John forgot to go to the BANK1.	*First enrichment of the logical form of Mary's utterance to occur to Peter which might combine with (d) to lead to the satisfaction of (c). Accepted as an explicature of Mary's utterance.*
(f) John was unable to repay Mary the money he owes because he forgot to go to the $BANK_1$.	*Inferred from (d) and (e), satisfying (c) and accepted as an implicit conclusion of Mary's utterance.*
(g) John may repay Mary the money he owes when he next goes to the $BANK_1$.	*From (f) plus background knowledge. One of several possible weak implicatures of Mary's utterance which, together with (f), satisfy expectation (b)*

- This account is oversimplified, ignoring a range of lexical-pragmatic processes involved in the construction of explicatures.
  - Narrowing of $BANK_1$ to type of bank that deals with individuals, i.e. not the World Bank.
  - Visiting the bank to get money.
  - Getting money in the ordinary way, not by robbing it.
- Such stereotypical narrowings are treated by Neo-Griceans as default interpretations or GCIs.
  - But these inferences should be treated as falling on the explicit side because the explicature derived must be a premise in deriving contextual implications.
  - Such lexical narrowing is much more flexible and context-dependent than appeals to GCIs allow.
    - (Barsalou) Involves an ad hoc concept BANK*, derived from encyclopedic entry for $BANK_1$. The resulting concept is quite vague and need only be rich enough to derive relevance.

- Interpretation might even involve a loosening process to BANK** (automatic cash dispenser).
  - Such loose uses are a problem for Grice. Faces are not square, and such statements would involve violation of Quality 1, but they are not perceived as being untruthful.
  - Relevance-theorists abandon the maxim of truthfulness, and treat whatever expectations of truthfulness arise in utterance interpretation as by-products of the more basic expectation of relevance.
    - Loose talk, metaphor and hyperbole are merely alternative routes to achieving optimal relevance.
- *Peter: What do you think of Martin's latest novel. Mary: It puts me to sleep.*
  - Grice: test literal interpretation first, and consider a figurative interpretation only if Quality 1 is blatantly violated.
  - But there is experimental evidence that literal interpretations are not necessarily computed first.
  - It would probably not even occur to Peter to wonder whether Mary literally fell asleep.

– Typically, loose uses, and particularly metaphorical uses, convey an array of weak implicatures, none individually required to achieve relevance, but some are needed.

- **John has a square mind.**
  - John is somewhat rigid in his thinking, does not easily change his mind, is a man of principle, etc.
- If the word *square* is understood as expressions the concept SQUARE**, which combines with contextual information to yield these implications, then the concept SQUARE** itself will exhibit some indeterminacy or fuzziness, and the utterance as a whole will exhibit a corresponding weakness of explicature typical of poetic language.

- For Grice, irony also involves flouting Quality 1, but has a different account in Relevance Theory, involving echoic use.

- An utterance is echoic when it achieves most of its relevance by expressing the speaker's attitude to views she tacitly attributes to someone else:

  - ***Peter: That was a fantastic party.***
    Mary: a. [puzzled] Fantastic?
    b. [scornfully] Fantastic!

    a. She is wondering whether I was right to say/think that the party was fantastic.

    b. She believes I was wrong to say/think that the party was fantastic.

- To understand Mary, Peter has to recognize not only the basic proposition expressed but also the fact that it is being attributively used, and the attitude that Mary intends to convey.

- Irony thus involves a higher order of metarepresentational abilities than metaphor, and there is experimental evidence for this distinction.

- Such second-order metarepresentational abilities are also needed for recognizing illocutionary acts, and involve the creation of higher-order explicatures.

Relevance Theory and Mental Architecture

- Fodor, 1983: *The Modularity of Mind*.
  - Vision, language are modular input processes; but belief-desire reasoning is a central thought process.

- More recently, there has been a move towards an increasingly modular view of the mind.
  - Domain-specific modular processes for mind reading have been proposed: Eye Direction Detector, Intentionality Detector.
  - Maybe there there is a detector for communicative regularities.
    - So that the comprehension procedure should be seen as not a variant of Grice's working-out scheme, but as a dedicated inferential mechanism, a "fast and frugal heuristic", which automatically computes a hypothesis about the speaker meaning on the basis of the linguistic and other evidence provided.
    - Could account for children's linguistic competence preceding ability to perform on false-belief tasks.

Conclusion: An Experimentally Testable Cognitive Theory

- Wason selection task
  - If a card has a 6 on the front, it has an E on the back.
    - 6, 4, E, A: which ones should you turn over?
    - People wrongly say 6 and E (should be 6 and A).
  - Sperber et al. were able to manipulate this result, and explain that E is chosen because conditionals normally achieve relevance by allowing consequent to be inferred whenever the antecedent is satisfied.
- Rounding in telling the time obeys relevance, not truthfulness.
  - Van der Henst et al. were able to manipulate this behavior depending on subtle clues as to what might make it relevant for the questioner to know the time.
- Relevance theorists have been trying to combine theoretical generality with all the possibilities of testing provided by the careful use of linguistic intuitions, observational data, and the experimental methods of cognitive psychology.