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MODAL REALISM: YET ANOTHER HYBRID VERSION¹

Abstract: *The aim of this paper is to provide an analysis of modality by means of the existence of concrete impossible worlds. In particular, I pursue a strategy according to which logical impossibility is analyzed as logical inaccessibility. I then consider whether it makes sense to think of logical models in isolation from the concrete world but without their being divorced from all spatiotemporal totalities. The metaphysics of structure developed in this paper assumes that structural properties of possible and impossible worlds are primitive and objective. However, I provide some characterizations of their logical and metaphysical behavior, as well as guidelines for talking about them.*

Keywords: *Modality, Possible World, Impossible World, Structure*

Introduction

Impossible worlds have proven their utility in various areas of philosophy². However, philosophical practice requires that any acceptance of weird entities be strongly justified by theoretical benefits. In particular, we expect that if we accept impossible worlds, we must benefit from doing so on a full-scale basis: for *any* impossible situation that can meaningfully be considered, there is an impossible world that makes the situation true³.

In the core of contemporary modal metaphysics thus is the question of the ontological status of impossible worlds as well as the extent of the impossible.

1 This paper is a part of the project VEGA 2/0019/12: Language and Determination of Meaning.

2 For an excellent introduction to impossible worlds, their use and applications see Nolan (1997) or Berto (2013).

3 I refer to this principle as the plenitude principle. Cf. Nolan (1997).

One part of the debate denies that such entities exist. Another admits their existence but hesitates to compare them to the actual, spatio-temporal reality. Yet another stretches an extra mile, admits their existence and thinks of them in a genuinely realistic manner. And it is the last option that this paper examines. Namely, the paper tries to fulfill a requirement to provide criteria of identity for particular version of impossible worlds. This version takes possible as well as impossible worlds to be as real as the actual world. I call it extended modal realism.⁴ Before providing a positive account though, let me outline some initial problems for such a position which the rest of the paper addresses.

Suppose that one prefers Lewisian modal realism (Lewis 1986a) to various abstractionist alternatives⁵. Then, something is possible if and only if it *really* takes place in some possible world, and something is impossible if it *really* takes place in some *impossible* world. In other words, what marks worlds as genuine is how they represent (im)possible phenomena. For instance, the possibility of there being a philosophizing cat is represented by a concrete philosophizing cat existing in a possible world. By the same reasoning, the impossibility of there being a round square is represented by there being a round square in some impossible world. However, it was argued by some theorists that a so-called plenitude⁶ principle cannot be fulfilled by the realistic approach. This is due to the fact that we want impossible worlds to properly represent various kinds of impossibility, among which logical impossibilities are the most devastating. The argument is this: if there is a genuine impossible world according to which it is raining and it is not raining, there is a real entity at which it is raining and it is not raining – and this is a contradiction.⁷

Suppose now that in order to make the hypothesis informative, we subscribe to a version of paraconsistent logic. Such logic might do the trick and validate contradictions⁸. But if there is an impossible world for every way in which we say that things cannot be, there will be impossible worlds where even the principles of subclassical logics fail (Nolan 1997, 547). One more reason to think that dialetheic modal realists should reject concrete inconsistent worlds is that although they accept that there are some true contradictions, none of them maintains that every sentence is true. Even they accept that there are false sentences. Recall the paraconsistent notion of consequence, according to which it is not the case that $A \wedge \neg A$ entails B , for arbitrary A and B . Now, there are some

4 For a more detailed account of traditional formulation of extended modal realism, see Yagisawa (1988) and an updated version in Yagisawa (2010).

5 Cf. Vacek (2013a).

6 Following, and extending, Lewis (1986a, 86), the plenitude principle is the following:
 1) absolutely every way that a world can and cannot possibly be is a way that some world is and
 2) absolutely every way that a part of a world can and cannot possibly be is a way that some part of some world is.

7 The argument appears at several places. See, for instance, (Lewis 1986a, 7, fn.3) and Jago (2013, 4).

8 I, of course, differentiate between paraconsistency and dialetheism, the view that some contradictions are (or can be) true. It is due to the fact that paraconsistency is about an inference relation whereas dialetheism concerns truth.

sentences, like the Church false constant, that paraconsistentists definitely deny. The existence of concrete impossible worlds, however, “exports” the sentences as true. This is because, from a genuine existence of worlds, it follows that there is *A* (*simpliciter*) for arbitrary *A*. Consequently, everything is true (Jago 2012, 64). In a similar vein, consider a world such that if it exists, then *p*, for an arbitrary *p* that paraconsistentists deny. By modus ponens, *p* is true. The important thing here is that neither the actual existence of this impossible world nor the actual validity of modus ponens plays a role in the argument. The argument only says that if such a world exists, then *p simpliciter* (Cameron 2010, 791).

In sum, it seems that if we want to account for every impossibility and thus secure the plenitude of impossibility, no logic in principle does the trick. In the rest of the paper, I develop a modified version of the extended modal realism according to which there are structural properties grounded in concrete worlds themselves. Finally, I propose a “magical” account of representation in order to avoid the inconsistency worry.

Introducing the Ontology

This section proposes a particular version of extended modal realism. This branch of modal realism is fully realistic in a sense that impossible worlds exist as full-blooded entities. However, impossible worlds are not mere mereological sums. Rather, I introduce a two-categorical ontology according to which there exist world-cum-structure entities. On one side, I agree with modal realism that there exist maximal mereological sums of interrelated individuals. On the other side, the sums do not exhaust the modal space. In order for them to represent the actual, the possible and the impossible, they have to instantiate the so-called structures. Let me explain.

According to modal realism, possible worlds are maximal mereological sums of spatio-temporally interrelated individuals. Every way the world could have been – that is, every such sum – displays enormous spatiotemporal structural complexity. By way of example, think about the actual world. The world we live in is a very inclusive thing. Every stick, every dog, every chair and every stone you have ever seen is a part of it. It is therefore natural to say that different worlds differ from each other on the basis of what’s going on in them. Put differently, worlds differ structurally.

However, there are mutually exclusive ways of fleshing out this notion. We might, together with Lewis, think that worlds have their own parts, which determine worlds as wholes. More precisely, the order and configuration of parts structure worlds; worlds differ from each other by being structured differently – by having different, variously ordered parts. On another conception, concrete worlds have enormous structural complexity and enormous local variability, yet they do not have genuine parts. They of course display different structures, since things happen differently in them. But their structural variety is not determined by their parts, for indeed they have none. Rather, this structural variety is derivative. In truth, both of these conceptions aim at the same target: they aim not only to systematize our common sense view about the actual world, but

also to account for the ways in which reality might be, must be, and cannot be, respectively.

This paper offers a defense of the latter conception: the notion of a world – WORLD – is a composite notion, constituted by the notion of a concrete simple and the notion of a metaphysical structure. Every concrete simple instantiates a metaphysical structure. WORLDS are not fully concrete entities, but nor are they primitive (abstract) indices. WORLDS are combinations of the two: they are simple-cum-structure pairs. In effect, we should not confuse the universe that surrounds us, the entity we all inhabit, with the actual world. They are not the same entity. WORLDS are not maximal mereological sums of spatio-temporally interrelated individuals.

The structural component of a WORLD is a structure according to which things in general are a certain way. A WORLD is impossible according to another WORLD if and only if they are parts of different logical spaces, meaning that their components are paired with mutually incompatible regions: metaphysical structures. Traditional modal realists suppose that, irrespective of the variation across the plurality of Lewis's worlds, the domain of the abstract is unchangeable.⁹ Thus, concrete things are contingent and vary across worlds, while abstract entities exist in every possible world. Contra Lewis, I understand the relation between a concrete simple and its metaphysical structure to be *factive* – that is, grounded upon and posterior to it. For instance, there might be conjunctive properties of the form *A&B* that cannot be further broken down into their individual components, *A* and *B*. In such worlds, simplification fails to be a valid rule of inference (Kiourti 2010, 151).

One might protest against this priority talk from at least two points of view. First, one might reject such talk on the basis of meaningfulness, arguing that the priority relation is confusing and explanatorily useless. However, such an objection overlooks the very motivation behind metaphysical explanation. For if the subject matter of metaphysical inquiry is the notion of that which is fundamental – where fundamental means prior – one must have a pre-theoretical grasp of this notion. Otherwise, supervenience relations, set-membership relations, and reduction relations turn out to be theoretically vacuous.

Secondly, one might object that the notion of asymmetry is irrelevant to modality. However, what modal metaphysicians – genuine modal realists in this case – aim to do is to *explain* (away) modality in terms of non-modal terms. They aim to explain modality via “because” or “in virtue of” claims, which requires general asymmetric explanation. It is thus not fair to accuse accounts like that proposed here of being meaningless because it takes the concrete simple/structure relation to be asymmetric. Given the order of explanation, the carving relation must be asymmetric, unless one accepts circular arguments.

9 Interestingly though, Lewis admits that this might not be the case. He writes: “As for the parts of worlds, certainly some of them are concrete, such as the other-worldly donkeys and protons and puddles and stars. But if universals or tropes are non-spatiotemporal parts of ordinary particulars that in turn are parts of worlds, then here we have abstractions that are parts of worlds” (Lewis 1986a, 86).

Methodological requirements based on the notion of explanation thus prevent the relation between a simple and its structure from being idle. We are forced to dispense with symmetry in the interest of ensuring that the relationship between concrete individuals and their internal structural complexity is informative and thus deals meaningfully with the question of fundamentality.

Mutually exclusive answers to priority question correspond to mutually exclusive ways of carving nature at its joints. Either the structural complexity is prior to the concrete simple, or the concrete simple is prior to its structure. I assume the latter: concrete simples are basic, but ontologically posterior structures make them extremely complex.

Incredulous Stares

The idea of there being a metaphysical simple, parts of which are merely derivative, is not a novelty in metaphysics. Philosophers have been asking the question “How many things *fundamentally* exist?” for decades and have more or less provided three mutually incompatible answers: (1) there is only one (actual) thing (monism); (2) there is a plurality of (actual) things (pluralism); and (3) there are no (actual) things (nihilism). Since I defend a version of monism in this paper, I will digress a little and discuss some objections to this view. For, the arguments from incredulous stares in metaphysics have a similar structure and usually rest on a confusion between two different data.

We can differentiate two objections that underlie the “incredulous stare”: one concerning both existence monism and priority monism, the other concerning only the latter. According to existence monism, exactly one concrete object exists, despite the fact that we experience more than one existing thing. According to priority monism, exactly one basic concrete object exists, and many other concrete objects exist only derivatively. Although these positions might seem similar, it is important to distinguish between them. Unlike existence monism, priority monism does not deny that tables, dogs and chairs exist. What it denies is that they are fundamental. Only concrete simples are fundamental, whereas particulars are merely derivative.

However, existence monism appears to be inconsistent with an evident datum of experience (as does priority monism, if the argument is read as including “fundamentally”), for there (fundamentally) *is* a plurality of things: a plurality of material things. Put in the form of a simple argument:

1. It is obvious that there (fundamentally) is a plurality of concrete objects.
2. If it is obvious that there (fundamentally) is a plurality of concrete objects, then we have strong reason to believe that there is a plurality of concrete objects.
3. There is *prima facie* reason to believe that there is a plurality of concrete objects.

Recall that according to monism, only one concrete thing (fundamentally) exists, whereas according to pluralism many concrete things exist, and according to nihilism no concrete things exist at all. As the argument shows, common sense favors pluralism over the remaining two positions since our common way of speaking about (and, more generally, conceptualizing) the world assumes that there is more than one individual. After all, a key part of our pre-theoretical grasp of the world includes the notion that the world contains chairs, tables and many other countable things.

Monism supposes the contrary. It is the doctrine that there (fundamentally) is exactly one concrete simple. This means that if we want to affirm the existence of at least two chairs in front of us, we either have to deny concreteness to one of them or deem them identical. Since both options fail the common sense test, monism's tenability depends on reinterpreting the common sense data.

On further consideration, however, reinterpretation that makes space for the second option is actually relatively straightforward. What is at stake here is a reinterpretation of the data that justifies the appearance of a plurality of individuals but is consistent with there (fundamentally) being only one concrete simple. For example, consider the Moorean fact "this is my right hand". A monist might say that this sentence is true when paraphrased as "the world is handish here". And, although the first sentence would be false in a world with only one concrete simple, the truth of the paraphrase is enough to block the objection. Moreover, there doesn't seem to be anything wrong with saying that if truthmakers are required, the truthmaker for the Moorean truism is simply the world.^{10 11}

10 See Schaffer (2007) for more details.

11 Horgan and Potrč (2000) pursue an analogous strategy. They argue for the common sense feasibility of existence monism by advancing the following ontological and semantic theses:

- a) There really is just one concrete particular, viz. the whole universe (let us call it the "blobject").
- b) The blobject has enormous spatiotemporal structural complexity and enormous local variability, although it does not have any genuine parts.
- c) Many of the postulates of common sense and science are true, despite the fact that nothing in the world answers directly to these postulates.
- d) Truth, for such statements, consists in *indirect* language-world correspondence.

Horgan and Potrč's strategy thus employs an indirect correspondence theory of truth, according to which Moorean truisms can count as true in lax contexts. This means that the relevant construal of truth entails a commitment not to the ultimate metaphysical existence of a plurality of common sense objects, but rather to their lightweight ontic, mind- and language-involving existence. This so-called "blobjectivism" thus claims the following:

A statement's truth results from the interaction of two factors: the contextually operative semantic standards, and how things stand with the mind-independent world. When the semantic standards operate in such a way that a given statement can be correct semantically (i.e., true) even though the statement posits (i.e., quantifies over) certain items that are not there in reality, then truth (for discourse governed by such semantic standards) thereby becomes an indirect form of language/world correspondence. (Horgan & Potrč, 2000, 253)

In effect, such a position is not relativistic in spirit. Rather, it amounts to eliminating chairs, tables, dogs and other concrete objects that concern our ontological commitments in such a way that everyday statements about them can be true. Cf. French (2014, 174).

It is therefore far from clear that we should deny monism on common sense grounds, for it is far from clear what those grounds are. Is it the fact that we cannot represent a plurality of things? Monism does not deny this. Is it the claim that a plurality of things does not (fundamentally) exist? Monism agrees. These are two different claims, however, and unless the objector differentiates between them, her argument misses the target. Let us therefore consider another line of argument.

This argument concerns the common sense argument against priority monism only – namely, the apparent problem of the priority of the whole to its parts. It proceeds as follows:

1. Common sense holds that a part is prior to its whole.
2. If common sense holds that a part is prior to its whole, then there is reason to think that a part is prior to its whole.
3. There is reason to think that a part is prior to its whole.

Methodologically speaking, it is not at all obvious that common sense is a reliable arbiter of the priority question in the first place. Recall that ontological priority is a highly theoretical notion; metaphysical status simply cannot be determined by consulting our intuitions. Therefore, it is unlikely that there are platitudes that would prefer priority pluralism to priority monism. Let us, however, put this quick rejoinder to the side and see what else a priority monist might offer in order to block the argument.

One such answer, proposed by Schaffer (2012), appeals to a distinction between mere *aggregates* and *integrated wholes*. As he argues, although common sense might appeal to the priority of parts in cases of mere aggregation, it hardly endorses the priority of integrated wholes. Take, for example, a heap of sand on the one hand and a circle and its arbitrary partitions on the other. It seems right to say that parts of the heap are prior to the heap. But it is not similarly clear that any arbitrary partition of the circle is prior to the circle. In this case, the integrated circle just *is* prior to any semicircle carved from an arbitrary portion of it.¹²

The opponent of priority monism ignores this distinction. For him, or more generally, for anyone who subscribes to the argument, mere aggregates and integrated wholes are metaphysically on a par and deserve the same philosophical analysis. But if they are not, the objection runs into difficulties, for is the claim that common sense holds that a part is prior to its whole, whether an integrated whole or a mere aggregate? The priority monist denies this. Or is the claim that common sense holds that a part is prior to a mere aggregate? A priority monist would not disagree. Finally, is the claim that common sense holds that a part is prior to its integrated whole? Here, the disagreement arises once again.

Of course, my aim here is not to fully defend monism as the best systematization of our pre-theoretical data. For now, it suffices to demonstrate the metaphysical acceptability of the position according to which a concrete simple is both fundamental and in possession of a structural complexity that (a)

12 Cf. O'Conaill & Tahko (2012).

derives from it and (b) is ontologically dependent on it. For, as we will see in a moment, WORLDS are pictured as monistic simples that give rise to metaphysical structures. Some of them represent things that are possible, some of them things that are impossible. The question, however, is how the representation is supposed to work so as to avoid both the inconsistency and certain limitations to representing “abstract” impossibilities. It is thus of the utmost importance to represent plain inconsistencies and to preserve the theory’s consistency. Let us therefore turn to the representation problem.

Metaphysical Structures and Representation

It is often considered a virtue of modal realism that it represents our possible situations in terms of genuine worlds. For modal realists, something is possible if and only if there is a world that is that way, something is necessary if and only if every world is that way, and something is impossible if and only if there is no such world. And this stands in opposition to other accounts of possible worlds according to which it makes sense to speak of what is the case *according* to them.

My proposal says that it is not Lewis’s worlds themselves but simple-cum-structure pairs that do the representing. This feature of the theory places it somewhere between modal realism and actualism and, more importantly, between two modes of representation: genuine and ersatz. While the former causes inconsistency of a kind mentioned earlier, the latter does not necessarily do so.

WORLDS do not represent in the way that Lewis thought, even though they have concrete constituents. Concrete “stuff” does not do the representing. Rather, it is the concrete simples together with metaphysical structures that do the representing. Metaphysical structures are grounded in concrete simples, and every structure is ontologically dependent on a simple. Again, it is not simples but simples-cum-structures that represent something as possible, contingent, necessary or impossible.

In *On the Plurality of Worlds* (Ch. III), Lewis spent much time arguing that representing modal phenomena in non-genuine terms gives rise to many obscure consequences. In particular, he attacks a so-called magical ersatzism, according to which an element *E* represents that so-and-so (or it is the case that so-and-so according to *E*) if and only if, necessarily, if *E* is selected, then so-and-so. This is how maximal elements in particular represent. The maximal elements are the ersatz worlds (Lewis 1986a, 175).

The relation of selection is supposed to connect concrete simples with metaphysical structures. For Lewis, the problem concerns whether the relation of “selection” is an internal relation or an external one. Suppose that the relation is internal. Then it holds in virtue of the intrinsic natures of its relata, the concrete simple and the abstract element. For instance, if part of what goes on within a WORLD is that there is a flying pig, this means that some elements will be selected and others not. Given the nature of internal relation, it is the intrinsic nature of the selected element that plays a role in the selection – for if its intrinsic nature were different, it would not be selected.

In fact, Lewis attacks the internal conception of the selection relation from three different points of view. First, he voices a metaphysical worry: the elements do not have familiar sorts of intrinsic features. They are neither spatiotemporal nor set-theoretic entities (as in the case of linguistic or pictorial ersatzism). They do not seem to exhibit any internal structure at all, and it is magic that pairs the elements with ways the simples might be.

Secondly, Lewis claims that the selection relation raises epistemological worries. Here, the idea is that since the elements are abstract, their causal isolation makes their individual natures inaccessible to us. So, the objection goes, we cannot know about a range of elements and their connections with concrete goings-on because they are causally isolated from us. How do we know that the relation of selection ever happens when we have no access to one of its relata – namely, the element?

Finally, Lewis argues that the relation of selection is doubtful on rational grounds. Magical ersatzism is accompanied by a certain unintelligibility, and ersatzists themselves are not in a position to understand what they are saying. Sure, we know something substantial about the elements. For instance, they are not all alike, they differ from each other, and their nature must be rich enough to permit enormous variation. But when it comes to selection itself, “we have not the slightest idea what the ‘representational properties’ are” (Lewis 1986a, 178). All we have is a schema saying that if there is one element that represents that a donkey talks, then one is selected if and only if a donkey talks. There is nothing that would clarify the “selection” relation.

With all of this noted, Lewis considers the selection relation to be external. This reading of “selection” views the relation as being like a distance relation between space-time points. Such a relation does not obtain in virtue of the distinctive intrinsic natures of the selected elements, because all there is to them is their place in a relational system (Lewis 1986a, 179). So the relation now obtains between the concrete cosmoi and the element, but it is not the natures of the relata that determine it.

Again, Lewis argues that the relation is suspicious from both a metaphysical and an epistemic point of view. With regards to the latter, he identifies the same acquaintance problem as in the case of internal relations. That is to say, it is not clear to him how a relation, one relatum of which is abstract and causally isolated from us, the other concrete, can ever come within reach of our thought and language (Lewis 1986a, 179). With regard to the former, this selection is not any ordinary external relation; it is a modal relation. He writes:

Necessarily, if a donkey talks, then the concrete world selects these elements; if a cat philosophizes, it selects those; and so on. I ask: how can these connections be necessary? It seems to be one fact that somewhere within the concrete world, a donkey talks; and an entirely independent fact that the concrete world enters into a certain external relation with this element and not with that. What stops it from going the other way? Why can't anything coexist with anything here: any pattern of goings-on within the concrete world, and any pattern of external relations of the concrete world to the abstract simples? (Lewis 1986a, 180)

To sum up, Lewis quite clearly denies that magical ersatzism provides a complete and accurate analysis of modality. Either way the ersatzist articulates her theory, she faces epistemological, metaphysical and even rational worries regarding how the theory is supposed to work.

Simple-cum-Structure Realism and Magic

Let me now go through Lewis's objections to magical representation. Hopefully, my replies to them will shed light on the account I prefer and, to some extent at least, help to rehabilitate extended modal realism's credibility in the eyes of those who stare incredulously¹³.

Objection:

Any theory that treats impossible worlds as real is incoherent in nature: if it is impossible that *P*, where *P* stands for whatever you take to be false, then *P*.

Answer:

Let us consider first the well-known objection from the inconsistency of extended modal realism in general and then see how it applies to the proposal at hand. One version of the argument goes like this: consider an impossible world such that *if it exists, then p*. If there are impossible worlds, there is this impossible world. Now, take any falsehood you like; plug *p* into this argument, and you will get an argument that the falsehood is true – not true at the impossible world at issue, just true *simpliciter* (Cameron 2010, 791). So, given the real existence of impossible worlds, any false proposition turns out to be true in the actual world.

Three assumptions relied on in this argument are important here. First, impossible worlds exist. Second, they represent something as impossible by really *being* impossible. Finally, this argument applies exclusively to conceptions that ascribe to the first and the second assumptions. It is easily refuted by other conceptions – say, one according to which we cannot conclude from “there is a set, *S*, containing the proposition that if *S* exists then *p*” and “*S* exists” that *p* is the case.

Although I agree with the argument from inconsistency, given all the above assumptions, it is far from clear how it threatens my own proposal. The first assumption surely applies, and I have nothing to say against it. But the second assumption does not. I am not saying that WORLDS genuinely represent inconsistencies by *being* inconsistent. Again, simples do not represent. Their structures do, although what structures there are is determined by what simples there are. Nonetheless, the representation is not genuine. It's a kind of magic.

Objection

Since the structures are not concrete, their causal isolation makes their individual natures inaccessible to us.

13 The objections are mainly due to Lewis (1986, section 3.4).

Answer

Fair enough. Speaking in a negative way, metaphysical structures are not concrete in the sense that Lewis's worlds are. They neither display causal powers nor enter into causal relations. However, we grasp them via the spatio-temporal system we inhabit. Since we have causal access to the world we inhabit – it is us and all our surroundings – there is at least something positive that a WORLDS theorist can say about the structural component. Namely, it suffices to show that we can grasp some abstract features of the concrete stuff we inhabit through interaction with it. In doing so, we grasp at least some objective features of the structure of the world we are part of. One way of pursuing this line is to follow Mortensen (1989). Mortensen writes:

Our world has very general structural features too, for instance very general aspects of its differential topology. It is possible to present General Relativity, Quantum Mechanics, Gauge Theory, even Newtonian Dynamics in very abstract fashion. Considered in isolation from the concrete universe out of which they arise, it can be difficult to grasp their connection with our world. I suggest that things might well be that way with abstract-looking logical countermodels too. [...] There is, I suggest, no reason why such very general or abstract structures should not be realized. (Mortensen 1989, 328)

In other words, the fact that we describe physical reality in an abstract way and model various features of it does not give us a reason to deny the concreteness of physical reality. Physical reality is concrete and does display phenomena that physics works toward systematizing. If that is so, things might well be that way with abstract-looking logical countermodels too. Moreover, we certainly engage in logical debates, so why not admit that the debates partly concern WORLDS themselves rather than mere conventions?¹⁴ Any Lewisian about possible worlds might therefore rather look for a deeper and metaphysically more robust account of logical laws. It is simply a consequence of her metaphysical position that its

14 Some might resist and argue that logical laws are mere conventions of reasoning. According to the orthodoxy, logical laws, or rather rules of logical inference, are conventions or something that people do. This so-called naturalism defines a logical rule as valid if and only if it is one of the rules that govern the practice of inferring. From that point of view, logical laws are sets of inference rules. What is important here is the fundamental distinction between a concrete world on the one side and its inhabitants' practices of inferring on the other. As a result, "which logical rules are valid is a matter which depends upon human agreement (of action)" (Priest 1979, 297). Logical rules are, in a word, conventional. Such an approach goes hand in hand with the possibility of there being a plurality of inferences that floats free of reality itself. Without going into further detail, this approach understands logic as entrenched in language and/or grammar. Although this approach is not controversial *per se*, it raises issues for proponents of modal realism. Namely, there are worlds at which no rational people exist and, consequently, at which no logical inferences have been developed. Does this mean that such worlds are logicless, in the sense that no logic holds in them? No matter what our pre-theoretical views on the issue, to reject uninhabited worlds as logically impossible would seem to be a radical violation of them. Given Lewis's classical framework, the preferred logic is classical, and anything that does not violate it does possibly exist. But there is no violation of classical logic in supposing that uninhabited worlds exist.

logical space is independent of the way we speak about it.¹⁵ It's a metaphysical structure.

Objection

But a certain unintelligibility attaches to your theory because magical ersatzists themselves are not in a position to understand what they are saying.

Answer

I understand this objection as a follow-up to the previous one. Nonetheless, it is more general, and instead of raising a substantial epistemological challenge¹⁶, it accuses magical ersatzism of meaninglessness rather than epistemic fallaciousness, for according to this objection, the selection relation – whether internal or external – is unintelligible and nonsensical at its core. But if that were so, Lewis would be committing himself to non-trivial counter-possible reasoning. For Lewis does describe how the “selection” relation would work if magical ersatzism were true. He very clearly describes and even explains both horns of the dilemma. But if magical ersatzism does not make sense at all, how can it be so precisely criticized?

Moreover, recall that my proposal has simples as well as metaphysical structures among its postulates. The “selection” relation in this case is a relation determined by the intrinsic nature of the metaphysical structure, which is determined by the simple in which it is grounded. Anybody who understands the terms “concrete world”, “intrinsic property”, “quantification” and the other ingredients *just does* understand what I am claiming. Of course, I might be wrong. But there is a difference between being wrong and being unintelligible.

The second horn of the dilemma takes the “selection relation” to be external, meaning that for every way the world might be there is exactly one metaphysical structure that stands in the selection relation to its simple. Is it the existence of concrete mereological sums that is unintelligible? That would make modal realism nonsensical, despite the amount of literature dedicated to the doctrine. Or, is it the metaphysical structure that gives rise to the nonsensical consequences? If this is so, philosophers defending some sorts of ontological dependence might be offended. Finally, is it the necessary connection that requires independent rational justification? Although the necessary co-existence problem is certainly tricky, to call non-Humeans unintelligible seems too hasty.

I therefore conclude that the argument from unintelligibility fails. At base, it is actually a version of the incredulous stare, which results from how difficult it is to believe in this “selection”. But incredulity does not imply unintelligibility. And, taking a page from Lewis himself, unless supported by further arguments against the hypothesis, this objection is not sufficient.

15 The fact that there are plenty of mutually incompatible logics on the market does not contradict the assumption. We can still consider various logics as approaching the best description of reality. But it is a matter of fact which logic does so accurately.

16 Cf. Vacek (2013b).

Objection

Ersatz worlds do not seem to exhibit any internal “structure” at all; it is as if by “magic” that elements are paired with possible ways the world might have been.

Answer

This objection, as it stands, is strong enough to make its point, at least when it comes to orthodox examples of magical ersatzism. Recall, however, that my version of modal realism is a thesis according to which there are simple-cum-structure entities, rather than mere Lewisian worlds. Such entities consist of one-way ontologically dependent simple-structure pairs. The structures are grounded in simples themselves and thus mirror their derivative complexity. It is therefore not the case that the WORLDS represent qua abstract simples. The structures that do the representing are complex.

Objection

The proposal presented is not in line with the Humean supervenience project.

Answer

Metaphysical structures are not worlds, but they ontologically depend on simples. This means that there is a tight connection between a concrete simple and its structure. Even more, the connection is such that it is impossible for a concrete simple to exist but for its structure not to. Also, if a concrete simple exists, its structure necessarily does too. If this is so, I am apparently forced to admit that the proposal violates the Humean picture of reality. According to this picture, reality does not contain necessary connections between entities; rather, our connecting entities in such a way is attributable to mere habit.

I propose two responses. Firstly, the Humean notion of necessary connections between existing entities only concerns individuals. It would be unreasonable to require the principle to hold without restriction, since such a principle would fail intuitively valid tests. For instance: is it problematic to posit a necessary connection between a set and its members, between me and my singleton, or between “a fact” and “the fact that it is a fact”? The principle – understood unrestrictedly – is simply too demanding. Secondly, Lewis himself concedes that Humean supervenience is at best contingently true. He writes:

Two worlds might indeed differ only in unHumean ways, if one or both of them is a world where Humean supervenience fails. Perhaps there might be extra, irreducible external relations, besides the spatiotemporal ones; there might be emergent natural properties of more-than-point-sized things; there might be things that endure identically through time or space, and trace out loci that cut across all lines of qualitative continuity. It is not, alas, unintelligible that there might be suchlike rubbish. Some worlds have it. And when they do, it can make differences between worlds even if they match perfectly in their arrangements of qualities. (Lewis 1986b, x)

So even Lewis admits that the Humean supervenience thesis may hold only contingently.

I therefore think that none of these objections presents a lethal argument against the proposal. Incredulous stares are sure to remain. But if we have reason to coherently believe in a variety of worlds-cum-structures, why not postulate them? Moreover, changes to our theories need not imply changes with respect to how we reason about actuality, since the entirety of reality does not need to fit into a single logical picture.

Still Inconsistent?

Let me end with the very problem we began with. That is, one might still object that the representation, however magically you construe it, does not avoid the inconsistency in the first place. Briefly, the objection runs as follows: you want your concrete basis to be consistent, so that your metaphysical structures inherit this consistency and can nonetheless represent (logical) inconsistencies. So how can something consistent represent plain inconsistencies?

There are different answers to this question, depending on which particular kind of ersatzism one prefers. First of all, Lewis is clear that if impossible worlds were sets of sentences – that is, if impossible worlds were replaced by their stories – there would indeed be room for worlds according to which contradictions are true (Lewis 1986a, 7, fn.3). “According to the Bible” and “Fred says that” are not restricting modifiers, which means that they do not pass through the truth-functional connectives. Similarly, impossible worlds, conceived as abstract states of affairs, do not bring plain inconsistencies into existence. Again, this is because of the denial of the move from “according to w , Px ” to “something is such that Px ”. Ersatz worlds, whether states of affairs, maximal properties, or sets of sentences, are mere representations of impossibility and do not require that anything possess impossible properties *per se*.

Now it seems that my proposal requires that there are plain inconsistencies out there in reality, because structures representing impossibilities ontologically depend on concrete stuff. But if the concrete is consistent, how can it ground such structures? Put differently: how can something concrete ground something that represents plain inconsistencies?

I am afraid that this objection, as it stands, proves too demanding. Take, as a counterexample, the hybrid modal realism proposed by Divers (2002) and further elaborated by Berto (2009)¹⁷. In it, modal realism is taken for granted in the analysis of possibility, but ersatzism is taken to account for impossibility. Thus, while concrete possible worlds are “localizers” of all possible phenomena, true contradictions are *represented* by sets of sets of them. Here is an example: suppose that metaphysical space consists of exactly six worlds $\{w_1, w_2, w_3, w_4,$

¹⁷ My proposal is one among many. Since I cannot discuss them all here I mention them at least. Beside Berto (2009), there is McDaniel (2004)’s version according to which Lewis’s worlds overlap and provide thus for various impossibilities. Another realistic option is Yagisawa (2010) which takes worlds to be as real as times and spaces. For a defense of the latter, see Vacek (manuscript). Of course, how to stipulate the best one is a big methodological problem.

$w_5, w_6\}$. Provided that the proposition “it is raining”, A , is identified with the set $\{w_1, w_2, w_3\}$ and the proposition “it is not raining”, $\sim A$, with the set $\{w_4, w_5, w_6\}$, the contradictory proposition “it is raining and it is not raining” – (A and $\sim A$) – is, by the same reasoning, identified with the set of the above sets, namely $\{\{w_1, w_2, w_3\} \{w_4, w_5, w_6\}\}$. The resultant set is an impossible world, i_1 , because it represents a contradiction. Now, let us also suppose that the proposition “the sun is shining”, B , is identified with the set $\{w_1, w_3, w_5\}$ and its negation, $\sim B$, with $\{w_2, w_4, w_6\}$. Similarly, the contradictory proposition “the sun is shining and the sun is not shining” – (B and $\sim B$) – is then the set $\{\{w_1, w_3, w_5\} \{w_2, w_4, w_6\}\}$. Let us dub this impossible world i_2 . Impossible worlds i_1 and i_2 are undoubtedly different. Whereas i_1 is identified with the set of the form $\{\{w_1, w_2, w_3\} \{w_4, w_5, w_6\}\}$, the form of i_2 is quite different: $\{\{w_1, w_3, w_5\} \{w_2, w_4, w_6\}\}$.

Apparently, we have a set of worlds with consistent members that nonetheless represent plain inconsistencies. More generally, we have sets that represent consistencies as well as sets that represent inconsistencies, even though in both cases their members are self-consistent. Although this does constitute a kind of magic, it definitely does not result in big metaphysical controversies¹⁸.

I therefore conclude that this version of modal realism is not committed to an inconsistent basis¹⁹. It is simply unreasonable to demand that consistent entities represent only consistent phenomena. Consistent concreta can represent inconsistencies, as Berto’s proposal demonstrates. If this is so, then structures can also represent impossibilities, even when they are based on exclusively consistent matter.

Conclusion

In this paper, I argued for an extended version of modal realism, according to which there are concrete simples and metaphysical structures. These structures depend on concrete simples. Also, they represent ways the worlds might (and might not) have been, although not in a genuine way. My primary aim was to deal with simple impossibilities: that is, plain contradictions. How such a project might deal with mathematical and metaphysical impossibilities remains an open question to be addressed elsewhere.

18 Does the theory have any consequences for what the correct logic of modality is? I understand modal logic as a tool to formalize our ontological commitments. I do not, however, think, that modal logic is prior to them. The language of boxes and diamonds provides us with formalization of a part of our possible worlds discourse, but that does not mean that the language formalizes every single bit of it. After all, if this language proves to be a clumsy instrument for talking about modal matters, we do better to follow the ontological postulates directly. Cf. Lewis (1986a, 12–13). Thanks an anonymous referee for bringing this point out.

19 Indeed, one might ask why we should prefer my version of extended modal realism rather than Berto’s. I confess I have not a definite answer as the comparison of my and Berto’s proposals would be too complex to be pursued here. Nonetheless, the reader might consider my proposal as yet another contribution to the debate without any ambition to be indispensable.

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