Localizing Violations of the Principle of Sufficient Reason—Leibniz on the Modal Status of the PSR

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ABSTRACT

The Principle of Sufficient Reason (PSR)—the principle that everything has a reason—plays a central role in Leibniz's philosophical system. It is rather difficult, however, to determine what Leibniz's attitude towards the modal status of the PSR is. The prevailing view is that Leibniz takes the PSR to be true necessarily. This paper develops a novel interpretation and argues that Leibniz's PSR is a contingent principle. It also discusses whether a merely contingent PSR can do the metaphysical heavy lifting that Leibniz aims for. The paper shows that, despite appearance to the contrary, this is possible. In a nutshell, the argument is that the only possible PSR violation Leibniz allows for is God's creation of a suboptimal world; there is no Leibnizian possible world, though, which intrinsically violates the PSR. Despite its contingency, then, Leibniz's PSR is modally robust enough to serve as a foundational principle of his metaphysics.

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0. EXPLAINING EVERYTHING?

Leibniz is probably the most famous proponent of the Principle of Sufficient Reason (PSR). This principle states that there are no brute facts or that everything has an explanation. In Leibniz's words: '[N]othing takes place without a sufficient reason, that is, nothing happens without it being possible for someone who knows enough things to give a reason sufficient to determine why it is so and not otherwise' (PNG §7/AG 210, translation slightly modified). If Leibniz is right, then an ideally informed and perfectly rational agent could always explain why *p* rather than *not-p* is the case. In other words, a perfect mind could fully penetrate reality by reason alone because reality is structured in such a way that it is fully intelligible. Call someone who is committed to such a thoroughgoing PSR a rationalist.[1]

All of us accept restricted versions of the PSR. We might, for example, demand an explanation for the fact that moths approach the light, but reject the PSR when it comes to the question of why the speed of light is exactly 299,792,458 m/s. One could say that we are *part-time* rationalists because we are only rationalists with respect to some questions. Leibniz, however, eliminates all restrictions on intelligibility and champions a PSR with a wide-open scope and apparent unlimited applicability. He is (or at the very least aspires to be) a *full-time* rationalist, a rationalist about everything.

Really everything? What about merely possible facts or events in merely possible worlds? Do they fall within the scope of Leibniz's PSR? Moreover, what is Leibniz's attitude towards God's non-actual but nonetheless possible actions, like creating a possible world that is not ours? Are these non-actual, but possible divine actions governed by the PSR? More generally, we may ask what modal status Leibniz ascribes to the PSR. Is it true merely contingently or does it have the status of a necessary principle?

In the case of another great rationalist—Spinoza—this question is rather easy to answer. Like Leibniz, Spinoza is firmly committed to the PSR, as is clear from the following remark from the *Ethics*: 'For each thing there must be assigned a cause, or reason, as much for its existence as for its nonexistence' (*Ethics* 1p11d2).[2] Moreover, Spinoza subscribes to the doctrine of *necessitarianism*, the view that all truths are necessary truths.[3] Given that Spinoza takes the PSR to be true, it straightforwardly follows from this that the PSR must be true necessarily on his view. If there are no other possible worlds besides the actual world, there is also no question of whether the PSR holds in other, non-actual worlds.

Leibniz is different though. He fiercely rejects necessitarianism and repeatedly argues that there are infinitely many possible worlds from among which God freely chose to create the best.[4] What are the implications of this doctrine for the modal status of the PSR? Does the demand for explanation extend beyond the boundaries of the actual world to all possible worlds? Are there perhaps some PSR-worlds and some non-PSR worlds? Or does the PSR only hold in our world? Moreover, if it turns out that the PSR is only a contingent principle, does this mean that Leibniz ends up being a mere part-time rationalist like most of us? This paper is an attempt to answer these questions.[5]

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1   At least this is how I will use the terms 'rationalism' and 'rationalist' throughout this paper. For this use, Jonathan Bennett (1984: 29) has coined the term 'explanatory rationalism.' More recently, adherents of the PSR are typically called 'metaphysical rationalists'; see, e.g., Dasgupta (2016). There are of course other ways to use the term 'rationalism.' For example, one can put a commitment to innate ideas or the priority of the intellect over the senses at center stage. For the purposes of this paper, however, I will use the name 'rationalist' for someone who requires the intelligibility of everything and rejects brute facts.

2   For more on Spinoza's attitude towards the PSR, see Della Rocca (2003) and Della Rocca (2008).

3   This is argued for convincingly by Garrett (1991).

4   That Leibniz attempts to avoid necessitarianism is the prevailing view in Leibniz scholarship even though there is no agreement at all on *how* Leibniz thinks he can rescue contingency. For a divergent view, see Griffin (2013) who reads Leibniz as a necessitarian just like Spinoza. Newlands (2010: 64) has a more complex view, according to which 'the modality of objects (both individually and as collected into a possible world) can vary relative to how those objects are conceived.'

5   I have discussed some of these questions before, in my Bender (2016: 232–50). The reading presented there, though, differs in many respects from the interpretation developed in this paper.

Most commentators assume that Leibniz sees the PSR as a *necessary* truth.[6] Although this tendency is quite understandable—there are several passages where Leibniz indeed makes it sound *as if* the PSR is necessary—I believe that this interpretation is mistaken. In this paper, I will thus argue for the opposite view that the PSR is a *contingent* truth for Leibniz. At the very least, I will show that this view makes more systematic sense and that Leibniz is committed to the contingency of the PSR.

To some this view may seem obviously false, not so much for exegetical reasons but for philosophical ones. The PSR is one of the fundamental metaphysical principles in Leibniz's system and many philosophers are inclined to think of fundamental metaphysical principles as modally robust. Presumably the thought is that such principles are not supposed to describe just any feature of our world. Instead, they aspire to uncover the fundamental structure of reality. This thought is often combined with the assumption that this fundamental structure is a structure which our world has necessarily.[7] While this assumption is certainly not always made explicit, I think something like this line of reasoning is often taken for granted when it is claimed that Leibniz's PSR simply has to be true necessarily. If it were contingent, the thought goes, it would not count as a metaphysical principle simply because it is the task of metaphysics to describe the fundamental and necessary structure of our world.

Now, one may of course disagree with this description of metaphysics. One might argue, for example, that the notion of fundamentality is altogether misguided or one might deny that the fundamental is (metaphysically) necessary. Even though is not entirely obvious what Leibniz's stance on this issue is, it would seem that at least a significant part of his metaphysical project deals with uncovering those features of reality that are both fundamental and necessary.[8] How, though, is this fact reconcilable with my claim that one of the most important principles of Leibniz's metaphysics, the PSR, is a contingent truth? The answer to this question will take up a significant part of the paper. In a nutshell, I argue that the only potential PSR violation is God's creation of a suboptimal world and that at the same time no suboptimal world *intrinsically* violates the PSR. On this interpretation, Leibniz's PSR is contingent and yet modally quite strong. This explains, I maintain, why there are contexts in which Leibniz appears to treat the PSR as if it were a necessary principle, even though it is not.[9]

In the following five sections, I will present my arguments for the contingency of Leibniz's PSR and I will defend this interpretation against several potential objections. Section 1 introduces Leibniz's PSR in a bit more detail. Section 2 develops two arguments in support of the conclusion that Leibniz sees the PSR as contingent and discusses potential objections to these arguments. Section 3 focusses on texts where Leibniz invokes the PSR and, at least on the face of it, seems to presuppose that it holds necessarily. Section 4 defends an alternative interpretation which reconciles the modal robustness of the PSR these texts suggest with the PSR's ultimate contingency for Leibniz. Section 5 concludes and briefly hints at some consequences that the contingency of the PSR might have for the relationship between rationalism and theism in Leibniz's system.

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6   See, for example, Russell (1937: 30–39), Sleigh (1983), Look (2011: 201–9), Rodriguez-Pereyra (2014: 82), and Rodriguez-Pereyra (2018: sect. 3). Some commentators are more cautious though. Adams (1994: 175), for example, admits that '[i]t is difficult to determine Leibniz's views on the modal status of the PSR.' Della Rocca (2015) goes further than that and suggests that '[i]t may be that […] Leibniz cannot afford to see the PSR as necessary.' Pikkert (2021) also argues that Leibniz's PSR is a contingent principle. I shall explain in due course how my view differs from Della Rocca's and Pikkert's.

7   For a good example of this, see Lowe (2015: 6).

8   For a justification of this thesis, see section 3. This leaves open the possibility that metaphysics is *also* concerned with features of the world that are fundamental but contingent.

9   One further qualification: I do not mean to suggest that Leibniz *never* thought that the PSR is a necessary principle. In fact, I believe that in his early years Leibniz, probably under the influence of Spinozistic ideas, was definitely committed to the necessity of the PSR. This changes later though (or so I argue). My thesis should thus primarily be understood as a thesis about the late Leibniz and perhaps about the middle years; for this common classification of Leibniz's writings into early, middle, and late see Garber (1985).

1. GETTING STARTED: THE PSR IN LEIBNIZ

The PSR plays a central role in Leibniz's philosophical system. What exactly does Leibniz's PSR say? In different contexts he puts the principle somewhat differently, but the core idea always remains the same. As Leibniz understands it, the PSR demands an explanation for everything; it requires that reality is structured in such way that there are no brute facts lacking an explanation.[10] Here are two characteristic formulations:

> I mean the principle of sufficient reason, namely, that nothing happens without a reason why it should be so rather than otherwise. (G 7.356/AG 321)

> The principle in question is the principle of the want of a sufficient reason in order to anything's existing, in order to any event's happening, in order to any truth's taking place (*… pour qu'une chose existe, qu'un événement arrive, qu'une verité ait lieu*). (G 7.419/L 717)

These two passages show that Leibniz's PSR is a *metaphysical* principle. It is a principle governing what happens, what exists, or what is true. Thus, the PSR is not an epistemic principle (although it may have implications for epistemology as well). It does not require that we are in fact able to provide an explanation for everything. It only claims that such an explanation is always available, whether or not we know about it (an ideal epistemic agent, however, can always explain why a certain event happens or why a certain fact holds). Moreover, the PSR—as Leibniz understands it—is an extremely demanding metaphysical principle. If it is true, then no why-question is in principle unanswerable.

What exactly is the scope of Leibniz's PSR? The fact that Leibniz takes the PSR to govern the existence of things, events, and truths suggests that the scope of the principle is quite wide. It surely includes everything that exists (at least everything that exists contingently) and everything that happens. But does Leibniz really mean to include *all* truths, including necessary truths, many of which are independent of what exists and what happens? His attitude on this issue seems to be somewhat unstable. On the one hand, he sometimes says that the sufficient reason for a necessary truth is that its negation yields a contradiction.[11] On the other hand, Leibniz often says that the PSR is a principle only for contingent truths.[12] This wavering attitude can perhaps be explained in the following way: by saying that the sufficient reason for necessary truths is that their negation amounts to a contradiction Leibniz simply repeats his definition of necessary truths.[13] It seems, then, that necessary truths in some way carry their sufficient reason within themselves. This might be why Leibniz sometimes hesitates to say that necessary truths are in the scope of the PSR. On an intuitive level, one might expect that the PSR requires explaining a given fact with reference to some *other* fact, a condition which is not fulfilled in the case of necessary truths.

Before I go on, let me briefly say something about what kind of reason or explanation Leibniz's PSR requires. This is a complex issue which cannot be treated exhaustively here, but it may be helpful to point out that Leibniz appears to allow for at least two different kinds of explanations.[14] In some contexts, his rejection of brute facts seems to amount to a rejection of facts which are *ungrounded*. In *On the Ultimate Origination of Things*, for example, Leibniz argues that the world ('the collection of finite things'; G 7.302/AG 149) must have a sufficient reason or 'ultimate ground' ('ultima radix'; G 7.303/AG 150). In other contexts, however, his topic is God's decision making. Leibniz then says, roughly, that a certain fact *p* holds because if not-*p* were the case, then God

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10   For a detailed analysis of different formulations of the PSR, see Frankel (1986). Sometimes it is argued that Leibniz is using the expression 'principle of sufficient reason' ambiguously and is in fact referring to different principles at different times; see, for example, Russell (1937: 35). It is quite clear, though, that 'Leibniz treats the PSR as a single principle' (Frankel 1986: 321) and does not simply use the same name for distinct principles.

11   See *Monadology* §§35–36. This is pointed out by Melamed and Lin (2016). See also C 519/AG 31–32, where Leibniz says that 'eternal things' have sufficient reasons as well.

12   See, for example, G 7.302/AG 150.

13   See, for example, *Monadology* §33.

14   For a similar distinction, see Frankel (1986: 324).

would have acted without a reason.[15] Note that in the latter case the reason in question is a reason *someone* (God) has, whereas in the former case the reason in question is not anyone's reason, but a metaphysical ground. Presumably, these two different kinds of reason—metaphysical ground on the one hand and agential reason on the other—yield different versions of the PSR. I will return to this point towards the end of the paper.

2. THE CONTINGENCY OF LEIBNIZ'S PSR

In this section, I will develop two independent arguments for the conclusion that Leibniz takes the PSR to be a contingent principle.[16] First, though, let me briefly address a concern one might have about the whole project of determining the modal status of Leibniz's PSR. The worry is that Leibniz simply might not be interested in the issue at hand, and that we, as interpreters, make an anachronistic and artificial fuss about something which gives headaches only to contemporary analytic philosophers.[17] In response to such a worry, let me point out that Leibniz himself raises the question of what the modal status of the PSR is. In *De Contingentia*, a short work that was probably written in the mid-1680s, he says this: '[O]ne can also ask whether this proposition is necessary: nothing exists without there being a greater reason for it to exist than for it not to exist' (Grua 304/ AG 29). Leibniz clearly talks about the PSR here.[18] He does not, however, tell us in *De Contingentia* what he thinks the answer to his question is, which suggests that at this point he has not yet made up his mind as to whether the PSR is true necessarily or contingently.[19] This should not surprise us though. Throughout his life—but especially around the time when *De Contingentia* was written—Leibniz experimented with multiple strategies to avoid the dreaded doctrine of (Spinozist) necessitarianism. This explains, I believe, the fact that in texts like *De Contingentia* Leibniz often is rather noncommittal on many issues that have a bearing on necessitarianism. And as we will see shortly, the modal status of the PSR is such an issue. However this may be, what this passage from *De Contingentia* makes clear is that Leibniz himself was at one point wondering what the modal status of the PSR is, and apparently he did not think that answering this question is an easy and straightforward matter.

I now turn to my first argument for the conclusion that Leibniz regards the PSR as a contingent principle. The argument goes like this: Leibniz routinely claims that the Principle of Contradiction (PC) and the PSR are the two basic and fundamental principles of his system. This suggests that these two principles are logically independent. If this is so, then neither can the PC be reduced to, or grounded in, the PSR nor can the PSR be reduced to, or grounded in, the PC. Furthermore, Leibniz holds that all necessary truths are ultimately reducible to, or grounded in, the PC. Thus, given that the PSR cannot be reduced to, or grounded in, the PC, the PSR cannot be among the necessary truths and so must be true merely contingently.

Whether this argument succeeds depends on how Leibniz answers the following two questions: (i) are all necessary truths grounded in the PC?; and (ii) are the PC and the PSR indeed fundamental in the sense that neither can be reduced to the other (for our purposes it is enough to establish that the PSR is not reducible to the PC)? Let me take up these questions in turn.

Leibniz's answer to the first question is clearly affirmative. He holds that 'necessary truths can be resolved into identities' (A 6.4.1616). Identities, or identical propositions, are propositions in which

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15   See, for instance, LC 5.3.

16   Pikkert (2021) has recently argued for the same conclusion, but his argument—which presupposes the contingency of Leibniz's PII—is very different from the two arguments developed here. In fact, I will argue later that the contingency of Leibniz's PSR is compatible with the necessity of Leibniz's PII. In my Bender (2016: 229), I also suggest that Leibniz at least in certain contexts appears to presuppose the contingency of the PSR.

17   A methodological concern of this kind was raised to me by Paul Lodge.

18   Interestingly enough, however, Leibniz here uses the word 'proposition,' which perhaps indicates that the PSR does not yet have the status of a *principle* at this early stage.

19   Here I disagree with Sleigh (1983: 202–3), who thinks that Leibniz considers the PSR as a necessary principle in *De Contingentia*. I am unable to see, however, what the evidence for this claim is supposed to be. Leibniz only makes a conditional claim of the form 'if the PSR is necessary, then …'

the predicate is explicitly contained in the subject term (e.g., 'a rational animal is an animal'). Thus, Leibniz holds that all necessary truths are ultimately reducible to identical propositions. What does this have to do with the PC? Generally, Leibniz uses the expression 'principle of contradiction' in a fairly broad way,[20] as the following remark in his correspondence with Clarke makes clear:

> The great foundation of mathematics is the *principle of contradiction or identity,* that is, that a proposition cannot be true and false at the same time, and that therefore A is A and cannot be not A. (G 7.355/LC 7)

Thus, Leibniz often invokes the term 'principle of contradiction' as a kind of umbrella term that also includes the 'principle of identity,' which states that '[f]or any proposition p, if p is an identical proposition, then p is true' (A 6.4.1616/MP 75).[21] This explains why Leibniz often says that all necessary truths are based on, or grounded in, the PC.[22] What he means is that they are reducible to identical propositions. This is of course a strong claim and in many cases one may well wonder *how* such a reduction is supposed to work. There can be no doubt, though, *that* all necessary truths can be traced back to the PC on Leibniz's view.

Let us turn, then, to the second question. Are Leibniz's PC and PSR really fundamental in the sense that neither is reducible to the other? There are many passages in Leibniz's later writings where he strongly suggests so. Here is a well-known passage from the *Monadology*:[23]

> Our reasonings are based on *two great principles, that of contradiction,* in virtue of which we judge that which involves a contradiction to be false, and that which is opposed or contradictory to the false to be true. And *that of sufficient reason,* by virtue of which we consider that we can find no true or existent fact, no true assertion, without there being a sufficient reason why it is thus and not otherwise, although most of the time these reasons cannot be known to us. (*Monadology* §§31–32)[24]

The default reading of this passage (and similar ones) is certainly that both 'great principles'— the PC and the PSR—are *principles* in a genuine sense. As Rodriguez-Pereyra puts it, they are by all indications 'equally basic and fundamental' (Rodriguez-Pereyra 2018: 52),[25] which suggests that they are logically and conceptually independent of each other. Together the two principles constitute the basis of Leibniz's metaphysics, which means that all other metaphysical truths can be derived from them.[26] Such a reading is hard to resist and one certainly needs pretty strong evidence for claiming the contrary. What is more, there is further textual evidence from a letter to Arnauld, where Leibniz explicitly says that in metaphysics one needs only 'deux verités primitives' (A 2.2B.65), namely the PC and the PSR. Saying that the PSR is a 'primitive truth' again strongly suggests that it cannot rest on something else.

Does this settle the issue? Not quite. There are a few passages which may be taken to suggest that Leibniz thinks otherwise. Leibniz sometimes appears to derive the PSR from the PC, which would render the PSR a necessary principle. Ultimately, however, I don't think that these passages pose a serious problem for my reading. In support of this conclusion, I will now show how three of the most *prima facie* compelling passages are in fact compatible with my interpretation.[27]

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20   For a very helpful discussion of the different formulations of the PC, see Rodriguez-Pereyra (2018: sect. 1). See also Sleigh (1983: 196).

21   Rodriguez-Pereyra (2018: 47) very plausibly suggests that Leibniz 'thought of "Principle of Contradiction" as a name of whatever principle played a certain function in his theory—roughly, a principle that, in his view, excluded true contradictions and served to ground mathematical and necessary truths in general.'

22   This is made explicit, for example, in *Monadology* §§31–35.

23   The following discussion is in part indebted to Rodriguez-Pereyra (2018: sect. 3).

24   For a similar passage, see *Theodicy* §44.

25   Surprisingly, however, Rodriguez-Pereyra ends this section with stating that 'since the Principle of Sufficient Reason is a necessary truth, it should be grounded, if grounded at all, on the Principle of Contradiction' (2018: 52).

26   At least in theory—whether Leibniz can really pull this off is a very different matter.

27   I am again indebted to Rodriguez-Pereyra (2018) here, who lists these passages in footnote 18.

The first passage comes from the *New Essays*. In chapter 2 of book IV, Leibniz says that the PC is 'the only primitive principle (*le seul principe primitive*)' (A 6.6.364/RB 364). What happened to the PSR? Does Leibniz imply here that only the PC is fundamental and that the PSR can be derived from it? As soon as one pays attention to the context of this passage, it becomes clear that this is not what Leibniz means. In this section of book IV, Leibniz attempts to derive syllogistic modes of the second and third figure from modes of the first figure using nothing but the PC. In other words, the context of Leibniz's statement about the PC is a *logical* one. It is thus natural to read Leibniz as claiming merely that the PC is the only primitive principle *in logic*; since logical truths are necessary truths it is unsurprising that they are supposed to be derivable from the PC. This does not mean, however, that Leibniz intends to communicate that the PC is the only primitive principle *tout court*. In fact, he makes this clear at the beginning of chapter 2 of book IV of the *New Essays*:

> The primary truths (*verités primitives*) which we know by 'intuition' are of two sorts, as are the derivative ones. They are either truths of reason or truths of fact. Truths of reason are necessary, and those of fact are contingent. The primary truths of reason are the ones to which I give the general name 'identities' [...]. (A 6.6.361/RB 361)

Leibniz here talks about the primitive *truths* (plural!) and then presents the familiar distinction between truths of reason (which are grounded in the PC) and truths of fact (which are grounded in the PSR). The discussion which follows is then exclusively concerned with the truths of reason and it is in *this* context that Leibniz says that the PC is the only primitive truth. There is thus no reason to think that Leibniz intends to ground the PSR in the PC in the *New Essays*.

A second passage one might worry about is from *An Introduction to a Secret Encyclopedia*. Leibniz there writes that the PSR is 'one of the first principles of all human reasoning, and after the principle of contradiction it has the greatest use in all the sciences' (C 513–14/MP 8). It should be clear, however, that this statement by no means implies that the PSR is less fundamental than—let alone reducible to—the PC. In fact, in a marginal note to the very same piece Leibniz lists 'principles of metaphysical certainty,' and the two 'first principles a priori' which he mentions are the PC and the PSR:

> *First principles* a priori

> Nothing can at the same time be and not be, but everything either is or is not.

> Nothing is without a reason. (C 515/MP 9)

This suggests that Leibniz does not mean to convey that the PC is 'more' fundamental than the PSR. All he wants to say is that the PC is the most *useful* principle, something which is obviously compatible with the PC and the PSR being equally basic principles.

The last passage I would like to consider is from *On Universal Synthesis and Analysis, or the Art of Discovery and Judgment*. Leibniz there says that 'the Scholastics were right in observing that every axiom, once its terms are understood, may be reduced to the principle of contradiction' (A 6.4.543/L 232). This passage makes it sound as if the PC is the only basic principle and that everything else, including the PSR, can be derived from it. It should be noted, though, this is a relatively early text. Couturat thinks it was written in 1679, which is a period during which the PSR does not yet play the central role which it assumes in Leibniz's mature philosophy (also, Leibniz may still have some sympathies with Spinoza's necessitarianism at this time). Given this, it would not be too surprising if he tried to trace back all truths to the PC.

Even in this text, however, things are far from clear. The passage continues as follows:

> Thus any truth whatever can be justified, for the connection of the predicate with the subject is either evident in itself as in identities, or can be explained by an analysis of the terms. This is the only, and the highest, criterion of truth in abstract things, that is, things which do not depend on experience—that it must either be an identity or be reducible to identities. (A 6.4.543/L 232)

We can see here a harbinger of Leibniz's mature position. He qualifies his earlier claim and says that only truths about 'things which do not depend on experience' are reducible to the PC, thus suggesting that there is a class of true propositions not grounded in the PC. What is their ground then? This is exactly the point where the PSR comes in in later works. The upshot is that not even in this very early passage does Leibniz unequivocally commit himself to the claim that the PSR can be derived from the PC.

The discussion of these three texts has shown that there is little conclusive evidence for the claim that Leibniz grounds the PSR in the PC. The most that can be said is that in his earlier writings, in the late 1670s and perhaps in the 1680s, Leibniz sometimes plays with the idea of arranging his principles so that the PC is the only fundamental principle. Note, however, that he also repeatedly describes the PSR as a primitive or first truth even in the 1680s (for example, in the Arnauld correspondence and in *An Introduction to a Secret Encyclopedia*). These two options are obviously inconsistent. Given that Leibniz was constantly revising his philosophical system in the 1680s, this should not trouble us too much. In later texts, where his system has reached a greater degree of stability, Leibniz consistently claims that the PC and PSR are equally fundamental (the only later text where he seems to give priority to the PC was the one from the *New Essays*, but we saw that Leibniz is talking about the PC in a purely logical context there). This, in turn, suggests that Leibniz considers the PSR to be a contingent principle, given that he grounds all necessary truths in the PC.

This is still not the end of the story though. While Leibniz treats the PSR as a fundamental and primitive principle in most contexts, there is one prominent text where he seems to diverge from this strategy. In the *Primary Truths* he derives the PSR from his containment theory of truth, which, in a nutshell, claims that for every true proposition, the concept of the predicate is (at least implicitly) contained in the concept of the subject (call this the 'Predicate-in-Subject Principle,' or 'PISP'[28]). Leibniz announces that '[m]any things of great importance follow [*consequuntur*] from these considerations' (C 519/AG 31), the first of which is the PSR:

> For the received axiom that *nothing is without reason,* or *there is no effect without a cause,* directly follows (*nascitur*) from these considerations; otherwise there would be a truth which could not be proved a *priori,* that is, a truth which could not be resolved into identities, contrary to the nature of truth, which is always an explicit or implicit identity. (C 519/AG 31)

Leibniz here argues that the PSR can be derived from the PISP. His reasoning seems to be roughly the following: according to the PISP, a true proposition 'S is P' is true in virtue of the fact that the concept of P is contained in the concept of S—that is, 'S is P' is an explicit or implicit identity statement (in Leibniz's sense). Thus, the PISP dictates that 'S is P' is not a brute truth, but one which can be accounted for. Since the denial of brute facts is nothing but the PSR, the PISP entails the PSR.[29]

In the *Primary Truths*, then, Leibniz does not treat the PSR as a primitive principle but as a derived one. While he does not derive it from the PC, he claims that it is entailed by the PISP. This is potentially problematic for my interpretation because Leibniz apparently takes his conception of truth—and hence the PISP—to be a matter of necessity (although, curiously enough, he never seems to derive the PISP from the PC). In a letter to Arnauld he writes: '[T]he notion of the predicate is contained in some way in that of the subject, praedicatum inest subjecto. *Or else I do not know what truth is*' (G 2.56; MP 62, my emphasis). This suggests that the PISP is a conceptual truth, and hence a necessary one. If this is so, though, then the PSR must hold necessarily as well, given the intimate relation Leibniz has established between the PISP and the PSR. So, it seems that my interpretation faces a serious problem.

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28   For this terminology, see Della Rocca (2012: 140).

29   Evaluating this argument is not my present concern. For a somewhat different reconstruction, see Look (2011: 205–9). Look argues that in the *Primary Truths* Leibniz infers the PSR from the PISP and the PC. I agree with Rodriguez-Pereyra (2018: sect. 4), though, that Leibniz's argument relies on the PISP alone. See also my discussion in Bender (2016: 239–41).

What should we make of this? First of all, it should be noted that the *Primary Truths* is a text which was written in the 1680s. As mentioned previously, Leibniz's system was still very much in flux at that time. In his mature writings we do not find a trace of the derivation of the PSR suggested in the *Primary Truths* (which of course also has to do with the fact that the PISP is fading from the spotlight). Leibniz seems to conceive of the various relationships between his principles somewhat differently in, say, the *Principles of Nature and Grace*, the *Monadology*, or the correspondence with Clarke than he does in the *Primary Truths*. What is more, we saw earlier that in his correspondence with Arnauld, a text from around the same time as the *Primary Truths*, Leibniz calls the PSR a 'primitive truth.' This is a statement which is clearly incompatible with the account given in the *Primary Truths*. It seems, then, that the very core of Leibniz's system was still very much in flux in the mid-1680s.[30]

While there is compelling evidence that the mature Leibniz conceives of the PC and the PSR as two equally primitive, fundamental, and logically independent principles—despite what he says in the *Primary Truths*—I do not believe that I have to rely on such a developmental interpretation alone. In section 4, I will argue that there are many contexts in which Leibniz employs a version of the PSR that is restricted in scope. Such a restricted version of the PSR may well be true necessarily even though the unrestricted PSR is true only contingently on Leibniz's view. It could be, then, that Leibniz is concerned with such a restricted (and thus necessary) version of the PSR in the *Primary Truths* as well.[31]

On balance, then, there is strong evidence that Leibniz considers the PC and the PSR as equally basic and fundamental principles. The PSR is thus not derivable from the PC, from which it follows (given Leibniz's further claim that all necessary truths are derivable from the PC) that the PSR cannot be true necessarily. This shows that Leibniz sees the PSR as a contingent principle.

I now turn to my second argument for the contingency of the PSR. In broad strokes, this argument is again a rather simple one: God, on Leibniz's view, could have chosen to create a possible world different from and inferior to ours. Furthermore, if God had chosen to create such a suboptimal world, then he would have made his choice without a sufficient reason. He thus would have violated the PSR. In other words, it is in God's power to violate the PSR, which shows that the PSR is a contingent and not a necessary principle for Leibniz.[32]

Evaluating this argument requires considering (i) whether Leibniz indeed holds that God would violate the PSR by creating another (suboptimal) possible world, and (ii) whether Leibniz indeed holds that God could have chosen to create such a world. In what follows I will argue that both of these questions should be answered affirmatively.

The answer to the first question is relatively straightforward. Leibniz clearly holds that if God had created a world which is not the best, he would thereby have violated the PSR (depending on how the second question is answered, this conditional statement should be read either as a counterfactual or as a counterpossible conditional). In the *Monadology*, he says that when God decides which of the infinitely many possible worlds to create 'there must be a sufficient reason for God's choice, a reason which determines him towards one thing rather than another' (*Monadology* §53). Leibniz goes on and says that 'this reason can only be found in *fitness*, or in the degree of perfection that these worlds contain, each possible world having the right to claim existence in proportion to the perfection it contains' (*Monadology* §54). Thus, God has *some* reason to create, for instance, a world which contains way more cookies than our world does, although the cookie world is of course not the best of all possible worlds. This reason, however, is not a *sufficient* reason, for God has even more reason to create the best world. Thus, even though God has a reason to create the cookie world, there still would be something unaccounted for in the divine decision

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30   Further evidence that Leibniz changed his view over time is provided by the fact that when he attempts to justify the PSR in his correspondence with Clarke, he does not even gesture towards the reasoning from the *Primary Truths*, but instead offers (quite surprisingly) an *empirical* justification.

31   See also my Bender (2016: 248–50) for this. For an entirely different strategy, see Pikkert (2021: 50–56).

32   An argument of this sort is hinted at by Della Rocca (2015). See also my Bender (2016: 229), where I outline the argument presented here, without discussing it in much detail.

process if God gave in to his desire for (lots of) cookies. What Leibniz's PSR requires, after all, is an explanation of the fact that God decided to create our world rather than any other possible world. God may have *a reason* to create a suboptimal world, but he does not have a *sufficient reason* to do so. Thus, the PSR would have been violated if God had chosen to create a suboptimal world.

Let us turn, then, to the second question: could God have chosen to create a suboptimal world (and if so, what is the relevant sense of 'could' here)? This question is more difficult to answer, since it leads us into the thicket of Leibniz's multiple accounts of contingency. Fortunately, though, we will see that on all available readings, there is a relevant Leibnizian sense of 'could' on which God *could* have created a world that is not the best. To begin with, consider the role the PSR plays in Leibniz's creationist story. For him, all created things—and thus all contingent facts—somehow depend on, or are based on, the PSR. How exactly do they depend on the PSR? In his correspondence with Clarke, Leibniz gives the following explanation:

> For what is necessary is so by its essence, since the opposite implies a contradiction. But a contingent which exists owes its existence to the principle of what is best, which is a sufficient reason for the existence of things. (G 7.390/L 697)

It is striking that Leibniz first says that the existence of contingent things is due to the *Principle of the Best* (PB)—which says that God always chooses what is best[33]—and only then adds that this principle serves as a sufficient reason for their existence. This raises the question why Leibniz routinely claims that contingent truths depend on the *PSR*. Martin Lin suggests (quite plausibly, I think) that Leibniz has the following picture in mind: contingent truths *directly* rest on the PB. The PB in turn, though, is based on the PSR. Contingent truths thus *indirectly* rest on the PSR as well.[34]

This naturally leads us to the question why (and how) the PB rests on the PSR. According to the PSR, God needs a sufficient reason for creating our world rather than one of the infinitely many other possible worlds; in other words, the fact that God created this world is not a brute fact. This application of the PSR to the divine decision process, however, leads to the conclusion that God chooses what is best—that is, to the PB—only on the assumption that God is an omniscient, omnipotent, and omnibenevolent being (Leibniz makes this explicit in *Monadology* §55). Without these theistic assumptions, the PB would not follow from the PSR. Thus, the PB is based on the PSR *and* on Leibniz's theistic assumptions.[35]

What then is the modal status of the PB? Does God create the best world necessarily or only contingently? This question is not easy to answer and I will not attempt to evaluate all possible interpretive options in detail here (in fact, it may very well be that Leibniz answers this question differently in different texts—and perhaps sometimes even in the same text). The broad picture is as follows: on the one hand, there are quite a few passages from the 1680s where Leibniz explicitly says (or at least strongly suggests) that God chooses the best necessarily.[36] On the other hand, there are passages suggesting the opposite. In the *Discourse*, for example, he says that it is 'God's first free decree always to do what is most perfect' (*DM* §13/AG 46, my emphasis). Since freedom presupposes contingency on Leibniz's view, this suggests that God creates the best merely contingently, not necessarily—which would render the PB contingent.

The second strategy can be found in later writings as well. I think there is good evidence for such an interpretation in the *Theodicy*. In §234 Leibniz writes: 'God chose between different courses all possible: thus, *metaphysically speaking, he could have chosen or done what was not the best*; but he could not morally speaking have done so' (*Theodicy* §234, my emphasis). What Leibniz says here is that it is *metaphysically possible* for God not to do the best—and metaphysical possibility is, after all, the type of modality we are interested in. (One might object, of course, that what

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33   See, for example, DM §1/AG 35.

34   I am here following Lin (2016: sect. 1). For a compelling explanation of how the PSR and the PB are related in Leibniz, see also Lin (2011: 202–7).

35   Thus, the PB and the PSR should not be identified with each other, as is commonly done; for this point, see Lin (2016: 2–3).

36   See, for example, Grua 493. For a detailed analysis of this strategy, see Adams (1994: 22–46).

Leibniz means by metaphysical possibility is not what we mean by it, and that all Leibniz wants to say here is that other possible worlds are metaphysically possible *per se* even though they are not metaphysically possible all things considered—because God's nature is such that he cannot possibly fail to do what is best.[37] This reading certainly must be taken seriously and I will return to it below.) Also, consider what Leibniz has to say shortly before, in *Theodicy* §233:

> The love that God bears to himself is essential to him, but the love for his glory, or the will to acquire his glory, is not so by any means: the love he has for himself did not impel him by necessity to actions without; they were free [...]. (*L'amour que Dieu se porte, luy est essentiel, mais l'amour de sa gloire, ou la volonté de la procurer, ne l'est nullement: l'amour qu'il a pour luy même ne l'a point necessité aux actions au dehors, elles ont été libres* [...].) (*Theodicy* §233)

Leibniz here suggests that God is not necessitated to act in any particular way.[38] This entails that God is not necessitated to act in the best way. Thus, Leibniz appears to assume here that God can create a world that is not the best, from which it follows that God can violate the PB. This suggests that Leibniz's PB is true merely contingently, not necessarily.[39]

If this is so, what are the implications for the modal status of the PSR? Because (as I argued earlier) Leibniz's PB arises from combining the PSR with theism, it follows from the contingency of the PB that in a (counterfactual) case in which the PB is violated, either the theistic assumptions or the PSR must be false (or both). Since Leibniz sees the theistic assumptions as necessary, the onus can only be on the PSR—so, a failure of the PB must always be due to a failure of the PSR. In other words, the contingency of the PB can only be accounted for if it is assumed that the PSR is a contingent principle as well. God would act without a sufficient reason if he created a non-optimal world because he would not have chosen the best. And because it is in God's power to violate the PSR, the PSR has to be contingent. We can tentatively conclude, then, that Leibniz at least sometimes holds that God could have created a world that is not the best and that he would thereby have violated the PSR. From these claims it follows that Leibniz is committed to the contingency of the PSR.[40]

So far I have been following the strand in Leibniz's thought according to which the PB is merely contingently true. On my view, this is an important strand that plays a key role in Leibniz's thinking. But suppose I am wrong about this. Suppose that Leibniz's considered view is that the PB is a necessary principle and that God chooses the best necessarily.[41] Suppose, furthermore, that Leibniz's considered account of contingency is that of *per se* modality, according to which other possible worlds are internally coherent, even though they are not compatible with God's goodness.[42] Note that even on such a reading, it surely is in God's *power* to create a suboptimal world; failing to create the best is only incompatible with God's *goodness*. Oftentimes, commentators read passages like *Theodicy* §234 along such lines and argue that (Leibnizian) metaphysical possibility tracks divine power while (Leibnizian) moral possibility tracks divine goodness.[43] Even on such an interpretation, though, violations of the PSR turn out to be *metaphysically possible* for Leibniz (to be sure, this may not be what we nowadays mean by metaphysical possibility, but it is an important

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37   Such a reading has recently been defended by Newlands (2010), Lin (2012), Griffin (2013), and Jorati (2016).

38   To be sure, Leibniz explicitly says only that the love which God has for himself does not necessitate God to act in a particular way. Given that he goes on to say that God's actions were free, though, he seems to imply that God is not necessitated in any way (because freedom requires contingency according to Leibniz).

39   See also my discussion in Bender (2016: 226–29).

40   See also Shields (1986), who reaches a similar conclusion in a different way. Shields argues that, for Leibniz, it is 'God's free choice to subscribe to the principle of sufficient reason' (1986: 353).

41   Different versions of this interpretation have been put forward by Adams (1994), Newlands (2010), Griffin (2013), Jorati (2016), and Lin (2016).

42   This assumption is commonly made in this context; see Newlands (2010), Griffin (2013), Lin (2012), and Lin (2016).

43   For a highly sophisticated version of this reading, see Jorati (2016).

category for Leibniz anyways[44]). There is thus a sense of 'can' in which God *can* create a suboptimal world—and one may say that God *can* violate the PSR in exactly the same sense of 'can.'[45] The upshot of this is that regardless of what your preferred interpretation of Leibnizian modalities is— and regardless of what the modal status of Leibniz's PB is—you always end up with violations of the PSR as being possible, at least in some relevant (Leibnizian) sense of 'possible.'

In this section, I have developed and defended two arguments for the thesis that Leibniz sees the PSR as contingent. Relatively little is needed to be committed to this reading. It is enough to ascribe to Leibniz *either* the view that God can create a suboptimal world and that he would thereby violate the PSR *or* the view that both the PC and the PSR are truly fundamental principles in the sense that none of them can be reduced to the other. I have argued that *both* views are components of Leibniz's mature philosophical system. On the assumption that the very core of this system is consistent and not seriously flawed, we should therefore conclude that Leibniz's considered view is that the PSR is a contingent principle.

3. LEIBNIZ'S PSR IN ACTION

So far I have advanced two arguments for the contingency of Leibniz's PSR. As one might suspect, though, matters are not as straightforward as they might initially seem. Given the central role the PSR plays in Leibniz's philosophy, it is not surprising that he makes use of this principle in many different contexts. Leibniz claims that a great variety of metaphysical principles and doctrines is entailed by the PSR, among them God's existence, the Principle of the Identity of Indiscernibles, his relationist account of space and time, and his rejections of the vacuum and atomism, to name just a few.[46] Moreover, Leibniz seems to consider at least some of these doctrines as necessary truths. This *prima facie* creates trouble for the interpretation developed so far. Roughly speaking, the problem is this: if Leibniz's PSR is really a contingent principle, as I have just argued, then how can Leibniz establish doctrines which he considers to be necessary truths on its basis? It seems that the PSR itself has to be true necessarily for such arguments to go through.[47] Before attempting to resolve this problem (which I will do in the next section), let me illustrate how exactly the problem arises. The example I would like to consider is the case of the Principle of the Identity of Indiscernibles (hereafter 'PII').[48]

The PII plays an important role in Leibniz's metaphysics. In his words, the principle says that 'all substances are different in nature, and there are no two things in nature, which differ in number alone' (G 2.264/L 534–35).[49] Thus, there cannot be two or more numerically distinct things that are perfectly similar. Each thing in the universe is qualitatively unique and strictly speaking no thing has an identical twin. It may sometimes *seem* to us as if there were numerically distinct indiscernibles, but in such cases we operate with 'incomplete notions,' Leibniz thinks (LC 5.21), so that the mind 'does not recognize the difference or ignores it, or abstracts from it' (G 2.264/ LDV 291).[50]

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44   What exactly is this notion of metaphysical possibility and how is it different from the contemporary notion? It is often thought that we can say that for Leibniz something is metaphysically possible just in case its essence is not somehow internally contradictory; see Lin (2012) and Jorati (2016). It may happen, though, that there are *possibilia* which are incompatible which God (a necessary being), in which case they would not be genuine metaphysical possibilities in the contemporary sense.

45   If this 'can' is strong enough to avoid necessitarianism is of course a different question, which lies outside the scope of this paper. Griffin (2013) argues that it is not and advocates a thoroughly necessitarian reading of Leibniz. Newlands (2013) and Lin (2016), however, maintain that Leibniz is not committed to necessitarianism.

46   For a (by no means complete) list given by Leibniz himself, see LC 5.127.

47   For a discussion of this problem, see also my Bender (2016: 229).

48   For a detailed discussion of Leibniz's PII, see my Bender (2019).

49   Leibniz offers many different formulations of the PII. For an extensive list, see Rodriguez-Pereyra (2014: 15–20).

50   See for this point also Rodriguez-Pereyra, who explains that, according to Leibniz, 'whenever there seem to be indiscernible things, we are dealing with incomplete terms or concepts' (2014: 22).

What is the modal status of Leibniz's PII? The orthodox view is that Leibniz considers the PII to be true necessarily.[51] There are a number of passages which seem to support this reading, at least *prima facie*. Here are four of them:

> [T]here cannot be two singular things that are perfectly similar [...]. (A 6.4.554)

> [I]t is *not possible* that there are two individuals entirely similar or differing only in number. (G 2.54/L 335–36, translation modified, my emphasis)

> I have also pointed out that [...] no two individual things could be perfectly alike, and that they must always differ more than numerically. (A 6.6.57/RB 57)

> It is also necessary that each monad be different from each other. (*Monadology* §9)

These texts—which date from the early 1680s, from 1686, from 1704, and from 1714 respectively—not only suggest that Leibniz's PII is modally robust, but also that his commitment to a modally robust PII is fairly stable.[52] Whether or not this is indeed the correct interpretation has recently become a hotly debated issue though. One of the passages which is sometimes thought to show that Leibniz sees the PII as a merely contingent principle is this: 'When I deny that there are two drops of water perfectly alike, or any two other bodies indiscernible from each other, I do not say it is absolutely impossible to suppose them (*je ne dis point qu'il soit impossible absolument d'en poser*)' (LC 5.25).[53] Fortunately, there is no need to get involved in the debate on the modal status of the PII here. For the purposes of this paper, I will simply presume—without further argument—that the orthodox view is correct and that Leibniz's PII is true necessarily. As we shall see, this is not going to make my life any easier, because initially the necessity of Leibniz's PII seems rather difficult to square with the contingency of Leibniz's PSR. So, if Leibniz's PII turns out to be contingent—contrary to my presumption—this is unlikely to create any problems for my interpretation as a whole.

So, how does the necessity of Leibniz's PII threaten to undermine the interpretation developed in the last section, according to which Leibniz's PSR is a contingent principle? Leibniz presents several arguments for the PII, of which the most important ones rely on the PSR. This should not surprise us. Given that Leibniz claims that the PC and the PSR are the two basic principles of our reasoning, we should expect him to argue for basically everything else on the basis of at least one of these two principles. Roughly speaking, Leibniz offers two types of PSR-based arguments for the PII. In some contexts Leibniz appeals to God's wisdom when attempting to derive the PII from the PSR.[54] Following Cover and Hawthorne we may call these types of arguments 'divine preference arguments' (Cover and Hawthorne 1999: 186–87). The most well-known version of the divine preference argument for the PII roughly proceeds as follows: if there were two numerically distinct but indiscernible individuals *a* and *b* in the actual world @, then there would be a world *w* distinct from @ in which *a* and *b* are switched with everything else being the same. Given this, God has no sufficient reason to create @ rather than *w* and *vice versa* (after all, @ and *w* are qualitatively exactly alike).[55] Thus, there are no two indiscernible individuals *a* and *b* in @.

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51   See Russell (1937: 56), Parkinson (1965: 130–34), Rescher (1967: 48), Adams (1979: 11–12), Jauernig (2008: 225), and Rodriguez-Pereyra (2014: 27). Recently, however, this view has come under attack; see Della Rocca (2015), Jorati (2017), and Pikkert (2021). In my Bender (2019), I defend the orthodox interpretation against these attacks.

52   For discussions of the modal status of the PII see Jauernig (2008), Rodriguez-Pereyra (2014), and Jorati (2017). Rodriguez-Pereyra concludes (quite convincingly, I think) that 'there is little evidence that Leibniz ever thought the Identity of Indiscernibles to be contingent. The plausible hypothesis is that he always thought it to be necessary' (2014: 126).

53   Note, however, that the possibility to suppose *p* does not entail that *p* is itself possible. This is pointed out by Rodriguez-Pereyra (2014: 123), who discusses this and similar passages in great detail. See also my Bender (2019).

54   See, for example, G 7.393. See also Jorati (2017).

55   This is an abbreviated version of the reconstruction Jauernig (2008: 209) is offering. Jauernig calls this argument 'permutation argument.' See also Cover and Hawthorne (1999: 186–87) for a roughly (but only roughly) similar reconstruction.

It should be clear that even if this argument succeeds, it does not establish the necessity of the PII. The *reductio* assumption of the argument is a thesis about the actual world that does not extend to all possible worlds.[56] In other contexts, however, Leibniz develops an argument that does not appeal to God's wisdom, and it is this argument that is most relevant for what follows. Following Cover and Hawthorne, I shall call arguments with this structure 'no reason arguments.'[57] Leibniz develops such an argument for the PII in several texts. The argument proceeds roughly as follows: according to the PSR, there must be an explanation for each fact. If there were two numerically distinct but indiscernible individuals *a* and *b*, however, what would account for their being numerically distinct? This fact requires an explanation, and on the assumption that *a* and *b* differ *only* in number we cannot point to any of their intrinsic features. That *a* and *b* are arranged in this order, rather than being switched, appears to be completely arbitrary. This arbitrariness, however, amounts to a violation of the PSR.[58] Thus, if the PSR is true, the PII must be true as well.[59]

There are many complications surrounding this argument, and it is not at all clear whether it is ultimately a successful one.[60] For the purposes of this paper, however, we can set aside how exactly Leibniz thinks he can derive the PII from the PSR. All that matters presently is that, unlike the divine preference argument, the no reason argument for the PII does not appeal to God's wisdom, but to something like metaphysical grounds instead. This is sometimes taken to suggest that Leibniz intends to prove the necessary version of the PII with this argument (which would dovetail nicely with the passages cited above where Leibniz appears to present the PII as a necessary principle).[61] If that's right, though, then we have a problem. For the argument to establish the necessity of the PII, it would seem that the PSR must be true necessarily as well. If the PSR were true only contingently, how would it be possible to establish the necessity of the PII on its basis? As we saw in section 2, however, Leibniz's PSR *is* a contingent principle. It seems, then, that Leibniz is confused about the modal status of the PSR. Michael Della Rocca (in a review of Rodriguez-Pereyra's book on Leibniz's PII) essentially makes the same point:

> Given the central role of the PSR in supporting the PII, the modal status of the PII turns to a great extent on the modal status of the PSR. […] Leibniz clearly sees the PSR as a ground of contingency and as undergirding divine activity. It may be that to safeguard the freedom of this activity, Leibniz cannot afford to see the PSR as necessary. In that case, the PII would not be necessary either. (Della Rocca 2015)

It seems, then, that Leibniz's PII and Leibniz's PSR must have the same modal status.[62] So, if I am right and the PSR is true merely contingently, then it seems that the PII must be true contingently as well. Now, that's fine if you think (like Julia Jorati, Martin Lin, Owen Pikkert, and perhaps Michael Della Rocca) that there is independent evidence for the contingency of Leibniz's PII. But if you don't share this view and take Leibniz's no reason argument for the PII to establish the necessity of the PII—which is, I assume, still the more common view—then you face a serious interpretive problem.

What makes things even worse is that Leibniz seems to envision structurally similar arguments for many other metaphysical doctrines. When Leibniz argues (against Newton and Clarke) for his relationalism about space and time, for example, he again seems to want to infer something

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56   See Jauernig (2008: 210).

57   See Cover and Hawthorne (1999: 189).

58   See Jauernig (2008: 213). Jauernig calls this argument the 'arbitrary-ordering argument.'

59   For one text where Leibniz presents this argument, see C 519/AG 32: 'From these considerations it also follows that, in nature, there cannot be two individual things that differ in number alone. For it certainly must be possible to explain why they are different, and that explanation must derive from some difference they contain. And so what St. Thomas recognized concerning separated intelligences, which, he said, never differ by number alone, must also be said of other things, for never do we find two eggs or two leaves or two blades of grass in a garden that are perfectly similar.' A similar line of reasoning can also be found in later writings (see, for example, LC 4.13).

60   For a discussion, see Cover and Hawthorne (1999: 184–213) and Jauernig (2008).

61   See Cover and Hawthorne (1999: 206–9).

62   A strategy of this kind is also pursued by Pikkert (2021). He argues that Leibniz's PSR has to be contingent because Leibniz allows for scenarios in which the PII is violated.

which he takes to be metaphysically necessary from the PSR.[63] Generally speaking, then, Leibniz seems to utilize the PSR to arrive at conclusions about the fundamental and necessary structure of reality. But this strategy seems to be unavailable to him with a merely contingent PSR.

It seems, then, that we are confronted with a rather unappealing interpretive choice. We either have to dismiss all the evidence suggesting that Leibniz's PSR is a contingent principle or we have to conclude that Leibniz is potentially quite confused about many of his PSR-based arguments (or we have to admit that he can only derive contingent principles from the PSR, an option which some commentators are willing to take, but which many find unappealing). As I will show in the next section, however, this dilemma is only apparent. Once we have arrived at a better understanding of how exactly violations of the PSR can occur in Leibniz's framework, the apparent dilemma can be resolved.

4. WHICH VIOLATION OF THE PSR?

In section 2, I presented two arguments for the contingency of Leibniz's PSR. If the view developed there is correct, then the PSR can be violated according to Leibniz. I would now like to investigate what exactly such violations would consist in, that is, what the precise nature of (non-actual, but nonetheless possible) PSR violations is. Once we gain a better understanding of how Leibniz conceives of possible violations of the PSR, the puzzle raised in the last section can be elegantly resolved. Or so I will argue.[64]

Most commentators take it for granted that admitting the contingency of the PSR amounts to admitting that there are (non-actual) possible worlds *in* which the PSR is false. Russell, for example—who believes that there are two versions of the PSR in Leibniz—writes that one of these versions is 'applying to all possible worlds' and 'metaphysically necessary,' while the other is 'contingent' and 'applying only to the actual world' (Russell 1937: 35).[65] I don't think there is anything wrong with claiming that the PSR is false at least in some non-actual possible worlds. As we will see, however, this is an ambiguous statement, which must be carefully disambiguated, so that we are not misled.

It is easiest to think about the issue at hand in terms of possible *violations* of the PSR.[66] So let us ask the following question: 'In virtue of what would the existence of a non-actual world render the PSR false?' Crucially, this question can be answered in two different ways. The two answers are as follows: (1) there are (non-actual) possible worlds *containing* brute facts (i.e., worlds with explanatory gaps) and the PSR is violated just in case such a world exists. (2) God's choosing a non-best world *alone* brings about a violation of the PSR (because in this case God would act without a sufficient reason)—no possible world *contains* brute facts though. Once we distinguish between these two answers, it becomes clear that for God to make a choice without a sufficient reason, the world he chooses need not be a world *containing* brute facts, as answer (1) construes it. The violation of the PSR could consist exclusively in God's choice and in his bringing into existence something that is suboptimal, as answer (2) has it.

Let us evaluate these two answers a bit more closely. Let us start with (1), which says that (some) non-actual worlds *intrinsically* violate the PSR. This implies that they contain at least one brute fact. Consider, for example, the non-actual world W_{23} which contains an uncaused event e that just randomly pops up at some point (i.e., there is no other event, nor anything else, in W_{23} that could explain its occurrence and e is not self-explanatory). If God had created W_{23}, the PSR would have been violated because e's popping up lacks a sufficient reason. To further illustrate this point, it may be helpful to draw an analogy to possible violations of laws of nature. Consider a certain law of physics L that holds in the actual world. What does it mean for L to be violated in another

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63   It should be noted, though, that this also is a controversial issue. Lin (2016) argues that on Leibniz's view space and time are merely contingently relational.

64   The solution developed here in some ways builds on the account given in my Bender (2016: 232–50).

65   For similar claims, see Jauernig (2008: 214), Melamed and Lin (2016: sect. 3), and Pikkert (2021).

66   In a different context (namely, in the context of Leibniz's conception of relations) Della Rocca (2012) uses a similar strategy.

possible world? We would say that *L* is violated just in case the objects and events in that world are such that they do not conform to *L*. So, to find out whether a given world violates *L* it is sufficient to consider just this world (and nothing else) and check whether what happens in it conforms to *L*. Answer (1) construes violations of the PSR in exactly the same way, analogously to how we typically think about violations of laws of nature.

According to answer (2), in contrast, no non-actual world intrinsically violates the PSR. Consider the non-actual world W_{52}. If we follow answer (2), there are no uncaused or ungrounded events just popping up out of the blue in W_{52}.[67] So, there is a sense in which each state of each substance in W_{52} has a sufficient reason. And yet, if God created W_{52}, the PSR would be violated. How so? It would be violated simply because there is at least one possible world which is better than W_{52}—our world—and God would act without a sufficient reason if he chose W_{52} rather than the best of all possible worlds. This violation of the PSR, however, would be *extrinsic* to W_{52}. There is no feature of W_{52} *itself* which explains why its existence would amount to a violation the PSR. Instead, it is (i) God's nature plus (ii) there being a world better than W_{52} that leads to the violation of the PSR. Considering *just* W_{52} would never lead us to the conclusion that its existence would violate the PSR. Violating the PSR is not an *intrinsic* feature of this world. On this interpretation, then, violations of the PSR must not be understood in analogy to violations of laws of nature.[68]

I think that a large part of the confusion surrounding the modal status of Leibniz's PSR is due to a tendency to conflate these two distinct ways of localizing violations of the PSR. The differentiation between answer (1) and answer (2) provides us with the resources to resolve the apparent inconsistency in Leibniz's thought. I propose that Leibniz construes possible PSR violations in line with answer (2) and rejects answer (1). On answer (2), God's not choosing the best world is the *only* way the PSR can be violated. From this it follows that no possible world *intrinsically* violates the PSR. In a sense, then, there is no possible world for Leibniz which contains brute or ungrounded facts. Given that, it is quite understandable that Leibniz sometimes treats the PSR as if it were a necessary principle. He does so in contexts in which he is not concerned about the divine deliberation process. Such a restricted version, unlike the unrestricted PSR, may well be necessary.[69]

This proposal can resolve the problem raised by Leibniz's argument for the PII. As we have seen in the last section, this argument seems to presuppose that the PSR is true necessarily, because otherwise Leibniz could not derive a modally robust PII from it. A proponent of answer (1) is unable to give a satisfactory account of Leibniz's argument. On their reading, at least some (and perhaps all) non-actual possible worlds intrinsically violate the PSR. Among the worlds in which the PSR does not hold, there will be worlds where the PII does not hold, since in the non-PSR worlds a sufficient reason for numerical distinctness is not required. That is, there will be worlds containing two (or more) numerically distinct but perfectly similar things. Such worlds intrinsically violate the PSR *in virtue* of violating the PII. Hence, if we choose answer (1), the PII must be a contingent truth. As we have seen in the last section, however, this may well be at odds with the modal status Leibniz appears to ascribe to the PII.

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67   What about miracles? Leibniz certainly allows for miracles in the actual world (and presumably he allows for them in other possible worlds as well). But aren't miracles events which are directly caused by God and not by some substance in the world? If this were so, it would seem that miraculous events in W_{52} do not have their causes *in* W_{52}. It is not easy to determine what Leibnizian miracles exactly are. As I see it, Leibniz's mature view is that miracles are simply events which violate the laws of nature as we know them—but this is only because our grasp of the laws of nature is imperfect and incomplete (such a view is expressed, for example, in *Theodicy* §207). If we were to know the 'true' laws of nature, nothing would appear miraculous. On this reading, even miraculous events are caused by, and grounded in, (non-divine) substances. Metaphysically, they are on a par with ordinary, non-miraculous events. Thus, a world like W_{52} may well contain miracles in the (mature-) Leibnizian sense.

68   It has been objected to me (by Stephan Schmid) that the distinction between intrinsic and extrinsic violations of the PSR is not quite as clean as I construe it. The worry is that there are many counterfactuals that are true in a given world *w* that come out as intrinsic and thus import facts that are supposed to be extrinsic. The following counterfactual, for example, is true in *our* world: had God created a suboptimal world, he would not have created two perfectly similar individuals (similar examples have been presented to me by Samuel Newlands). This seems to undermine my intrinsic/extrinsic distinction. I reply as follows: while such counterfactuals are indeed true in our world (and similar counterfactuals are presumably true in other possible worlds), they are not true *in virtue of what is happening in this world*. The *ground* for their truth lies outside this world and they thus count as extrinsic. The counterfactuals in questions are not *made true* by any event in this world.

69   Does that mean that, for Leibniz, the restricted version of the PSR can be derived from the PC? I am certainly committed to saying that, although I don't know what such a derivation may look like.

Does answer (2) fare any better? It certainly does. If we follow this suggestion, we deny that any possible world intrinsically violates the PSR. Instead of being localized *within* worlds, (possible but non-actual) violations of the PSR are exclusively localized in God's (possible but non-actual) choices of inferior worlds. If this is the *only* way a violation of the PSR can be brought about, though, then the PII comes out as necessary *even though the PSR itself is true contingently.* In other words, since there is no possible world which intrinsically violates the PSR, there is *a fortiori* no world in which the PII is violated, because such a violation of the PII would be a violation of the PSR that is intrinsic to a world. Thus, if PSR violations are construed along the lines of answer (2), then the contingency of the PSR does not commit us to the contingency of the PII.

How should Leibniz's argument from the PSR to the (necessary) PII be reconstructed in detail then? I suggest that we interpret Leibniz as starting from a *restricted version* of the PSR—a version that is indeed true necessarily. The PSR must be restricted in such a way that *only what God can create* is in its range. God's decision process and his choice between different possible worlds, in contrast, are not in the scope of such a restricted PSR. If it is conceded that Leibniz uses this restricted and necessary version of the PSR in the argument for the PII, we obtain the right modalities in his argument. Once we appreciate that the (unrestricted) PSR is a contingent truth just because it is in God's power not to choose the best possible world, and not because God can create worlds which violate the PSR intrinsically, it becomes clear that the PII can be true necessarily, despite the contingency of the PSR.[70] Thus, the possibility that God does not choose the best world does not render the PII contingent. Answer (2) allows us to read Leibniz's derivation of the PII from the PSR in a consistent way—even on the presumption that Leibniz's PII is a necessary principle.

Before I end, let me briefly return to the issue of what sort of 'reason' or 'explanation' Leibniz's PSR demands (I briefly touched on this at the end of section 1). Although Leibniz himself is not particularly clear on this issue, the following distinction suggests itself: on the one hand, Leibniz often seems to have in mind *agential reasons*: reasons which *someone has* and which are *action-guiding*. On the other hand, Leibniz sometimes seems to think of reasons as *metaphysical grounds*; and it would be misguided to view a reason of this latter kind as a reason *someone has* (in fact that would be category mistake). Given this distinction, one may conjecture that the version of the PSR where reasons are understood as agential reasons is true contingently, whereas the version of the PSR where reasons are understood as grounds is true necessarily.[71] If this is indeed a correct rendering of Leibniz's views—and it seems to be a *prima facie* attractive one—it would dovetail nicely with the reading developed here. We have seen that PSR violations can be conceived of in at least two different ways: either along the lines of answer (1) or along the lines of answer (2). If I am right in claiming that Leibniz only allows for answer (2) type PSR violations, then the PSR can be possibly false only when the reasons in question are understood as (divine) *agential* reasons. It cannot possibly fail, though, when the reasons in question are understood as non-agential reasons, that is, as *metaphysical grounds*. Construed this way, there is a sense in which each Leibnizian possible world is such that it contains no brute facts.

Let me sum up. The distinction between intrinsic and extrinsic violations of the PSR helps us to resolve the apparent inconsistency in Leibniz's attitude towards the modal status of the PSR. It turns out that despite its contingency Leibniz's PSR nonetheless has significant modal strength. This explains how it can function as a fundamental metaphysical principle within Leibniz's system.

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70   At this point, one may wonder whether Leibniz allows for violations of the PII that do not happen within a world (I am grateful to an anonymous referee who raised this question). If the basis for the necessary PII is derived from a restricted PSR, one might suspect that the PII thus derived is also restricted in some way. Two numerically distinct but perfectly similar possible worlds, for example, would violate the PII—but such a scenario would not amount to a violation of the PII *within* a world. What is Leibniz's stance towards cases of this sort? I think that he rejects numerically distinct indiscernible possible worlds. What possible worlds there are is independent of God's will and thus in no way depends on God's choice. Since the only possible PSR violation that Leibniz allows for is the creation of a suboptimal world by God, the case of two indiscernible worlds would constitute a PSR violation that Leibniz does not allow for.

71   A strategy which bears some similarity to the one considered here is developed by Donald Rutherford. Rutherford suggests to distinguish between the PSR on the one hand and the 'Principle of Intelligibility' ('Pint') on the other. According to PInt, 'nothing happens for which it is impossible to give a natural reason, i.e., a reason drawn from the natures of the beings that belong to this world' (Rutherford 1992: 35). Rutherford then goes on to claim that while Leibniz's PSR is true necessarily, Leibniz's PInt is true merely contingently (see Rutherford 1992: 42–44). This approach is similar to the one discussed here because Rutherford also disambiguates between different senses of 'reason,' which yields different subprinciples with potentially varying modal statuses.

Because intrinsic violations of the PSR are ruled out by Leibniz, he is able to derive conclusions about the necessary structure of reality (e.g., the PII) from the PSR.

5. CONCLUSION: PART-TIME OR FULL-TIME RATIONALISM?

So what is Leibniz, a full-time rationalist or a part-time rationalist like most of us? Does he believe in the intelligibility of everything or does he accept the answer 'this is just how things are' at some point? This is certainly a tough question. We can at least say this much: for Leibniz, every event in every possible world has a sufficient reason—there are no brute facts which randomly pop up in any possible world. For although the PSR holds merely contingently according to Leibniz, this contingency is not due to explanatory gaps in any of the possible worlds. In this sense, then, each possible world is in conformity with the PSR. Thus, not only what God *does* create, but everything he *can* create is subject to the PSR. From this it follows that at least in some sense every possible world is fully intelligible, and Leibniz himself suggests this much: 'Thus, one can say, in whatever manner God might have created the world, it would always have been regular and in accordance with a certain general order' (DM §6/AG 39).[72] There is an important caveat though. If God had created another possible world, the PSR would be violated and the existence of that world would be a brute fact lacking a sufficient reason. And isn't this a form of part-time rationalism again? After all, there are possible scenarios for Leibniz that are not fully intelligible, since the *existence* of a world that is not the best would introduce a brute fact. Considered as *merely possible*, no world violates the PSR, but an existing suboptimal world would.

In a sense, then, even though a perfectly pervasive mind can answer every why-question imaginable for every possible world, violations of the PSR are possible, which means that there are possible scenarios for Leibniz which are not intelligible. Now, while this is certainly a restriction of Leibniz's rationalism—and it might be a restriction he is not very happy about—I think this is the strongest form of rationalism that is possible given the constraints of his system. Everything that goes beyond it would question Leibniz's theistic assumptions and his conviction that God really *chooses* between different possible worlds. Leibniz's system can be seen as an attempt to combine a thoroughgoing commitment to the PSR with theism. Even though he pushes this approach up to its very limits, he has to live with its consequences in the end and has to pay the price every rationalist who wants to abide by theism has to pay: he has to weaken his unrestrained yearning for thoroughgoing intelligibility in one way or another.

COMPETING INTERESTS

The author has no competing interests to declare.

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72   It is thus not the case that other possible worlds are less intelligible than ours—they are as intelligible as ours.

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AG   Leibniz, G. W. *Philosophical Essays*. Edited and translated by R. Ariew and D. Garber. Indianapolis: Hackett, 1989.

DM   Leibniz, G. W. *Discourse on Metaphysics*. (A 6.4.1529–88/AG 35–68.)

C   Leibniz, G. W. *Opuscules et fragments inédits de Leibniz*. Edited by L. Couturat. Paris: Presses Universitaires de France, 1903.

Ethics   Spinoza, B. *The Complete Works of Spinoza, vol. 1*. Edited and translated by E. Curley. Princeton: Princeton University Press, 1985. [I use the following abbreviations: app(-endix), a(-xiom), c(-orollary), def(-inition), d(-emonstration), s(-cholium).]

G   Leibniz, G. W. *Die Philosophischen Schriften*. Edited by C. I. Gerhardt. 7 vols. Berlin: Weidmann, 1875–90. [Cited by volume and page.]

Grua   Leibniz, G. W. *Textes inédits d'après les manuscrits de la bibliothèque provincial de Hanovre*. Edited by G. Grua. Paris: Presses Universitaires, 1948.

L   Leibniz, G. W. *Philosophical Papers and Letters*. 2nd edition. Edited and translated by L. Loemker. Dordrecht: D. Reidel, 1970.

LDV   Leibniz, G. W. *The Leibniz-De Volder Correspondence: With Selections from the Correspondence Between Leibniz and Johann Bernoulli*. Edited by P. Lodge. New Haven: Yale University Press, 2013.

LC   Leibniz, G. W. and Samuel Clarke. *Correspondence*. Edited and translated by R. Ariew. Indianapolis: Hackett, 2000. [Cited by letter and section.]

MP   Leibniz, G. W. *Philosophical Writings*. Edited and translated by M. Morris and G. H. R. Parkinson. London: Dent & Sons, 1973.

Monadology   Leibniz, G. W. *Monadology*. (G 6.607–23/AG 213–25.) [Cited by section.]

PNG   Leibniz, G. W. *Principles of Nature and Grace, Based on Reason*. (G 6.598–606/AG 206–13.) [Cited by section.]

RB   Leibniz, G. W. *New Essays on Human Understanding*. Edited and translated by P. Remnant and J. Bennett. Cambridge: Cambridge University Press, 1996.

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