Formal Pragmatics and Conversational Exculpature

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Grice's work gave rise to a new field in linguistics and philosophy called *pragmatics*. Pragmatics studies linguistic meaning and yet it is to an extent separate from semantics. I like to think of pragmatics as the study of *non-literal* meaning, where semantics is the study of literal meaning. But what delineates pragmatics from semantics is controversial. One proposed distinction is between *conventional* aspects of meaning (semantics) and convention-independent aspects (pragmatics). Another traditional way to draw the boundary is as follows: pragmatics studies the context-dependent aspects of meaning, semantics the context-independent aspects of meaning.

I. Grice's Legacy

Aspects of Logic and Conversation that have become very widely accepted:

- There is a division of labour between semantics and pragmatics.
 - Not everything a speaker intentionally conveys using a sentence needs to be part of the semantic meaning of that sentence.
 - Not all the conditions of assertion have to be directly encoded in the semantic meaning of that sentence.
 - Listeners will generally draw inferences about the speaker's intentions, and also about the world, on the basis of the semantic content of what the speaker said. Such inferences are often part of, and even the main part of, the speaker's communicative intentions.
 - Phenomena such as hyperbole, understatement, irony, sarcasm and metaphor should be explained pragmatically than semantically.
- Universality / Non-Conventionality of Pragmatics
 - The systematic connection between a sentence and the proposition it literally expresses is dependent on language- or community-specific conventions. But the connection between literal meanings and pragmatic meanings is rooted in much more general principles of communication.
 - That is why hyperbole, irony etc. exist in every language.
 - Philippe Schlenker has argued Campbell's monkeys have scalar implicatures (Schlenker et al. 2014).
- Conversational Implicatures
 - Still the most well-studied kind of pragmatic meaning.

- Many theorists nowadays go in for a narrower interpretation of what conversational implicatures are. I like Kent Bach: "in implicature one says and communicates one thing and thereby communicates something else in addition." (Bach 1994)
 - 1. "She ate some of the cookies."
 - 2. "Last night I saw Harry with a woman."
 - Bach's classification rules out metaphors and irony as cases of implicatures.
- Non-Detachability, Cancelability and Reinforceability are still the standard tests for conversational implicature.
- Grice's Razor (formerly Grice's Modified Occam's Razor)
 - Never complicate your semantic theory to accommodate a phenomenon that can already be explained pragmatically on your old semantic theory. (Cf. e.g. Kripke vs. Donnellan).

Disputed aspects of Logic and Conversation

- Pragmatic processing is posterior to semantic processing.
 - Recanati (2003) argued that some pragmatic reasoning occurs prior to compositional semantic processing, and that pragmatics can intrude in semantic processing.
 - Pre-compositional: disambiguation, semantic modulation
 - Metalinguistic negation
 - 3. "He wasn't entering "some building", he was entering his own house!"
 - Embedded conversational implicatures (Geurts 2009)
 - 4. "John thinks Fred took some of the cash, Mary thinks he took all of it."
 - Embedded irony
- Conventional implicatures as a kind of implicature.
 - For some time it was thought conventional implicatures were just sentence presuppositions.
 - The consensus is that their study is part of semantics, not pragmatics. They seem to have little in common with conversational implicatures, except perhaps that they do not enter into truth conditions.
 - Chris Potts (2005) re-opened a lot of these discussions, making the case for a view which is Gricean on the theory end but with completely different examples.
- Gricean reasoning
 - Cognitive reality disputed.
 - Gricean reasoning as post-hoc rationalisations for certain non-literal interpretations.
 - Scalar implicatures in child development/reaction times.
- The pragmatic wastebasket (Bar-Hillel 1971)

II. Pragmatic Patterns

IIa. Scalar Implicatures

Grice's Example. "A is planning with **B** an itinerary for a holiday in France. Both know that **A** wants to see his friend **C**, if to do so would not involve too great a prologation of his journey.

- 5) A: Where does C live?
 - **B**: Somewhere in the South of France

(Gloss: There is no reason to suppose B is opting out; his answer is, as he well knows, less informative than is required to meet A's needs. This infringement of the first maxim of Quantity can be explained only by the supposition that B is aware that to be more informative would be to say something that infringed the maxim of Quality, 'Don't say what you lack evidence for', so B implicates that he does not know in which town C lives.)"

General Form. A speaker says *p* and implicates that he does not believe some stronger *q* to be the case. Here *q* is the **alternative**. Intuitively, something the speaker could have said but did not.

- 6) **S**: Mary collected her sibling from the airport
 - \sim **S** does not believe *Mary collected her brother from the airport*
 - → S does not believe Mary collected her sister from the airport
 → S does not know whether Mary has a brother or a sister.
- 7) S: Mary collected her siblings from the airport
 - \sim S does not believe *Mary collected her brothers from the airport*
 - \sim **S** does not believe *Mary collected her sisters from the airport*
 - \rightarrow Mary collected both brothers and sisters from the airport.
- 8) **S**: I did some of the grading yesterday
 - \rightarrow **S** does not believe *I* did all of the grading yesterday
 - \rightarrow S did some but not all of the grading yesterday
 - (→ **S** does not believe *I* did most of the grading yesterday
 - \rightarrow **S** did some but not most of the grading yesterday)
- 9) **S**: The coffee is warm
 - \rightarrow **S** does not believe *The coffee is hot*
 - \rightarrow The coffee is not hot

Problem. What are these alternatives? Why not take "Some but not all" as an alternative? Then we would get:

- 10) **S**: I did some of the grading yesterday
 - → S does not believe *I did some but not all of the grading yesterday* → S did all of the grading yesterday

And why do we not get:

- 11) **S**: The coffee is hot
 - \not **S** does not believe *The coffee is boiling*

Both French and Japanese have dedicated words for older brother and yet we have the following scalar implicature in Japanese but not in French (Matsumoto 1995):

- 12) **S**: Jane got her sister from the airport
 - \rightarrow/ \neq **S** does not believe *Jane got her older brother from the airport*

Another example.

13)# S: I broke all of my arms

- → **S** does not believe *I* broke both of my arms
- \rightarrow **S** thinks they have at least three arms?
 - \rightarrow ???

But in French there is no word for "both", and yet you also get:

14)# **S**: Je me suis cassé tous les bras

- → **S** does not believe *Je me suis cassé <u>both</u> les bras*
 - \rightarrow **S** thinks they have at least three arms?

 \rightarrow ???

IIb. Loose Talk

The default examples involve numbers and measurements:

- 15) Mary is six feet tall
 - \rightarrow Mary is approximately six feet tall.
- 16) John arrived at two o'clock
 - \rightarrow John arrived at around two o'clock
- 17) There are 20 000 books in the library
 - \rightarrow There are about 20 000 books in the library

Arguments against a semantic approach (Lasersohn 1999):

- Conjunctions of loose and precise:
 - 18) a. ?? Ellen came in at two o'clock, but after 2:01.
 - b. Ellen came in around two o'clock, but after 2:01.
- Entailment data. If (19c) entails (19d), and (19a) entails (19b), the negation of (19d), then (19c) must strictly speaking be incompatible with (19a).
 - 19) a. Rob is six feet tall
 - b. Rob is no shorter than six feet.
 - c. Rob is five foot eleven-and-three-quarters.
 - d. Rob is shorter than six feet
- Comparatives. Quantities can have a maximally strict reading in comparatives (see Solt 2014):
 20) a. Mary left after two o'clock.
 - b. Mary left between two and three o'clock.
 - c. Mary is taller than five foot one.
- Loose talk "on the fly"

Loose talk implicatures are *not* non-detachable:

- 21) a. This parrot is 22 inches tall.
 - b. This parrot is 55.88 cm tall.
- 22) a. There were three dozen people at the wedding.
 - b. There were thirty-six people at the wedding.

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A broadly Gricean explanation will involve appeal to Quantity and Relevance. First stab: the intended meaning is the relevant consequence of what the speaker says. (Sperber and Wilson 1986, Lasersohn 1999, Krifka 2002, Lauer 2011, Yablo 2014, Kao et al. 2014).

But this can't be right.

- Negation problems and embeddings:
 - 23) Rob is not six feet tall.
 - 24) Everyone who arrived at 2pm got a free lunch
- Overgeneration
 - 25) **Q**. Is Anne over 21?
 - **A**. She is 27.
 - 26) **Q**. What is Rob's height? I only need to know it to the nearest inch.
 - **A**. He is six foot one and a quarter.

How far does loose talk extend?

- Potential examples:
 - 27) France is hexagonal.
 - 28) Your jeans are the same colour as my shirt.
 - 29) The townspeople are asleep.
- Sperber and Wilson include hyperbole and metaphors
- IIc. Fictional / Mythical characters
 - 29) Kate (pictured) is wearing the kind of hat that Sherlock Holmes always used to wear.
 - 30) We saw the Etna light up like Mount Doom.
 - 31) Mary was as nimble as a jedi.
 - 32) The weather gods have been kind to us lately
 - 33) Kate is *not* wearing the kind of hat that Holmes used to wear.
 - 34) Q. How many flatmates do you have???A. I live with the three musketeers
 - 35) Q. Are you still feeling so stressed out???A. I am being chased by a murderous yeti



IV. Conversational Exculpature

Examples:

- 36) Rob is six foot one. [Rob is between 6'0.99" and 6'1.01".]
- 37) Kate wore the same type of hat as Sherlock Holmes. [Holmes really exists.]
- 38) The man over there drinking a martini is a notorious jewel thief. [*Someone over there is drinking a martini.*] (Donnellan 1966)
- 39) The dagger Macbeth saw in front of him was covered in blood stains. [*There really was a physical dagger in front of Macbeth for him to see.*] (Lewis 1983)
- 40) Hob believes a witch burned down his barn, and Nob believes she blighted his mare. [*There are witches (one of them being the object of Nob's belief)*.] (Geach 1967)
- 41) Crotone is in the arch of the Italian boot. [*There is a city that is built on a piece of footwear*.] (Walton 1993)
- 42) The number of Jupiter's moons is four. [There are numbers.] (Frege 1884)

Intuitive picture: content is pragmatically *subtracted* from the literal content, the way conversational implicature pragmatically *adds* information to the literal content.

Basic account. In addition to the literally expressed proposition *p*, the conveyed meaning depends on two contextual parameters:

- i) A contextual presupposition *q* (Simons)
- ii) A conversational subject matter S

Conversational exculpature arises when q and S such that the literal content p of the speakers utterance is conditionally equivalent to some message wholly about S.

In more traditionally Gricean terms, we might think of the interpreter as making the following argument: "We know that the speaker of (37) does not seriously believe what she said. She does not believe in Holmes [Quality] and besides, she is not talking about Victorian detectives and [Relevance]. She must in fact be telling us something relevant, i.e. something about Ellen. It is clear enough how what she said connects to that topic: Nina is talking as if Holmes were a real detective, who really wore one of those funny hats. Given this assumption, what she said is just another way of saying Ellen wore a hat like *that*, i.e. that Ellen wore a deerstalker. Accordingly, that must be the information about Ellen she intends for us to pick up on.

Examples

- 36) Rob is six foot one.
 - q: Rob is some exact number of inches tall
 - S: Rob's height to the nearest inch
 - *r*: Rob is six foot one to the nearest inch.
- 37) Kate wore the same type of hat as Sherlock Holmes.
 - q: Sherlock Holmes wore a deerstalker
 - S: What Kate wore
 - *r*: Kate wore a deerstalker
- 38) The man over there drinking a martini is a notorious jewel thief.
 - q: That man is drinking a martini
 - S: What *that* man does for a living
 - *r*: *That* man is a notorious jewel thief
- 39) The dagger Macbeth saw in front of him was covered in blood stains.
 - q: Macbeth's perception was veridical
 - *S*: Macbeth's visual experience
 - r: Macbeth had a visual experience as of a bloody dagger

V. Formal Implementation

A *partial proposition* is an ordered pair of disjoint sets of worlds. $\langle t, f \rangle$ is true at w just in case $w \in t$ and false at w just in case $w \in f$. It has no truth-value at worlds outside of $t \cup f$. (We'll treat the partial proposition $\langle p, \neg p \rangle$ as identical to the full proposition p).

The *restriction* of proposition *p* to *q*, written $p \restriction q$, is the partial proposition $\langle p \cap q, \neg p \cap q \rangle$.

A *question* or *subject matter* is a partition of logical space Ω . Two worlds w and v agree about S, written $w \sim_S v$, just in case w and v are contained in the same partition cell of S. (Thus \sim_S is an equivalence relation on Ω).

A proposition p is *wholly about* (or simply *about*) S just in case p is a union of S-cells. (Equivalently, p is about S iff p is closed under the relation \sim_S). A partial proposition is about S just in case it is a restriction of some full proposition about S.

A proposition *p* has *no bearing on S* just in case \top is the only proposition about *S* that *p* entails.

 $S(\langle t, f \rangle) =_{df} \langle \{w : w \sim_S v \text{ for some } v \in t\}, \{w : w \sim_S v \text{ for some } v \in f\} \rangle$



The theory

The diagram above displays four maps of logical space. Each depicts a different (partial) proposition: the region where the proposition is true is coloured light grey, the region where it is false dark grey. Meanwhile, the thick black lines represent the boundary lines between six cells of some subject matter *S*. The diagrams on top represent two propositions *p* and *q* without any bearing on *S*, compatible with every *S*-cell. The diagram at the bottom represents a proposition *r* about *S*: i.e. a union of cells of *S*. The diagram shows how, under appropriate conditions (specified below), the irrelevant literal message *p* can be transformed into the relevant message *S*(*p*†*q*), written $\bigcirc p$ for short. The core claim of the theory is that wherever this message *S*(*p*†*q*) is defined, it is available as a loose reading of the speaker's literal claim *p*.

Useful Result

Let *p*, *r* and *q* be full propositions, and let *S* be a subject matter. Then we have $r = S(p \restriction q)$ if and only if the following three conditions are met:

• r is about S .	(Aboutness)
• $p \restriction q = r \restriction q$.	(Equivalence)
• <i>q</i> has no bearing on <i>S</i> .	(Independence)

If only the final condition fails, $S(p \restriction q) = r \restriction s$, where *s* is the strongest proposition *q* entails about *S*.

Proof: Aboutness holds iff *r* has one truth value per *S*-cell. Given Aboutness, Equivalence holds iff $p^{\dagger}q$ matches that one truth value *within* each *q*-compatible cell and $S(p^{\dagger}q)$ matches *q* throughout each *q*-compatible cell, that is throughout the region $s = \{w : w \sim_S v \text{ for some } v \in q\}$. Thus Aboutness and Equivalence hold iff $S(p^{\dagger}q) = r^{\dagger}s$. Finally, *s* is equal to Ω iff *q* is compatible with every *S*-cell, that is iff *Independence* holds.

Preservation of Validity

Let " \cup " denote the map $p \mapsto S(p \restriction q)$. For any p_i , $i \in I$ and c_j , $j \in J$ s.t. $\cup p_i$ and $\cup c_j$ are defined,

If $\{p_i\}_{i \in I} \models \{c_j\}_{j \in J}$, then $\{\bigcirc p_i\}_{i \in I} \models \{\bigcirc c_j\}_{j \in J}$

Proof. For simplicity, take the set of all worlds to be $\{w : w \sim_S v \text{ for some } v \in q\}$, so that $\bigcirc p_i = S(p_i \restriction q)$ and $\bigcirc c_j = S(c_j \restriction q)$ are total. We need to show that $\{S(p_i \restriction q) : i \in I\} \models \{S(c_j \restriction q) : j \in J\}$, i.e. that $\cap_i S(p_i \restriction q) \subseteq \cup_j S(c_j \restriction q)$. As a preliminary result, note that this inclusion holds as restricted to *q*-worlds:

A. $\cap_i p_i \subseteq \cup_j c_j$	(given: this is the assumption that $\{p_i\}_{i \in I} \models \{c_j\}_{j \in J}$)
B. $(\cap_i p_i) \cap q \subseteq (\cup_j c_j) \cap q$	(from A, intersecting both sides with q)
C. $\cap_i (p_i \cap q) \subseteq \cup_j (c_j \cap q)$	(from B)
D. $\cap_i (S(p_i \uparrow q) \cap q) \subseteq \cup_j (S(c_j \uparrow q) \cap q)$	(from C, using the fact that $S(x \uparrow q)$ and x match in q -worlds)
E. $(\cap_i S(p_i \uparrow q)) \cap q \subseteq (\cup_j S(c_j \uparrow q)) \cap q$	(from D)

Now, let *w* be any world in $\cap_i S(p_i!q)$. Then for any *i*, *w* is in $S(p_i!q)$. Pick a $v \in q$ so that $w \sim_S v$ (thanks to our simplifying assumption, we can always do this). Since $S(p_i!q)$ is about *S* and $w \in S(p_i!q)$, we have $v \in S(p_i!q)$. Hence $v \in S(p_i!q) \cap q$. Thus $v \in (\cap_i S(p_i!q)) \cap q$. So by (E), $v \in (\cup_j S(c_j!q)) \cap q$. Therefore $v \in S(c_j!q)$ for some specific $j \in J$, whence also $w \in \cup_i S(c_i!q)$. So $\cap_i S(p_i!q) \subseteq \cup_j S(c_j!q)$, which is what we set out to show.

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