

## CHAPTER 8

### THE RIVERBOAT PUZZLE

Let us turn at last to Gibbard's (1981) riverboat cases. I shall speak of the Simple Version and the Anomalous Version. The Simple Version (p. 226) is as follows:

Sly Pete and Mr. Thomas Stone are playing poker aboard a Mississippi River boat. Both Pete and Stone are good poker players, and Pete, in addition, is unscrupulous. Stone has bet up to the limit for the hand, and it is now up to Pete to call or fold. Zack has seen Stone's hand, which is quite good, and signalled its contents to Pete. (Call this moment  $t_0$ ). Stone, suspecting something, demands that the room be cleared. Five minutes later, Zack is standing by the bar, confident that the hand has been played out but ignorant of its outcome. (Call this moment  $t_1$ ). He now entertains these two conditionals.

[1] If Pete called, he won.

[2] If Pete had called, he would have won.<sup>1</sup>

At  $t_1$ , Zack accepts [1], because he knows that Pete is a crafty gambler who knew Stone's hand; thus Zack knows that Pete would not have called unless he had a winning hand. [2], on the other hand, Zack regards as probably false. For he knows that Stone's hand was quite good, and therefore regards it as unlikely that Pete had a winning hand.

Gibbard concludes that the straight (1) fits Adams' Ramsey-test theory as regards assertibility.

He adds that (1) has no clear truth-condition:

Suppose that in fact, as Zack suspects, Pete did not call, because he know [sic] he held a losing hand. It is not clear what then has to be true for [1] to be true.  
(p. 227)

I have no serious disagreement with that, so let us move directly to the problem posed by the Anomalous Version (p. 231).

### **The Puzzle**

The Anomalous Version is like the Simple Version except for the presence of a second henchman, Jack, who moves around the table and sees Pete's own hand as well as Mr. Stone's, before the room is cleared. I then later receive two unsigned notes, one of which (in fact written by Zack) says as before "If Pete called, he won." The other note (in fact written by Jack) says "If Pete called, he lost." N.b., Zack and Jack each have good evidence for their reports, the difference between their epistemic situations being that Jack has seen Pete's hand while Zack has not.

Gibbard argues that if the two conditionals express propositions at all, they are both true; but if the law of Conditional Noncontradiction holds, they cannot both be true unless they are indexical and hold relative to distinct hidden parameters. So either they express indexical propositions or they do not express propositions (or have truth-values) at all. Gibbard argues briefly against the former alternative and so chooses the latter: Straight conditionals have assertibility-values relative to their utterers' epistemic situations, but are not true or false.

I believe Gibbard has smuggled his drastic conclusion into his preliminary thinking, in each of two ways. (i) In offering his own analysis of the two opposing conditional reports, he has considered the reports only from the respective standpoints of their utterers' epistemic situations and let it go at that. He has not considered a transcendent point of view, as I shall bring out below.

(ii) The main premise of his argument (p. 231) that both reports are true if truth-valued

begs the question also. It is that “one sincerely asserts something false only if one is mistaken about something germane.” At the very least, that premise would not be granted by anyone who took a view opposed to his. Let me sketch such an opposing view, at the same time expanding on (i).

### **The Hard Line**

Here is the Hard Line: Let us remind ourselves of a key difference between assertibility and truth: that the former is relative to one’s epistemic situation (assertible for/by whom?), while the latter ostensibly is not. To judge whether a sentence *S* is assertible for Jones in scenario *T*, we look at Jones’ epistemic situation in *T*. To judge whether *S* is true in *T*, we simply look at the facts of *T*, assuming an omniscient point of view. Now, my complaint about Gibbard’s analysis of the Anomalous Version is that he has concentrated on assertibility alone and has not even tried to judge truth in the way I have just mentioned. Suppose we do try. Unlike Zack and Jack themselves, we know all the facts of the riverboat situation. Relative to those facts, which of our two conditionals is the correct one? Given that Pete’s hand was in fact worse than Stone’s, I think we have to conclude with Jack that if Pete called, he lost. There is simply no sense in which it is true that if Pete called he won. The reason, and the only reason, that the latter conditional is assertible for Zack is that Zack is ignorant of the contents of Pete’s hand. If he were to learn more, viz., the contents of Pete’s hand, he would change his mind and assert the contrary conditional. He has, fully justifiably, asserted something false. (Bear in mind, of course, that Zack, Jack, and we all agree in believing that Pete did not call.)

What about Gibbard’s argument for the claim that Zack’s report is true if truth-valued? Gibbard says, “...one sincerely asserts something false only when one is mistaken about something germane.” Zack has (according to the Hard Line) sincerely asserted something false, so is he mistaken about something germane? As Gibbard points out, Zack holds no false

atomic beliefs. But (a) as we have seen, he is ignorant of a key fact, and (b) it would not follow in any case that his conditional was not itself false, since (I am assuming) the conditional is not truth-functional and cannot obviously be made true by the atomic facts of the case alone. So we have been given no reason to accept Gibbard's premise rather than the Hard-Line judgment about the case (this is the point of (ii) above).

That is the Hard Line. Everyone I have consulted finds it attractive; at least, everyone finds Jack's conditional easier to fall in with than Zack's. There seems to be a sense in which Jack's conditional is objectively true and Zack's is not. On the other hand, few of us sympathize with the Hard Line to the full extent of simply writing off Zack's conditional as a justified false belief; even though Gibbard's argument is unpersuasive, we feel however inarticulately that there is more to be said on Zack's behalf than that. What more might be said?

1. In a paradigm case of justified false belief, the believer's evidence is regarded by the omniscient observer as misleading. Thus, suppose (to take the first half of a standard Gettier case) Jones told me yesterday that he owns a Ford, and I saw him driving a Ford, and he even showed me his ownership papers. Hence I now believe that Jones owns a Ford. But I am wrong; Jones sold it early this morning. I have a justified false belief. My evidence misled me. But now consider Zack's case. Has his evidence misled him? It does not seem so, though I am not at all sure how we should cash out the notion of "misleading" that is in play here. But there is another way of trying to get at the difference:

2. As regards Jones, my belief is based on a background assumption that itself is reasonable but is falsified in this case: the assumption that if a person owns a Ford on Friday afternoon, s/he will own the same Ford on Saturday morning. (Or take a more extreme example of justified false belief: Smith believes he is sitting at his desk typing a paper; but actually he is being deceived by a mad scientist who has his (Smith's) brain in a vat and is stimulating it cleverly by means of implanted electrodes. In this example Smith is making the

perfectly reasonable, but false, assumption that there are not any mad scientists who go around doing that, or at least that no such trick is being played on him personally at the time.) There seems to be no comparable reasonable-but-false assumption on Zack's part. It is not as though Zack would normally be right (having the sort of evidence he does) in a case of this type. (Perhaps this is what Gibbard is trying to get at in his argument.) This is a difference, then, between Zack's case and a paradigm case of justified false belief, though I am unsure of its dialectical force. Maybe what is going on is this:

3. One has a justified false belief on the basis of inference from truths only when one's evidence is nondeductive and one's inference is ampliative. (If one's premises are true and one's conclusion false, then the chain of reasoning that connects them is not deductively valid.) But it is not obvious that in the Anomalous riverboat case either henchman is making an ampliative, risk-inducing inference. Whatever the correct truth-conditions for the relevant straight conditionals may in fact be, it is entirely possible that the facts of the case deductively determine whether those truth-conditions are satisfied. Indeed, this must be true if one supposes that the truth of conditionals supervenes on categorical, nonconditional facts, as is quite plausible even if we deny that our conditionals are truth-functional. If all this is right, then Zack's conditional belief could be false only if he had miscomputed its truth-condition or made a mistake in reasoning deductively to the conclusion that the truth-condition is satisfied; in either case his false belief would not be a justified false belief. And in fact:

4. Zack actually offers a deductive argument for his conditional, or so we can suppose. He says to himself (Argument Z:),

Pete [since he is alert, intelligent, and fond of money<sup>2</sup>] did not call unless  
he had a better hand than Stone's.

If Pete called and had a better hand than Stone's, he won.

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∴ If Pete called, he won.

Both premises seem to be true and the argument seems valid. On the other hand, as we have seen, the validity of conditional arguments is a very chancy matter once one leaves the horseshoe behind and ventures out into English.

Let us check to see how each of our five going proposals regarding straights vs. boxarrows handles the Riverboat Puzzle.

Adams: As Gibbard maintains, Zack's conditional fits Adams' theory well; it is what Zack would conclude after performing the Ramsey test. Jack's conditional seemingly fits too; if Jack were suddenly to learn that Pete had called, he would probably not doubt the testimony of his own senses, but would suppose that Pete had gone insane or some such. (Here too, however, there is plenty of scope for readjustment of background information.) Thus, Adams' theory predicts that each of our two conditionals is assertible by its utterer, and says nothing more.

Lewis: Both conditionals come out true, since Lewis thinks straight conditionals are truth-functional, but this is an uninteresting reason. That the Horseshoe theory fails to illuminate the Riverboat Puzzle is just one more nail in the coffin of the Horseshoe theory.

Stalnaker: For Stalnaker, Zack's conditional will be true if Pete wins rather than loses at the closest world at which he calls. Which is more similar to our world, one in which Pete calls and wins or one in which he calls and loses? To produce the former, we would have to change either Pete's hand or Stone's hand or the rules of poker; to produce the latter, we would have to change either Pete's skillful acquisitive psychology or the reliability of his henchmen's signal system. I should think the lesser change would be simply a change in Pete's or Stone's cards. If so, then for Stalnaker Zack's conditional would come out true, though not

for any appropriate or relevant reason. Accordingly, Jack's conditional would come out false.

On the other hand, remember Stalnaker's pragmatic constraint: "...when a speaker says 'If A,' then everything he is presupposing to hold in the actual situation is presupposed to hold in the hypothetical situation in which A is true." This distinguishes fairly nicely between Zack's conditional and Jack's, if we suppose that Zack officially suspends judgment about the value of Pete's hand, while Jack presupposes that Pete's hand is a loser. We have to suppose that Pete's hand is also a loser in the antecedent world under investigation, according to the pragmatic constraint, so it may seem that Jack's conditional will manage to come out true for this reason. But if I understand Stalnaker correctly, he will want to mark Jack's conditional as anomalous in any case, since Jack also presupposes (along with Zack) that Pete would never call with a losing hand. According to what Stalnaker says (p. 200), Jack would have to lexicalize his speculations in the boxarrow mode, in which case his conditional comes out unproblematically true.

Davis: Davis computes straight conditionals according to overall nearness, so the reasoning I sketched in my first paragraph on Stalnaker should hold for Davis. Zack's conditional would come out true but for inappropriate reasons; Jack's would come out counterintuitively false.

Gibbard: Gibbard sides, of course, with Adams.

### **My solution**

We may expect that the Event semantics will illuminate the Riverboat Puzzle considerably, since the key difference between Zack and Jack is that the former treats the possibility of Pete's having a winning hand as a "real" possibility while the latter does not, and our semantics trades precisely in contextual distinctions between "real" and negligible possibilities. But it proves unexpectedly hard to apply the theory to the Riverboat case, mainly because of our unclarity as regards "relevance" and because of the failure of bivalence within

“events.” Let us take Zack’s and Jack’s arguments in that order, and formalize them according to the Event analysis.

As Zack’s premises we have:

$$(Z1) (e \in \underline{\mathbf{R}})(\text{In}(e, \sim B) \supset \text{In}(e, \sim C));$$

$$(Z2) (e \in \underline{\mathbf{R}})(\text{In}(e, C \ \& \ B) \supset \text{In}(e, W)).$$

Let us now choose an arbitrary event  $\underline{a}$  ( $\in \underline{\mathbf{R}}$ ) in which Pete calls. By noncontradiction within events we have

$$(3) \sim \text{In}(\underline{a}, \sim C),$$

from which together with (Z1) we may infer

$$(4) \sim \text{In}(\underline{a}, \sim B).$$

Now if, but only if, we are entitled to assume bivalence within the events in question here (we do not assume bivalence for events generally), (3), (4) and conjunctivity within events yield

$$(5) \text{In}(\underline{a}, C \ \& \ B),$$

and from (5) and (Z2) we obtain

$$(6) \text{In}(\underline{a}, W).$$

Conditionalizing from (3) and generalizing (since  $\underline{a}$  was an arbitrarily chosen event), we get our conclusion:

$$(7) (e \in \underline{\mathbf{R}})(\text{In}(e, C) \supset \text{In}(e, W)).$$

So if we are entitled to assume bivalence just for our restricted class of events, Zack's argument is sound.

But what justification is there for making that assumption? This is unclear, and I do not have a good enough intuitive handle on my own notion of "relevance" to be able to provide a crushing answer; but I can offer two observations in defense of bivalence. First: If we understand our Strict Relevance Condition (see again Chapter 2) as extending to antecedents and consequents occurring in isolation (such as (3) and (4)), we may be justified in insisting that an event is not relevant unless it is one in which  $C$ ,  $\sim C$ ,  $B$ , or  $\sim B$  (we are already disallowing counterexamples to  $C \equiv B$  as non-"real" or negligible possibilities). Second: Intuitively, an event is not relevant here unless it is at least one in which Pete is playing a poker hand against someone. And by the nature of poker, if in  $\underline{e}$  Pete is playing a poker hand and it is not the case that in  $\underline{e}$  Pete does not have a better hand than his opponent, then Pete must in  $\underline{e}$  have a better hand, for any hand would have to be either better, equal or worse.

N.b., in order for the argument to go through even with the aid of local bivalence, we have to assume further that no parameter shift occurs in the course of the argument.

On to Jack's reasoning. We have said that the key epistemic difference between Jack and Zack is that Jack, having seen Pete's hand, rules out Pete's having a winner as a real possibility. (This is an interesting point for epistemologists. Suppose Mr. Stone's hand is a royal flush to the king of hearts. Then the likelihood of Pete's winning is lower on Zack's evidence than it might be on Jack's evidence in another case of this same type. From Zack's point of view the chance of Pete's having a winning hand is one in gazillions, yet we still count Pete's winning as a "real" though tiny possibility. In another case there might be a larger (though still tiny) likelihood that Jack's eyes have deceived him, yet we still would not count Pete's winning as a "real" possibility on that ground.<sup>3</sup> So as a background assumption for Jack's argument we have

$$(J1) \sim(e_{\underline{\epsilon R}})In(e,B),$$

which, given our still questionable bivalence assumption, is equivalent to

$$(8) (e_{\underline{\epsilon R}})In(e,\sim B).$$

Now, Jack has his counterpart of Jack's (Z2):

$$(J2) (e_{\underline{\epsilon R}})(In(e,C \& \sim B) \supset In(e,L))$$

We have to be careful about parameter shift here, since normally we would have expected Jack to share Zack's opinion (Z1); Jack does not regard it as a real possibility that Pete might call while holding a losing hand. But we do not want (J2) to be vacuously true, since (J2)'s conditional contrary would then be true as well and yield paradoxical results. I think we must look at the matter in this way: Normally Jack would not even consider (J2), since he would regard (J2)'s antecedent as being beyond the pale. But we persist and ask Jack to say, just for the sake of discussion, what will in fact happen if Pete calls and does not have a winning hand. In effect, we force Jack artificially to envisage at least one such event even though this is uncomfortable for him. On this interpretation, the argument depends on holding onto (J1) while artificially suspending the equally certain presumption

$$(9) \sim(e_{\underline{\epsilon R}})In(e, C \& \sim B).$$

Again let  $\underline{a}$  be an arbitrarily chosen event  $\epsilon \underline{R}$  in which Pete calls. Thus,

$$(10) In(\underline{a},C).$$

By (8) we have

$$(11) In(\underline{a}, C \& \sim B),$$

and the rest is trivial:

(12)  $\text{In}(\underline{a}, L)$ . [From (J2) and (11)]

(13)  $(e \in \underline{R})(\text{In}(e, C) \supset \text{In}(e, L))$ . [Conditionalization from (10) and generalization on the arbitrarily chosen  $\underline{a}$ ]

Thus we have an argument for Jack's conditional that is apparently about as convincing as our argument for Zack's.

What about Conditional Noncontradiction? Despite appearances, Jack's conclusion (13) does not formally contradict Zack's (7) (even when we rewrite "L" as " $\sim W$ "), because we know that the parameter  $\underline{R}$  takes a different value for Jack from the value it takes for Zack--Zack's restriction-class includes at least one event in which Pete has a better hand than Stone. But there is a remaining problem. Even if Jack's restriction-class is distinct from Zack's, they overlap considerably; e.g., they both feature a number of events in which Pete does not call and loses. Consider any one of these overlap events (those included in both Jack's restriction-class and Zack's) in which Pete does call. Then (7) and (13) jointly entail that in that event Pete both wins and loses. We might reply that this just means there is no overlap event in which Pete calls, especially since Jack "normally" does not envisage any such event at all after he has seen Pete's hand. But recall that (J2) has forced Jack to envisage such an event, however uncomfortably, and at least one is included in the restriction-class mentioned in (13). Presumably what saves the situation is that an event of that type, for Jack, is always going to be one in which Pete does not have a winning hand, while for Zack an event in which Pete calls is never one in which he does not have a winning hand (since Zack has not been conversationally forced, as Jack has, to envisage any lapse in Pete's rationality). If we take this line we can maintain our compatibilism concerning Zack's and Jack's conclusions, rendering the law of Conditional Noncontradiction inapplicable.<sup>4</sup>

All the foregoing rests on some questionable assumptions. There is a further problem as

well: Everyone with whom I have discussed this case agrees that there is at least a sense in which Jack's conditional is objectively true at the expense of Zack's; e.g., if Zack and Jack meet, Jack will persuade Zack that he (Jack) is right, and, as we saw above, an omniscient observer has to take Jack's side against Zack. Yet it seems our treatment does not reflect that asymmetry; it is too irenic. So something has been left out.

Notice that if, per impossibile, it turned out that Pete did call in the end, we would not (most of us) want to continue maintaining that Zack and Jack had both been right; Conditional Noncontradiction would cut in, or it ought to. This takes us back to the issue raised in Chapter 3 about the Reality Requirement and Modus Ponens. If we choose to respect the Reality Requirement here and stipulate that all actual relevant events must be included in one's restriction-class, we get the right non-irenic result: Suppose that a freakish burst of Q-radiation from the sky rearranges Pete's brain in such a way as to make him call, irrationally, in the full knowledge that he had a losing hand. (We can add this supposition to our description of the case without contradicting anything in that description.) Then, if all actual relevant events are necessarily included in both Zack's and Jack's restriction-classes, this event is included too, and that falsifies Zack's conditional, while Jack's still comes out true. That is the result we want, and it would also explain the sense in which Jack is objectively right at Zack's expense.

Perhaps, though, the Reality Requirement need not be invoked, for the purely epistemic change wrought by a Zack-Jack confrontation is enough to explain Zack's recantation. In the confrontation, Jack reveals to Zack the contents of Pete's hand. A fortiori, Zack's epistemic situation changes, becoming in fact relevantly identical to Jack's. So even on our predominantly epistemic theory without the Reality Requirement, and despite its rejection of NTV, Jack's "correcting" of Zack's original conditional is no surprise; for a range of circumstances that were envisageable by Zack despite their unlikelihood (ones in which Pete had a winning hand) are no longer so, and that is enough to switch truth-value. Neither conspirator can comfortably utter "If Pete called,...[anything]," since for conversational purposes both now know Pete did not call, but if they force themselves to envisage Pete's calling for whatever aberrant reason, they

agree he had the losing hand and there is no circumstance in which he escapes losing--an even more wildly aberrant scenario would be needed to produce a win consistently with everything contextually permissible so far.

But would Zack be right to express his recantation as the correction of what had been an error? On my view, no. His original assertion was not only assertible but true in the context. I am happy with this understanding of the case. I do not hear the recantation as a confession of error (“I was mistaken; I trusted he had a losing hand but but he didn’t”). Zack made his claim without relying on any presumption about the contents of Pete’s hand, and (as Gibbard originally insisted) Zack had no relevant false atomic or other nonconditional beliefs. When he recants, it is only because his hidden parameter has shifted, and shifted in an irrevocable way; once he knows that Pete had the losing hand, he can no longer count Pete’s winning as a real possibility.

I would offer one further comment on the nature of the Zack/Jack pair, which observation will help to vindicate my claim that Zack’s recantation would be no confession of error. Zack’s conditional strikes me, and has struck several colleagues with whom I have discussed the Riverboat Puzzle, as having the ring of a backtracker in the sense of Lewis (1979).<sup>5</sup> Lewis argues convincingly that backtrackers require a different similarity relation on worlds from that mobilized by ordinary subjunctives. Consider the difference between (14a) and (14b):

- (14) a. If I were to jump out this sixth-story window, I would be badly hurt.
- b. If I were to jump out this sixth-story window, I would be perfectly OK  
[because I would never have done such a thing without having  
previously taken precautions in the form of a luxurious safety net].

(14a) is true as it stands. (14b) is true also, even though the intended interpretation is harder to process. The hearer mentally fills in something like “If I were to jump..., that could only be

because I had already taken precautions....”

Lewis offers no particular semantics for backtrackers; he distinguishes them from ordinary conditionals only to dismiss them from official consideration. But Lycan (1988) formulates one on his behalf. As Lewis noted (following Bennett (1974), Slote and Davis), the standard closeness relation favors the past over the future, in that past similarities are taken for granted or at least weighted very heavily in the overall comparison of worlds while similarities of futures are traded off.<sup>6</sup> On this understanding, (14a) is true, because in evaluating it we hold past and present conditions fixed, including the absence of a safety net, and compare only futures (some world in which things are as they are now and I jump and I get hurt is more similar to this world than is any world in which things are as they have been up till now and I now jump and do not get hurt). But what understanding of closeness makes (14b) true?

We must ask what is held fixed. My jumping, of course, since that is the conditional antecedent. But there must also be my present frame of mind and its retraceable background. Worlds will be counted as reasonably similar only if they contain my present standing desire not to get hurt (along with my having the means or resources to avoid getting hurt) and as much historical background as is consonant with that. (14b) is true iff some world in which I jump and am OK is closer to our world than is any other world in which I jump and get hurt. On the standard, past-hugging understanding of closeness, the latter truth-condition does not obtain. But if we start with my desire not to get hurt and make whatever adjustments in the past are needed to produce my jumping consistently with that desire, worlds in which I jump and get hurt are farther away; the safety-oriented adjustments needed to sustain my jumping consistently with my not getting hurt keep the Jump-and-Get-Hurt worlds at bay.

To evaluate a backtracker, then: Find the present actual fact that is most jarring relative to the counterfactual antecedent (in the sense of making the antecedent noteworthy or unlikely), hold that fact fixed, and adjust the antecedent’s etiology backward but only as far as is needed.

Can we translate this Lewisian backtracker procedure into our own semantics for straights? First let us construct a sample pair of an ordinary straight and its corresponding

backtracker, using our appointed sixth-story window:

- (15) a. If Lloyd jumped, he got hurt.
- b. If Lloyd jumped, he didn't get hurt [because he would never have been such a dweeb as to jump before carefully arranging for a safety net].

What makes (15b) come out true? First, find the jarring fact. Note that the “jarring fact” in question here, that distinguishes (15b) from (15a), may well not be the same “salient” fact that is held fixed for straights but let rip for the corresponding boxarrows; neither (15a) nor (15b) figures in an Adams-pair. As with (14b), what makes the difference is Lloyd's present standing desire not to get hurt (along with his having the means to avoid it).

In Lewisian semantics one juggles similarity relations. In mine one trades in “real and relevant” possibilities. For me, (15a) is true because any circumstance that is a real and relevant possibility and in which Lloyd jumped is one in which he got hurt; neither any safety net nor Superman nor intervening Venusians etc. are real possibilities for speaker and hearer in the context. To get (15b), we must instead rule out the possibilities of (i) Lloyd's failing to know that jumping from sixth-story windows is dangerous and (ii) Lloyd's knowingly risking life and limb. (i) is ruled out anyway; we did not envisage it in evaluating (15a) either. (ii) takes a bit more effort, for in tokening the antecedent common to (15a) and (15b) we would ordinarily envisage Lloyd's suspending his normal caution; a cautious person does not jump out of sixth-story windows. Yet there are remote circumstances in which even a cautious person might do such a thing, and in acknowledgement of those circumstances someone might utter (15b): Lloyd's desire not to be hurt is the fact amongst the common ground that makes (15b)'s antecedent as unlikely as it is, and in virtue of that desire Lloyd would of course not jump, but we force ourselves to envisage his doing so within the range of real possibility, which now does not include his going mad; any such circumstance is one in which he has previously arranged for

a safety net (or whatever) and so prevented himself from getting hurt. This reading of (15b) is hard to hear, but it seems to exist, if only for use by smartalecks. Thus we have a secondary way of marking off “real” possibilities within the Event theory, corresponding to our secondary Lewisian way of measuring “similarity.” Let us return to the Riverboat Puzzle.

Right at the outset, (15) bears a strong intuitive resemblance to the Riverboat example: We have superficially but not genuinely conflicting conditionals, driven by different standards of what is counted as a “real” possibility, one of them in particular being a backtracker. There is no threat to Conditional Noncontradiction, and so no threat of NTV. Can we then go ahead and assimilate the Riverboat Puzzle to (15), taking Zack’s conditional, “If Pete called, he won,” to be the backtracker?

There are two glaring differences between the two examples. First, as we have seen, the backtracker (15b) is unusual to the point of smartaleckiness; but Zack’s conditional is a sensible thing for him to say--perhaps the only sensible thing, if he is forced to issue a conditional opinion at all. Second, unlike the Riverboat case, (15) involves no particular difference in the epistemic situations of the speakers--it is not that an utterer of (15b) knows something the other speaker does not. By contrast, the Riverboat Puzzle arises because of the difference between the observers’ respective bodies of evidence. And the reason Zack affirms his backtracker is that he lacks the evidence to do anything but backtrack in following up his conditional antecedent; Jack, knowing both hands, has no need of such indirect reasoning backward, but goes straight ahead.

I believe that the differences are harmless and that the first is explained by the second. By hypothesis, Zack is deprived of a key piece of information, the contents of Pete’s hand, but is called upon for a conditional opinion regardless. Under shortage of information, all he can do is backtrack, and fortunately he has enough information to complete that computation reliably, the result being “If Pete called, he won.” That conditional unlike (15b) is not frivolous, precisely because the missing information is not common ground for Zack. Lloyd’s desire not to get hurt is presumably common ground for utterers of (15a) and (15b), and that is why special effort

must be made to support (15b).

I conclude that Zack's conditional is compatible with Jack's in the way, or in much the way, that backtrackers are compatible with ordinary forwardly evaluated conditionals.

Stalnaker (1984, p. 108) offers a case similar to Gibbard's, but offering a point or two of interesting difference. Suppose Paul does not know whether the British will be coming by land or by sea, but he is reliably told (16):

(16) If they are coming by sea there will be two lanterns in the church tower, and he accepts that conditional. Upon checking later, Paul sees clearly that there is only one lantern. Since he now knows there to be only one lantern, he accepts (17):

(17) (Even) if the British are coming by sea [or by pogo-stick or by wheelbarrow for that matter], there is only one lantern in the church tower.

Yet, Stalnaker points out, in a sense Paul does not give up (16), the contrary conditional he was originally vouchsafed, for he still uses it reliably to infer by Modus Tollens that the British are not in fact coming by sea; apparent violation of Conditional Noncontradiction.

Here neither conditional feels like a backtracker. Moreover, there seems to be no confrontation-recantation phenomenon.

What has my account to say?<sup>7</sup> I represent Stalnaker's two conditionals as

- (18) a.  $(e \in \underline{R})(\text{In}(e, \text{The British are coming}) \supset \text{In}(e, \text{There are two lanterns [not one]}))$ .
- b.  $(e \in \underline{R})(\text{In}(e, \text{The British are coming}) \supset \text{In}(e, \text{There is one lantern [not two]}))$ .

As usual, we may expect parameter shift here, and we get it: What Paul's informant says is that any real and relevant circumstance in which the British are coming is a Two-lantern

circumstance. Thus (18a) is true, and supports Modus Tollens so long as either the Reality Requirement is in force or at least things do not get seriously out of hand. But when Paul himself sees it settled that there is only one lantern and not two, he can no longer envisage Two-lantern circumstances, since after that point any relevant envisaged circumstance will be a One-lantern circumstance, (18b) is redundantly true as (17) feels to be.

Now, knowing there to be only one lantern, how can Paul continue to affirm (18a) and (16)? For as we have just said, he can no longer (realistically) envisage circumstances in which there are two lanterns. In the Riverboat case, we counted this “irrevocable” loss of envisageability as a reason for Zack’s recantation, even though we argued that the recantation did not amount to outright confession of error. Therefore, should we not expect Paul to give up (the now present-tense version of) (16)? For by his present epistemic, no Sea circumstance is a Two-lantern circumstance.

One reason Zack’s conditional was true when he originally tokened it (and remains true as uttered even though Zack can no longer use the same sentence to express the same proposition) is that it was a backtracker, and we already know backtrackers mobilize a special “working backward” epistemic even relative to the same body of evidence (cf. (15)). But (16) is not a backtracker; (16) was originally affirmed on the basis of a forward-looking causal connection between the British strategy and the colonists’ communication system. Its evaluation should be computed in the way normal to ordinary forward-looking causal conditionals, albeit in light of Paul’s epistemic situation. This point reveals an anomaly in Stalnaker’s presentation of the example.

According to Stalnaker, (16) allows us to consider it settled that the British are not coming by sea. But then we must regard (16)’s own antecedent afresh, as straying outside what is now the common ground. But then by Stalnaker’s pragmatic constraints (16) is anomalous and should have been lexicalized as a boxarrow. Yet if (16) is anomalous, how can (16) participate in licensing the denial of its own antecedent, or in licensing anything at all?

I think the answer is that (16) does not any longer participate in Paul’s Modus Tollens,

for Paul cannot assert (16). If Paul were artificially forced to envisage a Sea circumstance despite his knowledge that only one lantern is displayed, he would not start envisaging present circumstances in which there are actually two lanterns of which one is for some reason invisible to him; rather he would envisage some breakdown of the signalling system. I reject Stalnaker's suggestion that (16) is still in some sense true or assertible for Paul.

But whence, then, Paul's Modus Tollens? It has two compossible sources. First, Paul would naturally affirm (16)'s corresponding boxarrow, (19):

(19) If the British were coming by sea, there would be two lanterns in the church tower,

for our evaluation procedure for boxarrows allows the envisaging of possibilities one well knows to be nonactual, as Stalnaker's allows his selection-function to roam outside the context set.

And (19) gives Paul Modus Tollens. Secondly, though less likely, Paul is still justified in affirming the corresponding material conditional, which supports Modus Tollens also.

## FOOTNOTES TO CHAPTER 8

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<sup>1</sup> These were examples (27) and (28) in the original text.

<sup>2</sup> Gibbard tacitly assumes that Pete wants to win this hand in particular. I shall sustain that assumption throughout.

<sup>3</sup> Disparities of this curious kind are discussed by Dretske (1971) and Harman (1973).

<sup>4</sup> For a related compatibilist discussion based on Stalnaker's semantics, see Kremer (1987). There are a number of different "compatibilist" solutions to the riverboat puzzle (I am calling a "compatibilist" solution any treatment according to which Zack and Jack are both right and yet Conditional Noncontradiction is not violated): One is mine, or one like mine, on which a hidden

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parameter changes its value from Zack's conditional to Jack's. Another is Gibbard's own, on which the semantic values of straight conditionals themselves are relativized to utterers and Conditional Noncontradiction is deemed to hold only for an utterer at a time. Another might be a Lewisian treatment in which different standards of similarity were held to be mobilized by Zack and Jack respectively. Still another might be a Chisholmian one, in which Zack's and Jack's antecedents were held to be (divergingly) elliptical; Chisholm's ellipticality theory, implausible as it is on its own, works rather well on the present problem. But one further option open to us, which no one has yet explored, is to deny Conditional Noncontradiction in the first place.

Such a denial may seem absurd; certainly it is counterintuitive. So far as I can see, the only support for it comes from the fact that the material conditional, at least, is known not to obey Conditional Noncontradiction. If our straight conditional is to invalidate Conditional Noncontradiction also, it must share the horseshoe's habit of merely making its antecedent false when contradictory consequents are true. One suspects that any straight conditional that has this property would be a material conditional, but offhand I see no proof to that effect. Perhaps some logician could devise a conditional that has the properties in question (logicians are I admit, good for something).

<sup>5</sup> Lewis obtained the idea of a backtracker from Downing (1959), Bennett (1974), and Slote (1978). My safety net example is Slote's.

<sup>6</sup> Hence an asymmetry of counterfactual dependence, hence a number of other asymmetries that need explaining.

<sup>7</sup> Stalnaker himself uses his own example and Gibbard's to motivate a distinction between accepting a conditional sentence and affirming a conditional proposition which may or may not be expressed by the corresponding sentence depending on context. Stalnaker's subtle view is set within a broader theory of belief and doxastic action.