8. Introduction to Pragmatics

8.1 Introduction

(1)   **Pragmatics** is the study of the ways in which interlocutors use the literal (or 'conventional-ized') meaning of expressions to calculate more complex meanings.

Often the focus in pragmatics is on those more complex meanings which draw on information supplied by the context of the utterance. This lecture:

a.   Isolate systematic and universal components of pragmatic reasoning
b.   Propose ways to represent the calculation of pragmatic inferences
c.   Understand the key insights of philosopher Paul Grice's contributions

8.1.1 Pragmatic enrichment

Levinson 2000 presents the following analogy. What is the following a sketch of?

(2)

We interpret this sketch instantly and effortlessly as a gathering of people before a structure, probably a gateway; the people are listening to a single declaiming figure in the center. [. . .] But all this is a miracle, for there is little detailed information in the

> lines or shading (such as there is). Every line is a mere suggestion [. . .]. So here is the miracle: from a merest, sketchiest squiggle of lines, you and I converge to find adumbration of a coherent scene [. . .]. The problem of utterance interpretation is not dissimilar to this visual miracle. An utterance is not, as it were, a veridical model or "snapshot" of the scene it describes [. . .]. Rather, an utterance is just as sketchy as the Rembrandt drawing.
>
> Levinson 2000: 2–4

We can classify interpretations of the sketch into two categories:

a.   basic interpretations accessible to any human interpreter
b.   interpretations which require specific contextual (i.e., cultural) knowledge

Levinson's point: utterance interpertation is very similar. Humans calculate **pragmatic inferences**: rich, idiosyncratic meanings, using very basic literal meanings and contextual knowledge.

Some very common questions about pragmatics:

(3)   Q1: Is pragmatics part of grammar? e.g., is there Chinese pragmatics vs. English pragmatics?

A fundamental assumption in many theories of pragmatics: *pragmatic enrichment is based on general principles of human rational behavior*

This leads to questions about how pragmatics links with non-linguistic capabilities of humans, such as knowledge, memory, reasoning, and so on.

A proposal: in this way, pragmatics is like acoustic/articulatory phonetics. Thoughts?

(4)   Q2: In that case, is pragmatics the same the world over?

We don't want to claim that either. A crucial part of pragmatic reasoning: the idiosyncratic knowledge of the interlocutors.

Even though it is reasonable to assume human reasoning is constant around the world, we would not expect the backgrounds of humans to be the same.

What kinds of culturally specific things could influence human reasoning about language?

a.   What counts as polite in situation X?
b.   Who is more empowered/authoritative in an interaction?
c.   Who is entitled to make demands, ask questions, make jokes in an interaction?
d.   ....?

8.1.2 Grice on enrichment

Modern theories of pragmatic enrichment are heavily influenced by the work of H. Paul Grice.

Like Chomsky's goal to provide compact, general specifications of generalizations about natural language syntax, Grice sought to do the same re: pragmatic enrichments.

Grice's central intuition (see also Davis 2010): we can separate language as (i) a system of encoding (literal, conventionalized) meanings and (ii) a system of human communication.

> There was a time when philosophy of language was concerned less with language and its use than with meanings and propositions. [. . .] It is no exaggeration to say that

> such philosophers as Frege, Russell, and the early Wittgenstein paid only lip service to natural languages, for they were more interested in deep and still daunting problems about representation, which they hoped to solve by studying the properties of ideal ("logically perfect") languages, where forms of sentences mirror the forms of what sentences symbolize. [. . .] Austin and the later Wittgenstein changed all that. [. . .] [T]he Wittgenstein of the Philosophical Investigations, rebelling against his former self, came to think of language not primarily as a system of representation but as a vehicle for all sorts of social activity. "Don't ask for the meaning, ask for the use," he advised.
>
> Bach 1994

One of the most famous papers in linguistics: Grice 1975 *Logic and Conversation*. The key insight:

(5)   literal/conventional meaning (semantics) and meaning inferred over the course of an interaction (pragmatics) *work together* in order to provide a closer representation of a speaker's intended message.

From one perspective, Grice is rescuing the perspective on meaning we've pursued in this class:

> It is a commonplace of philosophical logic that there are, or appear to be, divergences in meaning between, on the one hand, at least some of what I shall call the **formal** devices — $\neg, \wedge, \vee, \rightarrow, \forall x, \exists x$ (when these are given a standard two-valued interpretation) — and, on the other, what are taken to be their analogs or counterparts in natural language – such expressions as *not, and, or, if, all, some (or at least one), the*.
> [. . .]
> I wish, rather, to maintain that the common assumption of the contestants that the divergences do in fact exist is (broadly speaking) a common mistake, and that the mistake arises from an inadequate attention to the nature and importance of the conditions governing conversation.
>
> Grice 1975

8.1.3   Back to exclusive *or*

Let's revisit an old problem from Assignment 2:

We can define another operator of **PL**, $\otimes$, with the following truth table.

	p	q	$p \otimes q$
	T	T	F
(6)	T	F	T
	F	T	T
	F	F	F

Now we can compare the two following semantic theories. Where S $\rightsquigarrow p$ and S' $\rightsquigarrow q$:

(7)   a.   *Theory A*: [(*either*) S *or* S'] $\rightsquigarrow p \vee q$
         b.   *Theory B*: [(*either*) S *or* S'] $\rightsquigarrow p \otimes q$

For each theory, state the truth values of the following sentences.

(8)   a.   Either Trump is the president or Pelosi is the speaker of the house.
         b.   Either China is the country with the biggest population or India is.

  c. Either 3 is a prime number or (either 4 is even or 4 is odd).

Do you think Theory A or Theory B is a better theory of *or*?

A Gricean perspective on this question:

(9) a. The literal/conventionalized meaning of *or* is $\vee$.
    b. In interaction, interlocutors can intend *or* to mean $\otimes$.
    c. Provided certain assumptions about cooperative and rational behavior are made, interlocutors can recover the speaker's intention.
    d. Therefore, in such situations, *or* is interpreted as $\otimes$.

Our challenge as theorists is to flesh out this theory in a principled, verifiable way.

8.2 Which phenomena are 'pragmatic'?

As a rough delimiting line between semantics/pragmatics: pragmatic phenomena involve contextual information in the calculation of meaning. We've already seen a few cases of this:

(10) *Indexicals*: What do speakers mean by *I*, *you*, *here*, *now*?
    a. I am an Australian.
    b. The package is here now.

(11) *Gradable adjectives*: How can *That mouse is tall* be true and *That elephant is tall* be false in a situation in which both the elephant and the mouse are 1 meter tall?

Many pragmatic phenomena have come up but not been directly addressed:

(12) *Scalar inferences:* Does *or* mean $\vee$ or $\otimes$? Why do *some* and *most* tend to exclude *all*? Why does *three* tend to mean *exactly three*? Why does *few* tend to exclude *no*?

(13) *Quantifier domain restriction:* Why does *everyone* so rarely quantify over everyone?
    a. "No one goes there anymore – it's too crowded." (Yogi Berra)
    b. Q: What makes you cry?
      A: Anything that happens to children makes me cry. (Glamour on YouTube)
      (from Meena Wainwright)

(14) *Disambiguation/Specification*: How do we converge on intended meaning when the literal meaning is underspecified?
    a. Teachers sometimes demand schoolchildren say *May I go to the bathroom* instead of *Can I* .... But is it really impossible to reconstruct what the speaker intended?
    b. *I don't think we should leave before sunrise.*

(15) *Focus, topic, information structure:* What is the import of, e.g., English intonational stress?
    a. *Ellen didn't* READ *the book*.
    b. ELLEN *didn't read the book*.

What kinds of pragmatic phenomena are at play in interpreting the following?

(16) Many students met with me yesterday.

8.3   Cooperativity

The centerpiece of Gricean theory:

(17)   interlocutors ordinarily assume that one another are ***cooperative***.

Pragmatic enrichments arise as interlocutors aim to ***preserve*** this assumption of cooperativity. *Important!* This is a crucially different hypothesis to the following:

(18)   interlocutors are always cooperative.

This is of course not true. Interlocutors are often non-cooperative, e.g., if they are lying, joking, delusional, and so on.

The assumption of cooperativity is rooted in Grice's *Cooperative Principle*, which interlocutors are ordinarily assumed to be obeying:

(19)   **The Cooperative Principle**: Make your contribution as is required, when it is required, by the conversation in which you are engaged.

Question: does cooperativity seem like a reasonable principle for human communication?

How is one cooperative exactly? Grice suggests a few ways or ***maxims***, but *does not* claim this is an exhaustive list.

(20)   **Maxim of Quality**: Contribute only what you know to be true. Do not say false things. Do not say things for which you lack evidence.

(21)   **Maxim of Quantity**: Make your contribution as informative as is required. Do not say more than is required.

(22)   **Maxim of Relevance (Relation)**: Make your contribution relevant.

(23)   **Maxim of Manner** (i) Avoid obscurity; (ii) avoid ambiguity; (iii) be brief; (iv) be orderly

When a speaker is assumed to be cooperative, her interlocutors assume she is obeying the maxims.

What happens when a speaker appears to fail to follow one or more maxims? Answer: interlocutors make inferences about why. This is the core of Grice's theory of pragmatic enrichments.

Under what circumstances would interlocutors fail to follow the maxims?:

a.   **Flouting/Opting-out**: a intentional and explicit failure
b.   **Clash**: two (or more) maxims are impossible to satisfy at once

In any case, apparent violations of maxims leads to pragmatic enrichment.

8.3.1   Quality

Assuming a speaker is obeying the maxim of quality means assuming she is being truthful as much as evidence allows.

Violations of quality can lead to communication breakdown. Why? Though unnecessary attention to quality leads to a proliferation of false statements.

In the following cases, the speakers are violating quality somehow. How? What are they conveying?

(24)   a.   'Well, that's just *great*!'
        b.   '... and I'm a monkey's uncle.'
        c.   'This kettle cost a million dollars!'
        d.   'He's a real shark.'
        e.   'This is literally the worst moment of my entire life.'
        f.   'I arrived at 3pm.'
        g.   'All the townspeople are asleep.'

In each of the above cases, pragmatic enrichments arise when the speaker flouts or opts-out of obeying quality.

Interlocutors reason about the speaker's intended meaning in order to **preserve** the assumption that the speaker is **cooperative**.

(25)   A speaker utters "He's a real shark" (referring to John, a non-shark)

        a.   Assume: the speaker is cooperative
        b.   The speaker has said something literally false.
        c.   To preserve (a), the speaker intends a non-literal interpretation of *shark*.
        d.   To preserve (a), the speaker associates relevant plausible properties of shark-hood with John, e.g., *ruthless*, *powerful*, *fast*.

See Cohn-Gordon and Qing 2019; Kao, Bergen, and Goodman 2014; Kao, Wu, and Goodman 2014; Lakoff 1993; Recanati 1995 on metaphor/hyperbole. See Lasersohn 1999; Lauer 2012; Levinson 2000; Solt 2015 on 'loose talk'.

Grice's notion of 'quality' adjudicates against false and poorly evidenced statements. Here are some alternatives:

(26)   **Lewis's quality**: The truthful speaker wants not to assert falsehoods, wherefore he is willing to assert only what he takes to be very probably true. He deems it permissible to assert that A only if $P(A)$ is sufficiently close to 1, where P is the probability function that represents his system of degrees of belief at the time. Assertability goes by subjective probability. (Lewis 1976: 133)

(27)   **Joshi's quality**: If S says that Q, then it must be that [S believes Q]; further based on S's assessment of the mutual beliefs, it should not be possible for [the addressee A], from what S has said (i.e. Q), to infer some other fact (say $Q1$) which S knows to be false. If there is such a possibility, then after saying Q, S should add further information to "square away" the mutual beliefs. (Joshi 1982, Hirschberg 1985, §2.3)

8.3.2 Quantity

Assuming a speaker is obeying the maxim of quantity means assuming she is not being over- or under-informative.

The most important application of quantity: scalar inferences (Geurts 2011; Horn 1972, 1984).

(28)   Sue's work this semester was *good* (cf. *excellent*, *outstanding*, *satisfactory*).

(29)   Rogan: I'm going to pretend half of that applause is for me.
        Fox: Some of it is for you.

Rogan: Like 30 percent?

Fox: *Some* of it is for you.   (Michael J. Fox and Seth Rogan at the Oscars, 2017)

The "neo-Gricean" (Gazdar 1979; Horn 1972, etc.) intuition about scalar inferences:

a.   The more specific term is *better* wrt quantity.
b.   Thus choosing a less specific term risks violating quantity.
c.   You would only choose to not use the more specific term if it violated a more serious maxim, i.e., *quality*.

Why is *30%* more informative than *some*?

(30)   **Informativity**:
       ϕ is more informative than ψ if ϕ asymmetrically entails ψ (i.e., ψ doesn't entail ϕ).

(31)   a.   30% of the applause is for you.
       b.   Some of the applause if for you.

(32)   a.   It's raining or it's Wednesday.
       b.   It's raining and it's Wednesday.

(33)   a.   This assignment is good.
       b.   This assignment is excellent.

Choosing the less specific terms generates a scalar implicature by (c) above "You would only choose to not use the more specific term if it violated a more serious maxim, i.e., *quality*."

So scalar inferences are argued to come about via a *clash* between quality and quantity. Why?

This is also a clash, but not with quality...

(34)   (a recommendation letter) "We are pleased to say that Landry is a former colleague of ours. All in all, we cannot say enough good things about him. He has excellent penmanship, and he always arrives to meetings on time. You will be fortunate indeed if you can get him to work for you."   Grice 1975

The above are examples of clashes, what about flouting? What is the speaker conveying here?

(35)   a.   War is war.
       b.   Boys will be boys.
       c.   A phone is a phone.

Deliberate violations of *quality* suggests dishonesty. Deliberate violations of *quantity* suggests obtuseness.

What contextual factors would lead the following interaction to be odd and what would lead it to be natural?

(36)   A: Can you pass the salt?
       B: Yes.

8.3.3 Relevance

Grice doesn't really flesh out the details of what is meant by 'relevance'. But subsequent work has pinned down a notion involving a *Question Under Discussion* (QUD).

(37)   **Question Under Discussion**:
       The QUD is a question, assumed by the interlocutors. An interaction is in part intended to resolve the QUD. (NB: QUDs may be explicitly stated, or may be highly abstract, involving complex, coordinated reasoning to identify it).

See Beaver and Clark 2008; Ginzburg 1996; Groenendijk 1999; Roberts 1996; Rojas-Esponda 2013, etc. on specifying a notion of QUD.

If a speaker is obeying the maxim of relevance, her contribution is assumed to address the QUD.

What's being conveyed by B here? How does the QUD-notion of relevance help us understand it?

(38)   A: Could switching to Geico really save you 15% or more on car insurance?
       B: Does a former drill sergeant make a terrible therapist?
       (Geico Ad, from Christian Mortensen)

Here are some cases of speakers appearing to violate relevance. What enrichments are emerging?

(39)   A: What's the time?
       B: The clock up there is working.

(40)   A: Jones is an asshole.
       B: Did you see the game last night?

In many ways, relevance and informativity (quantity) seemingly overlap. Is this a redundancy in the system or are they truly independent factors?

8.3.4 Manner

A speaker obeying manner avoids messages which are too costly, bizarre, infrequent, disordered, ambiguous, unclear.

Manner could be a family of maxims (of disambiguation, conciseness, etc.), which are inherently in conflict. Why might the maxims 'don't be ambiguous' and 'be concise' be in conflict?

Why does the following flout manner? What is the speaker conveying?

(41)   To show that she is pleased, Sue contracts her zygomatic major muscle and her orbicularis oculi muscle.

(42)   A newspaper review of a newly opened play says that, in the third act, "Soap opera star Rachel Singer produced a series of sounds corresponding closely to the score of an aria from Rigoletto."

A post-Grice development on the notion of manner:

(43)   Normal events are reported with normal language. Unusual events are reported with unusual language (see Bergen, Levy, and Goodman 2016; Horn 1984; Levinson 2000).

How does the manner-maxim 'be orderly' help us understand the following?

(44) a. I got into bed and brushed my teeth.
      b. I brushed my teeth and got into bed.
      c. I got into bed and brushed my teeth — but not in that order!
      d. I took pragmatics and I took syntax.
      e. Germany is in Europe and Canada is in North America

Davis 2010 proposes two new maxims:

(45) **Maxim of Style**: Be stylish, so be beautiful, distinctive, entertaining, and interesting.

(46) **Maxim of Politeness**: Be polite, so be tactful, generous, praising, modest, agreeable, and sympathetic.

What might cases of flouting these maxims look like? (see Calder 2014 on ritual insult)

(47) *CC*: Sorry I'm late, they're fumigating my apartment.
      Niles: They've tried it once before, you always come back!   from *the Nanny* 1996

(48) Bart and Lisa's dad Homer falls into a vent releasing toxic gas and plugs the leak:
      Lisa: I think it's ironic that Dad saved the day while a slimmer man would've fallen to his death.
      Bart: Yeah, and I think it's ironic that for once, Dad's butt actually prevented the release of toxic gas.   from *the Simpsons*, 1995

8.4 Implicatures

Implicatures are a type of pragmatic enrichment.

(49) **Implicature** (rough):
      A pragmatic enrichment, assumed by interlocutors in order to preserve the assumption of cooperativity.

Grice's definition is much lengthier

> I am now in a position to characterize the notion of conversational implicature. A man who, by (in, when) saying (or making as if to say) that p has implicated that q, may be said to have conversationally implicated that q, PROVIDED THAT
>
> 1. he is to be presumed to be observing the conversational maxims, or at least the cooperative principle;
> 2. the supposition that he is aware that, or thinks that, q is required in order to make his saying or making as if to say p (or doing so in THOSE terms) consistent with this presumption;
> 3. the speaker thinks (and would expect the hearer to think that the speaker thinks) that it is within the competence of the hearer to work out, or grasp intuitively, that the supposition mentioned in (2) IS required.   Grice 1975:49–50

NB: 'conversational' implicature are your garden variety of implicatures, as opposed to 'conventional implicatures', to be discussed in later weeks.

In short, utterance p implicates meaning q if assuming q preserves the assumption that p was a cooperative thing to utter.

Reviewing some old examples, what is the implicature? Why does the assumption of the implicature preserve cooperativity?

(50)   a.   John is a real shark.
        b.   War is war.
        c.   Sue's work was good.
        d.   A: What's the time? B: the clock up there is working.

Hirschberg 1985: criticizes Grice's definition over its vagueness. Who assumes what at what point? How are implicatures different from regular entailments?

The following definition comes from Hirschberg 1985:

(51)   **Implicature**: Proposition q is a conversational implicature of utterance U by agent A in context C if, and only if:

        a. A believes that it is mutual, public knowledge of all the discourse participants in C that A is obeying the cooperative principle.
        b. A believes that, to maintain (a) given U, the hearer will assume that A believes q.
        c. A believes that it is mutual, public knowledge of all the discourse participants that (b) holds.

8.5   Reasoning about implicatures

The basic reasoning schema calculating an implicature q involves interlocutors "inserting" q as a premise in order to explain the actions of the speaker post-hoc

For this reason, Gricean implicature is 'abductive' reasoning.

(52)   Kyle to Ellen: "I have 9 dollars" (= utterance U)
        Conversational Implicature: Kyle does not have >9 dollars (= meaning p).

        a.   Contextual premise: Kyle and Ellen need $10 for movie tickets.
        b.   Contextual premise: Kyle knows how much money he has.
        c.   Contextual premise: Kyle is cooperative.
        d.   By (c), Kyle's utterance will be maximally informative, relevant, and true.
        e.   By (a), the utterance "I have 10 dollars" (= U') is more informative/relevant than U.
        f.   By (c) and (d), Kyle must lack evidence that U' is true.
        g.   By (b), Kyle lacks evidence for U' because it is false.
        h.   Therefore, p (it is false that Kyle has $10)

Implicatures are obviously highly context dependent. How would the reasoning proceed if:

(53)   Tickets cost 9 dollars?

(54)   Kyle doesn't know how much money he has (his zipper is broken)?

This reasoning in (52) involves

a.   A clash between quantity and quality (why?), and

b.   Reasoning about a 'scale' of expressions, in this case 'nine' vs. 'ten'.

These two components give rise to a **scalar implicature**, like in (52).

What about a relevance implicature?

(55)   A: Which city does Barbara live in?
         B: She lives in Russia. (= utterance U)
         Conversational implicature: B does not know which city Barbara lives in. (= meaning p)
         a.   Contextual premise: B is forthcoming about Barbara's personal life.
         b.   Contextual premise: B is cooperative.
         c.   Assume, towards a contradiction, that B does know which city Barbara lives in ($\neg p$).
         d.   The utterance "Barbara lives in X (a Russian city)" (= utterance U') would do better on Relevance and Quantity than supplying just the country name.
         e.   by (a), B is willing to supply such information.
         f.   This contradicts the cooperativity assumption (b). . We can therefore conclude that (c) is false, i.e., that p.

Again the implicature is heavily dependent upon the contextual assumptions. What happens if:

(56)   If B is reluctant to give out personal information about Barbara?

(57)   If A and B are planning a trip but have already sworn off going to Russia.

Lastly, what about manner:

(58)   "To show that she is pleased, Sue contracts her zygomatic major muscle and her orbicularis oculi muscle." (= utterance U)
         Conversational Implicature: Sue's expressions of happiness are cold, clinical, and robotic.
         a.   Assume the speaker is cooperative.
         b.   Assume that in this interaction, scientific language indexes something cold and clinical.
         c.   By (a), the speaker will be maximally concise.
         d.   The utterance "Sue smiles" (= utterance U') is more concise than U.
         e.   In order to preserve (a), U must have been more preferable than U' to Sp.
         f. p supplies a reason why Sp chose U', via (b).
         g.   Therefore the speaker intends to communicate p.

What happens if we're in an anatomy class?

This calculation is a little more vague. We need a well-worked out theory of 'indexicality'.

(59)   **Indexicality**:
         the association of expressions with (conventionalized?) moods, stances, attitudes, personae, character types. See Acton 2019; Burnett 2017; Calder 2019; Eckert 2008, 2012; Podesva 2007; Qing and Cohn-Gordon 2019 and many others.

Some plausible instances of indexation in (American) English.

(60)   a.   VERB-in' (casual, laid-back) vs. VERB-ing
         b.   falsetto voice (dramatic, emotional)
         c.   'affective *that*', e.g., "when you pay off that credit card" (friendliness, folksiness)

      d.   creaky voice (laid back, "over it")
      e.   other examples?

As indexation phenomena tend to be closely associated with in-groups, social coordination, small communities, they tend to be the starting point of more widespread language change (see Irvine and Gal 2000).

8.6 Diagnosing implicatures

What separates implicatures from other kinds of meanings, such as, regular entailments (i.e., the literal meaning of an expression)?

8.6.1 Endorsement

If meaning p is an implicature of utterance U, then a cooperative speaker of U will **endorse** p.

So, does the following utterance give rise to implicature p?

(61) $U =$ 'Sonya said that the doors are open.'
         $p = $ *the doors are open.*

A hearer of U may come to believe p if Sonya is a reliable witness, but not if she isn't.

So would a cooperative speaker of U necessarily endorse p?

If meaning p is the *literal meaning* of an utterance U, will a cooperative speaker of U **endorse** p?

8.6.2 Uncertainty

Unlike regular entailments, implicatures take some effort to work out, involving aspects of the context as well as interactional reasoning by the interlocutors.

For this reason, there is always uncertainty about implicatures.

If we are diagnosing whether p is an implicature or entailment of U, we can use the following diagnostics:

(62)   **Implicatures can be cancelled**: If the speaker of U continues with a denial of p, and is not inconsistent, p is (likely) an implicature.

(63)   **Implicatures can be suspended**: If the speaker of U continues with an assertion of his/her lack of knowledge of p, and is not inconsistent, p is (likely) an implicature.

(64)   **Implicatures can be reinforced**: If the speaker of U continues with an exact assertion of p, and is not redundant, p is (likely) an implicature.

NB: Cancellation is always somewhat risky, as the speaker is at risk of being overly lengthy or confusing, and in some cases leads to infelicity (see Lauer 2013).

(65) $U = $ "Some of the puppies escaped."
         $p = $ *Not all of the puppies escaped*
         a.   Cancellation: "Some of the puppies escaped, in fact all of them did!."
         b.   Suspension: "Some, maybe even all, of the puppies escaped."
         c.   Reinforcement: "Some, but not all, of the puppies escaped."

(66) U = "The play was good."

        p = *The play was not excellent.*

        a.   Cancellation: "The play was good, in fact, excellent."
        b.   Suspension: "The play was good, maybe even excellent."
        c.   Reinforcement: "The play was good, but not excellent."

(67) U = "The play was excellent

        p = *The play was good.*

        a.   Cancellation:
        b.   Suspension:
        c.   Reinforcement:

(68) U = "Sue got into bed and brushed her teeth."

        p = *Sue got into bed and then brushed her teeth.*

        a.   Cancellation:
        b.   Suspension:
        c.   Reinforcement:

(69) U = "Carol tried to win the race."

        p = *Carol did not win the race.*

        a.   Cancellation:
        b.   Suspension:
        c.   Reinforcement:

(70) U = "Carol failed to win the race."

        p = *Carol did not win the race.*

        a.   Cancellation:
        b.   Suspension:
        c.   Reinforcement:

(71) U = "Carol wishes that she could juggle."

        p = *Carol cannot juggle.*

        a.   Cancellation:
        b.   Suspension:
        c.   Reinforcement:

A tricky real life example from Solan and Tiersma 2005

(72)   *Context*: The defendant, Samuel Bronston, was president of Samuel Bronston Productions, Inc., a movie production company. He had personal as well as company bank accounts in various European countries. His company petitioned for bankruptcy. At the bankruptcy hearing, the following exchange occurred between the lawyer for the creditor and Bronston:

        Prosecutor: Do you have any bank accounts in Swiss banks, Mr. Bronston?
        Bronston: No, sir.
        Prosecutor: Have you ever?
        Bronston: The company had a bank account there for about six months, in Zurich.

        The truth: Bronston earlier had a large personal bank account in Switzerland for five years, where he had deposited and drawn checks totaling more than $180,000.

Why do you think the prosecutor did not follow up on his question? What implicature is emerging (intentionally?) from Bronston's utterance?

What reasoning steps are giving rise to this implicature?

Under a strict reading of Grice, implicatures are meant to be endorsed by the speaker. Is Bronston endorsing the implicature here?

Joshi's notion of quality seems like a better fit here, as Joshi's quality demands that speakers avoid utterances which create false secondary inferences. Whereas Grice doesn't weigh in on the truth of anything except the utterance's literal meaning.

8.7   Cross-linguistic pragmatics

A bit question: how does implicature calculation vary from language to language and/or community to community?

Another important property of implicatures: *non-conventionality*:

> In semantics, we confront the arbitrariness of the sign. The only answer to "Why does dog pick out dogs?" should be a historical one – there is no formal, or semantics-internal, reason for this connection. But the fact that *some* implicates *not all*, that *or* implicates *not and*, etc., derives from the meanings themselves, not their connection to these words per se. And the relevant meaning relationships are grounded in nonnegotiable, absolute facts about logic and the nature of inference.   Potts 2019

8.7.1   Resources

Let's practice deriving the implicature that *or* signals *not and*.

(73) $U =$ "It's raining or it's the afternoon."
          $p =$ *It's not both raining and the afternoon.*
   a.   The speaker is cooperative.
   b.   The speaker is knowledgeable about the weather and time.
   c.   by (a) ...
   d.   There is an alternative utterance U' "It's raining and it's the afternoon" which would
        have been ...
   e.   By (c) and (d) ...
   f.   By (b) and (e) ...

By *non-conventionality*, this implicature arises due to (i) the literal meanings of *and* and *or*, and (ii) rational reasoning.

How do we know *and* is more informative than *or*?

	p	q	$p \wedge q$	p	q	$p \vee q$
	T	T	**T**	T	T	**T**
(74)	T	F	F	T	F	**T**
	F	T	F	F	T	**T**
	F	F	F	F	F	F

and is more informative than *or*, as it is true in a proper **subset** of circumstances. Whenever *and* is true, *or* is true, but not vice versa.

Question: what happens to the reasoning in (73) if the language only has a word for *or*, and no word for *and*?

The existence of an *alternative utterance U′* implies somehow that the speaker *must have been able to say U′*. Thus, can *U′* ever be ungrammatical? An open question!

a.   Yes: Chemla 2007, Charlow 2019, etc.
b.   No: Meyer 2013, Collins 2017a,b, etc.

Therefore, the makeup of the speaker's language will (under view (b) at least) influence implicature calculation. Implicatures depend on whether the language, *and/or*, *some/all*, *can/must*, makes more/fewer distinctions than in English etc.

Question, why does "*rectangle*" implicate *non-square*, but "*triangle*" not implicate *non-equilateral triangle*?

8.7.2 Variation in social convention

As Gricean reasoning is supposed to be rooted in rational human interaction, we would expect it to not differ from language to language.

But social conventions of a community, such as who is licensed to speak and when, can play a role in implicatures.

Keenan 1979 investigates whether Malagasy speakers in Madagascar adhere to the same conversational maxims suggested by Grice.

Question: If we found good evidence that the speakers Keenan consulted did obey distinct maxims, would this be information about Malagasy (the language) or the culture of this community in Madagascar?

> To what extent does the maxim 'be informative' hold for interlocutors in Malagasy society? Despite certain clashes with other maxims, are members generally expected to satisfy the informational needs of co-conversationalists? No. Interlocutors regularly violate this maxim. They regularly provide less information than is required by their conversational partner, even though they have access to the necessary information. If A asks B, 'Where is your mother?' and B responds 'She is either in the house or at the market', Be's utterance is not usually taken to imply that B is unable to provide more specific information needed by the hearer. The implicature is not made because the expectation that speakers will satisfy informational needs is not a basic norm.
>
> Keenan 1979

But Grice's theory doesn't force us to say that these Malagasy speakers have different maxims, just that the contextual premises are different:

The nature of the context is central to the pragmatic meanings that arise, and cultural facts are part of the context, as are our beliefs, desires, and expected behaviors.

Keenan goes on to identify two factors (p. 70):

a.   "New information is a rare commodity. [. . .] Information that is not already available to the public is highly sought after."

b.   "The fear of committing oneself explicitly to a particular claim."

Some of her observations

a.   Speakers will give only necessary conditions, rather than necessary and sufficient conditions. ("How do you open the door?" is met with "If you don't turn the knob, it won't open" rather than "By turning the knob".)

b.   Speakers avoid naming specific people, opting instead for indefinites like *someone*.

c.   Speakers frequently use passive-like constructions (*The paper was completed*), even when the active would be natural (*I completed the paper*).

d.   If some information is widely known or easily obtained, then speakers are more forthcoming.

Do American English speakers ever behave in this way?

Here's a basic *some⇒not all* inference calculation. Why might this reasoning not go through in the interactions that Keenan observed in 1970s Madagascar?

(75)   Kyle to Ellen: "Some of the puppies escaped" (= utterance U)
         Conversational Implicature: Not all the puppies escaped (= meaning p).

   a.   Contextual premise: Kyle knows how many puppies escaped.
   b.   Contextual premise: Kyle is cooperative.
   c.   By (b), Kyle's utterance will be **maximally** informative, relevant, and true.
   d.   By (c), the utterance "all of the puppies esecaped" (= U') is more informative/relevant than U.
   e.   By (b) and (c), Kyle must lack evidence that U' is true.
   f.   By (a), Kyle lacks evidence for U' because it is false.
   g.   Therefore, p (*Not all the puppies escaped*)

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