

PH130 Meaning and Communication

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What does 'or' mean?

If Bill is in the library and Eileen is in Rootes and I say "Bill is in the library or Eileen is in Rootes" is what I say true? Is the sentence I utter ambiguous?

Meanings that 'or' might be thought to have:

- (a) 'A or B' means $A \vee B$ is true (Grice calls this the 'truthfunctional' sense—truthfunctional because the truth of 'A or B' is fully determined by the truth values of A and B)
- (b) 'A or B' means $A \leftrightarrow \neg B$, i.e. either (1) A is true and B is false or (2) A is false and B is true (this is exclusive or).
- (c) 'A or B' means (1) $A \vee B$ is true, and (2) there is a nontruthfunctional reason for believing ' $A \vee B$ ', that is a reason which is not straightforwardly a reason for believing A and which is not straightforwardly a reason for believing B. (Grice calls this the 'strong sense')

'or' is often used with disjuncts that exclude each other

CAROL Uh, I don't think she's in the bathroom. Her coat is gone.

ROSS Well maybe it's cold in there. Or maybe I screwed up the first date I had in 9 years.

CAROL That could be it.

PHOEBE: Does it matter? You're ultimately just gonna die or get divorced or have to blow your pets head off.

In some cases 'or' is clearly not exclusive:

MONICA Hi. Uh, my friend here was taking down our Christmas lights, and she fell off the balcony and may have broken her foot or ankle or something.

CINDY do you know where there's a piece of string or a piece of rope?¹

What about (c)? It seems that 'or' can't only have this meaning because it appears to lack it when 'or' sentences are negated or embedded in conditionals:

The coin's not in the red cup or the blue cup.

[I.e. It's not true that: the coin's in the red cup or the coin's in the blue cup]

CHANDLER I decided not to fire her again until I can be assured that she will be no threat to herself or others.

MONICA This isn't easy for me either. I wish things were different, I... If you were a few years older, or if I was a few years younger, or if we lived in biblical times, I would really--

Some uses of 'or' do convey that the speaker has a nontruthfunctional reason for believing ' $A \vee B$ ':

SHEM I wan(t) do uh that # hit .

CINDY don't do it too hard or it might fall apart .

MONICA Rachel, you say you're sorry or your sweater gets it.

¹ From Eve Clarke's CHILDES data. (MacWhinney 2000)

Two candidate explanations for the role of 'or' in conversation:

Explanation 1. 'or' is ambiguous between (a) and (c)

Explanation 2. 'or' means what (a) says it means, but utterances of 'A or B' often conversationally implicate that the utterer has nontruthfunctional grounds for 'A or B' (See Grice p. 47 for details)

How can we decide between these?

1. "Modified Occam's Razor, Senses are not to be multiplied beyond necessity." (47)

2. Generality of the implicature explanation [adapt for 'or' rather than 'and']:

"First, implications of (e.g.) temporal priority and causal connection attach to uses of the counterparts of 'and' across unrelated languages. Of course, one might posit corresponding ambiguities in such languages; but the phenomenon is more readily explained as the product of general pragmatic considerations.

"Second, it is not unreasonable to suspect that implications of the same sorts would arise even for speakers of a language containing an explicitly truth-functional connective '&'." (Neale 1992: 535)

3. 'or' never seems to have meaning (c) when it is not the main connective in a sentence.

PS In some cases 'or' seems not to be a sentence connective.

CINDY off they went to Niagara Falls # the biggest waterfall in America or Canada .

'And'

Exercise. What hypothesis about the meaning(s) of 'and' best explain the possible roles of the following sentences in conversation?

ROSS That commercial always makes me so sad.

JOEY Yeah, but then the guy opens his beer and those girls run at him, so, everything seems to work out OK.

CHANDLER Well then, how do you know when vegetables are done?

PHOEBE Well you know, you just, you eat them and you can tell.

RACHEL Well, so what're you gonna do?

ROSS Well, I guess I'm gonna call the beer company and try to find out where he is.

PHOEBE Would you stop already? Get out of the bitter barn and play in the hay.

CHANDLER: I, I'm sorry, I uh I already have a roommate.

[...]

EDDIE: No he, he moved out and I moved in.

CHANDLER: Well I, I think we'd remember something like that.

SUSIE But um, here's an idea, have you ever worn women's underwear?

CHANDLER Well, ye, yes, actually, but, uh, they were my Aunt Edna's, and there were three of us in there.

‘And’ contrasts with ‘or’ in that it appears to carry temporal or causal significance when embedded. Consider these examples from Neale (1992: 536):

(3) If B yells and A hits B, then C will punish A and B

(4) If A hits B and B yells, C will punish A and B

Neale suggests that (3) could be true and (4) false, so they must have different meanings.

Two (not very good) examples a bit like Neale’s:

JOEY Uh, listen Phoebs, I know you're not goin' in there but do you think it'd be alright if I went in and used his bathroom?

MONICA Chandler, I'm unemployed and in dire need of a project. Ya wanna work out? I can remake you.

CHANDLER Oh, you know, I would, but that might get in the way of my lying around all the time.

MONICA Please.

ALL C'mon. Let her. Yeah.

CHANDLER Alright, OK, alright. But if we put on spandex and my boobs are bigger than yours, I'm goin' home.

‘And’ is not always a sentence connective:

Jamie and Nakita carried Lorenzo to the hospital together.

Ayesha and Willard got married [?ambiguous]

Why does it matter?

Compositionality requires this (Davidson 1967 [1984]):

We are able to derive, from a finite set of axioms for words together with facts about syntactic structure, all true sentences of the form:

‘S’ is true iff p

Where ‘S’ is a sentence and p is a proposition which expresses the meaning of that sentence.

To illustrate how such a theory might go, consider this axiom for ‘and’:

‘A and B’ is true iff A is true and B is true

This enables us to derive truth conditions for sentences containing arbitrarily nested ‘and’ connectives:

‘Ayesha got married and Willard had children and Tim moved in with them’ is true iff Ayesha got married and Willard had children and Tim moved in with them.

What about ‘some’ and ‘all’? The results we want include:

‘Some puffins eat fish’ is true iff some puffins eat fish.

‘All puffins eat fish’ is true iff all puffins eat fish.

We could get these results from axioms like these:

‘Some Fs are Gs’ is true iff some Fs are Gs

‘All Fs are Gs’ is true iff all Fs are Gs

But these axioms don’t enable us to derive truth conditions for this sentence (with multiple quantifiers):

‘Some puffins ate all my fish’

We covered the correct thing to say about ‘some’ and ‘all’ in Lecture 13 of PH126 *Starting Logic*. To say this thing requires the notion of satisfaction. It also requires that we have a representation of the sentence’s logical form (for example, represent the sentence in FOL).

‘Some puffins ate all my fish’ :

$\forall y [(\text{Fish}(y) \ \& \ \text{Mine}(y)) \rightarrow \exists x (\text{Puffin}(x) \ \& \ \text{Ate}(x,y))]$

$\forall y \text{ --- } y \text{ ---}$ A sequence of objects satisfies this expression if for every object O, when you replace the second object in the sequence with O the resulting sequence satisfies $\text{--- } y \text{ ---}$

“as a result of these two magnificent achievements, Frege's and Tarski's, we have gained a deep insight into the structure of our mother tongues.”

(Davidson 1967 [1984]: 30)

[*Optional*] To properly capture the logical form of this sentence we need *binary quantifiers* (Neale 1990):

$[\text{all } y : \text{Fish}(y) \ \& \ \text{Mine}(y)] [\text{some } x : \text{Puffins } x] \text{Ate}(x,y)$

$(\text{Some } x : \text{Fx}) \text{Gx}$ A sequence of objects satisfies this expression if there is an object, O, such that replacing the first object in the sequence with O gives you a sequence that satisfies both Fx and Gx.

If and material implication (first pass)

Is this true?

Hypothesis ‘if A, B’ unambiguously means $A \rightarrow B$

Since $A \rightarrow B$ is logically equivalent to $\neg A$ or B, does what we said about the meaning of ‘or’ also apply equally to utterances of ‘if A, B’?

Hint. It seems inappropriate for someone who knows $\neg A$ to assert ‘if A, B’. Could this be for the same reason that it would be inappropriate to assert ‘ $\neg A$ or B’?

CHANDLER If I turn into my parents, I'll either be an alcoholic blond chasing after twenty-year-old boys, or... I'll end up like my mom.

References

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