PRAGMATICS

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ENTAILMENT

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In the first unit we saw that interpreting utterances involves a considerable amount of intelligent guesswork where the hearer draws inferences from the speaker's words to arrive at the speaker's meaning. In this unit we look at entailment, a relationship between sentences that forms the basis for some of these inferences.

Exam Question: Draw inferences from the fact that when water freezes, a pipe bursts.
Student's Answer: I have never seen an inference so I cannot draw one.

(From *Howlers* by Russell Ash, 1985)

✐ **EXERCISE**

2.1 Look at the following 'slips' from radio and television announcers. What's wrong here?

(a) It's been an amazing year for Crystal Palace over the past 12 months.
(b) The robbery was committed by a pair of identical twins, both are said to be about age 20.
(c) Send in your competition answers with your name, age, and how old you are.
(d) So you're a housewife and a mother. Do you have any children?

Comment

We normally do not expect people to tell us something we already know. Embedded in every utterance is a considerable amount of 'understood' information which comes from our knowledge of the language itself. The 'slips' in this exercise give or ask for redundant information, information which can be automatically inferred from the meanings of words the speaker has already used. If you know the meaning of *year*, *twins*, *age* and *mother*, then you also know that: a year is 12 months long; twins are the same age; your age is how old you are; a mother has a least one child.

EXERCISE

2.2   Pretend that you have just arrived from another planet. You have learned the vocabulary and grammar of English, but you have never visited Earth before, nor have you ever met or spoken to another Earthling. As is the custom on your planet, you interpret everything you hear literally. Your job is to decide whether each of my following statements is true or false and why.

- (a) My mother is a woman.
- (b) My mother is a doctor.
- (c) The tiger is unhappy.
- (d) The tiger is an animal.
- (e) My mother is a boy.
- (f) The tiger is a reptile.

Comment

Without knowing anything about my mother or the tiger in question, you can quite easily answer 'true' to (a) and (d) because of your knowledge of English. These sentences are necessarily true because of the meaning relationship between the words *mother* and *woman* and between *tiger* and *animal*. These types of sentences are sometimes referred to as ANALYTIC SENTENCES. Similarly, given that you interpret everything literally, you can easily answer 'false' to (e) and (f). The meanings of *mother* and *boy* and *tiger* and *reptile* make such sentences necessarily false, or CONTRADICTIONS. However, (b) and (c) present you with a problem. They may or may not be true. You cannot verify the truth or falsity of those statements by looking in your dictionary. You would need other, non-linguistic, information about my mother and the particular tiger I am referring to. These are sometimes referred to as SYNTHETIC SENTENCES. If it turns out that my mother actually is a doctor or that the tiger is unhappy, we would say that these statements are SYNTHETICALLY TRUE. That is, their truth is based on what is happening in the world, not on what is happening in the language. Similarly, if my mother is an engineer rather than a doctor and the tiger is quite happy, we would say that these statements are SYNTHETICALLY FALSE.

Analytic sentences

Contradictions

Synthetic sentences

Synthetically true

Synthetically false

EXERCISE

2.3   Assume that sentence (a) in each pair is synthetically true. Then look at sentence (b) and decide if you can assume that it is automatically true given the truth of (a).

- 1(a) *Annie caught a trout.*
- 1(b) *Annie caught a fish.*

- 2(a) *Annie is thin.*
- 2(b) *Annie is not fat.*

- 3(a) *Annie baked a cake.*
- 3(b) *Annie baked something.*

Comment

The answer is 'yes' in all three cases. Once we establish the truth of sentence (a), sentence (b) becomes automatically true because of the meaning relationships between *trout/fish*, *thin/fat*, and *cake/something*. In each case, we can say that sentence (b) is an ENTAILMENT of sentence (a). All sentences have a number of entailments. That is, other sentences which are automatically true if the original sentence is true. The thing about entailment is that this kind of inference is 'for free'. It requires only a knowledge of the semantic system of the language being used. At this point, you may be wondering whether a PARAPHRASE is the same thing as an entailment. In semantics, a paraphrase is a special kind of entailment. The next exercise will show you what I mean.

Entailment

Paraphrase

EXERCISE

2.4   For each pair, decide whether you can assume that sentence (b) is automatically true given the synthetic truth of sentence (a). Then reverse the process. If sentence (b) is synthetically true, can you assume that sentence (a) is automatically true?

- 1(a) *Goldilocks saw a bear.*
- 1(b) *Goldilocks saw an animal.*

- 2(a) *This porridge is too cold.*
- 2(b) *This porridge is not too hot.*

- 3(a) *Baby Bear cried.*
- 3(b) *Baby Bear wept.*

- 4(a) *Mama Bear is in front of Papa Bear.*
- 4(b) *Papa Bear is behind Mama Bear.*

Comment

As you can see, things get a bit more complicated when we look to see if the entailment works both ways. In sentence pairs **1** and **2**, the entailment works in only one direction. If Goldilocks saw a *bear*, then she necessarily saw an *animal*. But if she saw an animal, she could have seen a bear but not necessarily. It could have been a big bad wolf, for example. If something is too *cold*, by definition it cannot be too *hot*. But if the porridge is not too hot, is it necessarily too cold? No. Like Baby Bear's porridge, it could be just right. When there is only ONE-WAY ENTAILMENT, the sentences are not true paraphrases of each other. Sentence pairs **3** and **4** behave somewhat differently. Because of the meaning relationship between *cried/wept* and *in front of/behind*, we have a situation of TWO-WAY or MUTUAL ENTAILMENT between the sentences in each pair. These sentences are paraphrases of each other. The term paraphrase is used in semantics when there is a relationship of mutual entailment between two sentences. Generally speaking, 'entailment', 'analytic sentence' and 'contradiction' are considered to be purely semantic concepts, having to do with sentence meaning rather than speaker meaning. However, these issues can be quite relevant to the study of pragmatics as the next two exercises will illustrate.

One-way entailment

Two-way entailment
Mutual entailment

EXERCISE ✎

2.5   In each of the following dialogues, spot the information which appears redundant or contradictory from a semantic point of view. Then decide in pragmatic terms what this sort of information might be 'telling' the hearer.

(a) Tom: What's your stepmother like?
     Bob: Well, she's a woman and she married my father.

(b) Dave: There's your Uncle George.
     Lucy: That man's a snake.

(c) Jane: You ate all the cookies!
     Steve: I ate some of the cookies.

Comment

In (a) Bob appears to be providing redundant information since his stepmother is necessarily a woman who married his father, given the meaning of *stepmother*. But is this kind of information always useless? Did you get the impression that Bob might not be particularly fond of his stepmother or that perhaps he has not met her yet? In (b) Lucy is providing an inherent contradiction. Semantically, a man is not a snake. However, from a pragmatic point of view, her answer makes a lot of sense. We can infer that she doesn't like her uncle. Dialogue (c) is tricky. Did you assume that Steve had not eaten all the cookies? Did he specifically say that he had not eaten all the cookies? From a purely logical point of view, if Steve ate all

the cookies, then he also ate some of them on his way to eating all of them. (The meaning relation between *all/some* is similar to that between *trout/fish* in **Exercise 2.3** and *bear/animal* in **Exercise 2.4**.) If Steve had eaten all the cookies, from a semantic point of view he was not lying. From a pragmatic point of view, well, what do you think? We will be returning to these issues in **Units 4** and **5**.

Take the sentence, *The painters broke the window*. This sentence has many entailments Here are some very basic (one-way) entailments:

Entailment 1:   'Someone broke the window.'
Entailment 2:   'The painters did something to the window.'
Entailment 3:   'The painters broke something.'

When uttering this sentence in context, a speaker will have one of these entailments in mind as the main focus, the most important one for interpreting the message. One way of communicating this to the hearer, or FOREGROUNDING a particular entailment, is by putting heavy stress one of the words in an utterance. For example, by saying The PAINTERS broke the window, the speaker foregrounds **Entailment 1**. The sentence uttered in this particular way generally communicates the message: 'You and I are taking it for granted that someone broke the window. I'm telling you who did it.'

Foregrounding

✎ **EXERCISE**

2.6   Here are three different stress patterns for *Annie ruined the sweater*. Try matching each utterance with the entailment which is being foregrounded. While you are doing this, think how the message subtly changes with each change of stress.

Utterance (a):   Annie RUINED the sweater.
Utterance (b):   Annie ruined the SWEATER.
Utterance (c):   ANNIE ruined the sweater.
Entailment 1:   'Someone ruined the sweater.'
Entailment 2:   'Annie did something to the sweater.'
Entailment 3:   'Annie ruined something.'

Is your analysis similar to mine?

Utterance (a) has foregrounded **Entailment 2**. Message: 'You and I are taking it for granted that Annie did something to the sweater. I'm telling you what Annie did.'

Utterance (b) has foregrounded **Entailment 3**. Message: 'You and I are taking it for granted that Annie ruined something. I'm telling you what Annie ruined.'

Utterance (c) has foregrounded **Entailment 1**. Message: 'You and I are taking it for granted that someone ruined the sweater. I'm telling you that Annie did it.'

Comment

Each of these different messages illustrates how more can be communicated than simply 'what is said'. The importance given to one entailment over another by a speaker has important consequences for the pragmatic analysis of that utterance.

SUMMARY

- All sentences have a number of entailments – other sentences which are automatically true if the original sentence is true.
- Entailments are inferences that can be drawn solely from our knowledge about the semantic relationships in a language.
- This knowledge allows us to communicate much more than we actually 'say'.

FURTHER EXERCISES ✎

2.7 Which of the following sentences cannot be designated as 'true' or 'false' unless you have extra non-linguistic information?

(a) *My hamster is a mammal.*
(b) *My cousin is a girl.*
(c) *My sister is a girl.*
(d) *My sister is female.*
(e) *I saw a female rock.*
(f) *I saw a female tortoise.*
(g) *My cat likes ice-cream.*
(h) *My sick cat is not well.*

2.8 For each sentence (a)–(d) provide two entailments. One should be a one-way entailment as in these examples:

Ed caught a trout → Ed caught a fish
Original sentence   Entailment
The blimp was over the house → Something was over the house
Original sentence   Entailment

and one should be a two-way (mutual) entailment as in these examples:

Ed caught a trout ↔ Ed captured a trout
Original sentence   Entailment
The blimp was over the house ↔ The house was under the blimp
Original sentence   Entailment

Use → to show one-way entailment and ↔ to show two-way entailment. Every sentence has many possible entailments, but remember, in semantics an entailment must be automatically true solely by virtue of meaning relationships in the language, not by virtue of what usually happens in the world. For example, *Jane is intelligent* entails *Jane is not stupid* but does **not** entail *Jane does well at university* or

even *Jane is a woman.* (Jane could be a baby, or a pet hamster or a man with an unusual name. You need more than purely linguistic knowledge to say that 'she' is a woman.)

(a) *My sister-in-law grows roses.*
(b) *Steve is furious.*
(c) *Tom sold a computer to Mark.*
(d) *My brother repaired my car.*

2.9 Write three analytic sentences, e.g. *My mother is a woman.* For each sentence, think of a context where the utterance of that apparently 'uninformative' sentence would be quite informative to the hearer.

2.10 Write three sentences which are contradictions, e.g. *My mother is a boy.* For each sentence, think of a context where the utterance of that apparently 'nonsensical' sentence would still make sense to the hearer.

2.11 The following are from *Howlers* by Russell Ash (1985) and *The 776 Stupidest Things Ever Said* by Ross and Kathryn Petras (1994). Where has the communication gone wrong? Or has it?

(a) All creatures are imperfect beasts. Man alone is the perfect beast.
(b) The brain of a woman is almost as heavy as a human brain.
(c) A coroner's duty is to decide whether a person died a fatal death.
(d) We do not have censorship. What we have is a limitation on what newspapers can report.
(e) Snakes are two sexes, poisonous and non-poisonous.
(f) I have reiterated over and over again what I have said before.

2.12 Look at these pairs of utterances. The sentences being uttered in each pair are arguably semantic paraphrases of each other (in a relationship of mutual entailment). Do you think they communicate the same information?

1(a) That food was delicious.
1(b) That grub was yummy.

2(a) She designs clothes for adult male humans.
2(b) She designs clothes for men.