

generators in us, not Geiger counter randomizers. That is to say, if our world is determined, all our lottery tickets were drawn at once, eons ago, put in an envelope for us, and doled out as we needed them through life. "But that isn't fair!" some say, "For some people will have been dealt more winners than others." Indeed, on any particular deal, some people have more high cards than others, but one should remember that the luck averages out. "But if all the drawings take place before we are born, some people are *destined* to get more luck than others!" But that will be true even if the drawings are held not before we are born, but periodically, on demand, throughout our lives.

Once again, it makes no difference—this time to fairness and, hence, to the question of desert—whether an agent's decision has been determined for eons (via a fateful lottery ticket lodged in his brain's decision-box, waiting to be used), or was indeterministically fixed by something like a quantum effect at, or just before, the moment of ultimate decision.

It is open to friends of the CDO principle to attempt to provide other grounds for allegiance to the principle, but since at this time I see nothing supporting that allegiance but the habit of allegiance itself, I am constrained to conclude that the principle should be dismissed as nothing better than a long-lived philosophical illusion. I may be wrong to conclude this, of course, but under the circumstances I cannot do otherwise.

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#### DENNETT ON 'COULD HAVE DONE OTHERWISE'\*

**D**ANIEL DENNETT attacks what he describes as a "shared assumption" of writers on free will:

*A* is responsible for having done *X* only if *A* could have refrained from doing *X*.

If this sentence is to express a thesis that has been widely accepted, then 'could have' must be read as the past *indicative* of 'can', where

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'can' means 'to be able to'. That is, this sentence must be interpreted this way:

*Was Able*  $A$  is responsible for having done  $X$  only if  $A$  was able to refrain from doing  $X$ .

But Dennett's arguments show that he is really attacking *this* principle:

$A$  is responsible for having done  $X$  only if  $A$  could have refrained from doing  $X$  in exactly the same circumstances.

Here 'could have' is a past *subjunctive* form. The words following 'only if' are a subjunctive conditional, a "'might' conditional":

*Might Have*  $A$  is responsible for having done  $X$  only if ( $A$  was in exactly the circumstances  $A$  was actually in  $\diamond \rightarrow A$  refrained from doing  $X$ ).

Since only an incompatibilist would accept *Might Have*, Dennett is not attacking a "shared assumption" of all writers on free will. Moreover, *Might Have* can hardly be described as an *assumption*, even of those incompatibilists who accept it. They accept *Might Have* because it is a consequence of *Was Able* and incompatibilism: *Might Have* is a "foreseen but unintended consequence" of their position.

So Dennett's dogs are barking up the wrong tree. What would happen if they were directed to the right one? Could his arguments and examples be used to cast doubt on *Was Able*? (Or perhaps I should say, cast further doubt. Though *Was Able* is indeed a widely shared assumption in the free-will debate, Harry Frankfurt has probably shown that it is false.<sup>1</sup>) I do not see how to turn Dennett's arguments against *Was Able*; for his arguments are *essentially* directed against a principle containing the qualification 'in exactly the same circumstances'. And this qualification makes sense only when it is applied to a subjunctive 'could have' (= 'might have'); it makes no sense to apply it to an indicative 'could have' (= 'was able to').

Now if Frankfurt is right and *Was Able* is false, then those incompatibilists who accept *Might Have* because *Might Have* is a consequence of *Was Able* and incompatibilism, accept *Might Have* on the basis of a false premise—at least one. But even if Frankfurt is right, there are *true* propositions that, in conjunction with incompatibilism, entail *Might Have*.<sup>2</sup> Dennett's arguments, therefore,

<sup>1</sup>"Alternate Possibilities and Moral Responsibility," this JOURNAL, LXV, 23 (Dec. 4, 1969): 829-833.

<sup>2</sup>See my paper "Ability and Responsibility," *Philosophical Review*, LXXVII, 2 (April 1978): 201-224, or my book *An Essay on Free Will* (Oxford: Clarendon Press; New York: Oxford, 1983), pp. 162-182.

if they refute *Might Have*, refute incompatibilism by *Modus Tollens*. This fact shows us the most profitable way to read Dennett's paper: as an attack on incompatibilism. Dennett is not really denying an assumption made by all the parties to the free-will debate; he is joining one of the parties.

But, looked at this way, Dennett's arguments are not really new. Don't they come down to this? To say that *A* could have done *X* is to ascribe to him the following feature: he would have done *X* if he had tried (or wanted) to—he was not “trapped in a pocket of local fatalism”—, and, in relevantly similar future circumstances, he may well try (or want) to.

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### CHANCE, REALISM, QUANTUM MECHANICS\*

**I**S quantum mechanics incompatible with realism? Although many philosophers and physicists would answer Yes to this question, solid arguments for the incompatibility are hard to come by: too often, it is not realism, but some parochial version of realism (e.g., *Every object has a definite spatial location*) whose incompatibility with QM is argued for; too often also it is not QM that is argued to be nonrealistic but only some particular, usually problematic, interpretation of it. In this paper I present an argument for incompatibility which comes at the matter from an unusual direction and which involves only standard, textbook versions of realism and of QM. With respect to QM, there are of course some very strange ideas in the textbooks, on which no one would want his argument to rest—most conspicuously, the usual

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In order to be printed here, the original version of this paper had to be drastically cut. Among the topics I most regretted deleting were these: why some of the artificialities involved in seeing all talk about chance as talk about *C* might disappear, given a better, relativistically acceptable story about measurement; why one cannot treat QM as a realistic theory by counting among its axioms statements about what the actual frequencies will be (such a theory would treat as impossible what QM leaves open as possible, and so is not QM); why axioms about what the frequencies would be, in an infinite sequence of trials, won't help either (in addition to being again incompatible with QM, such axioms are one and all false—if it is possible that this coin be flipped infinitely often and never come up heads, then to say that if it were flipped the limiting frequency of heads would be .5 is to say what is false); a comparison with Isaac Levi's views in *The Enterprise of Knowledge* (Cambridge, Mass.; MIT Press, 1980) (not so different from my own, I think, as must first appear); chance outside of QM (I don't think there is any).