Dennett and Taylor's Alleged Refutation of the Consequence Argument[*]

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ABSTRACT. Daniel C. Dennett has long maintained that the Consequence Argument for incompatibilism is confused. In a joint work with Christopher Taylor, he claims to have shown that the argument is based on a failure to understand Logic 101. Given a fairly plausible account of having the power to cause something, they claim that the argument relies on an invalid inference rule. In this paper, I show that Dennett and Taylor's refutation does not work against a better, more standard version of the Consequence Argument. Therefore, Dennett and Taylor's alleged refutation fails.

Daniel C. Dennett has long maintained that there's something wrong with the Consequence Argument, which is an argument that, if determinism is true, no one is able to act otherwise. A very basic version runs as follows:

> If determinism is true, the remote past and the laws of nature jointly entail each one of our acts. Neither the remote past nor the laws of nature are up to us. Therefore, if determinism is true, our acts aren't up to us.

In a short appendix to a joint chapter, Dennett and Christopher Taylor argue that the Consequence Argument depends on a simple failure to understand Logic 101. They formulate the Consequence Argument as follows, with '~', '&', and '⊃' representing negation, conjunction, and material implication respectively:[1]

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† I would be grateful for any thoughts or comments on this paper, which can be sent to me at *johan.eric.gustafsson@gmail.com*.

[1] Taylor and Dennett 2011: 237; a very light revision of Taylor and Dennett 2002: 273–74. I have replaced their notation 'σ_0' and 'λ' with the more standard 'P_0' and 'L'. Moreover, I have replaced '∧' and '⇒' with '&' and '⊃'.

1. Let ϕ be some event that actually occurs in agent A's life (e.g., missing a putt). Also let P_0 be a comprehensive description of the universe's state at some time in the remote past, and let L be a statement of the laws of nature.
2. Then, assuming determinism, L & $P_0 \supset \phi$ applies in every possible world. Equivalently, $\sim\phi \supset \sim(L \;\&\; P_0)$.
3. If A has the power to cause α and $\alpha \supset \beta$ obtains in every possible world, then A has the power to cause β.
4. So if A has the power to cause $\sim\phi$, then A has the power to cause the falsity of either L or P_0, which is absurd.
5. Therefore A lacks the power to cause $\sim\phi$.

Dennett and Taylor's alleged refutation of the Consequence Argument is admirably short. Here it is in full:[2]

> This argument illustrates nicely the confusion that causal necessity and sufficiency engender. As we have argued, counterfactual necessity is the single most crucial condition for causation, and accordingly we would recommend that Van Inwagen's "power to cause" be rendered as follows:
>
> > A has the *power to cause* α iff for some sentence γ (describing an action of A) and a world f close to actuality, γ & α holds in f and $\alpha \supset \gamma$ in every world similar to f.
>
> In other words, within some cluster of nearby worlds, there is a possible action of A (called γ) that is a necessary condition for α to occur. But under this definition, line 3 above has no warrant whatever. Line 3 hypothesizes that $\alpha \supset \gamma$ in a cluster of nearby worlds, and that $\alpha \supset \beta$ in every world; if we could deduce that $\beta \supset \gamma$ in this cluster, we would be home free. But of course in Logic 101 we learn that $\alpha \supset \gamma$ and $\alpha \supset \beta$ do not entail $\beta \supset \gamma$, and so line 3 fails, and Van Inwagen's argument with it.

So the problem, according to Dennett and Taylor, is that line 3 is implausible given a compelling account of having the power to cause something.

In the following, I shall argue that Dennett and Taylor's alleged refutation fails.[3] Note, first, that their rendition of the Consequence Argument

[2] Taylor and Dennett 2011: 237; a revision of Taylor and Dennett 2002: 274.

[3] Fischer (2005: 429–30) claims that Dennett and Taylor's refutation works given their notion of having the power to cause something. But he (2005: 430–31) also argues

differs in some important respects from the versions defended by Peter van Inwagen and other contemporary incompatibilists, who seem to be the intended target.[4] Contemporary versions of the Consequence Argument do not rely on a rule like the one on line 3, which has the following form, with '$\Box$' representing logical necessity:

> *The Power-Transfer Rule*
> From $\Box(\alpha$ occurs $\supset \beta$ occurs) and that some person S has the power to cause α, deduce that S has the power to cause β.

Instead of the Power-Transfer Rule, contemporary versions depend on transfer rules of the following general form:[5]

> *Rule Gamma*
> From $\Box(p \supset q)$ and that some person S has the power to cause some event α such that, if S were to cause α, then p *would* be true, deduce that some person S' has the power to cause some event β such that, if S' were to cause β, then q *would* be true.

Given the Power-Transfer Rule, if we have (i) that some person S has the power to cause α, (ii) that α and β are distinct events, and (iii) $\Box(\alpha$ occurs $\supset \beta$ occurs), then we can deduce that S has a further power, namely, the power to cause β. And, given Dennett and Taylor's account of having the power to cause something, this needn't follow (as they explained in the earlier quote). But, if we have (i) that some person S has the power to cause some event α such that p would be true if S were to cause α and

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that line 3 can be accepted given a weaker notion of having the power to cause something, though he admits that it does not fit with our ordinary, common sense idea of this notion. In a reply to Fischer, Dennett agrees that Fischer may have shown that the Consequence Argument can be saved for a purely theoretical notion of causation, but maintains that Taylor's and his refutation still works given their ordinary sense of causation, the one we should care about. Dennett (2005: 453) adds

> We wouldn't want to say farewell to something as much fun as the [Consequence] Argument in an appendix would we? Well, yes.

Moreover, Taylor and Dennett (2011: 236–37, 240n30) have since doubled down on their refutation of the Consequence Argument, keeping the appendix more or less unchanged in their revision of their chapter. I argue that their alleged refutation fails given their own account of having the power to cause something.

[4] Compare it with, for example, van Inwagen's (1983: 93–95) modal version.

[5] See, for example, McKay and Johnson 1996: 119, Carlson 2000: 279–80 and van Inwagen 2013: 214–15. The main difference is that the transfer rules are usually stated in terms of unavoidability rather than ability.

(ii) $\Box(p \supset q)$, then Rule Gamma does not let us deduce that anyone has any further power. We cannot deduce, for example, that S has the power to cause it to be the case that p. The transfer in Rule Gamma does not transfer any powers: we cannot rule out that α and β are the same event. Rather, Rule Gamma only transfers what would be the case if certain abilities were exercised. Hence this rule is consistent with Dennett and Taylor's account of having the power to cause something.[6] Accordingly, Rule Gamma avoids their objection to the Power-Transfer Rule.

To state Rule Gamma more compactly, we introduce an ability operator (McKay and Johnson 1996: 116; Carlson 2002: 393):

> $A_W p =_{df}$ Some person S has the power to cause some event α such that, if S were to cause α, then p *would* be true.
>
> Rule Gamma: From $\Box(p \supset q)$ and $A_W p$, deduce $A_W q$.

We can defend the validity of Rule Gamma as follows: From $A_W p$, we have that some person S has the power to cause some event α such that p would be true if S were to cause α. From $\Box(p \supset q)$, we have that, for any event α that S has the power to cause, $p \supset q$ would be true if S were to cause α. Hence we have that S has the power to cause some event α such that p & $(p \supset q)$ would be true if S were to cause α.[7] So S has the power to cause some event α such that q would be true if S were to cause α. So we can conclude $A_W q$.[8]

We can reconstruct Dennett and Taylor's version of the Consequence Argument so that it relies on Rule Gamma rather than the Power-Transfer

[6] Contrast this approach, which allows both Dennett and Taylor's account of *having the power to cause something* and the rejection of the Power-Transfer Rule, with Fischer's (2005: 430) approach, which consists in developing an alternative to Dennett and Taylor's account and trying to salvage the Power-Transfer Rule. Fischer's approach is open to Dennett's (2005: 453) retort that, '*given our notion of causation*, the [Consequence] Argument falls apart'. Since my approach is compatible with Dennett and Taylor's account of having a power to cause something, it is not open to this retort.

[7] We can conclude so if the following inference rule is valid:

> Conjunction Composition: From $r \mathrel{\Box\!\!\to} p$ and $r \mathrel{\Box\!\!\to} q$, deduce $r \mathrel{\Box\!\!\to} p \,\&\, q$.

This rule is valid in Stalnaker's (1968) and Lewis's (1973) systems. Chellas (1975: 138, 150n15) provides some further examples of systems where Conjunction Composition is valid.

[8] See Carlson 2000: 286–87, for a similar defence of an analogous rule for unavoidability.

Rule. As before, let ϕ be an event in someone's life. And let P be that ϕ occurs. We can then argue as follows:[9]

(1)	$\Box((P_0 \,\&\, L) \supset P)$	A consequence of determinism
(2)	$\Box({\sim}P \supset {\sim}(P_0 \,\&\, L))$	From (1) by normal modal logic
(3)	$\mathrm{A_W}{\sim}P$	Assumption for proof by contradiction
(4)	$\mathrm{A_W}{\sim}(P_0 \,\&\, L)$	From (2) and (3) by Rule Gamma
(5)	${\sim}\mathrm{A_W}{\sim}(P_0 \,\&\, L)$	Premiss, the fixity of the past and laws
(6)	${\sim}\mathrm{A_W}{\sim}P$	From (4) and (5)

A drawback of this version of the argument (shared by Dennett and Taylor's version) is that it relies on the overly strong premiss that no one has the power to cause any event α such that $P_0 \,\&\, L$ would be false if they were to cause α (Finch and Warfield 1998: 523–24; Carlson 2000: 279, 287). Nevertheless, the point of this reconstruction is just to illustrate how Dennett and Taylor's version could be amended with a better transfer rule keeping the overall structure. This reconstructed version does not rely on the Power-Transfer Rule. And the inference rules that this version relies on are not open to Dennett and Taylor's objection to the Power-Transfer Rule.

There are, however, more cogent versions of the Consequence Argument. These versions distinguish between two kinds of ability. In addition to the strong ability operator, $\mathrm{A_W}$, we shall make use of the following weak ability operator (McKay and Johnson 1996: 118):

> $\mathrm{A_M} p =_{\mathrm{df}}$ Some person S has the power to cause some event α such that, if S were to cause α, then p *might* be true.

Consider the following inference rule for $\mathrm{A_W}$ and $\mathrm{A_M}$:

> *Rule Delta*
> From (i) that some person S has the power to cause some event α such that, if S were to cause α, then $p \vee q$ *would* be true and (ii) that it is not the case that some person S' has the power to cause some event β such that, if S' were to cause β, then p *might* be true, deduce that some person S'' has the power to cause some event γ such that, if S'' were to cause γ, then q *would* be true.

[9] This version of the Consequence Argument is essentially the same as a version defended by Widerker (1987: 41), except that this version is stated in terms of ability rather than unavoidability.

Just like the transfer in Rule Gamma, the transfer in Rule Delta does not transfer any powers, since we can't rule out that α and γ are the same event. And—just like Rule Gamma—Rule Delta only transfers what would be the case if certain abilities were exercised. Accordingly, Rule Delta also avoids Dennett and Taylor's objection to the Power-Transfer Rule.

With the help of the two ability operators, we can state Rule Delta more compactly:

> Rule Delta: From $\mathrm{A_W}(p \vee q)$ and $\sim\mathrm{A_M}\,p$, deduce $\mathrm{A_W}\,q$.

The validity of Rule Delta can be defended as follows: From $\mathrm{A_W}(p \vee q)$, we have that some person S has the power to cause some event α such that $p \vee q$ would be true if S were to cause α. From $\sim\mathrm{A_M}\,p$, we have that S does not have the power to cause some event α such that p might be true if S were to cause α. So, for any event α that S has the power to cause, $\sim p$ would be true if S were to cause α.[10] Hence S has the power to cause some event α such that $(p \vee q)$ & $\sim p$ would be true if S were to cause α.[11] So S has the power to cause some event α such that q would be true if S were to cause α. So we can conclude $\mathrm{A_W}\,q$.

Now, let P_0 be a proposition describing the universe's complete state at some time in the remote past before there were people. And let L be the conjunction of the laws of nature into a single proposition. Given the above transfer rules, we need only the following fixity premisses:

> *The Strong Fixity of the Past*
> If P_0 is a proposition describing the state of the universe at some time in the remote past before there were people, then no one has the power to cause some event α such that, if they were to cause α, then P_0 *might* be false.
>
> *The Weak Fixity of the Laws*
> If L is the conjunction of the laws of nature into a single proposition, then no one has the power to cause some event α such that, if they were to cause α, then L *would* be false.

[10] We can conclude so given the right-to-left direction of Lewis's (1973: 21) duality definition of 'might' counterfactuals, that is,

> Duality Right-to-Left: From $\sim(p \mathrel{\Box\!\!\rightarrow} \sim q)$, deduce $p \mathrel{\Diamond\!\!\rightarrow} q$.

We do not need the controversial left-to-right direction; see Stalnaker 1981: 100.

[11] We can conclude so given Conjunction Composition; see note 7.

The main support for the Strong Fixity of the Past is that we try to hold the remote past fixed when we evaluate counterfactuals; so it seems that, even if we had done otherwise, the remote past would have been just like it actually was.[12] Note, in particular, that the support for this premiss is not merely that it would be absurd if someone had 'the power to cause the falsity' of P_0.[13]

The main support for the Weak Fixity of the Laws is the plausibility of some necessitarian view about laws of nature or the implausibility of anyone being able to control the laws of nature. Again, note that the support for this premiss isn't merely that it would be absurd if someone had 'the power to cause the falsity' of L.

Once more, let ϕ be some event that actually occurs in someone's life, and let P be that ϕ occurs. We then argue as follows:[14]

(1)	$\Box((P_0 \,\&\, L) \supset P)$	A consequence of determinism
(2)	$\Box({\sim}P \supset ({\sim}P_0 \vee {\sim}L))$	From (1) by normal modal logic
(3)	$\mathrm{A_W}{\sim}P$	Assumption for proof by contradiction
(4)	$\mathrm{A_W}({\sim}P_0 \vee {\sim}L)$	From (2) and (3) by Rule Gamma
(5)	${\sim}\mathrm{A_M}{\sim}P_0$	Premiss, the Strong Fixity of the Past
(6)	$\mathrm{A_W}{\sim}L$	From (4) and (5) by Rule Delta
(7)	${\sim}\mathrm{A_W}{\sim}L$	Premiss, the Weak Fixity of the Laws
(8)	${\sim}\mathrm{A_W}{\sim}P$	From (6) and (7)

Note that, if someone has the power to cause ${\sim}\phi$, then it must also hold that, if they were to cause ${\sim}\phi$, it would not be the case that ϕ occurs. Yet, from (8), it follows that no one has the power to cause some event α such that, if they were to cause α, it would not be the case that ϕ occurs. Hence we have that no one has the power to cause ${\sim}\phi$, and we have shown this without the Power-Transfer Rule or any other rule that conflicts with Dennett and Taylor's account of having the power to cause something.[15]

[12] For some variations of this argument, see Lewis 1979: 461–72, Ginet 1990: 107–10, and Huemer 2000: 541–44.

[13] Campbell (2007: 108–9) objects that it's not *necessary* that there was a time before there were people. But, since there was a time before there were people, Campbell's objection is only relevant for the Consequence Argument as an argument for incompatibilism, not as an argument that, if determinism is true, nobody is able to act otherwise.

[14] This is a variation of the weak-fixity-of-the-laws version of the Consequence Argument in Gustafsson 2017: 710, stated in terms of ability rather than unavoidability.

[15] We could, with a slight revision of the proof, make do with a weaker fixity-of-the-past-premiss, given that we adopt a stronger fixity-of-the-laws premiss. See the weak-fixity-of-the-past version of the Consequence Argument in Gustafsson 2017: 710.

Therefore, Dennett and Taylor's alleged refutation of the Consequence Argument fails.

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