

Stuck in the closet: a reply to Ahmed

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Morgenbesser cases matter, as Ahmed (2011) puts it, because they appear to refute the attractively simple suppositional theory of counterfactuals.¹ In my 2007, I defended the suppositional theory by endorsing Slote's suggestion that our intuitions in Morgenbesser cases are 'vestiges of a deterministic mindset' (Slote 1978; the phrase is from Schaffer 2004: 305). I then argued that, if we divest ourselves of that mindset, and reject Morgenbesser counterfactuals (e.g. (3) and (4) below; I follow Ahmed's numbering throughout), the crucial role of counterfactuals in empirical reasoning is not impugned. In his stimulating reply, Ahmed disputes both claims.

1. Independent intuitions?

Doyle is playing Texas Hold'em. He folds the three and five of clubs. The next three cards ('the flop') are then dealt by a random card generator on a truly indeterministic basis, and entirely independently of Doyle's decision to fold. Seeing the ace, two and four of clubs dealt, Doyle kicks himself, thinking (3) and, as Ahmed sees it, implicitly, (4).

- (3) If he had not folded he would have won.
- (4) If he had not folded the flop would have been what it actually was.

In the deterministic case this is appropriate, given the causal independence of decision and flop. The orthodox view, which Ahmed endorses, takes it that these thoughts are also correct in the indeterministic case. I demur. To think (3) or (4) is, implicitly, to think of the outcome of the flop as revealing some hidden fact about an earlier situation, a fact that would have been the same even if Doyle had bet. However, if the process is truly indeterministic, the outcome reveals no such thing. In a different (e.g. betting) situation, the outcome might well have been different. To think otherwise is to be locked in a deterministic mindset.

Ahmed disagrees. The intuition behind (3) and (4) is, he claims, quite independent of determinism. To see this, we are asked to consider the following argument for (4) whose premisses, we are told, are 'both intuitive and independent of determinism' (3).

- (8) If C [Doyle's folding] makes no difference to an actual event E [the actual flop] then E would still have occurred even if C had not (premiss).

1 See, in particular, Adams 1975 and Edgington 1995. Edgington (2004, 2008) forsakes simplicity precisely because of Morgenbesser cases. For discussion see my 2007.

- (9) *C* makes no difference to any actual events to which it is causally irrelevant (premiss).
- (10) Doyle's folding is causally irrelevant to the flop (premiss).
- (11) Therefore (4) is true.

On the basis of this argument, Ahmed concludes that 'contra Phillips, there is an intuitive route to (3) and (4) that doesn't presuppose determinism' (3).

(10) is stipulative. The action is with (8) and (9). We can treat these together by considering:

- (12) If *C* is causally irrelevant to an actual event *E* then *E* would have occurred even if *C* had not.

The problem with Ahmed's argument is that (12) might be both intuitive, and independent of determinism, without being intuitive, independently of determinism. The point of my 2007 was that the obvious *justification* for a claim like (12) was closet determinism, since determinism guarantees that every world that agrees with actuality over the laws and the causal factors pertaining to *E* will agree with actuality over *E* (see Ahmed's (13) below). In contrast, in an indeterministic setting, there is no obvious justification for (12). Insisting that it is intuitive won't do; that intuition (in my view) is precisely the intuition underpinned by closet determinism. If we relinquish our deterministic mindset, we lose our reason for accepting (12), and with it (3) and (4). Ahmed's argument does not challenge this.

Perhaps Ahmed's objection is that there is *space* for (12) in an indeterministic world, since maintaining (12) does not entail determinism. To establish this, Ahmed argues that (12) entails only (14), but not the stronger (13), which captures the relevant aspect of determinism.

- (13) For any post-*C* event *E*, *every* world that agrees with actuality over (i) the laws (ii) the causal factors for *E*, will agree with actuality over *E*.
- (14) For any post-*C* event *E*, the *closest* $\sim C$ -worlds that agree with actuality over (i) the laws (ii) the causal factors for *E*, will agree with actuality over *E*.

If (14) is true but (13) false, it must be the case that a world can agree with actuality over (i) the laws and (ii) the causal factors for *E*, but nonetheless *not* be amongst the closest worlds. If every such world counted as close, then either (13) would hold, or (14) would be false, and with it (12). Thus, to show that there really is space for (12) in indeterministic worlds, Ahmed must justify a closeness metric which delivers this result.

Ahmed cannot justify such a metric on the ground that it captures our intuitive verdicts in relation to Morgenbesser cases. It is those verdicts which are at issue. Furthermore, the metric cannot simply be our 'ordinary common-or-garden' notion of closeness as Edgington (2004: 12) reminds us. For if a

world that agrees with actuality over (i) the laws and (ii) the causal factors for E is nonetheless *not* to count as amongst the closest, this must be because weight is given to future similarity in determining closeness. Yet, as we have known since the objections of Fine (1975) and Bennett (1974) to Lewis (1973), giving weight to future similarity in the ordinary sense generates highly counter-intuitive consequences in relation to the assessment of other counterfactuals, at least without further manoeuvring.

2. Counterfactual *modus tollens*

Ahmed's second counter-argument is that, if we embrace the suppositional account and reject Morgenbesser counterfactuals, our ability to reason empirically with counterfactuals will be irreparably damaged. I addressed this objection as posed by Edgington (2004) in my 2007. But I dealt there only with the case of counterfactual abduction, implicitly taking Edgington's view that 'the two forms of inference are not really distinct' (2004: 24). Ahmed objects that a similar treatment cannot succeed for counterfactual *modus tollens*, i.e. reasoning which instantiates the schema CMT (i.e. Ahmed's (16); ' $P > Q$ ' is to be read 'If P had occurred, then Q would have occurred').

CMT $Q, P > \sim Q$, therefore $\sim P$

Ahmed insists that CMT is valid, indispensable and incompatible with the suppositional theory (at least given the heterodox approach to Morgenbesser counterfactuals that I defend). Once again, I demur.

Ahmed's challenge begins with the following claim: 'Any instance of [CMT] is valid: if its premisses are true then its conclusion is true; moreover the conclusion is at least as likely as the conjunction of the premisses' (5). Having asserted this, Ahmed then considers an application of CMT in a chancy context. We are to imagine an eruption followed by an extremely unlikely and causally independent earthquake. A geologist, on learning of the earthquake's occurrence, reasons as follows. An earthquake occurred. But, if the eruption had occurred, the earthquake would *not* have occurred. Therefore, the eruption did not occur.

If we are certain that, if the eruption had occurred, the earthquake would *not* have occurred, then on learning of an earthquake, the geologist can indeed conclude that the eruption did not occur. However, in contexts of uncertainty, Ahmed claims that CMT spells disaster for the suppositional theorist. He argues as follows. The earthquake had only a 1% chance of occurring post-eruption, so the suppositional theorist will want to assign a 1% probability to the counterfactual, 'If the eruption had occurred, the earthquake would have occurred', and so a 99% probability to the counterfactual, 'If the eruption had occurred, the earthquake would *not* have occurred'. Yet, if we know that an earthquake occurred, then the joint

probability of the premisses remains at 99%. So, assuming that CMT is probabilistically valid, it follows that we should be 99% confident that there was no eruption. And, as Ahmed declares: 'This is obviously wrong: the whole point of the example was to describe fairly good evidence *for* an eruption!' (84).

The result is obviously wrong (though I do not see how this form of reasoning could provide good evidence *for* an eruption given the assumed independence of quake and eruption). It is obviously wrong because, as Ahmed points out, 'we could use [CMT] to argue against the actual occurrence of *any* possible event that (would have) preceded *any* unlikely and causally unrelated actual one' (84). That includes both occurrence and non-occurrence of an eruption! Nonetheless, the result is not a disaster for the suppositional theorist. For the suppositional theorist will simply deny Ahmed's claim that CMT is valid.

CMT undoubtedly has the following property: if I am certain that Q , and also that $P > \sim Q$, then I can be certain that $\sim P$ (Edgington 2004: 24; cf. her 1995: 286 on the 'Certainty criterion'). If we were dealing with propositions, this would be enough to ensure the probabilistic validity that Ahmed's argument requires. However, according to the suppositional theorist, when it comes to counterfactuals, we are not dealing with propositions; we are dealing with conditional probabilities. As a result we cannot assume that certainty preservation entails that 'the conclusion is at least as likely as the conjunction of the premisses' (82).

Not only can we not assume it, there are counter-examples to the probabilistic validity of CMT. Here is Edgington's favourite. I drive past a friend's house at night considering whether to drop in. I see that the lights are off. Knowing that it's very likely that, if they were in, the lights would be on, I conclude that they aren't in and drive on. Typically, this is a perfectly acceptable form of reasoning. Yet, as Edgington comments:

It can be defeated thus: 'I agree that it was indeed very likely that we would find the lights on, if they were at home; but it was also very likely that we would find the lights on, if they were not at home; for they have the deeply ingrained practice of leaving the lights on when they go out at night. So there must be some other explanation for the lights being out. Perhaps there's a power cut...'. (2004: 24)

As Edgington notes (2004: 23–24), in cases such as this, where both $P > \sim Q$ and $\sim P > \sim Q$ are sufficiently probable, CMT instances can have premisses jointly significantly more likely than their conclusions. Ahmed's earthquake case is simply another case in point: the probability of, 'If the eruption had occurred, the earthquake would *not* have occurred', and, 'If the eruption had not occurred, the earthquake would not have occurred', are both 99%. Thus, we should expect CMT to yield absurd results.

Ahmed is aware of Edgington's resistance to CMT. However, he regards her position as untenable, arguing that CMT must be probabilistically valid: 'Even assuming (on *any* interpretation of probability) that the probability of Q is fixed and high, if the probability of $\sim P > \sim Q$ increases, the probability of $P > \sim Q$ will *fall*; at no point will the probability of $(P > \sim Q) \& Q$ exceed that of $\sim P$, on pain of incoherently assigning a non-zero probability to the inconsistent conjunction of P , Q and $P > \sim Q$.' (82, fn. 5) The reasoning here would be flawless if we were dealing with the probabilities of propositions. But, for the suppositional theorist, we are dealing with conditional probabilities which are notoriously not the probabilities of propositions.² This matters because, unless counterfactuals are treated propositionally, we lack any standard understanding of the probabilities of conjunctions with conditional conjuncts. Without some such understanding, Ahmed's argument does not get off the ground.³

Where does this leave us? Must the suppositional theorist abandon counterfactual *modus tollens* reasoning in indeterministic settings? Not at all. The suppositional theorist must simply acknowledge that such reasoning is de-feasible (cf. Edgington 2004: 23f.). Suppositional theorists have every right to partake in such forms of reasoning; they will just enjoy us to remember their limitations.⁴

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- 2 The shift of perspective this brings in relation to indicatives is elegantly discussed in Edgington 2001: §3.1.
 3 Ideally, the suppositional theorist would have to hand a comprehensive treatment of counterfactual conditionals in terms of conditional probabilities. To my knowledge, no such treatment yet exists (for the foundation stones, see Adams 1975: Ch. 4). The lack of a comprehensive positive account does not diminish the force of the negative point in the text.
 4 Thanks to Dorothy Edgington, Daniel Rothschild and Lee Walters for extremely helpful exchanges which greatly improved this article.

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Comparative world similarity and what is held fixed in counterfactuals

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When determining whether an instance of an argument form is a counterexample to that form, it is crucial to hold the context fixed when evaluating the truth values of the statements comprising the possible counterexample. It is generally conceded that counterfactual conditionals are semantically context dependent, and, in a discussion of such conditionals, Brogaard and Salerno (2008) argue that apparent counterexamples to hypothetical syllogism, strengthening the antecedent and contraposition all trade on a failure to hold fixed the context in which the premisses and conclusion are assigned truth values. In particular, they claim, the familiar collection of counterexamples cited in connection with the semantic theories of Stalnaker (1968) and Lewis (1973) are guilty of this failure:

The ability of the possible worlds account to explain the failure of these inferences is thought to be one of its great strengths. However, as we will argue, the results yielded rest on a contextual fallacy. (Brogaard and Salerno 2008: 40)

I will argue that no contextual fallacy is committed in the standard Stalnaker/Lewis counterexamples to the rules in question. The counterexamples work after all (in the sense that they show the rules in question to be fallacies under the Stalnaker/Lewis account of counterfactuals).

Brogaard and Salerno consider this apparent counterexample to hypothetical syllogism:

(Hoover) If J. Edgar Hoover had been a communist, he would have been a traitor. If he had been born a Russian, he would have been a