

# ON EVIDENCE FOR AFFECTING THE PAST

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## *Introduction*

Is backward causation possible, i.e., is it possible for a cause to be later than its effect? No doubt we believe that causes do not occur after their effects. But *could* a cause occur later than its effect?

The controversy on this question has been vigorous at least since the symposium between Michael Dummett and Anthony Flew in the *Proceedings of the Aristotelian Society* (1954). The debate has centered around efforts to determine whether the statement, "causes do not occur later than their effects," is analytic or synthetic. In a variant vocabulary, is the temporal asymmetry of the causal relation logically necessary or contingent?

One might think that the short way with this problem is to challenge the intelligibility of the claims about the proposition at issue, viz., that it is *analytic* or that it is *synthetic*. I am well aware that the notion of analyticity has come under severe criticism. But I do not want to become embroiled in a discussion about the nature of necessity. If one has Quinian dispositions he can rephrase the issue as a debate about the centrality in our conceptual scheme of the statement, "causes do not occur later than their effects." Granting that there are circumstances under which we would stop believing the statement, how much conceptual revision in other parts of our scheme would this change cause?<sup>1</sup>

The participants in the above symposium and most philosophers who have addressed the issue are interested in the question primarily because its discussion will illuminate our causal and temporal

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<sup>1</sup> I also recognize that some philosophers would not want to identify contingent statements with synthetic statements. I cannot argue the issue here; for the purposes of this paper I, like the contributors to the debate, shall be assuming such an identity.

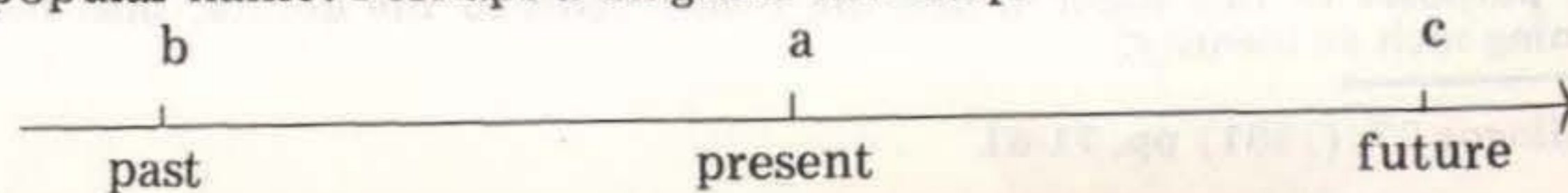
concepts — concepts which are fundamental to our conceptual scheme. Yet there are other more specific reasons for interest in the issue. I shall give two examples.

On a simple regularity view of causation the cause is a set of conditions which are singularly necessary and jointly sufficient for the effect. But a consequence of this view is that the effect is also necessary and sufficient for the cause. Since any adequate analysis of causation ought to distinguish between the cause and the effect, an analysis merely in terms of necessary and sufficient conditions will not suffice. One solution is to add that the cause temporally precedes the effect or is simultaneous with the effect. The defense of this claim lands one squarely in the debate about the temporal asymmetry of the causal relation.

One intuitive way of distinguishing between the past and the future is to claim that the past is determinate and that the future is open. One way of interpreting this intuition is as a claim that the past is closed in the sense that we, in the present, are unable to affect it. But on the other hand the future is said to be open since we can do something in the present that will affect it. This, of course, gets us into the asymmetry debate.

Those philosophers who have argued that backward causation is possible have attempted to do so by stipulating certain states of affairs which, if they occurred, would supposedly encourage us to countenance backward causation. The opponent, on the other hand, tries to show that the description of the stipulated state of affairs can be classified as something other than an instance of affecting the past, or is contradictory, or forces a contradiction at some other point in our conceptual scheme, or at least leads to a tremendous distortion of allied concepts.

No one has provided a taxonomy of the types of stipulated states of affairs philosophers have proposed with respect to this issue. That would indeed be an ambitious project and I shall not do it here. Nevertheless, the lack of taxonomic activity might be responsible for part of the confusion that surrounds the issue. I want to distinguish two types of backward causation and then restrict my discussion to one of those types. It might be acceptable to ultimately conflate the two types, but this is not obvious. The conceptual nets that the two types are parts of differ in some striking respects. I have cases of precognition in mind for the one type. The other type does not have a popular name. Perhaps a diagram will help.



If *S* does something at *a* to bring about *b*, we might speak of backward causation. But if the occurrence of *c* could bring about *S*'s doing something at *a*, we might also speak of backward causation. I shall call the first type "instances of affecting the past." To such cases I wish to restrict the discussion.

I have been talking and will continue to talk as though the temporal order is given. One might be suspicious of this assumption given analyses of the direction of time in terms of causality.<sup>2</sup> This suspicion should be respected but I cannot argue here that time's direction can be analyzed independently of causation; nor can I permit my remarks that follow to become hopelessly complex by not assuming the temporal order to be given. So this issue must remain one of those questions for later consideration.

The most interesting defense of the contingency of the relation occurs in "Bringing About the Past" by Michael Dummett. He rightly realizes that this opponent must show the absurdity of backward causation regardless of how the facts turn out. Dummett stipulates a possible empirical situation in which he thinks it would be reasonable to speak of bringing about a past event. In so doing he claims to have defeated the proponents of the necessity of the relation.

A number of writers have tried to precipitate conceptual absurdities from Dummett's example.<sup>3</sup> Though the arguments put forth are of unequal merit, they do succeed in showing that Dummett's case requires some modification of our concepts of memory, action, intention, freedom, etc. But it unfortunately is not obvious that these concepts cannot bend enough to keep Dummett's example intact and in turn his contingency thesis.

In this paper I shall be continuing this general strategy of showing the conceptual warp introduced by Dummett's example. I do not claim to be able to deduce a formal contradiction from Dummett's case, but I shall elicit a very serious conceptual warp that is embedded in the case. My arguments are of special interest since Dummett himself regards a conceptual strain closely allied to the point I shall bring out as a threat to his entire enterprise — he makes special efforts to answer it.

This paper is divided into two parts. In the first section I begin by pointing out some cases that are not examples of affecting the past. Next I review the nucleus of Dummett's argument and provide an exegesis of its critical turns. In the second section I criticize

<sup>2</sup> See, for example (13).

<sup>3</sup> See especially (2, 7, 10, 15).

Dummett's example by showing that it leads to changing our notion of gaining evidence for a causal generalization.

## I

What would it be like to affect the past? This question gets us ahead of the game. But it might help to begin by seeing what affecting the past is *not*. The first two examples that follow are clearly not instances of affecting the past. The last example is also unacceptable yet it is often confused with what is involved in affecting the past.

It is commonplace that historians are continually rewriting history. One might want to say that in some sense they change the past. But they, *qua* historian, do not affect the past. They, by doing something, do not make the past; they rather discover what happened in the past and interpret those happenings.

Even if some version of epistemological relativism with respect to statements about the past were true, this does not support the claim that historical activity as such affects the past. At best, it would show that the past is epistemically impregnable and that historical writing was more akin to voicing one's view on the latest fashion than to voicing one's view on physics.

Boxers sometimes try to win their fights. The goals of hearing a crowd roar or avoiding pain may drive them on. Is not this a case of a future event affecting an earlier one? At first glance one might think that the future roar of the crowd causes the boxer to fight more aggressively. But of course it is the present *desire* for the roar of the crowd that causes him to fight more aggressively. There is no affecting the past here. (This would be a type-1 case anyway.)

When Evil Knevel's motorcycle, rocket, contraption, whatever, failed to function properly he fell below the eyesight of ABC cameras and the onlookers. Perhaps he fell into the river or onto the rocks. Perhaps on impact he was killed. A few minutes after the impact Mrs. Evil Knevel uttered a prayer to God to spare Evil (or let's pretend she did). One interpretation of this utterance might be that she is asking God to "affect the past." "God, if Evil is dead, make him not dead." But if this is what affecting the past amounts to, even God won't be able to do it. He can at best bring dead men back to life but he cannot make a dead man a not dead man; i.e., he can't perform a contradictory activity. So affecting the past should not be confused with making what happened not have happened. Let us turn to a more successful attempt.

Dummett's *prima facie* instance of backward causation is developed from the supposition that we happen upon a tribe with the following custom:

Every second year the young men of the tribe are sent, as part of their initiation ritual, on a lion hunt: they must prove their manhood. They travel for two days, hunt lions for two days, and spend two days on the return journey; observers go with them, and report to the chief upon their return whether the young men acquitted themselves with bravery or not. . . . While the young men are away from the village the chief performs ceremonies — dances let us say — intended to cause the young men to act bravely. We notice that he continues to perform these dances for the whole six days that the party is away; that is to say, for two days during which time the events that the dancing is supposed to influence have already taken place (1 p. 263-4).

Beyond the peculiarity of dancing affecting something two days away there is thought to be a special absurdity in affecting the past. We ought to be able to dissuade the chief of the causal efficacy of his dance on the last two days. Since the absurdity is thought to be of a logical sort we must dissuade the chief no matter how the empirical situation turns out. Dummett needs some additional assumptions to complete the *prima facie* case. First, some uniform connection is required between the dancing and the bravery.

- (i) There is a high positive correlation between the chief's dancing and the previous bravery of the men.<sup>4</sup>

For Dummett's purposes (i) is still not enough. *At best* it supports some sort of causal connection between dancing and bravery. The direction of the connection is open.

Dummett adds,

- (ii) The dancing is something in the chief's power to do as he chooses.

The addition of (ii) is supposed to give the causal relation a direction from subsequent dancing to prior bravery. So the story plus (i) and (ii) describe a situation which, according to Dummett, represents a state of affairs in which it would be reasonable to speak of backward causation.

Dummett raises, and tries to answer, the obvious objection which threatens to dash his example. It goes like this, "Look chief, if your dancing is really the cause of the men's bravery then you ought to be

<sup>4</sup>The dancing at issue here is that which occurs on the last two days. We could simplify the example by supposing that the chief dances on the fifth and subsequent days only.

able to bring about their bravery even after it has been reported to you that they weren't brave. After all, knowledge of bravery might affect your motivations for dancing but it can't be relevant to the causal efficacy of dancing. The epistemic states of knowledge or ignorance are just not the sorts of things that are relevant to causal connections. Accordingly, I challenge you to wait until you receive a report of 'not brave' and then try your dance. You'll soon see what is the cause of what."

Now the chief might not be impressed by this challenge. He could admit that it is not dancing *per se* but dancing in ignorance that is the cause of bravery. The chief would be countenancing the abandonment of something like the following principle:

- (s) If *C* is the cause of *E*, one's knowledge of *E* or not *E* is irrelevant to the efficacy of *C*.

But Dummett is not eager to have his chief make this move. "... I will not allow him to say this, because it would make his causal beliefs so different from ours that there would be no moral to draw for our own case" (1, p.266).

This is a bit of an understatement. The discountenance of (s) is a significant conceptual erosion. To talk about backward causation the chief must adopt some most unintuitive views about the relation of causation to knowledge. This is precisely the sort of erosion that would encourage us to regard talk about backward causation as unintelligible. The point is that the preservation of (s) is, as Dummett recognizes, not a trivial matter.

But if (s) is retained it appears as though it will be easy to destroy Dummett's case as an instance of backward causation. We need only challenge the chief to dance once the observers have returned with reports of "not brave." There are two possibilities: if he dances he will see that dancing does not ensure bravery; if he tries to dance and cannot he will be forced to give up (ii) which we saw as necessary for Dummett's case. In other words, trying but failing to dance would be strong evidence that the direction of causation is from bravery to dancing and not *vice versa*.

Do these exhaust the possibilities? Dummett thinks not. The chief may dance and subsequently find out that the reports were incorrect.

We ask the chief to perform the dances on some occasion when the hunting party has returned and the observers have reported that the young men have not acquitted themselves with bravery. He does so, and we claim another weakening of his belief that the dancing is correlated with preceding bravery. But later it turns out that, for some

reason or another, the observers were lying... so after all this is not a counter example to the law. We have a third possible outcome (1, p.269).

The occurrence of this result would, Dummett believes, preserve the case for backward causation.<sup>5</sup>

The generalized version of this third possibility is as follows: after receiving evidence of cowardliness the chief dances at which time the evidence changes to bravery.<sup>6</sup> (Given the Evil Knevel story we must of course speak of the *evidence* changing and not what happened changing.)

Dummett thinks he has saved his case for backward causation but he admits not everything has been left as before. Most notably, to preserve backward causation by appealing to the third possibility the chief must give up his naive belief that he could know whether the young men were brave or not independently of his intentions to dance or not. Being more specific we have discovered that the following three beliefs are incompatible:

- (i) that an action of *x*, *A*, is positively correlated with the previous occurrence of an event *B*.
- (ii) that it is in *x*'s power to perform *A* or not as he chooses.
- (iii) that *x* can know whether *B* occurred or not independently of his intentions to perform *A* or not perform *A*.

Notice that (i) and (ii) were required for Dummett's *prima facie* case of affecting the past. He must abandon (iii). He must, simply because to hold onto (iii) restricts the results of the challenge to the first two possibilities. The first possibility forces an abandonment of (i). The second possibility forces the abandonment of (ii). Either abandonment is of course fatal to Dummett.

<sup>5</sup> Admittedly the third possibility need not occur every time we challenge the chief. A low frequency of the first two instances would not destroy the example especially where the chief's failure to dance can be explained independently of the bravery. But emphasizing this point (as Dummett does) only obscures the issue. The third possibility must occur with a very high frequency. After all we can imagine running the experiment under a highly controlled situation and developing a more precise partitioning. Having said this I shall for ease or presentation disregard the tolerable occurrence of a "few" instances of the first two possibilities.

<sup>6</sup> For a discussion of the necessity of the evidence changing see (3). To make the problem more dramatic let us send the chief along. When he returns and reports "not brave" we shall ask him to dance. At this point his *memory* must change. How do we account for his repeated change in memory? To claim that his adopting a certain intention straightens out his memory is at best obscure. If this isn't dramatic enough let him take a photograph of the cowardly behavior. How is the necessary change in the photograph to be explained?

For conditions (i) - (iii) Dummett claims there is an exact parallel in affecting the future.

- (i') that an action of  $x$ ,  $A$ , is positively correlated with the subsequent occurrence of an event  $B$ .
- (ii') that it is in  $x$ 's power to perform  $A$  or not as he chooses.
- (iii') that  $x$  can know whether  $B$  will occur independently of his intentions to perform  $A$  or not perform  $A$ .

Given this parallelism Dummett provides an analysis of the difference between the past and the future.

The difference between past and future lies in this: that we think that, of any past event, it is in principle possible for me to know whether or not it took place independently of my previous intentions; whereas, for many types of future event, we should admit that we are never going to be in a position to have such knowledge independently of our intentions (1, p.272).

We have seen that backward causation requires the abandonment of (iii) but we *could* give it up as we do (iii').

If we insist on hanging onto this belief, for all types of past events, then we cannot combine the two beliefs that are required to make sense of doing something in order that some event should have previously taken place; but I do not know any reason why if things were to turn out differently from the way they do now we could not reasonably abandon the first of these beliefs rather than either of the other two (1, p.272).

## II

Let us examine closely the relation between (i) and (iii). Why is it reasonable to believe that (i) holds for Dummett's story? There appears, at least initially, to be some reason for believing in the correlation between bravery ( $B$ ) and dancing ( $A$ ). After all, one can observe the chief dancing and can receive reports on bravery.

Would there be any reason to think (i) holds if the only evidence for  $B$  was the occurrence of  $A$ ? I see no reason. If the only "evidence" one has for  $A$  being correlated with  $B$  is the occurrence of  $A$ , then one has no evidence for the correlation. Remember, Dummett endorses the abandonment of (iii), that is, he accepts (iii<sub>n</sub>) ( $x$  cannot know whether  $B$  occurred or not independently of his intention to perform  $A$  or not perform  $A$ ). The evidence for  $B$  turns out to be logically tied to the evidence for  $A$ . Given this why should Dummett's case be described as meeting (i)?

Dummett himself sees a problem here. He tells his story about the chief in such a way that he can gather evidence for (i) and (ii) prior to the challenge arising and the need for adopting (iii<sub>n</sub>); that is, the chief existed in a universe without 'Doubting Toms' for a great while. He wasn't forced to face the issue over (iii). During this serene period he gathered evidence for (i) and (ii). Later given the challenge and the need for (iii<sub>n</sub>) his evidence gathering period came to a halt. Dummett readily admits this change in the evidence gathering situation.

... until the series of experiments was performed, the chief was prepared to discount completely the probability conferred by his dancing on the proposition that the young men had been brave in the face of a source of information as to the truth of this proposition of the kind we ordinarily rely upon in deciding the truth or falsity of statements about the past. And the reason for this attitude is very clear: for the proposition that there was a positive correlation between the dancing and the previous bravery of the young men could have been established in the first place only by relying on our ordinary sources of information as to whether the young men had been brave or not (1, p.270-1).

I regard this as at best peculiar. At  $T_1$  one is able to gather evidence for (i) and at  $T_2$  (a later time, a time when (iii<sub>n</sub>) has been adopted) one can no longer gather evidence. The only interesting difference between  $T_1$  and  $T_2$  is that at  $T_2$  and afterward a challenge can be put to the chief to dance when he "knows" that the warriors were not brave.

It seems as though there is a serious problem as to whether one ever had evidence for (i) since (i) and (ii) plus the possibility of challenging the chief force (iii<sub>n</sub>) and (iii<sub>n</sub>) is incompatible with gaining evidence for (i). One way out is to say that one can have evidence for (i) in just those cases in which a challenge isn't issued. But this forces one to give up something like (s). Only now, "knowledge" becomes efficacious on gaining evidence for causal connections. (I shall spell this out in more detail momentarily.)

This institutes some conceptual warp but the problem is even more serious. I've been putting 'know' and 'knowledge' in scare quotes for obvious reasons. As it turns out we really never do give the chief a *real* challenge. We only thought we knew what happened in the past. Remember the chief can't *change* the past so we really can't *know* what happened then challenge him. Only after the challenge do we really find out what happened. This is of course just another way of facing up to (iii<sub>n</sub>) but we must be careful not to take Dummett's efforts to answer the challenge too seriously. He in

effect denies the hypothesis that we *know* what happened then challenge the chief.

Perhaps there is a reason why Dummett doesn't take too seriously the worries I have over the relation between (i) and (iii<sub>n</sub>): since he believes there is a set of clauses for the future that are strictly analogous to (i)-(iii), any sort of general argument like mine would open itself to a *reductio*. After all, we want to admit that at least for some actions there can be a positive correlation between them and some subsequent event, yet it need not be the case that we can know of the occurrence of that event independently of our intention to perform the act.

Being more specific let us examine carefully the denial of (iii'). (iii'<sub>n</sub>) states that *x* cannot know whether *B* will occur or not independently of his intentions to perform *A* or not perform *A*.

The following is a statement of the condition that brings out its temporality more sharply:

(iii'<sub>n</sub>) *x* cannot know now (at  $T^0$ ) whether *B* will occur at some future time (at  $T^{+n}$ ) independently of his intentions to perform *A* or not perform *A*.

Notice that this is compatible with the following:

(u') *x* can know at  $T^{+n}$  whether *B* occurs or not.

This is of course a good thing since it appears to be a requirement if we are to assert an empirical connection between *A* and *B*. We can verify the occurrence of *A* to  $T^0$ . We cannot know that *B* will occur at  $T^{+n}$  except on the basis of *A*'s intentions. But nevertheless when  $T^{+n}$  comes around we can verify the occurrence of *B* independently of *A*'s intentions.

Let's map this onto the past starting with (iii) and the counterpart of (u').

(iii<sub>n</sub>) *x* cannot know (at  $T^0$ ) whether *B* occurred at some past time (at  $T^{-n}$ ) independently of his intentions to perform *A* or not perform *A*.

(u) *x* can know at  $T^{-n}$  whether *B* occurs or not.

The problem with Dummett's argument should be manifest at this point. Unlike the future case, Dummett must deny (u), i.e., (iii<sub>n</sub>') and of course (iii<sub>n</sub>) must be read in such a way that they are incompatible with (u). For it is precisely (u) that makes possible the challenge procedure that will force the giving up of (i). But unfortunately to deny (u) leaves us no way to support the empirical correlation between *A* and *B*.

So Dummett is mistaken in his claim that the past and future are precisely parallel with respect to the three conditions. In the case of normal causation (future causation) (iii'<sub>n</sub>) can be read in a way compatible with (u') thus permitting the verification of (i') even though (iii'<sub>n</sub>) was adopted. In the case of backward causation (past causation) (iii<sub>n</sub>) must be read as incompatible with (u) but this blocks the verification of (i) once (iii<sub>n</sub>) is adopted.

What I have shown is the following: Dummett thought that his case of backward causation would introduce some conceptual revision, i.e., the adoption of (iii<sub>n</sub>). But as it turns out we must also adopt a queer evidence gaining procedure, viz., that one can have "evidence" for *A* causes *B* only in the absence of the challenge situation — (u). In addition, contrary to Dummett, the adoption of (iii<sub>n</sub>) is not strictly analogous to the adoption of (iii'<sub>n</sub>) since we can hold (iii'<sub>n</sub>) and preserve our normal evidence gaining procedures.

The more general upshot is that the most promising defense of the contingency of backward causation has been found not to be very convincing since it forces a severe distortion of concepts which have logical liasons with the concept of causality.

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