Handout 11: More on Closeness

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SMOOTH RAMPS

1. $A \mathrel{\Box\!\!\rightarrow} C$ is true only if at the 'closest' A-world(s), C. So what makes an A-world 'close'? Confining ourselves to cases where A concerns events at some particular time t_A, the dialectic in chapter 13 went like this:

2. First answer: closeness = all-in similarity. But this can't work, because 'If Nixon had pressed the button, there would have been a nuclear holocaust' will come out false. Consider w_1 and w_2:

   w_1 Just like α until shortly before t_A, when Nixon presses the button, initiating a nuclear strike. The Soviets retaliate, and a nuclear holocaust ensues.

   w_2 Just like α until shortly before t_A, when Nixon presses the button. But a nuclear strike is averted through a small miracle that leads the signal to 'vanish on its way from the button to the rockets'. A nuclear holocaust is averted.

   It's very plausible to think that w_2 has a higher degree of overall similarity to α than w_1 does. But then the counterfactual is false.

3. After considering and rejecting his own earlier view ('Simple') and Jackson's, the picture Bennett settles on is this. w is a closest A-world (if and?) only if:

   (a) w exactly resembles α in all significant respects until some time t_F before t_A.

   (b) At t_F, some 'inconspicuous' difference emerges between w and α (the 'fork').

   (c) After t_F, a 'natural-seeming course of events' leads to t_A, making A true, and then beyond (the 'ramp').

   We'll say that a ramp is 'smooth' to the extent that it satisfies (c). Note that w_1 and w_2's ramps are equally smooth until Nixon presses the button. For w_2 to be ruled further from α than w_1 in virtue of its bumpy ramp, (c) must require that the ramp remain smooth until the time of the event denoted in the consequent. So what makes a ramp smooth?

4. Bennett characterizes smoothness in terms of the laws of nature, saying that the ramp must be "legal" and "causally coherent". This will rule against w_2, whose ramp is miraculous.

5. But (*contra* Bennett) smoothness can't just be a function of legality. Consider w_3:

   w_3 Just like α until shortly before t_A, when Nixon presses the button, initiating a nuclear strike. Then Nixon has a moment of transcendent compassion for all living beings. Realizing what he has done, he recoils in horror, picks up the phone and calls Haldeman, instructing him to stop the launch. He succeeds, and a nuclear holocaust is averted.

   If the counterfactual is true, then w_1 is closer to α than w_3. Since both satisfy (a) and (b) equally well, the difference must concern (c). But do you really want to say that w_3 violates the laws of nature? If not (I don't), then the relevant difference here doesn't concern which ramp is legal.

6. You might say, assuming determinism: "Look, given that w_1 and w_3 are identical at t_A but diverge thereafter, *one* of the forks must violate the laws of nature." I will grant this for the sake of argument. But why think w_3's ramp is the illegal one? I have no grounds for this judgment. Nonetheless, I am sure that w_3 is 'further' than w_1 (i.e., I think it's false that if Nixon had pressed the button, he would have had a spiritual awakening, etc.).

7. Maybe Lewis's second criterion helps? Does w_3 exhibit a less perfect 'match of particular fact' than w_1? I find it hard to see how. None of the Nixon-related events in either world matches the particular facts between t_A and t_C.

8. My (almost vacuous) theory of smoothness: a ramp looks smooth (and so, ceteris paribus, a world with that ramp looks close) when it contains few surprises. Violations of the laws of nature are surprises, but so are personality changes, widespread shifts in weather patterns, enormous strokes of luck or misfortune, unexplained coincidences, successful conspiracies, and so on. Can we give an informative analysis of the relevant sort of surprise? I doubt it. But it does seem to capture what's wrong with w_3's ramp: it's too surprising.

9. I don't say that a ramp *is* smooth to the extent that it lacks surprises. The actual world contains surprises, so we should not suppose that closest A-worlds never contain surprises. The proposal concerns which worlds we *treat* as close, not what *makes* a world close. So what *does* make a ramp smooth, and a world close? I find this to be a very difficult and troubling question. I would like to say that we can be wrong about which worlds are closest, but to say this requires saying that lack-of-surprise is only a defeasible guide to which ramps are smoothest. What is the underlying fact that lack-of-surprise is tracking?

FORKS

1. Closest A-worlds contain forks. What happens when w forks away from α at t_F? In §82 Bennett describes three possible answers:

   (a) An "indeterministic causal transaction" occurs at t_F whose outcome is different at w than it is at α.

   (b) At w, a "small miracle" occurs at t_F, leading w to develop differently from α.

   (c) α and w differ in some imperceptible way from the beginning of time, and at t_F the difference "explodes," leading the worlds apart.

   Apparently Lewis held that there were no exploding differences at any close worlds to α. Others have worried themselves sick over whether small miracles of the envisioned sort are possible. And still others doubt that indeterministic causal transactions can give us the sort of forks we would require.

2. Bennett thinks that these questions are irrelevant to our understanding of counterfactuals:

   > The plain person using a subjunctive conditional has a *vague* thought of a world that does not significantly differ from the actual one until a divergence leading to the truth of his antecedent. We introduce indeterminism and small miracles as two *sharpenings* of this vague thought; and a third way to sharpen it is with the idea of an exploding difference (218).

   Insofar as our project is to reconstruct, in an informative way, the structure of our counterfactual thoughts, this response is entirely appropriate. But suppose we also want to know whether our counterfactual thoughts are true. If there are no close worlds with exploding differences, then we could not both sharpen our idea of what happens at a fork in that way *and* treat our counterfactual thoughts as true.

3. Bennett continues this theme in §86, where he rehearses the case for forks and downplays the importance of the metaphysical questions that philosophically-minded people are attracted to when reflecting on their possibility. I have a *lot* of sympathy for the idea that metaphysical questions of this sort are irrelevant to the semantics of counterfactuals. But still, the metaphysical questions are not unimportant. Recall that we need the closest worlds to have forks because our use of counterfactuals seems to imply:

(a) At the closest A-worlds, A did not come about suddenly, but through a natural-seeming process.

(b) At the closest A-worlds the past is indiscernible from α's until some point shortly before t_A.

Translating out of the possible worlds lingo: when we treat $A \mathrel{\Box\!\!\rightarrow} C$ as true, we commit ourselves to thinking that there is a way things could have been that resembles the way things are (almost) perfectly until some time, at which it becomes different. If metaphysicians have reason to doubt that there are such ways things could have been, isn't that a problem?

4. Here's another way of putting things. There is a tension between:

   (a) Many true counterfactuals imply that there are possible worlds with forks.

   (b) There are no possible worlds with (the relevant kind of) forks.

   The two are inconsistent. The Bennett-Lewis analysis implies (a). We haven't considered any arguments for (b), but they are out there, and the metaphysically-minded can imagine them. Bennett seems to want to say that without even considering the arguments, we can safely ignore them in the analysis of counterfactuals. I disagree, because I think that we want an analysis of counterfactuals that tells us that most ordinary counterfactuals are *true*. So to the extent that we think (b) to be likely, we should seek an analysis of counterfactuals that doesn't entail (a).

PARTICULAR FACTS

1. Consider the following plausible principle:

   PF If (1) w_1 exactly resembles w_2 up to t_F, and (2) both conform to the laws of α thereafter, and (3) they first become unalike in respect of one particular matter of post-t_F fact that obtains at α and w_1 but not at w_2, then w_1 is closer to α than w_2 is.

   Suppose that $\neg(A \mathrel{\Box\!\!\rightarrow} \neg C)$. Then there is a closest A-world where C. Now suppose that at α, C. PF seems to imply that no legal forking $\neg - C$ world is as close to α as any legal forking C-world; i.e., that:

   PF* $\neg(A \mathrel{\Box\!\!\rightarrow} \neg C)\ \&\ C$ entails $A \mathrel{\Box\!\!\rightarrow} C$.

2. From PF* it's but a hop skip and a jump to CEM (see p. 233). Since Bennett wants to deny CEM, and since he thinks that PF implies PF*, he wants to deny PF.

3. Bennett argues that PF has counterintuitive implications:

   (a) 'We have a deeply and objectively random coin-tossing machine. [...] Joe activates the mechanism at t_A and the coin comes down heads. Now consider the statement, "If Susan had pressed the button at t_A, the coin would have come down heads."'

   Bennett says this statement is intuitively false, but would come out true if we endorse PF. Given PF, all of the closest legal forking A-worlds are worlds where the coin comes down heads. So all of the closest Susan-pressing worlds are heads worlds; the counterfactual is true. Denying PF lets us say that there are some tails worlds among the closest Susan-pressing worlds, and thus that the counterfactual is false (Lewis) or at least not determinately true (Stalnaker).

4. As Bennett goes on to show, though, denying PF also has counterintuitive implications. Things are just as described above, but the relevant counterfactual is 'If you had bet on heads, you would have won.' That (reportedly) seems true, but without PF should be just as untrue as the Susan conditional. What gives?

5. Bennett's solution is to revise PF:

   PF-C If (1) w_1 exactly resembles w_2 up to t_F, and (2) both conform to the laws of α thereafter, and (3) they first become unalike in respect of one particular matter of post-t_F fact that obtains at α and w_1—*through the same causal chain at both*—but not at w_2, then w_1 is closer to α than w_2.

PF-C lets us say that the Susan conditional is untrue because all the *A*-worlds where the coin comes up heads are worlds involving a different causal chain than that which actually eventuated in its coming up heads: in the *A*-worlds, it's Susan who presses the button, not Joe. But it also lets us say that the bet conditional is true because in all the *A*-worlds where the coin lands heads, it does so through the same causal chain as it actually does, so those worlds are all closer than any tails worlds.

6. Joe pressed the button while my eyes were open. Does PF-C imply that 'If Joe had pressed the button while my eyes were closed, it would have come up heads' is true? That seems no less untrue than the Susan conditional, so the answer should be no. PF-C answers no only if the causal chain starting from Joe's pressing the button while my eyes are open is different from the causal chain starting from his pressing the button while my eyes are closed. It seems to me like that's *not* a different causal chain, because Joe's pressing is the same event in each case. As Bennett points out, 'reidentifying events across worlds is often a murky matter, guided only by unstructured intuitions' but it seems clear enough to me that whether or not my eyes are open is irrelevant to which event Joe has performed.