Later Approaches to Implicature

Read: Birner chapter 3
Neo-Gricean Theory

• Reorganize the maxims:
  – Brevity is encouraged by Quantity2, Relation and Manner3
  – Verbosity is encouraged by Quantity1, Relation and Manner1,2
  – Speakers must strike a balance.

• **Horn**: Q- and R-implicature
• **Levinson**: Q-, I- and M-implicature
• Application: lexical pragmatics
Q- and R-implicature

• Two opposing principles:
  – **The Q Principle**: Say as much as you can, given R.
  – **The R Principle**: Say no more than you must, given Q.

• Reorganization:
  – The Q Principle maps onto Grice’s first submaxim of Quantity.
  – The R Principle maps onto Grice’s second submaxim of Quantity, Relation and Manner
  – Quality is considered a kind of super-maxim, assumed to operate above the level of Q and R and without which the system cannot function.
Q- and R-implicature (cont.)

• Examples of Q-implicatures:
  – I love most Beatles songs. +> I don’t love all Beatles songs.
  – Janet likes Sylvester. +> Janet doesn’t love Sylvester.
  – Steve will register for biology or chemistry. +> Steve won’t register for both biology and chemistry.
  – Mary’s jacket is light red. +> Mary’s jacket isn’t pink.

• The Q-Principle is a “lower-bounding” principle (puts a lower limit on what should be said: “say no less than this”).

• It induces “upper-bounding” implicatures (hearer can infer that anything beyond what is said doesn’t hold).
Q- and R-implicature (cont.)

• Examples of R-implicatures:
  – John was able to fix the broken hinge. \( \rightarrow \) John fixed the broken hinge.
  – I broke a fingernail. \( \rightarrow \) I broke one of my own fingernails.
  – I need a drink. \( \rightarrow \) I need an alcoholic drink.
  – Cathy and Cheryl sang the National Anthem. \( \rightarrow \) Cathy and Cheryl sang the National Anthem together.

• The R-Principle is an “upper-bounding” principle (puts an upper limit on what should be said: “say no more than necessary”).

• It induces “lower-bounding” implicatures (hearer can infer that what has been said represents merely the lower limit of what holds).
Q- and R-implicature (cont.)

• The Q-Principle is a hearer-based principle.
  – The more that is explicitly said, the easier it is for the hearer to process the message.

• The R-Principle is a speaker-based principle.
  – Saying less is easier for the speaker.

• Some kind of balance must be struck.
Q- and R-implicature (cont.)

• How do we know which principle is at work in any given case?

• Horn’s Division of Pragmatic Labor.
  – An unmarked utterance licenses an R-inference to the unmarked situation, whereas a marked utterance licenses a Q-inference to the effect that the unmarked situation does not hold.
    • An “unmarked expression is the default, usual or expected expression, whereas a “marked” expression is non-default, less common, or relatively unexpected.
    • Longer expressions and those requiring more effort are generally considered more marked than expressions that are shorter and easier to produce.
Q- and R-implicature (cont.)

• Replacing unmarked utterances with marked utterances eliminates the R-inference, and instead may license a Q-inference:
  – John had the ability to fix the broken hinge. -> (for all the speaker knows) John did not fix the broken hinge.
  – A fingernail was broken by me. -> It wasn’t one of my own fingernails.
  – I need to consume liquid. -> I need any sort of drink.
  – Cathy sang the National Anthem, and Cheryl sang the National Anthem. -> Cathy and Cheryl did not sing the National Anthem together.
Q- and R-implicature (cont.)

— Gordon killed the intruder.
— Gordon caused the intruder to die.

• The used of the unmarked expression *killed* induces an R-implicature that the killing happened in the unmarked default way.

• The Division of Pragmatic Labor suggests that the use of a marked expression Q-implicates a marked meaning.
Q-, I- and M-implicature

• Levinson’s system is based on three heuristics for utterance interpretation:
  – The I-heuristic: What is simply described is stereotypically exemplified.
  – The M-heuristic: A marked message indicates a marked situation.
Q-, I- and M-implicature (cont.)

• Corresponding to each heuristic is a more fleshed out speaker’s maxim and hearer’s corollary.
  – Q-principle:
    • “Do not provide a statement that is informationally weaker than your knowledge of the world allows, unless providing an informationally stronger statement would contravene the I-principle. Specifically, select the informationally strongest paradigmatic alternate that is consistent with the facts.”

  – Hearer’s corollary:
    • Assume that the speaker made the strongest statement consistent with their knowledge.
Q-, I- and M-implicature (cont.)

• The Q-heuristic is related to Grice’s first submaxim of Quantity and Horn’s Q-principle.
  – The heuristic is based on the notion of a contrast set: a set of utterances that the speaker could have made.
    • Scales and unordered sets (‘red’ => not blue).

• The I-heuristic is related to Atlas & Levinson’s 1981 Principle of Informativeness, and is related to Grice’s second submaxim of Quantity and Horn’s R-principle.
  – Induces an inference to the stereotypical situation.
    • E.g. ‘drink’ => alcoholic drink.

• The M-heuristic is related to Grice’s maxim of Manner (1 and 3)
Q-, I- and M-implicature (cont.)

• The I- and M-heuristics are in opposition.
• Horn’s Q-principle does the work of both Levinson’s Q-heuristic and his M-heuristic.
  – The Q-heuristic appeals to a contrast set of semantically distinct expressions.
    • E.g. ‘most’ => not all, ‘like’ => not love, ‘or’ => not both.
  – The M-heuristic assumes a contrast set of formally distinct expressions that are semantically similar.
    • E.g. ‘light red’ => not pink, ‘cause to die’ => killed indirectly.
Q-, I- and M-implicature (cont.)

- Both Horn’s and Levinson’s systems rely on a tension between a speaker-based principle and a hearer-based principle.
- Horn’s system captures a generalization concerning the source of two different types of inferences:
  - The inference to the marked situation and the inference to the non-applicability of what hasn’t been uttered.
- Horn’s system incorporates an appealing parallelism between two principles.
- Levinson’s system incorporates a potentially useful distinction between formal and semantic contrasts.
Q-, I- and M-implicature (cont.)

- Levinson adopts an intermediate level of default interpretations for generalized conversational implicatures.
  - This departs from Grice’s binary distinction between truth-conditional and inferred meaning.
- Both retain Grice’s original insight that language use is a matter of negotiating distinct and conflicting demands, and of licensing inferences by mean’s of one’s resolution of that negotiation.
  - Both deserve to be called neo-Gricean.
Lexical Pragmatics

• *Kill* means ‘cause to die’ but the pragmatic meaning includes intentionality and directness of causation.
  – *Kill* induces an R-inference to the stereotypical situation.

• A similar account can be given of other cases of ‘auto-hyponomy’ (Horn):
  – I need a *drink*.
  – The *actor* just landed a new role.
  – I prefer photos in *color*.
  – I had a slice of *bread* with my lunch.
  – I need to mow the *grass*.

• Over time, a lexical form becomes more and more associated with the R-affected meaning.
  – *Corn* meant grain in general, now means maize (US), wheat (England), oats (Scotland).
Scalar implicatures become generalized over time.
  – E.g. the exclusive sense is now generally associated with *or*.

Languages avoid synonymy and homonymy
  – **Avoid Synonymy** is a speaker-based (R-based) principle.
  – **Avoid Homonymy** is a hearer-based (Q-based) principle.
  – Lexical blocking: once the language has a word like *typist* it will tend not to develop *typer*.
  – If the language does develop a new word based on morphological derivation it will be associated with a distinct meaning:
    • *Refrigerant* vs. *refrigerator*
    • *Cooker* vs. *cook*
Lexical Pragmatics (cont.)

• Aristotelian Square of Opposition.
  – A: all/every F is G
  – E: no F is G
  – I: some F is/are G
  – O: not every F is G, some F is/are not G
Lexical Pragmatics (cont.)

• Universal, particular; positive, negative.
• A cases entail their corresponding I cases, and E cases entail their corresponding O cases
• The utterance of I implicates that A does not hold; and the utterance of O implicates that E doesn’t hold.
  – All, some, no, not all
  – Everyone, someone, nobody, not everyone
  – Always, sometimes, never, not always
  – Both, one, neither, not both
  – And, or, neither...nor, not both
Lexical Pragmatics (cont.)

- Everyone will leave. $\rightarrow$ Someone will leave.
- Nobody will leave. $\rightarrow$ Not everyone will leave.
- Someone will leave. $\rightarrow$ Not everyone will leave.
- Not everybody will leave. $\rightarrow$ It’s not the case that nobody will leave.

- I always feel like crying. $\rightarrow$ I sometimes feel like crying.
- I never feel like crying $\rightarrow$ I don’t always feel like crying.
- I sometimes feel like crying. $\rightarrow$ I don’t always feel like crying.
- I don’t always feel like crying. $\rightarrow$ It’s not the case that I never feel like crying.
Lexical Pragmatics (cont.)

- **Contraries**: can’t both be true.
  - All dogs are friendly (A), no dogs are friendly (E)
- **Contradictories**: can’t both be true and can’t both be false.
  - Some dogs are friendly (I), no dogs are friendly (E)
- **Subcontraries**: can’t both be false.
  - Some dogs are friendly (I), not all dogs are friendly (O).
Lexical Pragmatics (cont.)

• The Square of Opposition captures some interesting regularities about language, and about the relationships among entailments, contradictions and implicatures.

• It also captures interesting constraints on lexicalizations (Horn).
  – When languages contain lexical items corresponding to the A, I, and E corners, they tend not to lexicalize the O corner.
  – A: *all dogs  I: some dogs  E: no dogs  O: *nall dogs
Lexical Pragmatics (cont.)

• O is the exact negation of A, and I is the exact negation of E.
• I implicates the negation of A, and O implicates the negation of E.
  – Some \( \rightarrow \) not all, not all \( \rightarrow \) not none
• But the negation of E is equivalent to I, and the negation of A is equivalent to O.
  – Not none \( = \) some, not all \( = \) not all.
• Thus, loosely speaking, the subcontraries implicate each other.
• There is thus no need to lexicalize both I and O, and since O is marked relative to I, I is chosen.
Relevance Theory

• Relevance is central to human cognition.
• Gives up the notion of the CP and the maxims. People don’t calculate meanings, they just cognize.
• Doesn’t seek to reduce the maxims to opposing forces, but to propose a singular role for Relevance, which itself contains opposing forces:
  – The tension between cognitive effort and cognitive effects.
• Proposes an account of what goes on in the mind of a single participant in a conversation, rather than a theory of how the participants view each other as interacting.
• Can serve as the basis for constructing testable hypotheses about how hearers will react to different inputs.
The Principle of Relevance

• **Communicative Principle of Relevance**: Every ostensive stimulus conveys a presumption of its own relevance.
  – Ostensive stimulus: a stimulus intended to convey meaning.

• **Cognitive Principle of Relevance**: Human cognition tends to be geared to the maximization of relevance.
  – What the speaker intends to communicate is sufficiently relevant so as to be worth processing.
  – This is the most relevant communication that the speaker could have used to convey the intended meaning.
The Principle of Relevance (Cont.)

• Relevance is defined in terms of **positive cognitive effects:**
  – Changes in how one sees the world.
  – One major type of positive cognitive effect is a **contextual implication**, e.g. a conversational implicature.
  – But a contextual implication is any positive cognitive effect that is derived from the interaction of the context, the input, and the search for that input’s relevance.

• The hearer’s task is to follow “**the path of least effort**” in identifying contextual implications and calculating cognitive effects until the expectation of relevance has been adequately met.
The Principle of Relevance (Cont.)

• The higher the processing cost, the lower the relevance.
• The greater positive cognitive effects, the higher the relevance.
• There is a tension and trade-off here.
• There is an issue of how effect and cost can be measured.
• Unlike Neo-Gricean Theory, here the tension is within an individual.
Explicature and Implicature

• Relevance Theory changes the way that what is said is related to what is implicated.

• Pragmatic inference, guided by the Principle of Relevance, goes into determining the truth-evaluable proposition.

• This is called an **explicature**.
  – After a while, he raised his head. (Rand 1957)
  – After something between a few moments and several minutes, Francisco d’Anconia lifted his own physical head off of the surface it had been resting upon.
Implications for the Semantics/Pragmatics Boundary: Gricean Theory

(83)

meaning

natural meaning

what is said

conventionally

generalized

what is implicated

conventionally

conversationally

particularized
Implications for the Semantics/Pragmatics Boundary: Neo-Gricean Theory

(84)

what is meant
(=nonnatural meaning)

conventionally

what is said

what is conventionally implicated

nonconventionally
(i.e. all other implicatures)
Implications for the Semantics/Pragmatics Boundary: Neo-Gricean Theory

- Conventional implicature for some theorists falls on the semantic side of the line.
- Also for some, context-based inference can enter into what is said.
  - Resolving ambiguities, deixis, pronoun reference.
  - But the notion of explicature is rejected
    - Many inferences that for Relevance Theorists enter into the explicature are considered part of what is implicated.
- The two-stage Gricean process is retained.
  - What is said combines with context and the maxims to give rise to what is implicated.
  - But not all semantic reasoning is required to precede all pragmatic reasoning.
Implications for the Semantics/Pragmatics Boundary: Relevance Theory

(85)

nonnatural meaning

what is encoded

what is explicated

what must be inferred

what is implicated

semantics | pragmatics

truth-conditional meaning

= explicature

non-truth-conditional meaning

= implicature
Implications for the Semantics/Pragmatics Boundary: Relevance Theory

• The semantic meaning is purely the result of linguistic decoding:
  – Working out the basic lexical meanings, morphology, syntax, but this may fall short of a full proposition.

• Pragmatics contributes to the explicature (the full truth-conditional proposition).

• There is no notion here of “what is said”.

• There are no subtypes of implicature—only particularized ones count.
Implications for the Semantics/Pragmatics Boundary: Relevance Theory (Cont.)

• Relevance Theory takes conventional implicatures and puts them into the encoded meaning, and takes generalized conversational implicatures and puts them into the explication.
  – Hence both contribute to truth conditions.

• Should pragmatics be defined in terms of implicated meaning, non-conventional meaning, or inferential meaning?
A Case in Point: Scalar Implicature

– Most of us are not aware of this consciously.

• For Levinson, the “not all of us” reading is due to our knowledge of the generalized scalar implicature from “most” to “not all”, and arises automatically.

• The frequency of cancellations such as *some if not all* and reinforcements *some but not all* support the notion of a GCI.

• For Relevance theorists, utterances containing scalar terms are underspecified with respect to their upper bound, and are essentially ambiguous between two readings: “at least some/most” and “some/most but not all”.
A Case in Point: Scalar Implicature (Cont.)

– Some people can train themselves to hear this.
– You may have some of the cookies.
– I got some of the exam questions wrong.

– I hope to see some of the Supreme Court justices while I’m visiting Washington.
– You need to wash some of your clothes.
– I’ve seen some wonderful sculptures by Rodin.

• Ambiguity at the propositional level vs. a general class of GCI.
• Is the first group false when the proposition holds of all?
A Case in Point: Scalar Implicature (Cont.)

• Cardinal numbers are different.
• Horn argues that cardinal numbers do denote “exactly \(n\)
  
  (1) A: Did most of the brownies get eaten?  
      B: No.  
  
  (2) A: Do you have three children?  
      B: No.  
• 1B can’t be used when all of the brownies were eaten, but 2B can be used when there are more than three children.
A Case in Point: Scalar Implicature (Cont.)

• Some people can train themselves to hear this.
  – If this strikes you as true in a case where the predicate in fact holds of all people, that is consistent with Neo-Griceanism.
  – If it strikes you as false, that is consistent with Relevance Theory.

• A: Did most of the brownies get eaten?
  B: No.
  – If B’s negative response strikes you as true in a case where all the brownies got eaten, that is consistent with Relevance theory.
  – If it strikes you as false, that is consistent with neo-Griceanism.