

On behalf of the consequence argument: time, modality, and the nature of free action

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Abstract The *consequence argument* for the incompatibility of free action and determinism has long been under attack, but two important objections have only recently emerged: Warfield's *modal fallacy objection* and Campbell's *no past objection*. In this paper, I explain the significance of these objections and defend the consequence argument against them. First, I present a novel formulation of the argument that withstands their force. Next, I argue for the one controversial claim on which this formulation relies: the *trans-temporality thesis*. This thesis implies that an agent acts freely only if there is one time at which she is *able to* perform an action and a distinct time at which she actually performs it. I then point out that determinism, too, is a thesis about trans-temporal relations. I conclude that it is precisely because my formulation of the consequence argument emphasizes trans-temporality that it prevails against the modal fallacy and no past objections.

Keywords Free will · Free action · Consequence argument · Incompatibilism · No past objection · Accidental possibility

1 Introduction

The *consequence argument* is the standard-bearer with respect to arguments for the incompatibility of free action¹ and determinism, where determinism is, roughly, the

¹ That is, the freedom of finite persons who are *temporally bound*, where an object is temporally bound if it exists in time.

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thesis that the complete state of the world at a time and the laws of nature determine a unique future.² At its pith, the consequence argument is this:

If determinism is true, then our acts are the consequences of the laws of nature and events in the remote past. But it is not up to us what went on before we were born, and neither is it up to us what the laws of nature are. Therefore the consequences of these things (including our present acts) are not up to us.³

The purpose of this paper is to defeat two recent objections to the consequence argument: Warfield's *modal fallacy objection*⁴ and Campbell's *no past objection*.^{5,6}

As Warfield points out, insofar as the consequence argument is an argument for the incompatibilist's thesis, it is an argument for:

(INC) \square (If determinism is true no one acts freely).^{7,8}

What Warfield and Campbell both argue is that the consequence argument fails to establish the necessary truth expressed in (INC), and that at most it establishes a contingent truth.

This result would be highly problematic for the incompatibilist. After all, the incompatibilist qua incompatibilist thinks that there is something about the very nature of free action and something about the very nature of determinism such that the one precludes the other: given what free action is and given what determinism is, it is impossible for anyone to act freely if determinism is true. To deny incompatibilism is nothing other than to deny that this is so. In the light of these considerations, it ought to be clear that the modal fallacy and no past objections are significant: if they succeed, they establish that the consequence argument fails to reach the very conclusion at which the incompatibilist aims.

Of course, the defender of the consequence argument can defeat these objections if he⁹ can reformulate the argument so that it relies on nothing other than:

- (i) The definition of free action
- (ii) The definition of determinism
- (iii) Valid inference principles

² I will offer more precise characterizations of incompatibilism and determinism in what follows.

³ Van Inwagen (1983) provides this informal and popular presentation of the argument.

⁴ Warfield raises this objection in his (2000) and (2003).

⁵ Campbell raises this objection in his (2007) and develops it in his (2008), (2010).

⁶ Of course, I am not the first philosopher to respond to these objections. For responses to Warfield, see Kremer (2004) and Nelkin and Rickless (2002). It is noteworthy that Kremer anticipates Campbell's objection in fn. 5. For responses to Campbell, see Bailey (2011), Brueckner (2008), Loss (2009, 2010), Nagashima (manuscript). Bailey offers a new argument for incompatibilism, while the others reformulate the consequence argument itself.

⁷ Throughout this paper, I will use 'incompatibilism' to refer to the thesis expressed in (INC); moreover, I will use ' \square ' as a modal operator that expresses broad logical necessity.

⁸ Warfield phrases the thesis differently: "Necessarily, if determinism is true then there is no freedom."

⁹ Throughout this paper, I will use masculine pronouns to refer to hypothetical philosophers and feminine pronouns to refer to hypothetical agents.

- (iv) The assumption that the laws of nature are fixed (which is an assumption on which all formulations of the consequence argument rely).

In what follows, I will present and defend just such a reformulation.

I will begin by defining *free action* and *determinism*. I will then present a standard formulation of the consequence argument, and consider both Warfield's and Campbell's objections. At this point, I will present my reformulation of the argument. Next, I will argue for *the trans-temporality thesis*, which is the one contentious claim on which my reformulation relies:

- (TT') Necessarily, for any agent S, any time t, any time t', any world w, and any proposition p, it is up to S at t' in w whether p only if (i) p describes a state of w at t and (ii) $t' < t$ ¹⁰

Where:

$$t' < t = \text{time } t' \text{ is earlier than time } t.^{11}$$

My claim, of course, is that the trans-temporality thesis follows from the very definition of free action.

In arguing for the trans-temporality thesis, I will delve into the different modalities at work in the consequence argument. Toward that end, I will discuss the modality of *accidental possibility*,¹² where the modality of accidental possibility pertains to what is possible *with respect to a time t*. Once this discussion of accidental possibility is in place, I will complete my argument for the trans-temporality thesis.

I will then point out that there is nothing ad hoc in invoking the trans-temporality thesis to argue for incompatibilism. The trans-temporality thesis, after all, implies that an agent acts freely only if there is one time at which she is able to perform an action and a distinct time at which she actually does so. That is, the trans-temporality thesis implies that unless the state of the world at one time is *appropriately related* to the state of the world at another time, no one acts freely. But determinism, too, is a thesis about relations between times: if determinism is true, the state of the world at one time *determines* the state of the world at another time. By emphasizing that both free action and determinism are essentially trans-temporal, I hope to make it clear that my reformulation of the consequence argument improves upon earlier formulations.

Indeed, I hope to show that the consequence argument, properly formulated, can do exactly what an argument for incompatibilism ought to do: derive the incompatibility of free action and determinism from the very definitions of each.

¹⁰ Lehrer (1976) and van Inwagen (2008) indicate that they accept this thesis.

¹¹ Throughout the paper, I will construe $t' < t$ in this way.

¹² This modality is related to the modalities of *accidental necessity* and *accidental impossibility*. These modalities ought to be familiar to anyone who has studied fatalism and, in particular, to anyone who has considered "Ockham's way out." See Plantinga (1986) for a discussion of this response for arguments to fatalism.

2 The definitions of free action and determinism¹³

First, the definition of free action:

(FW_U) S performs act A freely = df. S performs A and *It is up to S* whether S performs A.^{14,15}

Where (FW_U) is equivalent to each of the following:

(FW_{CH}) S performs act A freely = df. S performs A and *S has a choice about* whether S performs A.¹⁶

(FW_A) S performs act A freely = df. S performs A and *S is able to A* and *able to refrain* from A-ing.

(FW_C) S performs act A freely = df. S performs A and *S can A* and *can refrain* from A-ing.¹⁷

This definition of free action is obviously minimal: I will consider it in greater depth in what follows. For now, I wish only to emphasize that it is true by the definition of free action that an agent acts freely only if there is some sense in which it is *up to her* that she does what she does.

Of course, it is one thing to offer a definition of free action, and another to say of an agent that she acts freely. Thus, I will stipulate that:

(FW) The free will thesis = df. The thesis that there is an agent S who performs an act A freely.

¹³ That is, the *essential* (as opposed to nominal) definitions.

¹⁴ I am using the terms ‘act’ and ‘action’ broadly, so that events like forming an intention, beginning a deliberation, arriving a conclusion by way of deliberation, forming an act of will, making a decision, endeavoring to perform an act, and the like count as actions. While there are clearly some contexts in which it is important to distinguish, say, an act from the intention to perform the act, this is not such a context.

¹⁵ There are at least two objections that someone might raise to this definition of free action. First, someone might object here that if S performs A freely, then it is no longer up to her whether she A’s. In other words, one might object that either (i) it *is* up to S whether S A’s or (ii) S A’s and it *was* up to S whether S A’s, but it is never the case that both S A’s and it is up to her whether she A’s. This is the precisely the point that I will argue for in this paper. For now, I am simply offering a minimal definition of free action. Second, someone might object that its being up to S whether S A’s does not imply that S A’s: isn’t it possible that it is up to S whether S A’s, but before she gets around to A-ing or not, the world ends? My contention is that if the world ends before S gets the chance to do one or the other, then it was never really up to S whether she A’d or not: given that the non-existence of the world makes it impossible for her to do either, it wasn’t really up to her whether she did one or the other. But the truth of this claim is irrelevant in the present context, so I will simply issue a promissory note for the moment.

¹⁶ It is important to emphasize that the formulation in terms of ‘has a choice about’ is equivalent to the others. It is relatively common for people to say that FW_{CH} asserts that there is a mental event—a choice—that precedes every free action. This is not the case. Both ‘S has a choice about whether’ and ‘It is up to S whether’ are terms of art, and they are synonymous.

¹⁷ Some participants in the free will debate deny FW_{CH}, FW_A, and FW_C while affirming FW_U. They claim that as long as an agent is, in some sense, the “source” of her action, it does not matter whether she “has the ability to do otherwise.” It is beyond the scope of this paper to consider this debate. I will simply stipulate that the debate I am considering is that between the many compatibilists and incompatibilists who affirm not only FW_U but also FW_{CH}, FW_A, and FW_C. This is the debate to which the consequence argument is relevant, and it is a debate that has raged for centuries, going at least as far back as Hume and arguably as far back as Augustine.

As far as determinism goes, I will follow the convention and define it in terms of *laws of nature* and *the state of the world at an instant*. I take it that the notion of a law of nature is clear enough in the present context.¹⁸ The notion of the state of the world at an instant is best explained in terms of *possible worlds*. The state of the world at an instant is such that:

- (i) Given that the world is in a certain state at a certain instant, nothing follows about its state at any other instant: if x and y are any “state”, and some possible world is in x at t_1 and y at t_2 , there is a world that is in x at t_1 and not in y at t_2 . If x is the state of the world at a time t , then if t is earlier or later than t^* , nothing that happens at t^* is included in x .
- (ii) It is impossible that the state of the world at a time includes a change. Necessarily, if a change occurs, things are first one way, then another. But the state of the world at a time just is the way that things are at that time: things can’t be both one way and another at the very same time. So, a single state of the world at a time cannot include a change. For any change, there is a state of the world at t and a state of the world at t^* , and $t \neq t^*$.¹⁹

At this point, a precise definition of determinism is available:

Determinism = df. The thesis that (i) For every instant of time, there is a proposition that expresses the state of the world at that instant; (ii) If p and q are any propositions that express the state of the world at some instants, then the conjunction of p and the laws of nature entails q .²⁰

Where (ii) may also be expressed as:

- (ii’) If p and q are any propositions that express the state of the world at some instants, $\Box (p \ \& \ L) \rightarrow q$.

3 Free action and power over the truth value of propositions

The thesis of determinism is a thesis about propositions, but the free will thesis is a thesis about agents. For this reason, all formulations of the consequence argument rely on the technical notion of *not having power over the truth value of a proposition p* . But since this notion corresponds to (and is meant to capture) what we express in the vernacular with statements like, “It isn’t up to her” or “She has no choice about that,” it is commonplace to articulate the consequence argument by rendering the expression:

- (*) p and S lacks power over the truth value of p .

¹⁸ The notion is obviously not clear in other contexts.

¹⁹ (i) and (ii) are slight variations on statements that van Inwagen makes in his (1983).

²⁰ Indeterminism = df. The thesis that (i) For every instant of time, there is a proposition that expresses the state of the world at that instant; (ii) If p and q are any propositions that express the state of the world at some instants, then the conjunction of p and the laws of nature does not entail q .

As:

- (i) p and it is not up to S whether p.
- (ii) p and S has no choice about p.
- (iii) p and S has no control over whether p.²¹

Various participants in the debate have offered various suggestions for making sense of the notion of lacking power over the truth value of a proposition p:

- (x) p and it is not up to S whether p if (i) p and (ii) there is nothing S can do such that, if S were to do it, p would be false.^{22,23}
- (y) p and it is not up to S whether p if (i) p and (ii) there is nothing S can do such that, if S were to do it, p might be false.²⁴
- (z) p and it is not up to S whether p if (i) p and (ii) for every action S can perform, if S were to perform it, p would be true.²⁵

It is debatable which, if any, of these renderings of *lacking power over the truth value of p* is best, and so it is fortunate that we need not resolve this issue in the present context. But it is worthwhile, in this context, to note that each of these renderings includes a counterfactual claim. Indeed, each of these renderings emphasizes that it is not in virtue of a proposition's being *true* that one lacks power over its truth value; lacking power over a proposition's truth value is a matter of what *would* or *might* be the case.

It is *pro forma* to represent 'p and it is not up to S whether p' by way of the N-operator. Moreover, it is common to formulate the argument in terms of what is or ever was up to any agent S. So:

N p = df. p and it is not, and never was, up to anyone whether p.

4 A standard formulation of the consequence argument

At this point, it is possible to offer a formulation of the inference principle²⁶ on which every formulation of the consequence argument relies²⁷:

²¹ Although it is beyond the scope of this paper to present them, there are reasons to think that the "no control over" rendering is unsatisfactory. For a discussion of this issue, see Dennett (1984).

²² I will treat 'to be able to' as the to-infinitival of 'can.'

²³ See Finch and Warfield (1998). They suggest that van Inwagen had (x) in mind in his (1983).

²⁴ See McKay and Johnson (1996).

²⁵ See van Inwagen (2000). In the light of McKay and Johnson (1996), van Inwagen offered a new reading of 'it is not up to S whether p.'

²⁶ This principle is often called 'principle beta' because Peter van Inwagen baptized it as such. I am assuming that there are many variations of just one principle, but one might just as well imagine that there are many members of the family of such principles.

²⁷ I am here making the assumption that even if there is a formulation of the consequence argument that does not explicitly rely on this inference principle, it relies upon it implicitly. Van Inwagen (1983) argues persuasively for this thesis.

Transfer: $\{N p, \Box (p \rightarrow q)\}$ entails $N q$ ²⁸

I will stipulate that:

- P_t = a proposition that describes the complete state of the world at some time t in the remote past, where the *remote past* is a time at which no agent has yet existed
- L = the proposition that that describes the conjunction of the laws of nature
- p = any true proposition whatever
- $N p = p$ and it is not, and never was, up to anyone whether p .

And offer the premise that:

$N (P_t \ \& \ L)$.

This premise asserts, in effect, that a proposition that describes both the state of the world in the remote past and the laws of nature is not the sort of proposition about which anyone has, or ever had, a choice. In virtue of the remote past's being the remote past, and in virtue of the laws of nature being the laws of nature, it is not, and never was, up to anyone whether the proposition that describes them is true.

The consequence argument may now be formulated as:

- | | |
|---|----------------------------|
| (1) $N (P_t \ \& \ L)$ | Premise |
| (2) $\Box ((P_t \ \& \ L) \rightarrow p)$ | Consequence of determinism |
| (3) $N p$ | 1, 2 Transfer |

So, from the truth of determinism, the incompatibilist derives:

- (4) If determinism is true, it is not (and never was) up to anyone whether any proposition is true.

And this, of course, is intended as the incompatibilist's thesis that freedom and determinism are incompatible.

5 Warfield's modal fallacy objection

Warfield's modal fallacy objection may be stated succinctly: one of the premises of the consequence argument is merely contingently true, which means that the consequence argument at most establishes the contingent claim that:

- (WEAK) If determinism is true, no one acts freely.

But, as we have already seen, the incompatibilist's thesis is:

²⁸ Many transfer principles have been introduced into the free will literature, some of which are demonstrably invalid (see McKay and Johnson (1996)). No such demonstration has plagued the principle that I have dubbed 'Transfer' nor any transfer principle that flanks the conditional premise with the \Box -operator. Such transfer principles were introduced into the literature by Widerker (1987). See Finch and Warfield (1998) for further discussion of such transfer principles.

(INC) Necessarily, if determinism is true, no one acts freely.

And so the consequence argument is modally fallacious.

Warfield is obviously correct that the incompatibilist's thesis does not follow from a contingently true premise. Moreover, it is not as if we can solve the problem by flanking

(1) $N(P_t \& L)$

with the \Box -operator: there is no reason to think that $(P_t \& L)$ is necessarily true. Therefore, the incompatibilist must either abandon the consequence argument or transform it into an argument with necessarily true premises that establish a necessarily true conclusion.

6 Campbell's no past objection

Like Warfield, Campbell objects that the consequence argument fails to establish a necessary truth. But Campbell is specifically concerned with those possible worlds in which there is a no *remote past*. He suggests that:

(NRP) It is possible that there is a time t such that (i) there is no time t^* such that $t^* < t$ and (ii) it is up to someone what happens at t .

That is, it is possible that someone acts freely at some time such that there is no past with respect to this time. Moreover, this is possible even if determinism is true. Therefore, he contends, the consequence argument fails to establish incompatibilism.

Campbell argues for (NRP) by claiming that there is no reason to deny that there is a possible world W such that determinism is true in W and:

Some adult person exists at every instant. Thus, W has no remote past. At its first moment of existence lived Adam, an adult person with all the knowledge, powers, and abilities necessary for moral responsibility [where these include free will].... For each of the propositions that comprise W , someone is such that he has, or had, a choice about whether that proposition is true—at least there is no reason to doubt this claim.²⁹

Nor, he says, is there any reason to deny that:

There is a deterministic world, W^* , where time is circular. In that world exists Oscillating Adam. Oscillating Adam has always existed and will always continue to exist. He is in the grips of an everlasting, eternal recurrence. Oscillating Adam spends his time growing 'older' and getting 'younger'. He begins each cycle with powers comparable with the average 25 years old and eventually develops powers comparable with the average 50 years old. Then he slowly regresses back to the state at which he began, and the cycle starts all over again.³⁰

²⁹ Campbell presents this case in his (2007).

³⁰ Campbell introduces the case of Oscillating Adam in his (2010).

And he might just as well suggested that:

There is a deterministic world, W^{**} , where time has no beginning and no end. In that world exists Infinite Adam, who exists at every time in W^{**} . He neither comes into existence nor goes out of existence. Suppose further that at every time he exists, he has powers comparable with the average 35-year-old.

For every time t at which either Oscillating Adam or Infinite Adam acts, there is an earlier time t^* such that the complete state of the world at t^* and the laws of nature determine what Adam does at t . But any of Adam's acts might be influenced by one of his earlier acts, and so it is not at all clear that there is ever a time at which it was not up to Adam what happened at that time. And so there is no reason to think that the premises of the consequence argument are true.

If the consequence argument is to succeed as an argument for incompatibilism, it must establish that there is something about the very nature of determinism and the very nature of free action such that the truth of determinism entails the falsity of the free will thesis. And this requires that the consequence argument be formulated in such a way that it entails that Adam, Oscillating Adam, and Infinite Adam are not free.

7 Response to the no past objection

Fortunately for the incompatibilist, it is possible to formulate the consequence argument in just this way. As I have already indicated, this formulation depends on the premise that:

(TT') Necessarily, for any agent S , any time t , any time t' , any world w , and any proposition p , it is up to S at t' in w whether p only if (i) p describes a state of w at t and (ii) $t' < t$.

Given that this premise has become controversial,³¹ it requires a defense. I will offer this defense in a moment.

First, though, I should point out that this formulation of the argument is like every other formulation in that it depends on the principle of the *fixity of the laws*. That is, it depends on the thesis that insofar as a proposition expresses a law of nature, it is not and never was up to any agent whether that proposition is true. But the fixity of the laws is not at issue in the context at hand.³² I will therefore proceed on the assumption that this principle is true.

At this point, it is possible to reformulate the consequence argument so that it is invulnerable to the threats of the both the modal fallacy and no past objections. I will let:

³¹ Although Campbell does not explicitly reject (TT'), the considerations he raises in (2010) make his opposition clear.

³² See Lewis (1981) for a discussion of the fixity of the laws and the consequence argument.

p = any true proposition

S = any agent

t = any time

$N_{s,t}p$ = p and it is not up to S at t whether p

P_t = the conjunction that expresses the complete state of the world at time t

L = the conjunction of the laws of nature

D = the thesis that determinism is true

And introduce a new transfer principle according to which:

Transfer* = $\{N_{s,t}p, \Box(p \rightarrow q)\}$ entails $N_{s,t}q$

Although it is beyond the scope of this paper to defend Transfer* at length, it is worthwhile to point out that this principle seems at least as plausible as Transfer. If time t is the present time, Transfer* says nothing other than this: if p is a true proposition that entails q , and if an agent does not *now* have a choice about whether p , q and the agent does not *now* have a choice about whether q . And it is unclear what reason there could be for taking Transfer to be valid but denying the validity of Transfer*.

Of course, none of this is to suggest that Transfer* is unobjectionable: just as there are objections to Transfer, there are surely objections to Transfer*.³³ But my purpose here is not to defend the consequence argument against every possible objection; my purpose is only to defend it against the modal fallacy and no past objections. Given that neither of these objections constitutes a threat to Transfer*, I will set concerns about the validity of Transfer* to the side.

At this point, a reformulation of the consequence argument is available:

(5) $D \ \& \ p$	Assumption
(6) $\Box((D \ \& \ p) \rightarrow \Box((P_t \ \& \ L) \rightarrow p))$	Consequence of determinism
(7) $\Box((P_t \ \& \ L) \rightarrow p)$	5, 6
(8) $N_{s,t}(P_t \ \& \ L)$	(TT'), fixity of the laws
(9) $N_{s,t}p$	7, 8, Transfer*
(10) $\Box(D \rightarrow N_{s,t}p)$	5, 9

Or: if determinism is true, then for any S , for any t , and for any p , it is not up to S at t whether p .

If this argument is sound, the truth of determinism is incompatible with Adam's acting freely, whether he exists at the first moment of time, in a state of oscillation, or for an infinitely long duration. The no past objection, therefore, is no threat to the consequence argument.

³³ See Kapitan (2002) for a discussion of objections to the transfer principle.

8 Response to the modal fallacy objection

Nor, I will argue, is Warfield's modal fallacy objection. By introducing the notion of *world-indexed truth*, the consequence argument may be reformulated yet again. I will let:

- w = some possible world
- p = any true proposition
- p_w = p is true in w
- p is true in w = df. $\Box (w \text{ is actual} \rightarrow p)$
- S = any agent
- t = any time
- D_w = the thesis that determinism is true in w
- P_t = the conjunction that expresses the complete state of w at time t
- L = the conjunction of the laws of nature that hold in w
- $\Box N_{s,t} p_w = \Box (p_w \text{ and it is not up to S at t whether p})$

And introduce yet another transfer principle:

$$\text{Transfer}^{**} = \{\Box N_{s,t} p_w, \Box (p \rightarrow q)\} \text{ entails } \Box N_{s,t} q_w$$

Then the consequence argument may be formulated as:

- | | |
|--|----------------------------|
| (11) $D_w \ \& \ p_w$ | Assumption |
| (12) $\Box ((D_w \ \& \ p_w) \rightarrow \Box ((P_t \ \& \ L)_w \rightarrow p))$ | Consequence of determinism |
| (13) $\Box ((P_t \ \& \ L)_w \rightarrow p)$ | (11), (12) |
| (14) $\Box N_{s,t} (P_t \ \& \ L)_w$ | (TT'), fixity of the laws |
| (15) $\Box N_{s,t} p_w$ | (13), (14), Transfer** |
| (16) $\Box (D_w \rightarrow \Box N_{s,t} p_w)$ | (11), (15) |

The conclusion of this argument is, of course, the incompatibilist's thesis: Necessarily, if determinism is true, then for any S, for any t, and for any p, it is not up to S at t whether p.

And so there is a formulation of the consequence argument that can resist both the modal fallacy and no past objections. But this formulation is adequate only if the trans-temporality thesis is true. It is time, then, to consider what argument might be offered on its behalf.³⁴

³⁴ In his response to the no past objection, Roberto Loss commits himself to the trans-temporality thesis by committing himself to inference principles that he dubs (γ) and (δ). He stipulates that: t = any time; $t < t'$ = time t is earlier than t' ; p_t is a proposition that describes the state of the world at time t; $N_t p = p$ and it is not up to anyone at t whether p. He then offers: (γ) $\forall t(p_t \rightarrow N_t p_t)$ and (δ) $\forall t \forall t' (t < t' \rightarrow (p_{t'} \rightarrow N_t p_t))$ and formulates the consequence argument in terms of these inference principles. Although I am in broad agreement with Loss, and although we are both committed to both (γ) and the trans-temporality thesis, our responses to the no past objection are importantly different. For one thing, I do not use either of Loss's inference principles to formulate the consequence argument; with respect to my formulation, its validity depends on nothing other than Transfer**. Moreover, my formulation of the argument does not depend on (δ), a principle that is based on the assumption that no one has a choice about the past; this assumption is called into question by the case of Oscillating Adam. Another

9 Revisiting the definition of free action

In defending the trans-temporality thesis, I begin with a reminder that:

(FW_U) S performs act A freely = df. S performs A and *It is up to S* whether S performs A.

And that (FW_U) is equivalent to each of the following:

(FW_{CH}) S performs act A freely = df. S performs A and *S has a choice about* whether S performs A.

(FW_A) S performs act A freely = df. S performs A and *S is able to A* and *able to refrain* from A-ing.

(FW_C) S performs act A freely = df. S performs A and *S can A* and *can refrain* from A-ing.

Because each expression of the *definiens* in the definition of free action is equivalent to the other, I will simplify the discussion that follows by focusing on one expression in particular:

(A) S is able to A and able to refrain from A-ing.

Moreover, I will rely on the indisputable claim that:

(FT) For any agent S, it is impossible that S acts freely unless S acts freely at some time t.

This proposition is true given that the free will thesis is a thesis about temporally bound finite agents,³⁵ and it is trivially true that if such an agent acts—freely or otherwise—she acts at a time. Indeed, whatever she does, whatever properties she instantiates, or whatever relations she bears, she is located at some time t. Moreover:

(AT) For any agent S, if S is able to A and able to refrain from A-ing, there is some time t' such that S at t' is able to A and able to refrain from A-ing.

In what follows, I will argue from (FT) and (AT) to the trans-temporality thesis.

10 Picturing free action

In making my argument for trans-temporality, I will begin with a portrait of what a free action seems to be, given the truth of (FW_A). What seems to be the case is this: S's acting freely necessarily includes a change: first S is one way (able to A at t and

Footnote 34 continued

difference: Loss does not explicitly articulate the trans-temporality thesis and, hence, he does not argue for it. While he does argue for (γ), his arguments are extremely brief (indeed, they are mostly confined to footnotes). My argument for the trans-temporality thesis is far more extensive. And so while I agree with everything that Loss says in defense of (γ), I take it that there is much more to say on (γ)'s behalf. Indeed, I hope that my argument for the trans-temporality thesis makes it clear just how high the price of denying (γ) is.

³⁵ As I stipulated in fn. 1.

able to refrain from A-ing at t), and then another way (either A-ing at t, or refraining from A-ing at t). And, of course, it is true by definition that a change occurs only if time passes: it is necessarily the case that a change occurs if and only if things are first one way, and then another.

Or, to put the point more fancifully: if S freely performs A at t, (i) first, S is able-to-A-at-t-and-able-to-refrain-from-A-ing-at-t; (ii) then, at t, *as S performs A*, S's ability to refrain-from-A-ing-at-t *disintegrates*. Prior to S's performing A at t, S had the potential to perform A at t and the potential to refrain from performing A at t; as S actually performs A at t, her potential for A-ing-at-t is actualized, and her potential for not-A-ing-at-t disintegrates. Again, it seems that S's freely performing A at t entails that there is a transition, or a change, from one state of the world to another.³⁶

If the preceding picture of free action is correct, it sheds light on the debate between compatibilists and incompatibilists. If they are considering a case in which an agent performs act A freely at t, they are debating about what happens at the point of transition (or: what accounts for the change) from (i) S's being able-to-A-at-t-and-able-to-refrain-from-A-ing-at-t to (ii) S's A-ing-rather-than-not-at-t. The compatibilist, qua compatibilist, may say that the laws of nature, in conjunction with the state of the world at which S is able-to-A-t-and-able-to-refrain-from-A-ing-at-t, *determine* whether or not S A's-at-t. The incompatibilist, of course, denies that this is the case. Moreover, incompatibilists disagree among themselves about what accounts for the transition: agent causationists say that the agent herself accounts for it; event causal indeterminists say that that some event indeterministically causes S's A-ing-at-t; mysterians deny that we can figure this out. And it is because it is altogether unclear what accounts for such a change that there is a debate about the nature and existence of free action.

11 Arguing for the trans-temporality thesis

While the preceding picture of free action seems accurate to some of us, and while the preceding picture of free action is accurate only if the trans-temporality thesis is true, it is nonetheless necessary to argue for the trans-temporality thesis. After all, the very fact that there is a no past objection implies that there are those who deny the accuracy of the preceding picture. And so I will argue for the trans-temporality thesis in what follows.

In doing so, I will emphasize that *able to* expresses modal possibility³⁷: (FW_A) , (FW_C) , (FW_{CH}) , and (FW_U) are all modal claims, and:

³⁶ I note here the limitations of the English language: English grammar allows us to say that an agent *is* able to do something; it allows us to say that an agent *was* able to do something; it allows us to say that an agent does one thing or another. But it provides no way of referring to the relevant transition insofar as it is a transition: in the cases under consideration, the agent changes from being able to do something to not being able to do it, and she undergoes this change precisely because she does something that she was able to do. We cannot say that she “ables” or “cans” or “up-to’s” at the point of transition; this makes it difficult to speak of the transition itself.

³⁷ Any textbook of English grammar tells us this much. For an excellent discussion of mood and modality in English grammar, see Huddleston and Pullman (2002, pp. 172–208).

(A) S is able to A and able to refrain from A-ing.

Entails:

(P) It is possible that S A's and it is possible that S refrains from A-ing.

Provided that:

- (i) There is no shift in context between (A) and (P);
- (ii) There is no difference in the *kind* of modality expressed by *able to* and *possible that*.

Where:

- (iii) The different kinds of modality include (but are not limited to): epistemic; deontic; logical; nomological.

The question now is: what, exactly, is the relevant kind of possibility? In what follows, I will argue that it is *accidental possibility*³⁸; that is, I will argue that unless it is accidentally possible for S to A and accidentally possible for S to refrain from A-ing, S is not able to A and able to refrain from A-ing.³⁹

The modality of accidental possibility is but one of the “accidental modalities.” In discussions of the accidental modalities, the focus is usually on *accidental necessity* and *accidental impossibility*. Moreover, the former tends to garner the most attention. I will thus discuss these modalities, paying special attention to accidental necessity. And once this discussion is in place, it ought to be clear what the modality of accidental possibility is.

Accidental necessity is offered as a modality that captures the distinction between:

- (i) Proposition p is true.
- (ii) Proposition p describes a state of affairs that has obtained.

Where (ii) should be understood as equivalent to:

- (ii') Proposition p describes an event that has occurred.⁴⁰

Both the obtaining of a state of affairs and the occurrence of an event should be understood as *the actual world's being a certain way*. Or, to be more precise:

³⁸ In my discussion of accidental possibility and related notions, I will ignore the relevant similarities between these modalities and those that are similar—for instance, Luis de Molina's ‘causal possibility’. Although there are some contexts in which it is crucial to consider the differences between such modalities, this context is not one of them.

³⁹ I will not discuss other modalities, but it will become clear that a proposition is accidentally possible only if it is logically possible that it is true. Moreover, it will become clear that a proposition is accidentally possible only if it is nomologically possible, *provided that* nomological possibility is understood correctly. See Lewis (1981) for discussion of the proper construal of nomological possibility in the context of the free will debate.

⁴⁰ The distinction between truth and accidental necessity is sometimes articulated in terms of “hard facts” and “soft facts.” Soft facts correspond to the former; hard facts correspond to the latter.

the way that actual objects actually are. If an object bears a property or a relation, then the state of affairs of that object's bearing that property or relation *obtains*.

Moreover, states of affairs that include temporally bound objects obtain *at times*. If, for instance, an agent is temporally bound, and if she bears the property of being able to A and able to refrain from A-ing, she bears this property at some time. Of course, temporally bound objects *change*: at one time, they are one way; at other times, they are other ways. Or: the actual world is such that things are first one way, then another.

I have been employing the notion of *the state of the world at a time* throughout my discussion of the consequence argument, but I have been couching my discussion in terms of a proposition P_t that expresses the complete state of the world at a time. What I am now emphasizing is that these states of the world are arranged in order.⁴¹ For any state of the world at a time t , it is either earlier than or later than another state of the world t' (unless, of course, the world is such that it includes only one time). Moreover, it is because states of the world obtain in order that it is possible to draw a distinction between accidental necessity and truth.

If bivalence is true, then, truth does not capture the distinction between propositions that describe states of affairs that *have* obtained at t and propositions that describe states of affairs that *have not yet* obtained at t . Bivalence, of course, is the thesis that for any proposition p , p has a truth value; bivalence implies that there is no time at which a proposition lacks a truth value. To the extent that there seems to be a significant distinction between propositions that describe the past and propositions that describe the future, it seems that the notion of accidental necessity is significant:

(AN) Proposition p is accidentally necessary at time t if p describes a state of affairs that obtains at t' , and $t' < t$.

So: there are states of affairs that obtain at times, and whenever something changes, a different state of the world obtains. The accidental modalities capture the changeability of temporally bound objects (that do not exist in worlds with only one time).

In his (1983), Alfred Freddoso clearly articulates the defining features of the modalities of accidental necessity and impossibility (or, as he prefers, necessity and impossibility *per accidens*)⁴²:

(i) A proposition that is necessary *per accidens* is, as the name suggests, such that its being necessary (impossible) is an accidental feature of it [It is a contingently true proposition].

⁴¹ This is so whether the A-theory or the B-theory of time is correct. If the A-theory is correct, then there is something "ontologically privileged" about whatever time happens to be present; if the B-theory is correct, the "the present time" is an indexical. But in either case, there are events that are "earlier than" the present time; and events that are "later than" the present time. Whichever view of time one holds, one may say that some events are earlier than time t , and some events are later than t . And the idea here is that those events that occur earlier than a time t are accidentally necessary at that time.

⁴² Condition (iv) is somewhat controversial. However, I will not rely on (iv) in any of the arguments that follow.

- (ii) A proposition's being necessary (impossible) *per accidens* is relative to a time, since a proposition becomes necessary (impossible) *per accidens* after not having been necessary (impossible).
- (iii) A proposition's being necessary (impossible) *per accidens* at moment t entails that it remains necessary (impossible) *per accidens* at every moment after t .
- (iv) When we limit the consequents to logically contingent propositions, then accidental necessity, like other kinds of necessity, is closed under entailment: If p entails q , and q is logically contingent, and p is necessary *per accidens* at t , then q is necessary *per accidens* at t .⁴³

It is noteworthy that if this modality is legitimate, it is possible to make sense of a conjunction that might seem, on the face of it, paradoxical: (i) p is true and, (ii) p might have been false. This conjunctive claim must be parsed carefully, given the trivial truth of the claim that *insofar as p is true*, it is impossible that p is false. But if accidental possibility is a legitimate modality, and if p is contingently true, and if p describes some state of the world that obtains after t , p might have been false at t insofar as $\neg p$ is accidentally possible at t .

As I have already pointed out, temporally bound agents exist at times, and have properties and bear relations at times. If an agent performs an action A , she performs it at a time. That is:

- (FT) For any agent S , if S performs A freely, there is a time t such that S performs A at t .⁴⁴
- (AT) For any agent S , if S is able to A and able to refrain from A -ing, there is time t' such that S at t' is able to A and able to refrain from A -ing.

And then:

- (AT') For any agent S , if S is able to A and able to refrain from A -ing, there is time t' and there is a time t such that S at t' is able to A at t and able to refrain from A -ing at t .

But:

- (A) S is able to A and able to refrain from A -ing.

Entails:

- (P) Possibly, S A 's and, possibly, S refrains from A -ing.

And so:

⁴³ Both the incompatibilist and the compatibilist may accept this, provided that the laws of nature are not accidentally necessary. I will assume that they are not.

⁴⁴ As I stipulated in fn. 1, we are here considering the free actions of non-divine persons. To question (FT), then, is to suggest that it is possible that there are finite beings who act freely outside of time. It is beyond the scope of this paper to argue against this suggestion. But there are plenty of arguments to choose from; indeed, there are so many arguments that the dialectical burden is squarely on the shoulders of anyone who insists that there are finite beings acting freely outside of time.

(PT) For any agent S, if S is able to A and able to refrain from A-ing, there is a time t' and a time t such that (i) it is possible at t' that S A's at t and (ii) it is possible at t' that S refrains from A-ing at t .

It is clear, then, that if S is able to A and able to refrain from A-ing, it is possible at some time t' that S A's at t and it is possible at t' that S refrains from A-ing at t .

And this, I hope, shows that the modality of accidental possibility is relevant here. Perhaps a *reductio* would help. If the modality is not relevant, then:

(PT) There is an agent S who is at t' able to A at t and able to refrain from A-ing at t , but (i) it is not accidentally possible at t' that S A's at t or (ii) it is not accidentally possible at t' that S refrains from A-ing at t .

Where (PT) entails:

(PT'') There is an agent S who is at t' able to A at t and able to refrain from A-ing at t , but (i) it is accidentally necessary at t' that S A's at t or (ii) it is accidentally necessary that S refrains from A-ing at t .

But if this is the case, it is true by the definition of accidental necessity that the state of the world that includes S's A-ing at t has already obtained at t' . So, at t' , S *has* already performed A. And, yet, she is—at the very moment at which she has already done it—able to refrain from doing it. She is able to refrain from doing what she has already done. So: (i) what has happened has happened (S has performed A) and (ii) it is still possible that it not happen (it is still possible that S refrain from performing the act that she has already performed).

This seems to me to be a *reductio ad absurdum*. Then again, it is not always clear what counts as an *absurd* consequence. So I'll say instead that it seems necessarily false that it is now (in time) possible for an agent to do something other than what she has already (at this time) done.

But even if this is true, one might say, it is not clear what any of this has to do with the trans-temporality thesis; and since the trans-temporality thesis is what was supposed to provide a refutation of Campbell, it is not clear that any of this has been constructive. After all, Campbell does not claim that I now have a choice about what *has* happened; he claims that I *now* have a choice about what is now happening.⁴⁵ And I haven't said anything about *that*.

What I will now argue is that what happens at t is accidentally necessary at t : what *has* happened at t includes what *is* happening at t .

First, let us recall the notion of the complete state of the world at a time (or, at an instant). Let us stipulate that:

There are three worlds, w , w^* , and w^{**} , and for every t' such that $t' < t$, (i) the complete states of w , w^* , and w^{**} are identical at t' and (ii) t is the last moment of each world's existence).

(One might say that there is “perfect overlap” among w , w^* , and w^{**} with respect to every state of affairs that has obtained prior to t). And let us suppose that:

⁴⁵ He makes this perfectly clear in his (2010).

The complete state of w at $t \neq$ the complete state of w^* at t .

And:

The complete state of w at $t =$ the complete state of w^{**} at t .

But if it is necessarily the case that p_t is accidentally necessary at t only if p_t describes a state of the world that obtains prior to t , then the very same propositions that are accidentally necessary at t in w and w^{**} are also accidentally necessary in w^* . And this seems wrong. It seems that since different states of affairs obtain in w and w^* , there is at least one time with respect to which different propositions are accidentally necessary in w and w^* .

Perhaps, in arguing that what happens at t is accidentally necessary at t , it will be useful to return to the notion of change. I have said that (i) changes happen in time and (ii) if a change occurs, it is true by definition that things were first one way, and then another. Now, if an object x is first sitting and then standing, when has the change occurred? It certainly seems that it *has* occurred as soon as the agent stands. But if a change has occurred, it is accidentally necessary that the change has occurred. So, it seems that at the very moment at which S stands—at the very moment at which S instantiates the property of standing—it is already accidentally necessary that S stands. Is there any reason to think that things are different in other cases of change? And if change is always complete at the time that the relevant agent instantiates the relevant property or relation, and if states of affairs are individuated according to which properties and relations are instantiated, then it seems to follow that a proposition becomes accidentally necessary at the very moment that a change takes place. And this is just to say that however the world changes from one time to the next, what happens at a time is accidentally necessary at that time.

Just in case none of this is convincing, I will make one final effort at arguing that if S A's at t , S is not at t able to refrain from A-ing at t . If P_t is the proposition that describes the state of the world at t , and if S A's at t , then P_t entails that S A's at t . So, if O_t is the state of the world that obtains at t , then it is logically impossible for O_t to obtain and for S not to A at t . Of course, whatever circumstances S is in at t , these circumstances are included in O_t and are described by P_t . So, it is logically impossible for S to be in the circumstances that she is in at t and to refrain from A-ing at t . But if it is logically impossible for S to be in the circumstances that she is in at t and to refrain from A-ing at t , S at t is not able to refrain from A-ing at t .

This is not to say that if S A's at t , it is not logically possible for S not to A at t . That is, I do not want to argue that:

(17) $-\diamond(S$ A's at t and S refrains from A-ing at t)⁴⁶

(18) S A's at t

(19) Therefore, $-\diamond(S$ refrains from A-ing at t).

My point is simply if the state of affairs of S 's A-ing obtains, it is impossible that the state of affairs of S 's not-A-ing obtains at the very same time. And given that this is not possible, if the state of affairs of S 's A-ing obtains at t , then it is impossible at t

⁴⁶ Where ' \diamond ' is a modal operator representing broad logical possibility.

that S refrain from A-ing at t. And if this is impossible, then if S A's at t, S at t is not able to not-A at t.

But all of this leads us to the trans-temporality thesis: if an agent performs an act freely, there is a time at which she is able-to-perform-that-act-and-able-to-refrain-from-performing-it, and a later time at which she performs the act in question. The free will thesis is, by definition, a thesis about trans-temporal relations.

12 Trans-temporality and determinism

But as I already suggested in my introduction, the thesis of determinism is *also* a thesis about trans-temporal relations:

Determinism = df. The thesis that (i) For every instant of time, there is a proposition that expresses the state of the world at that instant; (ii) If p and q are any propositions that express the state of the world at some instants, then the conjunction of p with the laws of nature entails q.

It seems, then, that it is the trans-temporality thesis that undergirds a commitment to incompatibilism: if determinism is true, certain relations hold between times; if the free will thesis is true, certain relations hold between times; it is logically impossible for one time to bear both sets of relations to another. If free action is incompatible with determinism, it is in virtue of the trans-temporal nature of free action, and not in virtue of particular relations between agents and the past.

13 Conclusion

At the beginning of this paper, I suggested that the modal fallacy and no past objections fail if there is a formulation of the consequence argument that derives the incompatibility of free action and determinism from the definitions of each.

I attempted to provide such a formulation of the argument. I began with the definitions of free action and determinism, presented a standard formulation of the consequence argument, and considered the objections in question. I then reformulated the consequence argument so that it relied on nothing other than:

- (i) The premise that: $\Box N_{s,t} (P_t \ \& \ L)_w$
- (ii) An obvious implication of the definition of determinism:
 $((D_w \ \& \ p_w) \rightarrow \Box((P_t \ \& \ L)_w \rightarrow p))$
- (iii) New Transfer**, the inference principle according to which:
 $\{\Box N_{s,t} p_w, \Box (p \rightarrow q)\}$ entails $\Box N_{s,t} q_w$.

I made it clear that the premise is implied by the trans-temporality thesis (and the fixity of the laws, which I took to be non-controversial in this context); I then argued that the trans-temporality thesis is implied by the very definition of free action.

Toward that end, I argued that the modality of *accidental possibility* is relevant to the free will thesis: if it is up to an agent whether a proposition is true, that

proposition is accidentally possible. I further argued that if a proposition describes the state of the world at a time, it is accidentally necessary at that time.

I then pointed out that determinism, like the free will thesis, is a thesis about trans-temporal relations. I suggested that it is in virtue of the trans-temporal nature of both free action and determinism that incompatibilists take them to be incompatible.

And so, in conclusion, it seems that by neutralizing the threat of the modal fallacy and no past objections, the incompatibilist can get exactly what he wants: an argument that derives incompatibilism from nothing other than the definitions of free action and determinism.

Acknowledgments I am grateful to Andrew Bailey, David Buller, Mary Beth Finch, Jennifer Lackey, Geoff Pynn, Baron Reed, Mike Rea, and Kevin Timpe for very helpful comments on earlier drafts of this paper. I am also grateful to Jonah Nagashima for valuable discussion of the topic and to Aaron Schroeder for his assistance in editing the manuscript.

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