

On the Transfer of Necessity

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I

Over the last several years, a number of philosophers have advanced formal versions of certain traditional arguments for the incompatibility of human freedom with causal determinism and for the incompatibility of human freedom with infallible divine foreknowledge.¹ Common to all of these is some form of a principle governing the transfer of a species of alethic necessity. (Alethic modalities are those concerning the way in which propositions are, or are not, true.) I will begin by examining a common version of this principle, viz.,

$$(TNP) \ N_{st}p, N_{st}(p \rightarrow q) \vdash N_{st}q$$

where N is a propositional-operator form denoting a type of necessity, p and q are sentence schemata, and the arrow represents the material conditional. In discussions of free will and causal determinism, ' $N_{st}p$ ' denotes what some have dubbed "power necessity", and it may be interpreted as 'p and it was not in agent s 's power at time t to make it the case that $\sim p$.' This technical locution is intended to capture the ordinary notion of an agent's being unable to act differently in the circumstances, and thus of her lacking free will with respect to the performance of the action. (Later, I will be examining this principle in relation to other sorts of alethic necessity.)

As Carl Ginet and Peter van Inwagen have shown, if we employ a generalized form of this operator which ranges over all (natural) agents and times, $\sim Np$, interpreted as 'p and it was never in anyone's power to make it the case that $\sim p$ ' – and we accept (in addition to TNP) the following highly plausible inference rules governing it:

- (1) $\text{Nec } p \vdash \text{N}p$ (where 'Nec' denotes the logical necessity operator)
- (2) The laws of nature entail that $p \vdash \text{N}p$
- (3) The events making it true that p occurred before $t \vdash \text{N}_t p$

then it can be deduced from the assertion of determinism that, for any true proposition p , $\text{N}p$. That is, if determinism is true, then no one ever has it in his power to make it the case that anything happens other than what in fact occurs.

More recently, a few clear and compelling counterexamples to TNP (and a variant of it) have begun to surface in the literature. These attacks on TNP are developed along somewhat different lines (and were apparently worked out independently of each other). I will show that despite the differences in presentation, however, all of the compelling counterexamples that have been offered turn on a common (and overlooked) basic feature. Once this feature is recognized, I suggest, one is naturally led to restrict the principle in a way that renders it immune to these counterexamples. (I further argue that the restriction I suggest has independent justification.)

I then go on to consider two further attempts to show the invalidity of TNP for power necessity, ones that would not be forestalled by my restriction on TNP, and I argue that they are unsuccessful. In a final section, I compare my modified version of TNP for power necessity with a principle suggested in Ginet (1990).

II

I will now introduce three counterexamples to TNP, where N is interpreted in terms of power necessity. The first two were devised by David Widerker (1987):

- (Case A) Suppose that by destroying a bit of radium r at t_1 , Sam prevents the (indeterministic) emission of a subatomic particle by r at t_2 . Suppose further that

this is the only way by which Sam can make sure that r will not emit radiation at t2.

If we let

p = The bit of radium r does not emit at t2 a subatomic particle,

q = Sam destroys r at t1,

s = Sam, and

t = t1,

then TNP for power necessity licenses us to conclude that it was not in Sam's power at t1 not to destroy the radium. For both premises are satisfied. Clearly it was not in Sam's power at t1 to make it the case that $\sim p$, i.e., that a particle was emitted at t2 (although this might have occurred had he not destroyed the radium). So N_{stp} . Consider now the second premise, $N_{st}(p \rightarrow q)$. This also holds, since $(p \rightarrow q)$ is true, and it was not in Sam's power to make it the case that $\sim(p \rightarrow q)$. For this is equivalent, of course, to $p \ \& \ \sim q$, and if Sam had made $\sim q$ true – i.e., refrained from destroying the radium – then he would have had no means of ensuring that p is true, that the radium did not emit the particle (though, again, this might have been the case nonetheless). But surely it is consistent with these facts about the example to suppose, contrary to the conclusion of TNP, that Sam was able to falsify q, i.e., to not destroy the radium at t1. Therefore, TNP for power necessity seems invalid.

Here is Widerker's second example:

(Case B) Suppose that Jim comes to visit Quincy at t8, whereupon Quincy by locking the front door prevents Jim from being able to leave thereafter. Suppose further that this is the only way by which Quincy can ensure that Jim will not leave at t10, and that though Quincy can prevent Jim from leaving at t10, he cannot prevent him from staying with him at t10.

If we let

p = Jim does not leave by t_{10} ,

q = Quincy locks the door at t_8 ,

s = Quincy, and

t = t_8 ,

then we are again led by TNP to an unwarranted conclusion, this time that it was not in Quincy's power at t_8 to refrain from locking the door (i.e., that $N_{St}q$). For given the above scenario, both premises are true. (1) it is true that $N_{St}p$ because it has been stipulated that once Jim enters the house at t_8 , Quincy cannot make it the case that he leaves before t_{10} . (2) the second premise, $N_{St}(p \rightarrow q)$, holds as well, since for Quincy to be able to falsify the embedded conditional, he would have to be able to make it the case that p and $\sim q$, i.e., that he does not lock the door at t_8 and that Jim does not leave at t_{10} . But it is part of the very description of the scenario that he is unable to do this. Since there is no reason to think, however, that $N_{St}q$, i.e., that he was unable to refrain from locking the door at t_8 , we are led to conclude that TNP is invalid.²

Having provided these effective counterexamples to TNP for power necessity, Widerker proceeds to suggest a way in which the problem may be circumvented: simply strengthen the operator on the second premise needed to make the inference from power necessity to logical necessity. So we replace TNP with

(TNP*) $N_{St}p, \text{Nec}(p \rightarrow q) \vdash N_{St}q$.

The amended principle can do the same work as the original in incompatibilist arguments of either type. If causal determinism is true, any true proposition of the form S performs action A at t follows of logical necessity from a complete description of the world at

some time prior to t together with the set of laws of nature true in that world. And if God is essentially omniscient (as is traditionally supposed), then propositions of the form If God believes at t_1 that S does A at t_2 , then S does A at t_2 are not just necessary in the sense that no agent ever has it within his power to make any of them false; rather, they are logically necessary.³

Furthermore, it is clear that TNP* is not vulnerable to either of Widerker's examples. For while Sam and Quincy seem not to have it within their power at the relevant times to falsify the conditionals, If the bit of radium r does not emit at t_2 a subatomic particle, then Sam destroys r at t_1 and If Jim does not leave by t_{10} , then Quincy closes the door at t_8 , respectively, it is evident that neither of these propositions are logical truths.

That Widerker's reformulation does not get at the heart of the matter, however, is seen by the fact that it, too, is subject to counterexample when applied to at least one sort of (alethic) necessity, as Linda Zagzebski (1991, pp.165-8) has recently shown. Zagzebski's example involves the transfer of causal, rather than power, necessity. We are to say that an event is causally necessary just in case it is the deterministic consequence of previous events. (It is also stipulated (plausibly) that the obtaining of a law of nature is itself causally necessary.) This does not rule out, of course, there being causally undetermined events in the causal ancestry of a causally determined event.⁴ Now let B be a causally contingent occurrence, such as the decay of a radioactive ion. Let A be the recording on a meter (fairly remote from B) of the impact of the particle, and such that it is causally necessary that A , given B . We further suppose that the meter is a foolproof detector of such ionizing radiation, such that it reacts if and only if the substance emits the particle (p.168). Finally, let ' C ' denote the conjunction of the laws of nature. Contrary to TNP* for causal necessity, $N(A \text{ occurs and } C)$, $\text{Nec} [(A \text{ occurs and } C) \rightarrow (B \text{ occurs})]$, but it is not the case that $N(B \text{ occurs})$.⁵

Can we construct a similar example for power necessity? This is less clear. One might offer the following sort of example. Suppose Tom freely decides to lean on a wall

while waiting for a friend to emerge from his office in a high-level department of the CIA. Unbeknownst to him, by pressing his shoulder on a certain tile on that wall, he activated a chain of events that results in a bomb explosion in a building across the street.

Furthermore, the bomb could have exploded at t_2 only if the tile was pressed at t_1 . Let

C = the conjunction of the laws of nature,

p = the bomb explodes at t_2 and certain local conditions E in the vicinity of the explosion

obtain (such that it is logically necessary that if the bomb explodes at t_2 and E and C

obtain, then the tile was pressed at t_1),

q = The tile is pressed at t_1 ,

s = Tom, and

t = t_1 .

The putative counterexample to TNP^* for power necessity would then be: $N_{st}(p \ \& \ C)$,

$Nec[(p \ \& \ C) \rightarrow q]$, $\therefore N_{st}q$. Given the description of the situation (and in particular the

stipulation that the bomb could have exploded at t_2 only if the tile was pressed at t_1), the

second premise seems true.⁶ What about the first premise, $N_{st}(p \ \& \ C)$? Did Tom have it

in his power at t_1 to make it the case that the bomb did not explode at t_2 ?

Until now, we have relied on an intuitive understanding of what is involved in the truth of a proposition being in an agent's power at a given time. However, there are at least two notions of varying strength in the neighborhood. The stronger of these requires that an agent not only be capable in the circumstances of performing an action which is causally sufficient⁷, let us say, for the truth of the proposition, but also that he has knowledge or true beliefs about what is required to make the proposition true. On this understanding, it is not within Tom's power at t_1 to prevent the bomb from exploding. However, a more minimalist reading of this notion would not require this further condition, so that it is sufficient that the agent be capable of acting in such a way as to make the proposition true, whether or not he is aware of what behavior is required in order to accomplish this. In this sense, one could say that it is within Tom's power to

make it the case that $\sim p$, and so our first premise is false. It appears that for each of these interpretations, at least one philosopher who has used TNP to argue for incompatibilism has intended the notion of "within one's power" to be understood in that sense.⁸

Rather than pursue this matter further, I will allow that Widerker can claim with some justification that his TNP* is not clearly subject to counterexamples of this sort. Nonetheless, I think there are at least two reasons for thinking that his reformulation is not sufficient. First, it is inapplicable to possible cases in which an agent's action is not completely determined by prior events, though it is near-as-makes-no-difference to being determined. Suppose my A-ing is exceedingly probable given prior circumstances and the relevant causal laws, but owing to certain isolated quantum phenomena, there is an entirely negligible chance that I might act slightly differently. (And if one is inclined to suppose that properly located quantum indeterminacy could have some relevance to free will, let it further be stipulated that the indeterminacy does not occur in any of my neurological processes.) Now we no longer have a logically necessary statement to the effect that if a conjunction of past circumstances and the laws of nature obtain, then I will do A. But it seems that my action is no more in my power here than it would be if the relevant laws were completely deterministic. To get this result from an application of a TNP, though, the operator on the conditional premise needs to remain 'N' (rather than 'Nec', as in Widerker's TNP*).

Second, Zagzebski's demonstration of the invalidity of TNP* for the transfer of causal necessity simply casts some doubt on its validity for other forms of necessity. What we want is a unified explanation of how all the counterexamples noted thus far manage to succeed, in such a way that we can reformulate the principle in a non-ad hoc manner.

I believe that a quite simple explanation of the (at first surprising) counterexamples to TNP can be given. Recall its formulation for power necessity:

$$(TNP) N_{st}p, N_{st}(p \rightarrow q) \vdash N_{st}q$$

In Zagzebski's as well as Widerker's examples, the proposition corresponding to q is made true at a time prior to the time at which the proposition corresponding to p is made true. In applying the principle to propositions that are temporally ordered in this way, we are allowing that future events may be relevant to the matter of whether the agent had it within his power to act differently at a certain time. But this ought to be recognized as improper, quite apart from there being convincing counterexamples that demonstrate the invalidity of such an unrestricted principle. In contemporary parlance, the only facts that can be relevant to the issue of whether it is in my power at t to make true some proposition are "hard facts" at t , those that are "over and done with" at t , because "wholly about the past" relative to t .^{9,10}

This point suggests the restriction that the proposition occupying the 'q' location in the statement of TNP be one that is made true at a time later than that which occupies the 'p' slot. Thus we have

$$(TNP') \quad N_{st}p, N_{st}(p \rightarrow q) \vdash N_{st}q,$$

for all p, q such that q is made true later than p .

It is doubtless the case, I think, that those who have defended the validity of TNP by claiming it to be intuitively evident were restricting their attention to cases that satisfy the further condition given by TNP'. At any rate, by my lights, it in no way amounts to an ad hoc maneuver; indeed, I find that it compels my assent upon considered reflection.

III

I will turn now to recent attempts to provide counterexamples to TNP for power necessity that do not rely upon having the event corresponding to the 'q' slot in the schema be such that it occurs prior to the one corresponding to the 'p' slot. Hence, they

are also challenges to TNP', and in what follows I shall talk as if their authors were discussing the latter principle. Unlike the examples discussed in the previous section, I believe that those which follow clearly fail, and thus my arguments amount to a partial defense of the validity of TNP'.

One such putative counterexample is advanced by Kadri Vihvelin (1988). The example is restricted to the minimalist interpretation of an action's being "within one's power" (or, its being the case that one "can make it true that") that is endorsed by Ginet in his defense of the incompatibilist argument. We noted earlier that on this reading, one needn't know what is required to make it true that p in order for it to be the case that one can make it true that p. (The thief can turn the dial on the safe to the numbers that will result in the unlocking of the safe, even though he hasn't a clue as to what the correct combination is. Similarly, the novice at the carnival game can successfully toss the ring onto the peg and thereby win the prize, even though she hasn't acquired the skill of knowing how one ought to do so in order to make success likely.)

Vihvelin's counterexample to TNP, given Ginet's minimalist reading of "can make it the case that", is as follows:

The government runs a lottery with the following rules. The draw is by an indeterministic process from the list of social security numbers; every person with a number is automatically in the lottery. Although anyone's number may be picked, you win only if you've paid the lottery fee. If the number drawn belongs to someone who hasn't paid the fee, there is no winner and the government keeps the money. Betty did not pay the fee, her number wasn't drawn, and she didn't win. She could have paid the fee, and her number could have been drawn. (It was a fair lottery.) (p.239)

Now let t be a certain time during the day before the drawing of the number, when it was still open to Betty to pay the fee. Then if we further let

b = Betty,

p = Betty's number is not drawn at t* (subsequent to t), and

q = Betty doesn't win the lottery,

then we may construct the TNP'-inference $N_{bt}p, N_{bt}(p \rightarrow q) / \therefore N_{bt}q$.

According to Vihvelin, however, the premises are true while the conclusion is false. I will leave it to the reader to confirm by inspection that, given the rules of the lottery, the honesty of its officials, and the fact that Betty's number happened not to be drawn, each of the premises is true. Why does Vihvelin suppose, though, that the conclusion is false, that it is in Betty's power to make it the case that she wins the lottery? Vihvelin writes:

Although Betty doesn't win the lottery, she can, in Ginet's weak, luck-dependent sense, win. Among the closest world's at which she pays the lottery fee is a world at which the indeterministic draw turns out differently and hers is the lucky number. At this world, Betty's payment of the lottery fee is a causal factor in her winning the lottery. (If she hadn't paid the fee, she wouldn't have won.) So Betty has the power to do something (pay the lottery fee) such that if she were to do it, this might causally contribute to her winning the lottery. (pp.239-40)

Now it is a very difficult and controversial matter to assess counterfactual propositions under the assumption of indeterminism. Hence, it is far from clear that we should grant that Betty's number might have been drawn if she had paid the fee (given that that action would presumably have been causally isolated from the draw). However, I will not here press this sort of objection to Vihvelin's argument.

We should take note, secondly, that Vihvelin is not making the wildly implausible suggestion that Betty can (at t) make it the case that she wins the lottery solely in virtue of the fact that the draw is indeterministic (which allows us to say that had the prior circumstances been any different, the draw might have turned out differently, turning up

Betty's number instead). (The absurdity of this suggestion may be seen by noting that Betty also had it in her power to scratch her right ear, but the fact (if it is a fact) that had she done so, the draw might have turned out differently in no way supports the claim that Betty could have made it the case that she won the lottery.) Rather, Vihvelin's claim crucially involves the point that the action of paying the lottery fee was a causally necessary factor for Betty's winning (as the scratching of her ear was not).

But no less necessary, of course, was the indeterministic draw turning up her number (a factor over which she had no control). Hence, Vihvelin seems to be assuming that where there are at least two independent basic factors, X and Y, necessary for making it the case that Z, such that an agent S has direct control over X, while Y is a possible, though non-actual, outcome of an indeterministic process - thereby underwriting the truth of the relevant might-counterfactual - then S could ("in Ginet's weak, luck-dependent sense") have made it the case that Z simply by bringing about X. But this, too, seems implausible. Let us suppose that there was only one fee-payment location near enough for Betty to have had time to make her payment, and that the proprietor of that establishment elected to close up shop and go fishing the day before the lottery draw. Now it was both open to him to go to work as usual and a necessary condition, in the circumstances, of Betty's winning the lottery that he do so. But we would not say that he could have made it the case that Betty won the lottery, given only that the action available to him was a causally necessary factor and the putative fact that it might have been the case (if he had opened the store) that Betty decided to pay the fee and the draw turned up her number. We would not say this, I believe, because the storekeeper's action would not directly bring about, or set in motion a chain of events leading directly to, the truth of that proposition. Rather, there is an important necessary factor (the drawing of the number) over which the agent has no control.

Vihvelin has been misled, I believe, by her own description of the weaker (or what I have been calling "minimalist") sense in which the truth of a proposition p may be within

an agent's power as "luck-dependent". It is "luck-dependent" only in that there is a sequence of bodily movements — sufficient for bringing about the truth of p — that the agent is quite capable of performing on the occasion in question, but she is unaware of what that sequence is that will do the trick. Thus, she will actually perform the required action only by either blindly and fortuitously selecting that particular behavior, or by deciding to do so for a reason other than that it will yield the result in question. All the same, it is open to her to act in a way that (in the circumstances) ensures p 's truth. But there is no action (or series of actions) available to either Betty or the shopkeeper that will bring about (in direct or indirect fashion) Betty's winning the lottery. Hence, it is not the case that either of them can — even in the weaker, "luck-dependent" sense — make it true that she wins. Therefore, Vihvelin's counterexample to TNP' is unsuccessful.

The other attempt to show the invalidity of TNP' for power necessity I wish to discuss is that of Michael Slote (1982). Slote's strategy is an indirect one: to show that TNP' fails for other forms of necessity, in order to motivate its rejection when applied to power necessity (or, as he puts it, "unavoidability"). Although the issues this approach raises deserve extended treatment, my discussion will be brief and limited to a particular example he presents.¹¹

Slote begins by suggesting that underlying acceptance of TNP' for any form of necessity is a tacit assumption that this operator is closed with respect to both conjunction introduction (which Slote terms "agglomerativity") and logical entailment. This would license us to move from Np and $N(p \rightarrow q)$ to $N(p \& [p \rightarrow q])$, and from the latter to Nq . Although Slote's contention that one who endorses TNP' must be assuming the validity of these further, TNP'-entailing inference rules has been challenged by at least one philosopher¹², I will simply concede this claim for present purposes. Slote then tries to show that these properties are lacking for certain kinds of necessity, thereby paving the way for arguing that certain compatibilist intuitions may be construed as the assertion

that on our ordinary understanding of the notion of "power necessity", this concept, too, lacks these properties.

Slote first argues that these properties fail for epistemic and deontic necessity. That fact seems simply irrelevant, however, to the discussion of the nature of an alethic modality, and Slote himself appears to grant that little weight should be put on these examples. The main burden of his argument is to show that closure with respect to conjunction introduction and logical entailment fail for two familiar forms of alethic modality. His first example is what he terms "nonaccidentality". Unfortunately, Slote never gives much of a characterization of this notion, and it is hard to be very sure that the notion with which he is operating is in fact properly characterized as a form of alethic necessity. The clearest construal that he gives of what he has in mind is "being part of x's plan", where "x" is to be replaced by an intelligent agent.

Slote then invites us to consider the common scenario of two friends who are surprised at meeting one another while each is carrying out some independent business concern. It is part of the plan of Jules' boss that Jules be at the bank at 10:00, and part of the plan of Jim's boss that Jim be at the bank at 10:00, but it is not part of anyone's plan (and, hence, 'accidental') that Jim and Jules be at the bank at 10:00. We thus seem to have a case of N_p , N_q , and $\sim N(p \ \& \ q)$ for nonaccidentality, i.e., a demonstration that agglomerativity fails for this modality.

However, it seems that Slote has been careless in applying the principle of agglomerativity to what (like power necessity) is (as he recognizes) a relativized form of necessity. With power necessity, there are two distinct schemata that may be instantiated, one restricted to a particular agent at a particular time and the other unrestricted for both agents and times.¹³ Similarly, we have the following two schemata for nonaccidentality:

(A) $N_{st}p, N_{st}q \vdash N_{st}(p \ \& \ q)$

(B) $N_p, N_q \vdash N(p \ \& \ q)$

We may spell out (A) as allowing that from its being the case that it is part of some particular agent's plan (Sam, say) at t that p should obtain, and also part of Sam's plan at t that q should obtain, we may infer that it is part of his plan that $p \ \& \ q$. The counterexample Slote offers is clearly not of this form, since it involves the plans of two different agents. (B) allows us to move from p 's and q 's being part of every agent's plan at all times to $(p \ \& \ q)$'s also being part of every agent's plan. But, again, this is not the form of the inference at issue in Slote's example. Slote's inference, it seems, is not a universalized form of (A) (as (B) is), but rather an existential generalization, to the effect that if it is part of some agent or other's plan that p , and also part of some agent's plan that q , then we are to infer that it is part of somebody's plan that $p \ \& \ q$.

It should be clear upon reflection, though, that it would be absurd to assert closure under conjunction introduction, closure under logical entailment, or TNP' in this "existentially-generalized" form for any sort of relative necessity. Slote would likely respond that we do have a generalized notion of "nonaccidentality" which requires only that the proposition (or, more precisely, the event corresponding to the proposition) be part of somebody's plan. But even if it is true that we employ such a vague, ill-behaved notion, why ought we to suppose that it is properly treated as a form of alethic necessity? Slote writes:

. . . it is hard to deny that nonaccidentality is a causal/ nomological matter concerning how things are in the world and a form of alethic necessity in particular. For those who distinguish lawlike universal truths, i.e., laws of nature, from nonlawlike ones, call the latter accidental. And it is natural to equate the accidental with the contingent and to treat noncontingency as a form of necessity.

(pp.15-16)

However, it seems highly implausible to suppose that those who speak of nonlawlike universal truths as 'accidental' are employing this term in precisely the same sense as the

rather ill-defined everyday usage Slote has in mind. Slote offers no reason to suppose that it is, and we may further note that ". . . is a law of nature" is closed under conjunction introduction, and indeed conforms to TNP'. I conclude, therefore, that in the absence of further argument, Slote has failed to make his case.

I am similarly inclined toward a negative assessment of Slote's attempt to give examples showing that nonaccidentality is not closed under logical entailment. Slote urges that "[i]t may be no accident that I am in a certain place right now (I was sent there by a superior in accordance with a routine plan of business operation), yet nevertheless be an accident that I am still alive right now (only an accidental and unintentional swerve on my part has prevented me from just being flattened by a runaway truck)" (p.16). But the fact that it is no part of my employer's plan that I swerve in just the way I did is beside the point, since that is not entailed by my being at the place in question in accordance with the plan. What is entailed, though, is that I arrive there in one piece. Slote further claims, however, that "even if a plan calls for someone to be somewhere at a given time, it need not call for that person to stay alive till then. The fact of aliveness may simply be presupposed by such a plan" (p.17). It appears that Slote will allow that some state of affairs is an aspect of a particular plan only if it has been explicitly specified by the plan's author. And it is obviously the case that not all the logical implications of the explicitly-specified elements of a plan are specified as well. But if we choose to speak of "being part of a plan" in this way, one is again led to wonder at the basis for supposing that we are discussing a species of (alethic) necessity. It would seem that nonaccidental-relative-to-some-plan is properly treated as a type of necessity only if the plan is regarded in an "objective" fashion, with the logical implications of its elements being implicitly included as further elements.¹⁴ And, pace Slote, I think that this is what is generally intended in speaking of various events as "accidental" or "nonaccidental". I thus conclude that Slote has failed to show a clear instance of a type of alethic necessity that does not obey TNP',

and so his strategy of indirectly impugning the applicability of this principle to power necessity remains to be carried out.^{15, 16}

IV

Ginet (1990) offers an alternative way of amending TNP in order to circumvent the sort of difficulty Widerker first noted.¹⁷ He labels his principle "the principle of the fixity of the past", and expresses it in the following notation:

(PFP) For all S, t, b_t , and a_t : if $O_{St}a_t$ then $O_{St}(b_t \& a_t)$.

The operator $O_{St}p$ is to be interpreted as "it was open to S at t to make it the case that p," and the variable a_t ranges over propositions as to what happens at or after time t, while b_t ranges over true propositions as to what happens before t. (p.103) The operator we have been discussing, $N_{St}p$, was, of course, given a conjunctive interpretation - "p and it was not in S's power at t to make it the case that $\sim p$." The second conjunct here may be taken to mean the same as $\sim O_{St}\sim p$. Thus, if we restrict the range of both variables (b_t and a_t) to true propositions, we can give a slightly restricted version of TNP' in Ginet's notation.¹⁸

Putting the inference rule TNP' into axiomatic form, we get

(R) For any S, t, b_t , a_t : [$N_{St}b_t \& N_{St}(b_t \rightarrow a_t)$] $\rightarrow N_{St}a_t$,

which (given that b_t and a_t range only over truths) is equivalent to

(S) For any S, t, b_t , a_t : [$\sim O_{St}\sim b_t \& \sim O_{St}(b_t \& \sim a_t)$] $\rightarrow \sim O_{St}\sim a_t$.

By contraposition, we obtain

(T) For any S, t, b_t , a_t : $O_{St}\sim a_t \rightarrow [O_{St}(b_t \& \sim a_t) \vee O_{St}\sim b_t]$.

This may be rather clumsily paraphrased as "it is open to S at t to make it the case that some (in fact) true proposition a_t as to what happens at or after t is false only if for

any true proposition bt as to what happens prior to t either: (a) it is open to S at t to make it the case that bt is true and at is false, or (b) it is open to S at t to make it the case that bt is false." We may now observe that the essential difference between the two principles is that TNP' is weaker than PPF in virtue of the second disjunct of (T) (the axiomatic version of (TNP')). It does not formally exclude the possibility that it may be open to an agent to determine the truth value of a proposition about the past.¹⁹ In at least one context, this may be seen to be an important difference: for some theists hold that it is open to human agents to perform actions (which they in fact do not perform) such that if they were to do so, then God would have had correspondingly different beliefs in the past. The plausibility of this tenet is, of course, deeply controversial, but it seems a modest advantage of TNP' that it does not presuppose a position with respect to this issue.²⁰

V

I conclude, then, that we have yet to see any serious reason to call into question the central inference of the incompatibilist, as formalized in my TNP' , and thus the reconciliationist project of the party of Hobbes and Hume - so rightfully scorned by William James as "a quagmire of evasion" - remains as dubious as ever.²¹

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¹ On the first of these issues, see, e.g., Carl Ginet (1980), and Peter van Inwagen (1983), pp.93ff.

² A structurally similar example to the one immediately above is given by Kadri Vihvelin (1988). However, its force in showing the invalidity of TNP is obscured, I believe, by Vihvelin's unnecessary reliance on the truth of a counterfactual concerning how an agent would freely act under certain non-actualized circumstances. There are strong grounds for doubting that counterfactuals of this sort (much discussed in contemporary philosophy of religion in connection with the problem of evil as well as theories of divine providence) are ever true. See, e.g., Robert Adams (1977).

³ In arguments over the implications of causal determinism, the incompatibilist generally first shows that a proposition of the form Nec (p \rightarrow q) obtains, and then maintains that N(p \rightarrow q) may be validly inferred from this, on the grounds that 'N' is a weaker type of necessity. Widerker is suggesting that this extra step is not only unnecessary, but leads one to employ an invalid form of inference (TNP). In arguments concerning the implications of divine foreknowledge, Widerker's (TNP') is standardly used.

⁴ Zagzebski suggests (although the motivation is unclear to me) that we might stipulate that this cannot be true of any of those events in its immediate past.

⁵ In Zagzebski's original example, "B occurs and C" is inserted for my simpler "B occurs", since her remarks are directed at a version of TNP which requires Nec (p \leftrightarrow q) in place of Nec (p \rightarrow q).

⁶ Physicists seem to assume that fundamental laws are (largely) isotropic with respect to time, such that if the state of the world at t_1 together with the laws of nature imply the state of the world at t_2 , then likewise the latter state (given the natural laws) implies the former.

⁷ It would be no mean task to spell out this vague requirement on 'having it within one's power to make it the case that p ' in a satisfactory way. We might simply state that S can make it the case that p provided that S can perform an action that, given the circumstances and relevant causal laws, is logically sufficient for p . (Peter van Inwagen (1983) takes something like this route.) But this has the unintuitive consequence that if George Bush in fact does not die before midnight tonight, then I can make it the case that he does not die tonight simply by, say, sitting in my chair. It seems, then, that something like the condition that S be able to perform an action that would play a central role in bringing about (or constituting) the state of affairs described by p is needed, though no doubt more would need to be said in order to deal with philosopher's examples.

A more important challenge to the locution we have been employing is its application to conditional propositions. Does it even make sense to speak of being able to make it the case that $\sim(p \rightarrow q)$ (as TNP' for power necessity requires)? (Linda Zagzebski has posed this question in correspondence.) I don't see any real problem here. Note that this is equivalent to the conjunction $(p \ \& \ \sim q)$, and it seems proper to say that one brings about the truth of a conjunction just in case one acts in such a way as to bring about the truth of the final conjunct required to make the conjunction true. The star hitter who hits a game-winning home run needn't be accused of boasting more highly than the facts warrant if he proudly tells his child that he made it the case that his team won by the score of 3-2, even if he did not have a hand in his team's scoring the first two of their runs (much less the other team's having scored their two runs). It was necessary for the truth of The Sox won by the score of 3-2 that these other facts obtained, and the players who

participated in the earlier scoring certainly contributed to the truth of that proposition, but the final batter alone made it the case that it is true.

⁸ Peter van Inwagen appears to employ the notion in the stronger sense, while Carl Ginet intends the "minimalist" reading.

⁹ There has been an extensive literature on this matter in recent years. The reader may consult ch.5 of William Hasker (1989), and the articles he cites there.

¹⁰ Actually, this claim is probably not quite correct as it stands. Suppose that a friend from out of town is visiting my area (unbeknownst to me) and will dine at Turback's tomorrow evening. We may also suppose that I will deliberate tomorrow about whether to eat at Turback's or Dano's and that I will choose Dano's. If neither of our respective decisions is now causally determined to occur, then it seems that I now have it in my power to meet and dine with my friend tomorrow night, though the fact that this is in my power depends on a "soft" fact about the future, viz., my friend's decision to eat at Turback's restaurant. In general, it seems correct to say that where the possibility of my making a proposition *p* true at *t*₂ is dependent on certain factors *X* that are (a) beyond my control but (b) essentially causally "insulated" from the path I would have to take beginning at *t*₁ in order to make *p* true at *t*₂, then we hold those factors fixed in order to determine whether it is in my power at *t*₁ to make *p* true at *t*₂.

However, even if this is correct, we can weaken the claim immediately above in the text to ". . . the only facts that can be relevant to the issue of whether it is in my power at *t*₁ to make true some proposition at *t*₂ are the "hard facts" relative to *t*₂." This claim seems entirely unobjectionable and is sufficient to motivate the restriction I proceed to place on TNP.

¹¹ In a footnote to the end of this section, I briefly remark on a second example Slote offers. John Martin Fischer also has criticized Slote's arguments in (1986). My approach largely differs from his, however.

¹² That philosopher is Peter van Inwagen. See his (1990).

¹³ Better, unrestricted over natural agents and times. The relationship between the two schemata is spelled out in the opening remarks of Ginet (1983).

¹⁴ Compare Fischer's (1986, p.88) related remarks (in a slightly different context) noting the importance of distinguishing a particular act of explaining, which does generate selectivity, and there existing an explanation of a certain sort, which does not.

It may be complained that I am placing arbitrary restrictions on the permissible features of alethic modalities. While I deny that my refusal to attribute the status of an alethic necessity to Slote's understanding of 'nonaccidentality' (for the reasons given in the text) is arbitrary, there may be some motivation for this objection. After all, Slote's notion does identify a way in which propositions are (or are not) true, and it can be shown to satisfy the most general of requirements on an alethic modality (such as $Np \mid\!-\! p$).

Suppose, then, that this more permissive classification is conceded. In that case, I should want to say that generating alethic modalities that violate closure with respect to conjunction introduction and entailment is as easy as pins, and the mere fact that there are such modalities can hardly be thought to cast serious doubts on the validity of TNP' for power necessity. For it is evident that the truth of a proposition asserting that it is in my power to make it the case that some other proposition obtains is (unlike Slote's version of nonaccidentality and other contrived modalities we might cook up) quite independent of such 'selective' features as its membership in the set of propositions uttered by a particular agent. (Or at least it certainly appears that way when one first reflects on the matter, as the attractiveness of TNP' attests and as Slote himself concedes.) So a convincing case (by analogy) for suspecting the application of TNP' to power necessity requires a demonstration of its invalidity for a 'robust' form of alethic modality that is more plausibly taken to be fairly similar (in logical respects) to power necessity.

¹⁵ Slote briefly suggests one other counterexample to the closure of nonaccidentality under entailment: "...it may at least be an accident that I ever exist at all (imagine a suitable tale of contraceptive woes), yet that too is entailed by my being where I am at the present moment" (p.16). The proper response to this is parallel to that given to the Widerker and Zagzebski examples in relation to (TNP): the principle must have appropriate temporal restrictions, since it is illegitimate to transfer non-logical necessities from the present to the past.

Slote also argues that another type of necessity - acting from irresistible impulse - can be shown to be non-agglomerative: "...if a given person steals a trinket out of irresistible impulse (kleptomania) and the same person also burns down a house from irresistible impulse (pyromania), it will not follow – it would be extraordinarily odd to say – that the person had done two things, had stolen the trinket and burned down the house, from irresistible impulse" (pp.17-18). It should be enough simply to remark that here, too, Slote fails to take sufficient notice of the relevant temporal indices on the necessity operator. If, as the example seems to suggest, the agent could not resist stealing the trinket at one time (t1), and could not resist burning the house down at another (t2), then of course we cannot infer that his stealing the trinket and burning the house down were together irresistible at any one time, such as t1 or t2.

¹⁶ In correspondence, David Widerker has attempted to refute TNP' with the following example. Suppose that Jim is deliberating about whether or not to insult Smith. He decides not to do so at t2, and his decision is preceded by some appropriate sign Z, occurring at t0, that makes it probable that he will not insult Smith. Carl detects Z and, understanding its significance, does not change his opinion concerning Jim's character. However, he might have done so had he not seen it. Widerker claims that if we let

p = Carl does not change his opinion about Jim at t1, and

q = Jim does not insult Smith at t2, and

t = some time shortly before t_0 , and

s = Jim,

then TNP' is shown to be invalid. For (1) the first premise is true, since Carl does not change his opinion about Jim at t_1 and it is not in Jim's power to make him do so. (2) the second premise also seems to be true, since it seems not to be in Jim's power to make it the case that p and $\sim q$. For (and here I quote Widerker) "if he were to exercise his power to insult Smith (i.e., to make it the case that $\sim q$), then in the absence of the appropriate sign at t_0 , Carl might change his opinion about him." And, finally, the conclusion licensed by TNP' is false, since it is within Jim's power at t_0 to insult Smith at t_2 .

This example seems to me not to work, however. The error lies in the second premise, $N(p \rightarrow q)$, i.e., "it is true that if Carl does not change his opinion about Jim at t_1 , then Jim does not insult Smith at t_2 , and it is not in Jim's power at t to make it the case that Carl does not change his opinion about Jim at t_1 and Jim insults Smith at t_2 ." Specifically, there doesn't seem to be any basis for asserting the second disjunct. I suggested earlier (f.n. 10) that where the possibility of my making p true at t_2 is dependent on the obtaining of certain factors X that are beyond my control but more or less causally "insulated" from the path I would have to take beginning at t_0 in order to make p true at t_2 , then we hold those factors fixed in order to determine whether it is in my power at t_0 to make p true at t_2 . But what of cases (such as Widerker's) where the obtaining of X would be causally influenced by the steps the agent would have to take in order to make p true? Widerker apparently is supposing that it is no longer appropriate to hold the actual obtaining of X fixed in determining whether it is in his power at the earlier time to make p true at t_2 . But in Widerker's example, it might have been the case that X would have obtained had Jim taken those other steps; it seems to me, therefore, that the most he can claim is that it is indeterminate, neither true nor false, that it is in

Jim's power at t_0 to make it the case that $(p \rightarrow q)$. But if it is indeterminate, then we cannot say that it is not within Jim's power, and so the second premise is not true.

¹⁷ See pp.102ff, especially note 12.

¹⁸ In its unrestricted form, (TNP'), unlike (PFP), allows us to make inferences concerning an agent's inability at a time t to falsify propositions concerning a time prior to t .

¹⁹ The reader might be puzzled by the suggestion that Ginet's PFP does exclude this possibility, since it seems to put a necessary condition only on an agent's ability to affect the truth values of proposition about the present and future. However, since if I do ever have the power to affect the truth value of a proposition about the past, it must be in virtue of something I am able to do in the present, it must be the case that it is open to me to act in such a way that, were I to do so, some true proposition about the past would be false. And this clearly is precluded by Ginet's PFP, since it stipulates that it is open to one only to "add to the given past" (as Ginet himself puts it).

²⁰ So as to avoid possible misunderstanding on this point, I should make clear that one can use TNP' in arguing for incompatibilism with respect to divine foreknowledge. It's just that one must add the claim that it is never open to one to falsify true propositions about the past (including God's past beliefs) as an additional premise.

²¹ I wish to thank both Carl Ginet and David Widerker for detailed comments on an earlier draft of this paper. I thank Linda Zagzebski for helpful comments as well. I read the paper at the Philosophy Discussion Club at Cornell University in October 1991. I thank my commentator on this occasion, Steve Maitzen, for useful comments, as well as members of that audience for their discussion.