§9. THE HORSESHOE ANALYSIS: \( \rightarrow \) IS \( \\lor \)

1. The horseshoe analysis says that the truth-conditions of \( A \rightarrow C \) are the same as those of \( A \supset C \):

\[
\text{horseshoe. } A \rightarrow C \text{ is true iff } A \supset C.
\]

\( A \supset C \) is equivalent to \( \neg A \lor C \). So, e.g., horseshoe says that if and or are equivalent:

- If Booth didn't shoot Lincoln, someone else did.
- or Either Booth shot Lincoln or someone else did.

(Strictly, horseshoe says that if is equivalent to:

\[
\lor \text{ (Booth shot Lincoln } \lor \text{ Someone else did)}
\]

However, just about everyone accepts that ‘Either A or C’ has the same truth-conditions as \( A \lor C \); given this, horseshoe says that if is equivalent to or. For now, we will also accept that ‘Either … or …’ means simply \( \lor \).

2. The ‘or-to-if’ argument for horseshoe (Bennett: “superficially most persuasive”):

   (a) \( A \rightarrow C \) entails \( A \supset C \).

   \( A \rightarrow C \) is true only if it’s not the case that \( A \) is true but \( C \) is false, hence only if \( A \supset C \) is true. One cost of denying this entailment is denying that Modus Ponens is (classically) valid for \( A \rightarrow C \).

   (b) \( A \supset C \) entails \( A \rightarrow C \).

   Why think this? Because you can always infer \( \neg A \rightarrow C \) from \( A \lor C \). (Bennett calls this the “or-to-if inference,” though his example on pp. 20–21 concerns not what inferences are acceptable but only what it’s “all right for you to say”—more when we discuss §18.) For example, from “Either the gardener did it, or the butler did” you can infer “If the gardener didn’t do it, then the butler did.” What explains why this inference is licensed?

   Simplest answer: because \( A \lor C \) entails \( \neg A \rightarrow C \). Substituting \( \neg A \) for \( A \), we get:

   \[
   \neg A \lor C \text{ entails } \neg \neg A \rightarrow C; \text{ i.e.:}
   \]

   \( A \supset C \) entails \( A \rightarrow C \).

3. But! There are serious problems for horseshoe. (a) and (b) below are the classics, but we might as well get some other tough ones out on the table, too:

   (a) \( A \supset C \) is true whenever \( A \) is false. Is \( A \rightarrow C \)?
   
   “If Obama was in DeKalb yesterday, then he was looking for me.” True?
   
   “If there are no planets anywhere, the solar system has at least eight planets” (Bennett). True?

   (b) \( A \supset C \) is true whenever \( C \) is true. Is \( A \rightarrow C \)?
   
   “If Obama wasn’t looking for me yesterday, then he wasn’t in DeKalb.” True?
   
   “If I ate an egg for breakfast this morning, you ate a million eggs” (Bennett). True?
(c) If \(A \supset C\) is true, then so is \(((A \& B) \supset C)\), for any \(B\). Is this so for \(A \rightarrow C\)?

“If you put sugar in your tea, it will taste fine.” True.

“If you put sugar and diesel oil in your tea, it will taste fine.” True? (Example from W. Harper)

(d) If \(A \supset C\) is true, then so is \(\neg C \supset \neg A\). Is this so for \(A \not\supset C\)?

“If Charlotte is bringing dessert, she isn't bringing a chocolate cake.” True if contraposed?

“If it's going to rain, it's not going to rain heavily” (Jackson). True if contraposed?

 “[Even] if God exists, the Bible [still] isn't literally true” (Bennett). True if contraposed?

(Interesting to note that (apparently) non-contraposing indicatives all seem to either require or be friendly to treatment as “even if”s.)

(e) If \(A \supset C\) is false, then \(A\) and \(\neg C\) are true. Is this so for \(A \not\supset C\)?

“If a Democrat wins in 2012, it won't be Obama.” False only if Obama wins in 2012?

Are these valid arguments?

“It's not the case that: if God does not exist, everything is permitted. Therefore, God does not exist.”

“It's not the case that: if God exists, he answers every prayer. Therefore, God exists.”

(For some other funny “proofs” of God’s (non-)existence see p. 2 of Abbott’s “Some Remarks . . .”)

4. Friends of horseshoe seemingly must answer “yes” to each question. Their general strategy: explain what is wrong in each case in a way that does not imply that the problematic claim is \textit{false} or the problematic argument \textit{invalid}.

§10. CONVERSATIONAL IMPLICATURE

1. The Gricean strategy for defending horseshoe appeals to Grice’s notion of \textit{conversational implicature} to explain what is wrong in the foregoing cases (we’ll focus just on (a) and (b)).

(Bennett follows the pack in describing the proposal he discusses as \textit{Grice’s} strategy. While this is partly true, it is misleading: as you can see yourself from Grice’s chapter “Indicative Conditionals” his own account was quite a bit subtler and more tentative than what we'll look at. It’s not even clear that Grice was a full-fledged defender of horseshoe at all; at one point he describes his “claim that there is at least one sense of ‘if’ in which if \(p\) then \(q\) is a material conditional” (p. 64, emphasis in original). See also his distinction between “if \(p\) then \(q\)” and “if \(p, q\)” (p. 63) and his long discussion (pp. 67-78) on what differences we might expect to find among the standard uses of the various logical connectives, even if they have their truth-functional meanings.)

2. When you utter a sentence, there’s \textit{what you say} and \textit{what you implicate}. Roughly: what you say is tied closely to the truth-conditional meaning of the sentence you’ve uttered; what you implicate is information that’s not part of what you say, but that you can count on your interlocutors to “get” from your saying what you do. A classic example adapted from Grice (“\(\rightarrow\)” means “implicates”):

\textbf{We’re out of gas:} “There’s a gas station around the corner.” \(\sim\) The station is open.

3. If you implicate that the station is open but it’s not (or you don’t believe that it is), your assertion of “There’s a gas station around the corner” can be misleading or inappropriate, though as long as there is a gas station around the corner you've said nothing \textit{false}. Generally: when \(P\) is false or the speaker doesn't believe \(P\), it's wrong (misleading, improper) to say something true that implicates that \(P\).

4. A \textit{conversational} implicature is generated by the assumption that the speaker is heeding the general rules of conversation, which Grice calls “maxims”; e.g.: be truthful, be as informative as you can and as the circumstances require, be relevant, be orderly and brief. In the example above, the speaker can be treated as making a relevant contribution only if she believes that the station is open; the shared assumption that she is playing by the rules generates the implicature.

5. Another example: \(A\) and \(C\) are both more informative than \(A \lor C\). So if you assert “Either \(A\) or \(C\),” the assumption that you’re being as informative as you can generates the implicature that you’re not sure of \(A \lor C\) and not sure of \(C\). Thus asserting “Either \(A\) or \(C\)” when you are sure of \(A\) (or \(C\)) is (typically and \textit{ceteris paribus} misleading and improper, even if true.
6. The Gricean defense of *horseshoe* (in part): when you are sure of \( \neg A \) (or of \( C \)), asserting \( A \rightarrow C \) is misleading and improper, even if true. So, e.g., saying "If Obama was in DeKalb yesterday, then he was looking for me," when I am sure that Obama was not in DeKalb yesterday is misleading though true; Bennett’s “If there are no planets anywhere, the solar system has at least eight planets” is “absurd but not untruthful”; etc.

7. Grice makes a subtler suggestion: that when you say \( A \rightarrow C \) you conversationally implicate that there are non-truth-functional grounds for accepting \( A \supset C \) (the “Indirectness Condition”). If this is right, asserting \( A \rightarrow C \) without having such grounds is misleading / improper. Exercise: how could we get this implicature from the maxims?

8. Jackson’s version of the relevant conversational principle: “Assert the stronger, when the probabilities are close [and both are high]” (compare Grice’s “make your contribution as informative as is required”). If \( S_1 \) and \( S_2 \) have close high probabilities, you should assert the stronger (hence more informative) of the two. When the probability of \( \neg A \) is high, the probabilities of \( \neg A \) and \( A \supset C \) are close (since \( \neg A \) entails \( A \supset C \), the probability of the former can’t be lower than that of the latter). Given *horseshoe*, “assert the stronger” says that when the probability of \( \neg A \) is high, you should assert it instead of \( A \rightarrow C \). (Same when the probability of \( C \) is high.)

9. Exercise: see if you can come up with a Gricean explanation for what’s wrong in cases (c) and (d) above. (Case (e) seems different; Grice makes some interesting suggestions on pp. 64-65.)

§11. SEMANTIC OCCAMISM

In this section, Bennett discusses some methodological issues. Grice thinks that, other things being equal, we should prefer an account of a linguistic item that posits a single meaning (with apparent divergences in use from this meaning explained in terms of implicature) to one that posits multiple meanings (this is what Grice is talking about when he refers to his “adherence to Modified Occam’s Razor” on p. 65). Strawson (1986) has some interesting things to say about this in connection with Grice’s defense of *horseshoe*, and Bennett’s comments on this debate are worthwhile. But, as Bennett points out, the principle of semantic Occamism comes into play only when both proposals can explain the data. There is widespread agreement that *horseshoe* + conversational implicature / “assert the stronger” can’t.

§12. THE RAMSEY TEST

1. Many writers have held that the Ramsey Test reveals (a key aspect of) how we judge the “acceptability, assertability, and the like” of indicative conditionals. (Note: Jackson calls the Ramsey Test “Adams”; see his (1987, pp. 11-16).)

2. First version:

\( \text{rt}_1 \) Pretend to add \( A \) to your system of beliefs, and then let your belief system accommodate this change in the most natural and conservative way possible. Is \( C \) is among the beliefs in the resulting system?

3. Bennett’s suggestion *seems* to be that a ‘yes’ answer is necessary and sufficient for \( A \rightarrow C \) to be acceptable (etc.). But passing \( \text{rt}_1 \) can’t be necessary for acceptability because of van Fraassen / Thomason cases like:

   “If my business partner is cheating me, I will never realize that he is.”

   That could be acceptable (etc.). But pretend to add “My business partner is cheating me” to your stock of beliefs and follow the directions in \( \text{rt}_1 \): can you avoid also adding “I realize that he is?” Hard to see how!

4. Second version (Bennett admits it does not “with perfect clarity steer around” the van Fraassen / Thomason cases):

\( \text{rt}_2 \) Take the set of probabilities that represents your current belief system, add to it a probability of \( A = 1 \), and adjust the rest of the probabilities in the most natural and conservative way possible. Does \( C \) have a high probability in the resulting system?

\( \text{rt}_2 \) doesn’t involve pretending to believe “My business partner is cheating on me”. But what is it to “add the probability of \( A = 1 \)” to a set of probabilities that represents your beliefs? We’ve purchased a way around the problem case at the cost of a large and cumbersome theoretical framework.
5. Ramsey Test doesn’t concern whether you would believe C if you did come to believe A. Bennett’s example is good: atheist doesn’t get a high probability for “God exists” when he sets the probability of “I develop cancer” to 1, even if, were he to develop cancer, his “weakness and fear would seduce [him] into religious belief.”

§13. RAMSEY AND GRICE

1. Central claim of Bennett (channelling Jackson): horseshoe + conversational implicature / “assert the stronger” makes predictions at odds with the Ramsey Test. This “serves to refute” the Gricean defense of horseshoe.

2. Point of agreement between Grice and Ramsey Test: being sure of ¬A doesn’t make A → C assertable

3. Points of disagreement between Grice and Ramsey Test (according to Jackson (1987, pp. 20-22):

   (i) Sometimes, A → C is assertable even when you are sure of ¬A:
   “If the Polynesians did come from India, there have been inhabitants of India whose language was not Indo-European.”
   Seems acceptable even when you’re sure the antecedent is false. Ramsey Test agrees. (Try it yourself.)

   (2) Sometimes, A → C is assertable even when you are sure of C; Ramsey Test predicts this is sometimes okay.
   Note that Bennett’s example is an “even if . . . still . . .”; I can’t think of any that aren’t (see Jackson (1987, p. 20)). Non-contraposers seem to fit the bill here too.

   Bennett: “If Grice’s regulative principles failed to condemn something bad, a Gricean might be able to amplify them, making the theory more commendatory. But when, as in (i) and (2), Gricean theory condemns something innocent, there is no rescue” (p. 32).

   Is this fair? It would be if the Gricean were committed to:
   STRONG-N-SIMPLE. A → C is never assertible by someone who is sure of ¬A, or of C.
   But Grice would and intelligent Griceans should reject such a strong and simple view. Conversational implicature is context-bound and complex; we should expect there to be exceptions to the general rules: cases where the misleading implicatures are either cancelled or never generated, or their negative impact outweighed.

   (3) I don’t understand this complaint (look for yourself: Jackson (1987, pp. 20-21)); Bennett dismisses it.

   (4) “Assert the stronger” is neutral between logically equivalent sentences. But there are some pairs of conditionals that differ greatly in assertability but which are, according to horseshoe, logically equivalent. (E.g., the contraposition examples.) The Ramsey Test does very well here.
   “Assert the stronger” is Jackson, not Grice; A Gricean may be tempted to respond: so much the worse for “assert the stronger”. But Bennett says: no other element of Grice’s theory of conversational implicature “could explain how a conditional is preferable to its contrapositive” (p. 32). Huh?? Maybe the thought is: when S₁ and S₂ are logically equivalent, they have the same conversational implicatures? But Bennett can’t think that, since he’s used conversational implicature to explain why “A and B” can be preferable to “B and A” despite their being logically equivalent (p. 23). So I really don’t know what the argument is here.

   (5) Jackson’s argument from classroom experience.

EDGINGTON ON GRICE

Edgington’s objection to horseshoe points to a deeper problem with the Gricean approach:
“… the difficulties with the truth-functional conditional cannot be explained away in terms of what is an inappropriate conversational remark. They arise at the level of belief. Believing that John is in the bar does not make it logically impermissible to disbelieve ‘if he’s not in the bar he’s in the library’. Believing you won’t eat them, I may without irrationality disbelieve ‘if you eat them you will die’. Believing that the Queen is not at home, I may without irrationality reject the claim that if she’s home, she will be worried about my whereabouts. […] We need to be able to discriminate believable from unbelievable conditionals whose antecedent we think false. The truth-functional account does not allow us to do this” (1995, p. 249).