<u>Eavesdroppers, Salvage Ships, and Epistemic Modality</u>
28th May, 2009

1. Question: what are the truth conditions of an utterance of 'Possibly S'? In particular, of an *epistemic* utterance of 'Possibly S'. E.g. 'Possibly the ball is under cup 1.'

2. The standard account:

   An utterance of 'Possibly S' in a context C is true iff the prejacent of the utterance (the proposition expressed by S in C) is compatible with the conversational background of the utterance (a set of propositions determined by C). Or: iff there is a world in which the prejacent and the propositions in the conversational background are all true.

   - Different kinds of possibility correspond to different kinds of conversational background. If the conversational background is some body of knowledge then we have an *epistemic* use of 'Possibly S'.

   - For epistemic uses, the conversational background might be what is known by the speaker, or by someone other than the speaker, or by some group of people which may or may not include the speaker.

3. But we have:

   - The *objectivity problem*. I utter, 'The ball might be under cup 1'. If the ball is under neither cup then my utterance is false, even if for *any* body of knowledge it is compatible with that body of knowledge that the ball is under cup 1.

   - The *openness observation*. Unless I am open to the ball being under neither cup, in which case my utterance is true.

4. An aside on eavesdropper cases: intuitions about objectivity and openness often account for our inclination to accept eavesdropper cases, but they are not the target intuitions.

5. The objectivity problem has been recognized for some time. Here is an example from Hacking (1967):

   "Imagine a salvage crew searching for a ship that sank a long time ago. The mate of the salvage ship works from an old log, makes some mistakes in his calculations, and concludes that the wreck may be in a certain bay. It is possible, he says, that the hulk is in these waters. No one knows anything to the contrary. But in fact, as it turns out later, it simply was not possible for the vessel to be in that bay; more careful examination of the log shows that the boat must have gone down at least thirty miles further south. The mate said something false when he said, 'It is possible that we shall find the treasure here,' but the falsehood did not arise from what anyone actually knew at the time."

6. What I shall call the *standard fix*: allow that in epistemic cases the conversational background can include not just what *is* known by some person or group of people, but also what *can* be known.

   - Need to restrict what counts as knowable, or else too many utterances of 'Possibly S' come out false. Re-examining the log counts, but diving and looking does not. Hacking: what can be known by practical methods; De Rose: what can be known by contextually relevant methods.

7. But here are some problems for the standard fix:

   a. There are cases in which an utterance of 'Possibly S' is false, even though there is nothing that can be known that rules out the prejacent: 'Descartes might have had 300 books on his bookshelf'; 'Mary might be at the meeting'; 'It might be false that there is life on Jupiter'.

   b. How does it account for the openness observation? We would have the following correlation: if I am taking the ball to be under cup 1 or 2, then it *can* be known that the ball is not under cup 1; if I am *not* taking the ball to be under cup 1 or 2, then it *cannot* be known that the ball is not under cup 1. This seems odd.

   c. We get the objectivity problem and openness observation for other kinds of possibility too. A metaphysical case: John rolls a die and it comes up '3'. He asserts, "I might have rolled '2'" (intending a metaphysical reading). If the die he is using has '3' on all sides then his utterance is false. Unless he is open to swapping the die before the roll. Can the standard fix be extended to handle this (and other kinds of possibility)?

8. A proposed modification of the standard account:

   An utterance of 'Possibly S' in a context C is true if and only if there is a world *within d of the actual world* (where *d* is determined by C) in which the prejacent and the propositions in the conversational background are all true.

9. Given the Lewisian approach to counterfactuals it would not be surprising to find that the truth conditions of an utterance of 'Possibly S' involves closeness of worlds.

10. How this handles the two cups case. If I am <u>not open</u> to the ball being under neither cup then I think that the actual world is fairly close to a world in which the ball is under cup 1, and because of this *d* is small enough that if the actual world is such that the ball is under neither cup then it is greater than *d* from any world in which the ball is under cup 1, and my utterance of 'The ball might be under cup 1' is false. If I <u>am open</u> to the ball being under neither cup, then *d* is large enough that if the actual world is such that the ball is under neither cup then there is still a world within *d* of the actual world in which the ball is under cup 1 (and in which everything I know is true), and my utterance of 'The ball might be under cup 1' is true.