Counterfactual Hypotheses, Fictions, and the Laws of Nature
The Arguments for Contingency in Leibniz, Wolff, and Bilfinger

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Abstract   How can we know that our world is not the only possible one? Leibniz's claim that this world is the best of all possible worlds obviously presupposes the modal thesis that more than one world is possible. Moreover, the possibility of alternative worlds is also the crucial premise for Leibniz's most popular defence of contingency. Even if this commitment to possible worlds may appear unproblematic to us, Leibniz's immediate followers felt that the pluralist assumption about possible worlds required some justification. Aim of this paper is to reconstruct Leibniz's arguments for possible worlds and contingentism, as they are stated in the *Theodicy*, by taking into consideration Wolff's and Bilfinger's critical (albeit sympathetic) discussion. Following Bilfinger's classification, three main arguments are explored: the argument from the conceivability of counterfactual situations, the argument from fiction, and the argument from the contingency of natural laws.

Summary   1 Theodicy's First Assumption. – 2 Heterocosmic Arguments. – 2.1 Conceivable Alternatives. – 2.2 Conceivable Stories. – 2.3 Contingency and Causal Connections. – 3 Direct Arguments for Contingency. – 3.1 Necessity, Aseity, Immutability. – 3.2 Laws of Nature. – 3.3 Time, Space, and Matter: Argument Tsm. – 4 Conclusion.

Keywords   Wolff. Contingency. Possible Worlds.

The contemporary debate on Leibniz's solution to the problem of contingency did not pay much attention to the *Theodicy*, perhaps because scholars have tended to focus predominantly on texts concerning the infinite analysis of contingent propositions. By contrast, Leibniz's followers in the eighteenth century, who could not read some of Leibniz's texts that we regard as fundamental for this topic, searched in the *Theodicy* for arguments to bolster the view that the world is contingent. This paper gives an account of what they found and traces their reactions to Leibniz's arguments. My aim is to show that the efforts made in the early eighteenth century to clarify Leibniz's thought were by no means superficial or vain; on the contrary, they may still provide some insights into the grounds and consequences of Leibniz's doctrines.

1   Theodicy's First Assumption

In 1717, shortly after Leibniz's death, a dissertation discussed at Halle describes the *Theodicy* as based on an unproved assumption: Leibniz «adsumit, non probat, plures mundos esse possibiles» (Wolff 1717, § 26). The author – plausibly Christian Wolff[1] – sees the plurality of possible worlds as the unproved assumption of *Theodicy*; he engages, then, in giving a proof of it (which we will see below). Of course, this stance conforms to an attitude Wolff often takes towards his former protector: he gives Leibniz credit for the authorship of a thesis, while crediting himself with demonstratively justifying it.[2] Nevertheless, such a criticism is surprising, for the *Theodicy* does actually display some arguments for the 'pluralist' assumption; and Wolff himself, in his subsequent works, will make use of them. At any rate, what is clear is that the possibility of other worlds is regarded as a particularly tricky point in Leibnizian theodicy, and as a thesis requiring some supporting argument.

The same concern is shared by Georg Bernhard Bilfinger, who in 1724 published a treatise *De origine et permissione mali*, a sort of eclectic-systematic reworking of Leibniz's justification of evil (cf. de Buzon 2009). Introducing the doctrine of the permission of evil – that is, the very core of theodicy – Bilfinger points out that the cornerstone of the whole undertaking consists in showing that this world is the best one, but in order to establish the Principle of the Best World, the premise is required that more worlds are possible, and that they differ from each other in their degree of perfection (cf. Bilfinger [1724] 2002, § 357). The pattern of Bilfinger's reasoning must have been as follows: were the actual world the only possible one, then the claim that it is the best of all possible worlds would be trivial and would not allow any inference concerning the Creator's goodness.

Now, in virtue of the modal concepts Bilfinger has borrowed from Leibniz, the possibility of other worlds is logically equivalent to the contingency of this world.[3] Indeed, besides stating that «ut plures [mundi] sint possibiles, necesse est, mundum esse contingentem, non necessarium», Bilfinger also allows the following inference: «Mundus hic est contingens:

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[1]   The dissertation was submitted by S.F. Weissmüller to a board chaired by Wolff, but there is some evidence that Wolff was in fact its author (see Favaretti Camposampiero 2009, p. 332n).

[2]   In the preface to the fourth edition (1729) of his *German Metaphysics*, after stating that Leibniz's *Theodicy* draws on the Augustinian argument that God has chosen the best possible world, Wolff points out his own contribution in the following terms: «Ich habe aber diese Lehre, die Augustinus für so wichtig gehalten, auf eine demonstrativische Art ausgeführet» (Wolff [1720] 1983, «Vorbericht, so zu der vierten Auflage hinzu kommen», § 10).

[3]   On Leibniz's account of contingency in terms of alternative possibilities, see Adams 1994, pp. 12-22.

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igitur et alii possibiles» ([1724] 2002, § 357). In Bilfinger's arrangement of Leibniz's theses, the proposition that this world is contingent constitutes the first proposition (§ 358); that is, the premise underpinning the entire reasoning developed in the *Theodicy*. Indeed, if this world were necessary, if it were the only possible one, it would not make sense to talk of a divine choice; far from it, the issue of the divine permission of evil would not even arise.

Thus, the first step to take is to justify the premise. Yet how is the task to be accomplished? Bilfinger reports that various arguments are usually displayed to prove the contingency of the world, adding that he does not endorse, nor reject, nor present all of them (§ 359). Before reviewing Bilfinger's selection, let us introduce an overall distinction. Granting the equivalence between the proposition that this world is contingent and the proposition that other worlds are possible, one may infer the latter from the former, or vice versa. Thus, the arguments for contingency that were available to Leibniz's followers may be categorised into two main groups:

1. arguments showing, first, the possibility of other worlds, and concluding, then, that this world is contingent. I shall call them *heterocosmic arguments*; and
2. arguments showing directly that this world is contingent (and then inferring, if needed, that other worlds are possible). I shall call them *direct arguments*.

As we will see, each of these strategies has its pros and cons. However, direct arguments may appear to be more promising, for unlike heterocosmic ones, they could dispense with the inferential step from conceivability to possibility, which was regarded as highly problematic by Leibnizian philosophers. Indeed, in the eyes of an eighteenth-century philosopher, the only immediate evidence available for the plurality of possible worlds was the conceivability of non-actual worlds; that is, of events and states of affairs that were an alternative to those constituting the real world. Therefore, heterocosmic arguments can be considered as different versions of a single argument: the argument from conceivability.

2 Heterocosmic Arguments

2.1 Conceivable Alternatives

Among the *Theodicy*'s arguments for contingency, the argument from the conceivability of events that never occur is probably the most intuitive one. A clear formulation of it lies in the following passage: it is false that everything that never happens is absolutely impossible, «puisqu'il y a bien des choses qui ne sont jamais arrivées et n'arriveront jamais, et qui cependant

sont concevables distinctement, et n'impliquent aucune contradiction» (*Théodicée*, § 234, GP VI, p. 257). We may expose the argument as follows.

Argument *C*:

Be *E* an event that never occurs in the story of the world. If I can distinctly conceive of *E*, then *E* is not contradictory in itself; hence, *E* is possible (by Leibniz's definition of 'possible'); hence, there is at least one possibility that is not part of the actual course of events (i.e., of this world). Now, if it is true that things could have gone otherwise, it follows that this world is contingent (by Leibniz's definition of 'contingent').

An initial objection to this argument was raised in 1698 by Gabriel Wagner. In the course of his exchange with Wagner, Leibniz had drawn the metaphysical possibility (i.e., the non-contradictoriness) of other worlds from an epistemic possibility; namely, from their being imaginable in a distinct way.[4] Our fictions, if only they are consistent, represent to us some genuine metaphysical possibilities. Wagner objected that this 'metaphysical or mental' possibility, consisting in the conceivability or imaginability of alternative states of affairs, is by no means a 'true possibility'; it is just a figment, a spurious being, which may exist in the mind, but not in reality.[5] What follows from the conceivability of alternative courses in the world's story is nothing more than a 'feigned' or fictitious possibility, which is totally mind-dependent: «Aliae possibiles rerum series in mente haerent, non in rerum natura. et non est vera, sed ficta possibilitas» (Grua, 1, p. 393). In Wagner's view, counterfactual hypotheses are plain impossibilities. Thus, Charles V could have impossibly become the Pope: it is only in our deceitful thought that he had this possibility.[6]

Leibniz replied that those alternative possible series subsist ('haerent') in God's mind, which precedes nature. In order for something to be meta-

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[4] «Quot series rerum fingi possunt non implicantes contradictionem, tot mundi possibiles sunt». As Leibniz clarifies, his claim that the states of the world could have been different must be taken as expressing a metaphysical possibility, «ut scilicet alii fingi distincte possint, seu non implicent» (Grua, 1, p. 390).

[5] «Possibilitate metaphysica seu mentali, id est posse concipi seu fingi alium statum, concedo. Sed possibilitas ista non est vera possibilitas». And shortly after: «Possibilitas metaphysica, praeter physicam aliquid ponens, nudum est figmentum, quod conceptu, non actu sive realiter, existere potest» (Grua, 1, p. 392).

[6] «Sic Carolus V impossibiliter potuit papa esse, licet mente frustranea potuerit» (Grua, 1, p. 392). Notice that the aim of Wagner's denial of alternative possibilities is not to promote necessitarianism: his claim is just that the possibilities *we imagine* are not genuine, because they only come after reality. The deepest root of his disagreement with Leibniz seems to concern the latter's doctrine that essences (viz. possibilities) are prior to existence. Wagner regards essences as concepts abstracted from already existing things (Grua, 1, p. 392).

physically possible, it is sufficient that it can be imagined «sine absurditate» (Grua, 1, p. 393); but this metaphysical possibility is not fictitious. Although the existence of Charles V being the Pope is a figment, the possibility of this fact is not. Of course, metaphysical possibility would be fictitious, if it was not founded in a real existent; but, in fact, it is founded in God. Counterfactual situations are metaphysically possible to the extent that, being non-contradictory, they correspond to genuine possibilities conceived by the divine intellect.

However, as is evident from the above formulation, the conclusion of Argument *C* depends not only on the conceivability of event *E*, but also on a further premise, which is the eternal non-actuality of *E*; that is, on the assumption that *E* is merely possible and will never cease to be so.

If Argument *C* is built by using counterfactual hypotheses, the assumption of mere possibility seems to be justified. Consider again the case of Charles V's possible ascent to the papal throne; or the case of Spinoza's possible death in Leiden, as in the example Leibniz draws from Bayle. In both cases, the event is certainly ruled out from the actual world by history. Hence, if the event is possible, it must be merely possible. Of course, a consistent Spinozist would hold that it was as impossible for Spinoza not to die in The Hague, as it is impossible that two plus two equals six (cf. *Théodicée*, § 173, GP VI, p. 217: here Leibniz is quoting Bayle's words). Against this claim, one can stress the evidence that «il n'y auroit point eu de contradiction dans la supposition que Spinosa fût mort à Leide, et non pas à la Haye» (§ 174, p. 218). Hence, such an event was possible, even if it did not happen, and the Spinozist is wrong. Nor could she seriously challenge the assumption that the fact described as possible neither did, nor will ever occur. In the case of possible events, counterfactuality is the best guarantee of non-actuality.

The 'counterfactualist' version of Argument *C* has, thus, the merit of making safe the assumption of mere possibility. However, it lays open to criticism the other basic assumption concerning the possibility of the event, as is stressed by Bilfinger, who for this reason does not recommend the argument. Counterfactual hypotheses are, to him, scarcely effective against Spinoza's followers, who can object that, although we do not see any contradiction in supposing that Spinoza had died in Leiden, this is not sufficient to rule out the presence of some hidden contradiction, which would come out if we could only understand the whole affair that we are imagining. Spinoza's death in Leiden seems to involve no contradiction as long as we consider it «*abstracte* a caussis suis et circumstantiis» (Bilfinger [1724] 2002, § 359); but nothing assures that, were the event considered as part of the entire story of the world, that part would not

turn out to be incompatible with some other parts.**⁷** Hence, the Spinozist, concludes Bilfinger, may feel entitled to maintain that it was absolutely impossible for Spinoza to die in Leiden.

2.2 Conceivable Stories

Yet, we can conceive of unreal worlds not only by introducing small changes in the story of our world, but also by imagining entirely different stories, featuring entirely fictional characters. Indeed, in exposing Argument *C*, Leibniz does not always resort to counterfactual hypotheses. In the most popular version of the argument, he refers instead to characters and stories from literary fiction, in order to adduce a paradigmatic case of mere possibility. This so-called argument from novel (cf. Schepers 1988, p. 222), already featured in the *Confessio philosophi*, is the first argument for contingency developed by Leibniz. Although eighteenth-century philosophers could not read this earliest version of the argument, they were familiar with the following passage from the *Theodicy*:

> Je ne crois point qu'un Spinosiste dise que tous les Romans qu'on peut imaginer, existent reellement à present, ou ont existé, ou existeront encor dans quelque endroit de l'Univers. Cependant on ne sauroit nier que des Romans, comme ceux de Mademoiselle de Scudery, ou comme l'Octavia, ne soyent possibles. (*Théodicée*, § 173, GP VI, p. 217)

Though rather informally stated, an argument for contingency is contained in this passage. A plausible formulation would run as follows:

> (Principle of Mere Possibility) If we can imagine possible events that are certainly not part of the story of the actual world, then it is false that there is nothing possible but what really happens, sooner or later.

> (Assumption 1) At least some novels describe possible events.

> (Assumption 2) Certainly not all the events described in those novels are part of the story of the actual world.

> (Conclusion) Something is possible that does never happen; that is, there are genuine unrealized possibilities.

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7 Bilfinger maintains that the possibility of each single part does not imply the possibility of the whole (§ 367).

The above quoted passage suggests that assumption 1 should be regarded as undeniable and that the negation of assumption 2 would be highly implausible (indeed, it would be an utter heresy or even an absurdity, according to other texts).[8] Hence, the only justification Leibniz feels required to give for both assumptions consists, in the end, in shifting the burden of proof onto the opponent. Of course, this seems to be a good strategy. A Spinozist, willing to eliminate contingency by claiming that there are no unrealized possibilities, should either deny that even the most ingeniously contrived stories are possible, or maintain that all such novel's fictions are, in fact, descriptions of real events, which indeed took (or are to take) place in some recesses of space and time[9] – a view that not even a Spinozist would endorse, says Leibniz. Literary fiction has, thus, the advantage of supplying event descriptions that are both manifestly false (or at least very unlikely), if considered as reports of real facts, and yet plausible, if understood as recounting facts that merely could have happened.

Fictional stories – or at least the well-plotted ones, which do not turn out to be inconsistent – seem then to satisfy both of the conditions that are required for the application of the Principle of Mere Possibility. Hence, they attest the possibility of sequences of events that are not included in this world. In this way, Leibniz's 'possibilist' reading of novels introduces an idea that exercised great influence on eighteenth-century aesthetics, mainly at the hands of Baumgarten – the idea that literary fiction can be regarded as a narration of what happens in other possible worlds (or, if preferred, of what would happen if a world existed, that were different from the actual one).[10]

However, that fictional stories are set in possible worlds is not a proposition that everyone would take for granted. Of course, it was only in the last century that the idea of treating fictional worlds as possible worlds began to be explored in depth and thus reveal its inner difficulties.[11] Nevertheless, even in the eighteenth century some reasons were available for

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8   The 'heresy' consists in holding the principle of plenitude as applying unrestrictedly even to the domain of fictions: «Barclaii *Argenis* possibilis, seu clare distincteque imaginabilis est, etsi certum sit nunquam vixisse nec credo victuram esse, nisi quis sit in ea haeresi, ut sibi persuadeat temporum restantium infinito decursu omnia possibilia aliquando extitura» (A VI, 3, p. 128). In 1689, the realisation of every imaginable fictional story is rejected as 'absurd', and as following on from Descartes' doctrine that matter actually takes on all its possible forms (cf. A VI, 4, pp. 1663-1664; and p. 1654).

9   See *De contingentia* (1689): «Pro certo habendum est non omnia possibilia ad existentiam pervenire; alioqui nullus fingi posset Romaniscus qui non alicubi aut aliquando existeret» (A VI, 4, p. 1651; cf. pp. 1653-1654; Grua, 2, p. 478; GP IV, p. 259).

10   See, for instance, the theory of «heterocosmic fiction» by Baumgarten 1750, § 511. On Baumgarten's debt to Wolff on this topic cf. Adler 1990, pp. 22-23.

11   See, in the first place, David Lewis's seminal paper (1978).

casting doubt on Leibniz's argument from fiction. For, as we know, fictional stories can be taken as attesting some genuine possibilities only if they meet the two requirements of conceivability (i.e., internal consistency) and non-actuality. Although Leibniz found these assumptions not to be seriously disputable, they did not appear as such to all of his contemporaries.

An objection against Assumption 1 had been raised by Louis Bourguet, claiming that one cannot tell whether a fictional story is possible, unless one can tell whether it is connected with the rest of the world. Leibniz took Bourguet as calling into question the compossibility of the story with the *actual* world. Thus, he discarded the objection as patently confusing absolute possibility with compossibility:

> Je n'accorde point que pour connoistre, si le Roman de l'Astrée est possible, il faille connoistre sa connexion avec le reste de l'Univers. Cela seroit nécessaire pour savoir, s'il est compossible avec luy, et par consequent, si ce Roman a eté, ou est, ou sera dans quelque coin de l'Univers. [...] Mais autre chose est, si l'Astrée est possible absolument. Et je dis qu'ouy, parce qu'elle n'implique aucune contradiction. (GP III, pp. 572-573)[12]

Leibniz's reply, however, would appear misplaced if one construed Bourguet's doubt as being about the connection of the fictional story with the rest of *its* universe. We have met a similar objection in Bilfinger's remarks about Spinoza's allegedly possible death in Leiden. However, fictional stories, too, are liable to the same suspicion, according to Bilfinger. Spinozists will argue that they do not understand «omnes humani animi et rerum externarum recessus ita [...] ut certi esse possint, in nulla parte repugnantiam involvi» (Bilfinger [1724] 2002, § 360).[13] Due to the intricacy of their plot, novels may well contain a hidden contradiction. Our knowledge of the story's details is always too limited and partial for us to be able to judge «de *universo*»; that is, of the whole universe in which the story is set. Therefore, we have no certainty that «ejusmodi fabulae sint possibiles» (Bilfinger [1724] 2002, § 360).[14]

This objection may be rephrased in somewhat clearer terms. If we are willing to take the events described in the novel as belonging to a non-actual world, it is natural to think that they are (causally or otherwise) connected with other events of that world, some of which are not even

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12   Leibniz's letters to Bourguet were first published in Dutens' edition (1768). Thus, in what follows, I am *not* suggesting that Bilfinger was acquainted with Bourguet's objection.

13   Bilfinger is commenting on the above quoted passage from *Théodicée*.

14   Note that Bilfinger's worry about hidden contradictions possibly contained in highly composite concepts («in vehementer compositis»: Bilfinger [1724] 2002, § 360) comes, in fact, from Leibniz himself: see his *Meditationes de cognitione, veritate, et ideis* (A VI, 4, pp. 585-592).

mentioned by the novelist. (Universal connection is, indeed, a hallmark of Leibnizian worlds.) In the narrated story, the majority of the intra-world connections are left as implicit, so that the story seems to be consistent. However, were we able to make all of these connections explicit, then we might discover that the world we are imagining is not, in fact, a possible one. For instance, two different parts of the story might have remote incompatible consequences, which in the novel are left untold.

In the above quoted passage, Leibniz correctly claims that compossibility with the actual world is not a necessary requisite for possibility. However, if we are to establish that a novel's story is *merely* possible, then its compossibility with the actual world is not just irrelevant. Rather, it is precisely what must be ruled out, for it would imply that the story was, or is, or will be actualised; but this would contradict Assumption 2. When imagining the world of *Astrée*, we would not be conceiving of a different possible world. Compossibility with the actual world is incompatible with mere possibility.[15]

Bilfinger, however, is not more prepared to bet on Assumption 2, for he disagrees with Leibniz on whether the Spinozist would dare to reject it. According to Bilfinger, the Spinozist may except that, even granting that some fictional stories are possible, there is no evidence proving that they did not exist in the past and will not exist in the future (Bilfinger [1724] 2002, § 360). Perhaps all that is possible is also compossible. The apparent unlikelihood of such a supposition is not sufficient to make the Spinozist feel compelled to accept Assumption 2. Hence, in Bilfinger's view, this version of Argument *C*, drawn from fiction, is not more effective than the counterfactualist version. The Spinozist can always reply that for every novel we want to consider, at least one of the two assumptions must be false: it is necessary that either the story told in the novel is not unactualised fiction or it involves a contradiction.

Although Bilfinger is generally regarded as a Wolffian philosopher,[16] his overall commitment to the main tenets and program of Wolffianism was accompanied, in fact, by a good deal of intellectual independence. As his contemporaries were certainly able to realise, Bilfinger's criticism of Leibniz's arguments also implied a critical stance towards Wolff, who had confidently made use of the same arguments in the *Specimen* of 1717 as well as in the *German Metaphysics* of 1720.

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15 The notion of mere possibility seems to be what Bourguet found most puzzling in Leibniz's doctrine. Leibniz, in turn, was puzzled by Bourguet's modal parsimony, to which he opposed a definition of possibility in terms of knowability viz. conceivability: «Je ne vois aucune raison pourquoy *on ne puisse pas dire à la rigueur, que l'intelligence conçoive des possibles qui n'existent jamais*. Peutetre y a-t-il des figures de Geometrie et des Nombres sourds, qui n'ont jamais existé, et n'existeront jamais. En sont-ils moins possibles, c'est à dire moins connoissables?» (GP III, p. 573).

16 See the influential overview by Wundt 1945, pp. 214-215. Cf. Liebing 1961.

The *German Metaphysics* refers to the «erdichteten Geschichten, die man Romainen zu nennen pfleget» (Wolff [1720] 1983, § 571), in order to explain the claim that «[es] ist mehr als eine Welt möglich»; namely, that «ausser der Welt, darzu wir gehören, oder die wir empfinden, sind noch andere möglich», which all differ from each other with respect to the events that take place in them (§ 569). Wolff accepts, without reservation, the content of Assumption 1: «Wenn dergleichen Erzehlung mit solchem Verstande eingerichtet ist, daß nichts widersprechendes darinnen anzutreffen; so kan ich nicht anders sagen, als, es sey möglich, daß dergleichen geschiehet» (§ 571). Notice that, instead of being simply assumed, the possibility of some fictional stories is inferred via the 'logical' characterization of the possible as «was nichts widersprechendes in sich enthält» (§ 12); Wolff, therefore, must have regarded this characterisation as applying not only to individuals and kinds of individuals, but also to events and kinds of events.

Wolff, however, is also aware that a further premise is required: the question remains whether what is narrated in the novel «würcklich geschehen sey oder nicht». He tries, then, to justify Assumption 2 by claiming that, if one examines what is narrated, he will certainly find «daß es der gegenwärtigen Verknüpfung der Dinge widerspricht, und dannenhero in dieser Welt nicht möglich gewesen» (§ 571). This argument features two key concepts of Wolffian metaphysics: the concept of connection (*nexus* in Wolff's Latin works), and the modal concept of possibility-in-this-world.

In order for a possible being to be actualised, it must be possible-in-this-world; that is, it must fit into the net of connections that constitutes the actual world. Wolff sees the world as «eine Reihe veränderlicher Dinge [...] die neben einander sind, und aufeinander folgen, insgesamt aber mit einander verknüpfet sind» (§ 544). Each of these intra-world connections is a causal (as well as an explanatory) link; for some beings are connected to each other if, and only if, «ein jedes unter ihnen den Grund in sich enthält, warum das andere neben ihm zugleich ist, oder auf dasselbe folget» (§ 545).[17] Causal fitness is thus the key to compossibility and actuality: a given possible is possible-in-this-world if, and only if, its causes do exist in this world. Hence, in order for a given possible to be actualised, its causes must be actual. Now, the novel's story is possible in itself, but cannot be part of the actual world, as this latter lacks any cause that could produce the objects and events that are described in the novel. What could make the fictional story real can only be found outside this world, «nehmlich in einem anderen Zusammenhange der Dinge, das ist, in einer anderen Welt»; consequently, we must exclude that fictional stories can ever hap-

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17   I cannot elaborate here on the distinction between cause («Ursache») and reason («Grund»). For present purposes, it will suffice to note that a cause is what contains in itself the reason of something else (cf. Wolff [1720] 1983, § 29).

pen to be true of this world, and regard a novel as «eine Erzehlung von etwas, so in einer andern Welt sich zutragen kan» (§ 571).[18]

2.3 Contingency and Causal Connections

The concept of *nexus* also provides the cornerstone of Wolff's main argument for the contingency of this world and the possibility of other worlds. In some respect, this is a revival of Leibniz's counterfactualist argument, but the reference to the mutual connection of things gives it a typical Wolffian flavour.

The afore-mentioned statement of the universal connection of things in a world is, of course, deeply tied to the principle of sufficient reason. Understandably, then, Wolff strives to show that this statement, far from implying a strict form of necessitarianism, actually provides the best antidote to absolute necessity. The fact that, in the here and now, such and such events happen and such and such things exist, is determined by an entire series of causes or conditions; hence, it is not a necessary fact, because if the causal chain had been different, its effect would not have been the same.[19] To sum up Wolff's conviction in a slogan: being connected makes things contingent. That is, it makes them hypothetically, but not absolutely, necessary.

Just like every other composite being, the world itself is a machine; that is, «ein zusammengesetztes Werck, dessen Bewegungen in der Art der zusammensetzung gegründet sind» (Wolff [1720] 1983, § 557). And a machine's functioning depends not only upon the gears that constitute it, but also upon the way they are assembled; that is, upon the machine's structure. Quite expectably, Wolff resorts to the example of the clock to explain his mechanist-minded picture of the world. In order for the clock hand to point, now, to a number on the dial different from the one it is actually pointing to, it would have been necessary either that, from the beginning, the clock was differently set or that the clock's structure was different (cf. § 566). The same applies to the states of the world. To put it briefly, the conceivability (viz. possibility) of counterfactual situations is drawn by Wolff from the conceivability (viz. possibility) of distinct causal series that already diverge at their origins. The slightest change in the initial state of the world would have been sufficient to yield a different sequence of events. Hence, the actual world cannot be the only possible one, and all that happens in it cannot be but contingent.

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18   My reading also draws on Wolff's *Cosmologia generalis* ([1731] 1964, § 111-112).

19   Wolff's argument from universal connection to contingency is developed in *German Metaphysics* ([1720] 1983, § 565-570).

As we have seen, Bilfinger calls into question the argument from conceivability of counterfactual situations. He grants, however, that this argument is acceptable, provided that the one who puts it forward has previously demonstrated that «res non occupare necessario locum et tempus, quibus existunt» ([1724] 2002, § 359). He further adds that this was Wolff's way of proceeding in the *German Metaphysics*. Here, Bilfinger must be hinting at the conclusions that Wolff draws from his principle of the universal spatial-temporal connection of things. Wolff indeed, to make his point, also has recourse to the subtly metaphorical image of the «filling» of space and time: that a certain connection of things holds means that space and time are filled in a certain way. Presumably, the use of this metaphor is to foster the intuition that in a single world there is no room for two different universal connections.[20] A counterfactual situation could exist in the real world only if an entirely different connection held; namely, only if space and time were filled in a way completely different from how they are actually filled.[21] Hence, if we admit that counterfactual situations are possible, we must posit non-actual worlds, in whose connections they are included.

Thus, Bilfinger's condition of acceptability implies, in fact, that the argument from conceivability is not an independent argument. It can be used, indeed, to set out the possibility of other worlds, but only once the contingency of this world has been demonstrated. That Bilfinger is not totally wrong is confirmed by the above-mentioned Wolffian dissertation of 1717, where the argument from conceivability plays exactly this subordinate role. Here, the contingency of the actual states of affairs is assumed from the beginning,[22] as the premise for the following rather concise argument. It is not absolutely impossible that it rains now, when in fact the sky is clear:

> [...] concipi enim potest talis caussarum nexus, quo non invito pluviam serenitati substituere licet. Etsi autem nexum istum longius prosequi nobis non detur: ex contingentium tamen indole [...] haud obscure sequitur, eundem et quod praeterita attinet, et futura, immo et praesentia,

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[20] The presence of this metaphor contrasts with Wolff's later wariness of the 'imaginary notions' of space and time: see sections 3.2 and 3.3 below. The metaphor, however, does not seem essential to the argument, which is grounded, rather, on a relational conception of space and time as orders resulting from the way things are connected (cf. Wolff [1720] 1983, § 46, § 94). On the other hand, a kindred imagery is detectable in Leibniz's so-called tiling analogy (cf. GP VII, 304; and McDonough 2010).

[21] «[D]er Raum und die Zeit müste auf eine gantz andere Weise erfüllet seyn, als er jetzt erfüllet ist» (Wolff [1720] 1983, § 573). Here, «jetzt» should mean something similar to «actually», since it literally makes poor sense in this context.

[22] «Contingentium opposita absolute spectata non involvunt contradictionem» (Wolff 1717, § 26).

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esse debere infinitum, aut, si mavis, indefinitum. Quoniam itaque series plurium possibilium tam simultaneorum, quam successivorum inter se connexorum mundus est[,] plures mundos possibiles esse p[a]tet. (Wolff 1717, § 26)

3 Direct Arguments for Contingency

3.1 Necessity, Aseity, Immutability

The foregoing considerations lead to the conclusion that heterocosmic arguments either presuppose an independent demonstration of the contingency of this world, or are left pending on assumptions such as Assumptions 1 and 2, which the opponent can always contest. Hence, Bilfinger drops these arguments and places his bets on direct contingentist arguments.

Above all, Bilfinger bets on an argument of his own. He wonders why it has not occurred to anyone else; he also admits that it is so simple that it may appear as a sophism (cf. Bilfinger [1724] 2002, § 362). In its bare bones, the argument runs as follows. All that is absolutely necessary is also immutable in all of its parts and circumstances; our daily experience attests the mutability of the world in its parts and states; hence, the world is not absolutely necessary. Needless to say, after concluding that this world is contingent, Bilfinger infers that, therefore, other worlds are possible (cf. § 369). He also expands on the soundness of the inference from the contingency of each part to the contingency of the whole, by claiming that absolute necessity cannot be a property emerging, at the whole-level, from the composition of parts, all of which are contingent (cf. § 363-368).

The major premise of the argument (i.e., that necessity implies immutability) is supported by introducing, as a middle term between necessity and immutability, the property of having in itself the sufficient reason for its own existence. The succession of world states shows that none of them has its *ratio sui* in itself, so that they allow an infinite analysis; hence, they are not necessary (cf. § 362).[23]

In his *General Cosmology* (1731), Wolff appears to have acknowledged to some extent Bilfinger's criticism. Following a path different from the

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[23] Here Bilfinger draws on Wolff's clarification that a correct understanding of contingency is acquired when one considers that a contingent event is the consequence of an endless series of reasons (Wolff [1720] 1983, § 579). On the «Analysis contingentium», cf. Bilfinger [1725] 1982, § 68. Notice, incidentally, that this is how Leibniz's theory of the infinite analysis of contingent truths finds a place in Wolffian metaphysics – namely, as a cosmological thesis on the infinite length of causal chains in the physical world. Presumably, Wolff's source are Leibniz's *Remarques sur le Livre de l'origine du mal* (GP VI, pp. 413-414), from which Wolff further draws the comparison between contingent truths and irrational numbers ([1720] 1983, § 580).

one taken in the *German Metaphysics*, he decides to demonstrate the contingency of the world directly, through an argument very similar to Bilfinger's: since nothing is immutable among the things existing in the universe, nothing exists necessarily. Neither the composite substances, nor their modes, nor the simple elements have, in themselves, the reason for their own existence; all of them are contingent beings. Hence, «mundus seriem rerum contingentium continet» (Wolff [1731] 1964, § 81).[24]

It is only at this point, once the contingency of all worldly beings has been established, that the argument from conceivability appears. Its purpose, now, is just to state the possibility of other worlds. That a being is contingent implies that its existence depends on certain causal connections. A contingent being is actualised in the world if, and only if, its cause is contained in the actual series of things (Wolff [1731] 1964, § 97-98). This makes evident, according to Wolff, that the set of *possibilia* outnumbers the set of actual things. We conceive as possible the birth of a tree from a given cherry, but, unless the cherry stone is planted in a suitable soil, that tree will remain «in regione possibilium» (§ 97n).[25] Conceivability pertains not only to each single possible, but also to the causal chain that would bring a given possible into existence:

> Etenim possibilia, quae in praesente actum non consequuntur, existere possunt et concipi possunt causae, a quibus perinde ac ea, quae existunt, ad actualitatem perducuntur [...]. Perinde igitur possibiles sunt aliquae causarum contingentium series, per quas actuantur alia, quam quae in mundo adspectabili contingunt, ac ea, quae mundum adspectabilem constituit, consequenter alii adhuc mundi possibiles sunt. (§ 101)

3.2 Laws of Nature

Not all of the arguments for contingency displayed in Leibniz's *Theodicy* are rejected by Bilfinger. Indeed, he approvingly mentions Leibniz's 'noble argument', drawn from the institution of the laws of nature – especially the laws of motion (Bilfinger [1724] 2002, § 361).

As is well known, Leibniz deemed natural laws to be neither purely arbitrary, since they conform to the principle of the best, nor absolutely

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24   Here is also stated the contingency of composite substances and modes (Wolff [1731] 1964, § 80), while the contingency of the elements of material things is dealt with in the First Part of *Theologia naturalis* (Wolff [1736] 1978, § 56).

25   The quoted phrase is drawn, of course, from Leibniz (cf. *Théodicée*, § 42, § 335, GP VI, p. 126, 314).

necessary, as mathematical truths are.[26] While necessary truths can be demonstrated by the principle of contradiction, no contradiction follows from the hypothesis of natural laws being violated or being different from the actual ones. In the *Theodicy*, however, no explicit appeal is made to the modal status of these laws in order to establish the contingency of the world's events. Rather, Leibniz's aim in stating the non-necessity of the laws of nature is to vindicate God's freedom and wisdom, as well as the possibility of miracles.[27] Nevertheless, the relevant passages from the *Theodicy* could easily suggest an argument assuming the laws' contingency as the premise and concluding with global contingency. Such an argument is indeed put forward by both Wolff and Bilfinger in 1724.

Argument *L*:

[...] regulas tamen motus in materia minime fundatas esse atque perinde ac situationes corporum a necessitate absoluta exemtas cum *Leibnitio* agnosco. [...] Quamobrem rebus materialibus juxta leges motus in se mutabiles operantibus, ipsi quoque eventus in universo non sunt immutabilis necessitatis. Si enim Deo, universi Autori, alias motus regulas praescribere libuisset, alii prorsus futuri erant, iisdem manentibus rerum essentiis, eadem permanente corporum totalium compage, eventus. (Wolff [1724] 1983, § 9)

Si leges ipsae *contingentes* sunt, si oppositae illis aliae, alios producturae effectus, repugnantiam non involvunt; manifestum est, quae nunc obtingunt, facta corporum et *phaenomena non* esse absolute *necessaria*. Non igitur hunc mundum esse absolute necessarium. (Bilfinger [1724] 2002, § 361)[28]

Since the laws of nature govern the transition from a given state of the world to the subsequent one, they concur to determine the course of the events. In the light of this insight into the nomological structure of the events, the inference from the contingency of the laws to the contingency of the world appears sound. Once granted that other laws of nature that are different from (and presumably incompatible with) the ones holding in our world are possible, it seems difficult to deny the possibility of alternative developments of the world's history. Obviously enough, a world where bodies would move according to some other set of laws of motion would

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26   See, e.g., *Théodicée*, Préface (GP VI, p. 37, 44); and § 349 (GP VI, p. 321).

27   See *Théodicée*, § 345, § 350 (GP VI, p. 319, 322); and Discours, § 2-3 (GP VI, pp. 50-51).

28   A more detailed account of the whole issue is in Bilfinger's *Dilucidationes* ([1725] 1982, § 167-184).

be different from the actual world. Hence, if other laws are possible, then other worlds must be possible as well.

In his lengthy Latin works of the 1730s, Wolff still upholds the contingentist view on the laws of nature. The laws of motion would be necessary only if they flowed from the essence of bodies, but in that case, they could be deduced from this essence by the principle of contradiction; hence, they are contingent, because any demonstration of them must have recourse to the principle of sufficient reason (cf. Wolff [1731] 1964, § 527). Wolff emphasises the anti-Spinozist significance of this conclusion, mainly with respect to the possibility of miracles, but he does not state Argument *L* for the contingency of events.

As I suggested elsewhere (cf. Favaretti Camposampiero 2011b, 2012), the soundness of Argument *L* is conditional upon granting that the laws of nature are arbitrarily established – a view that conflicts with the Leibnizian as well as Wolffian attempt to ground the nomological order of the world in its ontology. Argument *L* requires that *the same* set of substances that constitute the actual furniture of the world could have been supplied by God with different sets of laws, so as to yield alternative stories. After choosing the substances that should inhabit the universe, God would have still been considering the different possible evolutions of this same 'population' according to the various sets of laws he could impose on it. Now, such a picture of the relation between laws and substances is at variance with some fundamental tenets of Wolff's *General Cosmology* – and this explains the absence of Argument *L* from this work.

In Wolff's *Cosmology*, a consequence of the contingency of the laws of motion is the contingency of the «order of nature» ([1731] 1964, § 561) – a term that expresses the intrinsic lawfulness and regularity that is detectable in all natural events.[29] However, since natural events are nothing but dynamical changes, the order of nature is properly found in the modifications of motive forces (§ 558).[30] Hence, Wolff claims that a different order could be obtained only if bodies were endowed with different active forces. And since such forces 'result' from what Wolff calls the 'elements of material things' (or simply 'elements', for sake of brevity), which are the simple substances that ultimately constitute the physical world, it follows that the order of nature would be different only if other elements existed, instead of the actual ones.[31]

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[29] No doubt, this concept comes from Leibniz's *Théodicée*, Discours, § 2 (GP VI, p. 50): «Cette necessité physique est ce qui fait l'ordre de la nature, et consiste dans les regles du mouvement, et dans quelques autres Loix generales».

[30] For the claim that forces result from simple substances, see Wolff [1731] 1964, § 180.

[31] «Si alius esse debet ordo naturae, elementa alia existere debent» (§ 569).

This strongly suggests the view that the laws of nature supervene on the elements, the immaterial atoms of the material world, containing the ultimate reasons of all the features of bodies. If it is so, then one set of substances is compatible with only one set of laws. It is impossible to obtain a different world just by modifying its nomological structure, while preserving the same ontological furniture: «Si alius existeret deberet mundus, elementa alia existere deberent» (§ 570).

After all, it seems that even Argument *L* contains an implicit appeal to conceivability – or better, to imaginability. Since we know (according to Leibniz's doctrine) that the laws of nature have no absolute necessity, we can feel free to imagine what would happen to our world if some alternative laws were held in it. In the 1730s, however, Wolff was even more cautious than before about drawing conclusions from such imaginary pictures. This is especially evident when he rejects the possibility of the same elements being ordered differently from how they actually are (§ 570n). Wolff maintains that, given a definite set of elements, all the spatio-temporal relations among those elements are fixed as well, since the way the elements are related to each other is univocally determined by the intrinsic features of each element (§ 571). We have, of course, a strong intuition that we can imagine alternative orders among the very same elements; but this epistemic fact is explained away by Wolff as a consequence of our having an 'imaginary notion' of space. Namely, we imagine space as a real being, as though it were an empty repository, which could be filled with elements arranged in all different ways (§ 571).[32]

We could say that, in Wolff's mature system, the order of nature (and, hence, the laws of mechanics) as well as the spatio-temporal relations among bodies supervene on the elements of bodies themselves – on their internal states and forces. A metaphysics of this sort, viewing the intrinsic features of simple substances as determining every feature of the physical world (its structure, laws, history, etc.), was likely to prevent Wolff from using Argument *L*. Moreover, it also undermined another Leibnizian argument for the plurality of possible worlds, as we shall presently see.

3.3 Time, Space, and Matter: Argument Tsm

The contingency of the order of nature is presented by Wolff as the crucial premise of what will be later called the physico-theological proof of God's existence (cf. Charrak 2006, pp. 76-77). It would be a fallacy, claims Wolff, to infer that an ordering entity must exist from the mere fact that the natural world is ordered. To draw the conclusion, we further need to

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32 On space and time as imaginary beings, cf. Favaretti Camposampiero 2011a.

show, on the ground of independent premises,[33] that the actual order is contingent (Wolff [1731] 1964, § 561n; [1718] 1972, sect. 2, ch. 3, § 41).

This gives a hint about the function that the arguments for contingency play in Wolff's metaphysics. They are not primarily aimed at making room for divine choice among possible worlds, as was the case in Leibniz's and Bilfinger's theodicies; rather, Wolff uses them as steps in proving that God exists.

Indeed, Wolff's favourite argument for God's existence is the proof *a contingentia mundi*, showing that the existence of the world, as a series of contingent beings, must have its sufficient reason in a necessary being. What the *Cosmology*'s argument from mutability is for is to support the premise needed to prove God's existence *a contingentia mundi*: the world contains a series of contingent beings, whose sufficient reason is not to be found within the series, but in a necessary being, which does not belong to the series itself ([1731] 1964, § 81-90).

Of course, Wolff's proof heavily draws on Leibniz's *Monadology* (§ 36-38, GP VI, pp. 612-613). However, an argument *a contingentia* for God's existence can be found in the *Theodicy* as well. And this argument – as Wolff did not fail to notice – includes a rather peculiar argument for the contingency of the world.

Argument **TSM**:

> *Dieu est la premiere raison des choses*, car celles qui sont bornées […] sont contingentes et n'ont rien en elles qui rende leur existence necessaire; étant manifeste que le temps, l'espace et la matiere, unies et uniformes en elles mêmes, et indifferentes à tout, pouvoient recevoir de tout autres mouvemens et figures, et dans un autre ordre. Il faut donc chercher *la raison de l'existence du Monde*, qui est l'assemblage entier des choses *contingentes*: et il faut la chercher dans la *substance qui porte la raison de son existence avec elle*, et laquelle par consequent est necessaire et eternelle. (*Théodicée*, § 7, GP VI, p. 106)

A similar account of contingency, as the possibility of filling space and time in different ways, is put forth by Wolff in his *Luculenta commentatio*, in the same paragraph where we have found a version of argument *L*. Here, Wolff contends that his system ascribes to the universe as much contingency as is possible, for it affirms that the actual cosmic structure is contingent and that all events are contingent as well (in virtue of argument *L*). Other bodies, different from the actual ones, could have filled space, and other

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[33] The independency requirement is meant to avoid any appeal to God's freedom in proving the order's contingency, since the argument for God's existence would otherwise be circular.

events could have filled time.**34** That is, alternative worlds would result from filling space with different objects, as well as from filling time with different events, by applying different laws to the same objects.

So it is no surprise that, later on, Wolff explicitly rejects Argument *TSM*, for the same reason why he abandons Argument *L* (if my hypothesis is true). Namely, he points out that in the above-quoted passage from *Théodicée*, § 7, «*Leibnitius* [...] existentiam Dei demonstraturus supponit tempus et spatium tanquam ens reale et absolutum, eique tribuit extensionem continuam uniformem» (Wolff [1730] 1962, § 611n; cf. Moretto 2004, p. 175n). In other words, the flaw in Leibniz's argument consists in presupposing the imaginary notions of space and time. Wolff is blaming Leibniz for not respecting the distinction – which Leibniz himself drew against Clarke!**35** – between real and imaginary notions. Hence, he deems Argument *TSM* to be inconsistent with Leibniz's doctrine of the ideality of space and time.

Now, what about Leibniz's reference to a uniform and 'indifferent' matter, capable of being moulded in all sorts of shapes? This assumption must also have bewildered Wolff, who held such a uniform matter to also be an imaginary being (see, e.g., Wolff [1731] 1964, § 251n). In his *Natural Theology*, when proving that the elements of material things are contingent beings, Wolff warns against considering these elements as a matter that could take various forms or even exist without any form («materiam ad varias formas suscipiendum aptam, sine quibus existere possit») – as though created things were like human artifacts, and God were merely an artifex shaping a pre-existing matter ([1736] 1978, § 52n).

It is worth mentioning a related passage from this work, for it provides further confirmation of our previous remarks on Argument *L*. Wolff points out that it is the very idea of a uniform and perfectly pliable matter (or of material atoms, combinable at will) that makes conceivable the formation of different worlds from the same components. On the contrary, if one assumes (in keeping with Leibniz's doctrine) that the basic components of the physical world are simple substances – that is, completely determined individual substances – then every world turns out to be wholly determined by the properties of its components; and one sees that it is not possible

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34   «[E]t spatium aliis corporibus repleri, quam repletum deprehenditur, et tempus aliis prorsus eventibus distingui potuit, quam in praesenti distinguitur, illis vel maxime iisdem manentibus» (Wolff [1724] 1983, § 9).

35   So, why did Leibniz state such an argument? Wolff's suggestion is that the passage at issue should be read as a remnant of Gassendi's influence on the young Leibniz. However, given Leibniz's subsequent engagement, in his letters to Clarke, against the imaginary notions of space and time, Wolff concludes that the confusion of such notions with the real notions was, in fact, alien to Leibniz's mature thought (Wolff [1730] 1962, § 611n). In his early review of the *Théodicée*, Wolff 1711, p. 116, did not mention the problem, but in rendering the passage at issue he avoided any reference to space and time.

to construct different worlds by using the same elements ([1736] 1978, § 755n; cf. [1731] 1964, § 251n).

4   Conclusion

Leibniz's *Theodicy* is built on the dual claim that the actual world is contingent and other worlds are possible. These characteristic statements became a cornerstone of Wolffian metaphysics and spread widely throughout the German pre-Kantian philosophical debate. Although further study would be needed to take stock of these developments, I think some clues have emerged, which can help in assessing the epistemological status of these fundamental propositions.

Wolff's odd claim in 1717 that the plurality of possible worlds is assumed by Leibniz without proof, is indeed revealing of both his aversion to unproved assumptions and his confidence that metaphysical truths can be justified. However, the review we have carried out allows for less confidence, for it shows that Wolff's and Bilfinger's concomitant attempts to give the required proof, by improving the arguments stated or suggested by Leibniz, were eventually not successful.

As Wolff came to realise, the doctrine of simple substances, which is the core of Leibnizian metaphysics, dictates the rejection of trans-world identity, and it consequently prevents us from accepting the two direct contingentist arguments drawn from *Theodicy*; that is, Argument *L* and Argument *TSM*. On the other hand, heterocosmic arguments had been weakened by Bilfinger's criticisms. Thus, Wolff could only use them with the utmost caution, finally dropping his previous attempt to state them as independent arguments.

In the light of the ultimate failure of such seemingly powerful arguments, we can be led to wonder whether Leibniz's option for contingency and possible worlds, against necessitarianism, was not, in fact, a basic assumption, such that no reasoning could force a differently minded adversary to accept it. A matter of intuition, rather than of rational deduction. And, as suggests the history of philosophy, conflicts of intuitions are hardly settled by argument.

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