

## A SHORT ARGUMENT FOR THE PRINCIPLE OF SUFFICIENT REASON

ABSTRACT. I argue that a commitment to negative facts, plus some plausible principles, entails the truth of a version of the Principle of Sufficient Reason.

### INTRODUCTION

Some facts are positive, and others are negative. (Hold your objections for now; there will be time for that later.) There is a chair in my apartment as I write this, and so there is a corresponding positive fact: the fact that there is a chair in my apartment at the time of writing.. There is, to my knowledge, no dragon named Rupert in my apartment, and so there is an associated negative fact about the absence of Rupert: the fact that there is no dragon named Rupert in my apartment. But what explains these facts? Does anything? According to some, the answer to the second question is always “yes”. These happy few are believers in the principle of sufficient reason (=PSR), which states, in one formulation give by G. W. Leibniz, that “whatever is has a sufficient reason”.<sup>1</sup>

But why believe this principle? Perhaps, it might be thought, it is too basic to be justified via argument from some more fundamental principles. Instead, it must be merely assumed, or else justified dialectically, by showing that its denial leads to untenable results (as in Koons and Pruss [11], which holds that its denial leads to radical skepticism, or Della Rocca [9], which argues that its denial is ultimately ad hoc, or Pruss [15], which argues that we need the principle to make sense of our scientific epistemic practices).

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<sup>1</sup>Leibniz [12, page 483]; translations my own throughout. Other historical figures avow the principle as well. For instance, Spinoza writes that “there must be, for each existing thing, a certain cause on account of which it exists.” (EIp8s2) I quote from Spinoza [C.I]

But is there a way to make a direct argument for it? I think that there is.<sup>2</sup> The plan of the paper is as follows. In §1, I lay out some definitions and principles which I will appeal my main argument. In §2, I give the main argument, which purports to show that all of a fact’s requisites, taken together, constitute that fact’s sufficient reason. In §3, I present five ways of getting out of the argument, and weigh the benefits, drawbacks, and commitments of each.

## 1.

First we define a fact’s requisites:

- (\*) A fact  $R$  is a *requisite* for some fact of affairs  $S$  iff the conditional “if  $S$  obtains, then  $R$  obtains” is necessarily true.

I say “necessarily true” because these requisites are supposed to be very much like necessary conditions. If for some fact  $S$  to obtain it is necessary that some other fact  $R$  obtains, it seems to follow that the conditional referred to in (\*) is necessarily true. For if it were not, there would be some world in which the conditional is false – that is, some world in which  $S$  obtains but  $R$  does not. In that case, however,  $R$  would not be a necessary condition for  $S$ , since  $S$  may obtain without  $R$  obtaining. Hence,  $R$  would not be a necessary condition of  $S$ .

(\*) doesn’t require that the  $R$ s ground  $S$ , or are conceptually prior to  $S$ . All that matters is the truth of the embedded conditional. Certainly, one can use

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<sup>2</sup>The inspiration for this argument is found in Leibniz. In an early text, “Demonstration of Primary Propositions”, he attempts to give an argument for the PSR, relying on a concept of a *requisite*, which he defines as follows: “a requisite is that which, when not posited, a thing does not exist” (Leibniz [12, page 483]); in short, it is a necessary condition. The basic line of argument is this: Everything has some requisites, a thing’s requisites constitute a sufficient reason for a thing, therefore everything has a sufficient reason. This argument is widely acknowledged to be an utter disaster (see for instance the judgments in Sleigh [19, page 204], Dascal [7, page 158], Look [13, page 204], and Adams [1, page 68]).

grounding or metaphysical explanation to explicate the notion of a requisite, the PSR (for which see, e.g., Dasgupta [8] and Amijee [3]), or the related notion of metaphysical dependence (for which see, e.g., Schaffer [17]). But I won't. All I need is the thin claim.

We still need a few things to get the argument moving. One is the following:

(Req) Every contingent fact  $S$  has some requisites,  $R_1, R_2 \dots$

This is a plausible thesis. Any collection of facts which supports a conditional of the kind mentioned above will constitute a collection of requisites. But it is too quick. (Req) turns out to be trivial when we note that in our restricted sense,  $S$  is one of  $S$ 's requisites. So we need to narrow (\*) somewhat. The following seems like a suitable emendation:

(\*\*) A fact  $R$  is a *non-trivial requisite* for some fact  $S$  iff the conditional “if  $S$  obtains, then  $R$  obtains” is necessarily and non-trivially true.

where “non-trivially true” just means “is non-tautological”. This excludes  $S$  by construction. Throughout the rest of the paper, we assume that any requisites we mention are non-trivial requisites. Any references to (Req) will be assumed to concern non-trivial requisites.

Why restrict this thesis to contingent facts? The necessary fact that 2 and 2 are 4, for example, might not have any requisites. On the other hand, it seems to be part of the meaning of “contingent” that there are requisites for such a fact. For a contingent fact to obtain, it is *necessary* that some other facts obtain.

We need one final piece of machinery for our argument. It is:

(NS) Necessarily, for every positive fact  $S$ , either  $S$  obtains or its negative  $S^-$  obtains.

What is meant by  $S^-$ ? Return again to the case in the introduction. There, we had the positive fact that a particular chair is in my apartment. In this case, then,  $S^-$  would be the fact: that particular chair is not in my apartment. For a fact  $S$  like  $\exists x\phi$ ,  $S^-$  would be  $\neg\exists x\phi$ . (Remember that negative facts are facts about absences; hence they correspond to negative existentials.) I assume for the purposes of this argument a principle of compositionality: complex facts are made up of simple ones.

Now let's state the version of the PSR we want to argue for:

(PSR) For any contingent fact  $S$ ,  $S$  there are some facts  $R_1, R_2, \dots$  such that the conditional " $R_1, R_2, \dots$  obtain only if  $S$  obtains" is true.

Again, this is a thin version of the PSR. All it requires is the truth of a certain conditional.

## 2.

Now that we have these principles on the table, let's get going.

We want to argue by reductio. So, let's assume that (PSR) is false and (Req) and (NS) are true. Then it follows, since (Req) is true, that there is at least one contingent fact  $S$  such that the conditional "if  $R_1, R_2, \dots$  obtain, then  $S$  obtains" is false. Assuming that the conditional in question is a material or indicative conditional, this means that the antecedent is true and the consequent false. That is, there is some fact  $S$  with requisites  $R_1, R_2, \dots$  such that  $R_1, R_2, \dots$  obtain and  $S$  does not.

Now we suppose that we are in a possible world,  $w$ , where only  $R_1, R_2, \dots$  obtain (along with their requisites). What are we required to add to  $w$  for our possible world to remain consistent with the principles we have assumed? We must add either  $S$  or  $S^-$ . Continuing with the supposition that  $S$  does not obtain, we conclude that  $S^-$  obtains in  $w$ .

Now we have a choice between:

- (1)  $S$  and  $S^-$  have all the same requisites
- (2) The requisites of  $S^-$  comprise some proper subset of those of  $S$

We have supposed that all that obtain in  $w$  are the requisites of  $S$ , along with  $S^-$ . By (Req),  $S^-$  has some requisites.<sup>3</sup> These must be among the facts at  $w$ , so they are either exactly the same requisites as  $S$ , or else they are some subset of those.

Either case brings problems. Consider some common requisite of  $S$  and  $S^-$ ,  $R$  (we are guaranteed such a requisite by both (1) and (2)). By (\*\*), since  $R$  is a requisite, the following two conditionals are true:

- (3) If  $S$  obtains, then  $R$  obtains
- (4) If  $S^-$  obtains, then  $R$  obtains

Now these conditionals are equivalent, by contraposition, to the following conditionals:

- (5) If  $R$  does not obtain, then  $S$  does not obtain
- (6) If  $R$  does not obtain, then  $S^-$  does not obtain

Now suppose that we are now in a world in which all the requisites for  $S$  obtain except for  $R$ . (We are guaranteed such a world by Humean recombination, of which more anon.) Then it follows from (5) that  $S$  does not obtain. And it follows from that and (NS) that  $S^-$  obtains. But on the supposition that  $R$  does not obtain, it follows from (6) that  $S^-$  does not obtain. So  $S^-$  both obtains and does not obtain. Contradiction.

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<sup>3</sup>Assuming, as seems reasonable, that if  $S$  is contingent, so is  $S^-$ .

Since we have reached a contradiction, we must deny one of the premises that led us to it.<sup>4</sup> The proximate cause of the contradiction was the truth of (3) and (4), so one of them has to go. But both of these are true in our possible world  $w$ . So our world must not be possible after all.

Why is this? I see three options. Either (PSR) is true, or (Req) is false, or (NS) is false. (Req) is difficult to deny, so I assume its truth. So we are left with a dilemma: either (NS) is false, or (PSR) is true.

### 3.

I have no doubt that some readers will want to take this argument as a *reductio* of one or more of its assumptions. How can one get out of it? I see at least five ways. First, one can deny that a world in which all and only  $R_1, R_2, \dots$  (and their requisites, etc) obtain is possible. Second, one can hold that the common requisite  $R$  cannot fail to obtain. Third, one can go back and insist that the notion of requisite in (\*\*\*) is questionable. Fourth, one can reject facts. And fifth, one can reject negative facts.

The first route bumps up against the Humean dictum that there be no necessary connection between distinct existences. If there is no such connection, then we can delete bits of a world at will while preserving other bits, and thence obtain a new possible world. Such free recombination allows the possibility of a world such as the one we have supposed. So to deny the possibility of  $w$ , one must deny all principles from which that possibility follows, including the dictum above.<sup>5</sup>

To take the second route would be to claim, not only that that particular requisite necessarily obtain, but that *every* common requisite do so (since we

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<sup>4</sup>Unless we're dialetheists; I assume for the sake of the paper that dialetheism is false (and also not true).

<sup>5</sup>Some philosophers already are skeptical Hume's dictum; see Schaffer [18] for one example. Wilson [20] expresses some doubts about the justification of this dictum, and in a later paper (Wilson [21, page 100]) bemoans the time philosophy has spent "laboring in the imaginary Legoland of Hume's Dictum".

can run the argument for an arbitrary common requisite). This is surely too high a cost, as this commits one to a great number of necessary facts, ones which *prima facie* seem to be contingent.

To take the third route would be to claim, in effect, that the notion of a non-trivial necessary condition is somehow suspect. But surely this is incredible.

The fourth option may be more congenial to the opponent of (PSR) – simply deny that there are facts. But if one does that, one needs something else to do the work that facts do – or else insist that such work is not necessary. For instance, facts are often thought to play the role of truthmakers. If one dispenses with facts, then one needs something else to play the role of truthmakers. Or else, one can, for example, adopt a deflationist account of truth. On this view, to assert that such-and-such a sentence is true is not to make any sort of ontological commitment to truthmakers at all. Instead, it is just to assert the sentence itself.

The fifth option is probably the most congenial to the opponent of (PSR). Negative facts may be controversial. There are well-known objections to them, and so one might, not implausibly, be skeptical of such entities.<sup>6</sup> And nothing I have said justifies admitting negative facts into our ontology.

But there are considerations that make negative facts at least *prima facie* plausible. For instance, arguments in favor of truthmaker maximalism – the doctrine that every truth has a truthmaker – such as that given in Jago [10] have considerable appeal. And the need for truthmakers for negative truths means that negative facts can have gainful employment in our ontology.

This does not amount to an argument for such entities, of course. That is a topic for another paper. If you want to reject negative facts, Godspeed! Perhaps you might think to get away with totality facts, *a la* Armstrong. But

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<sup>6</sup>While these objections are powerful, accounts of negative facts exist which address them. The account I favor (given in Barker and Jago [4]) has, I think, good answers to these objections.

such facts plausibly correspond to facts containing negative existentials (see Amijee [2, §2]) – “there are the x’s, and nothing else” – and hence, negative facts. And note that this is not (solely) a problem about negative existentials. “Theatetus is not flying”, which might be thought to need a negative fact as a truthmaker, is not a negative existential. So perhaps that path is not as appealing after all.

### CONCLUSION

I have argued that, given several principles concerning facts, one can deduce a version of the the PSR. As I have also argued, however, the argument is not airtight. One can reject my assumptions. One can adopt positions which neutralize the argument. But what I hope to have done is mapped out conceptual space a bit better. That is, I hope to have shown the reader what one has to accept, or reject, to evade a certain version of the PSR.



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