I. The Interpretations

Arguments often depend for their success on complex propositions, i.e., propositions that are themselves combinations of simpler propositions, e.g., “if it warms up this weekend, I'll go for a run.” One common way to create a complex proposition is to combine simpler propositions using a propositional or sentential connective, which is a term that connects simpler propositions into more complex propositions. (One can think of these as functions that take simpler propositions as domain values and produce a more complex proposition as a range value.) In English, these terms include ‘and’ (viz., the conjunction) and ‘if … then’ (viz., the conditional). Included in this set is the disjunction, which in English is represented most obviously by ‘or’. Getting clear on what these terms mean is critical to understanding the complex propositions they form.

It might seem like getting clear on what these terms mean is easy – they are simple terms that we use all the time. Surely we must know what they mean? There is some truth to this, but consider the challenge of specifying what ‘and’ means: you can’t point to something and say, “that’s its meaning,” and it doesn’t seem to admit of definition in the way an abstract term like ‘love’ or ‘sixteen’ seem to. One way to get at the meaning of these is to take seriously their roles as connectives. If you do, then ‘and’ can be specified as meaning that a complex proposition it forms must be true if and only if the two propositions it connects are true.

What of ‘or’? This is trickier than ‘and’ (although not as tricky as ‘if … then’, which is a story for another time). There would appear to be an obvious choice: if we say “A or B”, we mean that A is true or that B is true, but not both. This is the exclusive interpretation of ‘or’, i.e., the interpretation that excludes the possibility that both are true. On this reading, “A or B” would be false if A and B were both true. It is contrasted with what we can call the inclusive interpretation, according to which “A or B” is true if and only if A is true or B is true or both. Here, if A and B are both true, it doesn’t falsify “A or B”. In this handout, I try to motivate a certain way of thinking about ‘or’ that gives privilege of place to the inclusive interpretation.

II. Some Data

Here is a classic example of an exclusive or:

1. You can have soup or salad with that.

We interpret this as indicating that we can have one or the other but not both (or at least not both without additional cost). Another example of ‘or’ that seems exclusive is supplied by
the title of this handout – ‘or’ could not be both fundamentally inclusive and exclusive at the same time, could it? Here is another that seems exclusive:

2. Either you are going to Horrock’s or you are going to Meijer.

Why say this unless you mean to suggest that you are going to one but not the other?

I agree that often the choice of ‘or’ over ‘and’ is meant to indicate that only one of the options is available, and that you have to select one knowing that you can’t select both. But I want to suggest that this is not encoded into the meaning of ‘or’. I’ll argue for this in two ways: by example and in principle.

First, the argument by example. Consider the following case. You are at a party and the host comes up to you and asks,

3. Would you like, umm, some beer or … some chips?

It seems clear in this context that you are not being told that you can have one or the other but not both. In fact, there is no reason that you couldn’t have both, and the response “Both sound great – thanks!” is fine. If this were an exclusive ‘or’, though, the response “Both sound great” would count as a rejection or some sort of denial of the legitimacy of the question.

Here’s another. You are in your philosophy adviser’s office and she says,

4. You need to study logic. Next semester … you could take either PHL 130 or PHL 330.

Assume these are offered at different times and that neither has a prerequisite. In this case, there is no presumption that you can’t take both, and here again, you could legitimately respond by saying, “Both sound great – I can take both next semester.” As before, this would amount to asserting that the adviser had uttered a falsehood if her utterance is to be interpreted exclusively. (In both (3) and (4), it helps to hear the utterance as not involving stress on the ‘or’.) In both of these cases, then, it seems apparent that the ‘or’ must be interpreted inclusively in order to make sense of the exchange. So there are examples of ‘or’ in the wild that are better interpreted inclusively than exclusively.

The “in principle” argument builds on this observation. In defining the ‘or’, we need to determine what we want to say about the case in which “A or B” is uttered but both A and B are true. This is a possible circumstance in which we might evaluate the disjunction, and a complete definition of the disjunction will tell us what to make of this circumstance. There would appear to be two ways to go in handling this. On the one hand, we could take the inclusive interpretation to be fundamental and the exclusive interpretation to be obtained from it by denying the possibility of both A and B:

5. “A or B” is true if and only if (a) A is true, or (b) B is true, or (c) both are true, BUT not (c).
While perhaps a bit clunky at the end, it isn’t inconsistent or problematic. On this interpretation, we can easily accommodate both inclusive and exclusive readings – the inclusive is captured by the foundational sense of the term, and the exclusive by the augmented sense. On the other hand, we could take the exclusive interpretation to be fundamental and then work to obtain the inclusive interpretation from it. But how would this go? Following the pattern in (5), we would need something like this:

6. “A or B” is true if and only if (a) A is true or (b) B is true, and (c) not both A and B are true, BUT both A and B could be true (???)

The problem here is that (c) in (6) is not an option – it is a requirement. Canceling (c) in (6) in the way we do results in a contradiction. This would predict that we should hear a contradiction in (3) and (4) above – that those responses are logically flawed in some way. But we don’t hear that. This suggests strongly that the exclusive interpretation is not fundamental, since if it were, we would be unable to get the inclusive interpretation without contradiction.

Another way to put this: if we take ‘or’ to be fundamentally inclusive, we can characterize situations in which it is permitted but not required for both options under consideration to be true. The conjunction, ‘and’, is used to talk about case in which both are required. If we interpret ‘or’ exclusively, that leaves us without a connective that we can use to capture situations like (3) and (4) above. It makes more sense to understand ‘or’ inclusively to accommodate the permitted but not required situation, and then get the exclusive sense by adding the additional negation element conjunctively as we do in (5) above.

III. A Proposal

It is important to acknowledge that there is an ambiguity here – that we may not be able to tell from looking at a sentence whether we are dealing with an inclusive case or an exclusive one. Further, it is often the case that people use the ‘or’ to highlight the existence of exclusive options, i.e., options that are not available together. But the argument so far has been that this does not mean that the exclusive interpretation should be the privileged one. In fact, there are natural examples in which the inclusive interpretation is preferred, and there is reason to believe that you couldn’t get them without contradiction if the exclusive interpretation were fundamental.

So what explains the strong allure of the exclusive ‘or’? Here is a proposal:

1. Whenever we say “A or B”, we use ‘or’ with inclusive semantics

2. In many cases, though, we either intend or can be interpreted as using ‘or’ exclusively. In these cases, the exclusive element – i.e., the “not both A and B” – is produced by:

   a. Logically exclusive content elements: “Either he will be there or he won’t be there”
b. **Content elements exclusive against a background:** “Would you like soup or salad with that?”, where it is common knowledge that one but not both of these come with your meal

c. **Flouting relevance:** “Do you want this book or that book?” If you are asked this by a friend, you might think: “Why would they use ‘or’ here? If they wanted me to take both, they would have used ‘and’, so they must not mean both. So I can only have one or the other.”

Thus, on this proposal, the ‘or’ is inclusive, while the exclusive interpretation is obtained in one further step.