



Impossible Worlds

Francesco Berto and Mark Jago

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Metaphysics

Francesco Berto

Mark Jago

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Abstract and Keywords

The metaphysics of possible and impossible worlds revolves around a number of questions. Should we treat worlds as genuine entities, which represent something as being *F* by having an *F* as a part? This is a hard position to maintain in the case of impossible worlds. Should we treat (non-actual) worlds as non-existent beings? Or should we think of them as abstract entities? Should we give the same answer to these questions for possible and impossible worlds? Yet a further option is to distinguish two senses of ‘is’—encoding vs exemplifying some property—and claim that impossible worlds encode without exemplifying impossibilities. All of these approaches face difficulties. If one thinks these difficulties are insuperable, one can always adopt the approach that worlds are primitive entities. Another fallback position is fictionalism about world, on which truths about worlds are always given ‘in the fiction’.

Keywords: metaphysics, encoding, abstract entities, primitive entities, fictionalism

2.1 Ways of Thinking about Worlds

We now investigate the metaphysics of possible and impossible worlds. What are such worlds like? And how do they manage to represent whatever it is they represent? (A difficult question concerning the *granularity* with which impossible worlds represent what they represent will appear in §8.4.) Our general approach will be to begin with a theory of possible worlds, and to ask whether it may be extended to accommodate impossible worlds. We will structure our discussion around four central questions:

(REALISM) Should we be realist or anti-realist about non-actual worlds?

(EXISTENCE) Do non-actual worlds exist, or are they non-existent entities?

(GENUINENESS) Are non-actual worlds genuine worlds or ersatz entities?

(PARITY) Should we give the same answer to the three questions above for both possible and impossible worlds?

While the first three questions require answers from any possible worlds theorist, the fourth one is specifically addressed to impossible worlds theorists like ourselves.

(p.42) The first two questions – REALISM and EXISTENCE – sound similar, but they might differ in an important way. REALISM asks whether we should talk about non-actual worlds when we’re being most metaphysically serious: should we quantify over non-actual worlds at all, using our most serious metaphysical quantifiers, and therefore (following Quine (1948)) accept commitment to such things in our metaphysics? If we answer *yes* to REALISM, then EXISTENCE asks, should we say those worlds exist, or should we instead say they are non-existent entities? Now according to Quine himself, and many others (e.g. Van Inwagen (2008)), one who answers *yes* to the first question is automatically committed to the existence of the relevant objects, for existence is captured by the quantifier. But, as we will see in 2.3, others disagree on this reduction of existence to quantification.

Let’s probe the question of REALISM a little further. People draw the realism/anti-realism contrast in different ways. Sometimes, anti-realism about X simply means the view that the X’s aren’t objects of genuine, ontologically committing quantification. Other times, it means that the X’s are mind-dependent parts of reality. (This is what ‘anti-realism’ often means in logic and mathematics. The view that numbers exist, but are constructions of the human mind, is often called anti-realist.) Here, we’ll use ‘anti-realism’ about worlds in the former sense.

All participants in our discussion agree that we get to indulge in worlds-talk. *Realists* interpret that talk literally: we’re talking about parts of reality, which we can refer to and quantify over when we’re being at our most metaphysically serious. Anti-realists, by contrast, think that we get to indulge in worlds-talk but without ontological commitment to non-actual worlds.

Let’s now turn to the remaining two questions, GENUINENESS and PARITY. GENUINENESS asks: should we understand the non-actual worlds as being on a par, metaphysically speaking, with our own world? Or should we accord them some other metaphysical status? Exactly what this means is a delicate matter. We’ll discuss it in §2.2, where we also explain the terminology of ‘ersatz’ and ‘genuine’ worlds. PARITY is a more straightforward question: should we treat

impossible **(p.43)** worlds as being metaphysically on a par with the merely possible ones, so that the answers to the first three questions are the same for both kinds of worlds? Or do impossible worlds require their own special metaphysical treatment?

We won't consider all 16 combinations of answers to these questions. Some combinations do not make much sense, and some haven't been discussed at all in the literature. (Aside to potential PhD students: there are unexplored possibilities here!) We'll focus on those combinations which have received the most attention.

2.2 Genuine Realism

Genuine realism says that there exist non-actual worlds very much like our own. The view usually covers just the possible worlds; applying it also to impossible worlds gives *extended* genuine realism. We'll first explain what the 'genuine' bit in 'genuine realism' is supposed to mean. After that, we'll take a look at some of the theories falling into this camp.

The (unextended) view is often put by saying that these worlds are *concrete* entities. This won't quite do for the extended version, but it nevertheless provides a good conceptual entry point to the idea. On this approach, it's possible that there's a talking wombat because there exists a possible world which has a talking wombat as a part. That wombat is a real, flesh-and-blood living creature, just like our wombats. It's located in space and time, and is part of the causal order of that world. That's the sense in which that wombat is a concrete entity, and that's also the sense in which worlds made up of such entities are concrete worlds.

(This is a good time to Google-image-search 'wombat', if you haven't done so already. We'll meet you back here in a bit.)

However, it would be a mistake to identify the genuine worlds with those made up of concrete entities. When we turn to impossible worlds, we will need to make room for worlds which differ on mathematical and logical facts. Such facts, and the entities they **(p.44)** concern, are typically viewed by philosophers as being non-causal and located outside time and space. We might, for example, have cause to consider the impossibility that 3,456 is the largest natural number. The genuine realist won't analyse this impossibility in terms of a concrete world which has the number 3,456 as a concrete part. The intuition is: even if 3,456 were the largest natural number, it would still be an abstract mathematical entity. So we shouldn't identify the genuine worlds as those that are concrete. (Note that this problem doesn't arise with the unextended view. Possible worlds never differ over logical or mathematical facts, and so, on the unextended view, mathematical and logical entities don't need to be treated as parts of worlds at all.)

For a better analysis of 'genuine', let's return to our talking wombat world. It's genuine just in case it contains a real talking wombat. It represents the existence of a talking wombat by having a real talking wombat as a part. Similarly, a genuine world represents that 3,456 is the largest natural number by having 3,456, but no larger natural number, as a part. GENUINENESS is a matter of how a world represents, not of whether it is a concrete or an abstract entity. Worlds that do not represent genuinely are *ersatz* worlds. The key distinction between genuine and ersatz (non-genuine) worlds concerns how those worlds represent. Genuine worlds represent (*de dicto*) possibilities and impossibilities directly, by having them as parts. Non-genuine ersatz worlds represent them in some other way.

Now let's take a look at some of the theories falling under the banner of genuine realism. We'll begin with unextended views covering just the possible worlds, and then see whether they can be extended to cover impossible worlds.

Lewisian Realism

Lewis (1986b) views possible worlds as wholes, each unconnected in space and time from the others, whose parts are themselves concrete entities located in space and time. Take any spatiotemporal entity, and take all those entities related to it in space and time. All of those taken together make for a possible world. So for each world, every **(p.45)** part of it is spatiotemporally related to every other part of it, but not to any part of any other world.

The answer to our GENUINENESS question, on this view, is that non-actual worlds differ from the actual one only in terms of what goes on at them, not in kind. Indeed, the actual world has no ontological privilege in this modal metaphysics. According to Lewis, 'actual' works like an indexical expression. Just like 'here' and 'now' refer to the place and time of utterance, so does 'actual' refer to the world of utterance. The possibility of there being talking wombats is represented by some non-actual world including talking wombats as parts. From our own viewpoint, those chatty wombats are non-actual *possibilia*: things that lack actual existence. But from their viewpoint, they are the actual folks, and we are non-actual *possibilia*.

This approach gives Lewis a reductive definition of *possible world*. According to him, one main advantage of genuine modal realism is in providing an extensional, non-modal account of modal notions. Take a (non-world-indexed) definition of absolute (*de dicto*) possibility as unrestricted quantification over possible worlds:

$$(P) \Diamond A \text{ is true iff } A \text{ is true at some world } w$$

Whether this equivalence provides a reduction of possibility to non-modal concepts depends on whether the notion of *world*, involved in the quantification on the right hand side, is itself modal. Lewisian possible worlds - maximal

mereological sums of concrete, spatiotemporally connected entities – are wholly extensional. And if certain Lewisian criticisms of ersatzism from his (1986b) are right, then each ersatz account of worlds on the market may have to resort to primitive intensional entities (such as propositions) and to primitive modal notions. We will return to this issue in Chapter 3, where we investigate ersatz theories in detail.

It is controversial whether Lewisian modal realism *can* indeed provide an accurate, reductive, non-modal account of modal notions (Divers and Melia 2002). Even if it can, this advantage is put at stake by adding genuine impossible worlds. Once such worlds enter the stage, (P) becomes false from right to left, insofar as the quantifier **(p.46)** on the right ranges over all worlds. One then needs a principled way to restrict that quantifier to possible worlds. Achieving this without resorting to primitive modal notions can be a tricky issue. The Lewisian reductive definition of *possible world* won't work for impossible worlds, because (as discussed above) these need to include non-spatiotemporal entities, such as mathematical entities. So, in extending the account to include impossible worlds, one may have to give up on this reductive ambition. The view would then say that worlds are wholes, with both spatiotemporal and non-spatiotemporal entities as parts.

It's not even clear that we can assume that the spatiotemporal portion of a world will include any entity spatiotemporally connected to any other part of that world. Such worlds are *spatiotemporally maximal*. It seems impossible for reality not to be spatiotemporally maximal. But then, there will be genuine impossible worlds which aren't spatiotemporally maximal.

There is an even more serious worry for the extended Lewisian approach, however. Lewisian worlds (possible or impossible) obey:

(EXPORTATION) If world w represents something as being F , then something is F (simpliciter).

To see why this is so, suppose Lewisian world w represents something as being F . Then, by definition, w contains an F as a part. As w is part of reality, by the (fairly uncontroversial) transitivity of parthood, that F too is part of reality. It exists, full stop, in just the same sense that the city of Nottingham exists. Because Lewisian worlds are genuine worlds, representing possibilities directly by having them as parts, the represented objects are really out there.

The exportation principle is problematic for any account of impossible worlds, as Lewis remarks in a famous footnote (Lewis 1986b, 7, fn 3). Exporting merely possible entities or states of affairs from genuine possible worlds lumbers us with a large and counterintuitive, but still consistent ontology. (Let's bracket any inconsistency worries raised by the specifics of Lewis's theory. See **(p.47)** Jago 2016 for discussion.) Exporting impossible entities or states of affairs from

genuine impossible worlds, by contrast, drags us into contradiction. There is an impossible world at which there is a round square. If that world is genuine and we can export from genuine worlds, then there really is an entity which is both round and square. But it is a necessary truth that no square is round (that's why the round square was impossible to begin with!), and so our exported round entity is also not round. Consequently, it both is and is not round: contradiction.

Generalizing on this point, 'at world w ' will distribute across conjunction and negation when w is a genuine world. That's because a genuine world w represents something as being $F \wedge G$ by containing a part that's both F and G ; and it represents something as being F iff it has a part that's F . So, in particular, to represent something as being such that $Fx \wedge \neg Fx$, w must contain a part that both is and is not F . World w represents that thing as being F . But since that thing is also not F , it's false that world w represents it as being F . That's a straightforward contradiction: 'at w , $Fx \wedge \neg(\text{at } w, Fx)$ '. Lewis presents this argument as part of his reason for having no use for genuine impossible worlds in the first place. It will not help to claim that one can speak truly by contradicting oneself (only) when the subject matter is an impossibility (Yagisawa 1988): we are still committed to there being true contradictions, which is an unwelcome conclusion to anyone who is not a dialetheist, à la Priest (1987).

Yagisawaian Realism

Yagisawa (2010) gives an alternative to the Lewisian view of worlds. His account is particularly interesting for our purposes, because he focuses explicitly on impossible worlds. Yagisawa treats modality much as *four-dimensionalists* treat temporal matters. On the latter view, entities exist and have properties at a time t by having *temporal stages* at time t which have those properties. Lenny is Schnauzer-shaped this Monday in virtue of having a Schnauzer-shaped this-Monday-stage; he was once a puppy in virtue of having a past **(p.48)** puppy-stage; and he is always adorable in virtue of all his temporal stages being adorable.

Similarly, says Yagisawa, entities exist and have properties at a world w by having *modal stages* at world w which have those properties. Lenny is actually Schnauzer-shaped in virtue of having a Schnauzer-shaped actual-stage; he could have been portly in virtue of having a (merely) possible portly world-stage; and he is necessarily canine because all of his world-stages are canine.

We're unsure whether this approach avoids the exportation worry. (The following draws on Jago 2013a.) In the temporal case, some temporally extended entity such as Lenny has properties-at-time- t in virtue of having t -stages with those properties. This reduces Lenny's properties-at-a-time to properties had by his

temporal stages. His Monday-stage is Schnauzer-shaped, simpliciter; that stage is intrinsically Schnauzer-shaped.

Similarly, in the modal case, Lenny has properties-at-world-*w* in virtue of having *w*-stages with those properties. His *w*-stage is portly, simpliciter; that stage is intrinsically portly, even though Lenny (the collection of all his stages) is not. So the possibility of Lenny's being a portly Schnauzer entails that there is a portly Schnauzer stage, perhaps not actually, but out there somewhere in modal space. That stage is intrinsically portly and not merely portly-at-*w* (for some world *w* or other). But by the same token, the impossibility of Lenny's being a portly-and-slim Schnauzer entails that there is an intrinsically portly-and-slim Schnauzer stage, certainly not actually, but out there somewhere in modal space. We can truly say that that stage of Lenny is both portly and not portly: we have not avoided contradiction.

Yagisawa (2015) responds to this objection on the grounds that

It is integral to [extended genuine realism] that predications in modal metaphysics be made with careful attention to ... modal tense ... on verbs in discourse concerning goings-on at worlds and goings-on in modal space at large.

(Yagisawa 2015, 319)

He describes four modal tenses: 'actuality tense, mere-possibility tense, (metaphysical) impossibility tense, and a modal tense specifically **(p.49)** for predications concerning modal space at large' (Yagisawa 2015, 319). The idea is that facts about Lenny's contradictory impossible-world stage are expressed using the impossibility tense, from which (according to Yagisawa) we cannot infer contradictions simpliciter.

This is a complex proposal, and we shan't evaluate it in detail. We'll merely note that whether Yagisawa's approach really does avoid the worry depends on what we are allowed to express in the 'modal space at large' tense (which Yagisawa marks with an '*m*' subscript). This is the tense in which we express what modal space at large looks like: it contains possible and impossible worlds, with modal stages of individuals at those worlds. Such facts are expressed in the *m*-tense. Since we express the existence of those worlds and the modal stages at them in the *m*-tense, it is natural also to express facts about those worlds and states in that tense.

If so, we'll be able to express the existence of the Lenny-stage that both is and is not portly in that tense. But then, Yagisawa's story about modal space is itself contradictory, which is precisely what he wants to avoid. If, however, facts about Lenny's impossible world-stages may be expressed only in the impossibility-

tense, then this argument will not go through. It is clearly no objection to the account that impossible words are contradictory!

McDanielian Realism

One way to avoid EXPORTATION is to deny that entities like Lenny have this or that property simpliciter. Rather, on this approach, they will have some properties relative to one world, but different properties relative to other worlds. So, rather than asking what Lenny is like in and of himself, we will need to ask what he is like at this or that specific world. So we can say that Lenny is portly relative to world w , but not portly relative to w_1 . He then has the relational properties, *being portly-at- w* and *being not-portly-at- w_1* . These properties are not in conflict with one another (since $w \neq w_1$), and so no contradiction arises. McDaniel (2004) defends a view along these lines, sometimes called *modal realism with overlap*. (Transposed to the temporal case, this is similar to the *three-dimensionalist* view.)

(p.50) Although McDaniel focuses only on possible worlds, the view is interesting from an impossible worlds perspective, because it blocks EXPORTATION. If Lenny is both portly and not portly at an impossible world w , then he has the property of *being both portly and not portly at world w* . But we can't infer from this that Lenny is and is not some specific way. It does not follow, for example, that he both possesses and does not possess *being portly-at- w* . World w is an impossible world, remember, and so there is no guarantee that *being not- F -at- w* amounts to lacking the property *being F -at- w* . So the argument to contradiction we discussed above is blocked, on this view.

There is a problem, however, in attempting to extend McDaniel's view to incorporate impossible worlds. (Here we draw on Jago 2014a.) It cannot be the case that Iggy Pop is a singer but James Newell Osterberg isn't (since Osterberg is Iggy Pop). That's impossible. So there is an impossible world w according to which Iggy Pop but not Osterberg is a singer.

On the current analysis, that is to say that Iggy Pop, but not Osterberg, bears the *being a singer* relation to world w . Then Iggy Pop bears a relation to w which Osterberg does not bear to w and hence, by Leibniz's law, Iggy Pop and Osterberg are not identical, simpliciter. (Note that our use of Leibniz's Law here is in an extensional context, in which we consider relations between an individual and a world.) But this is absurd, for Osterberg is Iggy Pop! On that basis, it seems difficult to extend McDaniel's account to include impossible worlds.

Lewisian, Yagisawaian, and McDanielian realism all have trouble with impossible worlds, although the problems for Yagisawa's view may not be insoluble. Perhaps this suggests that we should treat possible and impossible worlds

differently. We consider that option in §2.5. Before that, we'll consider alternative answers to EXISTENCE and GENUINENESS.

(p.51) 2.3 Non-existent Worlds

In this section we use material from Berto and Plebani 2015, chapter 7. As we claimed above, the question of REALISM may or may not be distinct from the question of EXISTENCE, depending on one's view of what existence is (or of how existence claims are best expressed). If one takes the notion of existence to be best expressed by quantified statements, as Quine (1948) did, then genuine uses of quantification over non-actual worlds will involve commitment to the existence of non-actual worlds.

One could, however, subscribe to a different notion of existence. One could take existence to be a *real property* in the Kantian sense: a genuine feature that some things have, but others lack. If some things do not exist, then existence will not be captured by the quantifier. In this way, one can be a realist about non-actual worlds without automatically committing to their existence. In this setting, the questions of REALISM and EXISTENCE come apart.

The view that some things do not exist is nowadays often labelled as 'Meinongianism', after Meinong (1904). (See Jacqueline 1996, Parsons 1980, Routley 1980, Zalta 1983) Meinongians distinguish the *Sein* of objects – their existential status – from their *Sosein* – their having features or properties. Things can bear properties even when their existential status is *none*, when they lack the feature of existing. The view is sometimes interpreted as making a distinction between *being* and *existence*. In this interpretation, it is granted that whatever is quantified over in literally true sentences must have some being (after all, it is claimed that there *are* things which are such-and-such), though it may lack that more accomplished way of being we ordinarily call existence.

However, several Meinongians, including Berto (2012) and Priest (2016b), deny any such distinction between being and existing: they claim that some things have no being-or-existence whatsoever (and if there are different ways of being or of existing, some things have none of them). As for the verb 'to be' showing up in 'there are', they claim that it is accidental to quantification: its appearing in some of **(p.52)** the quantificational expressions we use in ordinary language lends thin linguistic support to the thick ontological view that whatever we quantify over must have being.

English also uses 'some', where the verb 'to be' does not appear. German often uses *es gibt*, but we would hardly infer that Germans ascribe *giving*, or *being given*, to what they quantify over. French often uses *il y a*, which includes the other auxiliary verb, 'to have', but we would hardly infer that the French ascribe *having* to what they quantify over. Besides, we use 'there is' in locative constructions where 'exists' make no sense, which casts doubts on their synonymy. Compare, 'there was a girl in the office this morning; while she was

there, she was looking for you' with 'a girl existed in the office this morning; while she was existing there, she was looking for you'.

What kinds of things can lack existence? The most straightforward candidates have traditionally been fictional objects: things described in tales, stories, fantasy novels, like Sherlock Holmes, Heathcliff, Gandalf, and Phlebas the Phoenician (we will come back to them in Chapter 11). Other candidates come from temporal and modal considerations: past existents like Heraclitus (he does not currently exist, though he does still bear features, like being Heraclitus, or being admired, or being obscure and often misinterpreted); future existents like the first newborn of the twenty-second century; or merely possible objects lacking actual existence, like Wittgenstein's daughter (Wittgenstein died childless, but he could have had a daughter), or the eight-legged dog statue that could have been made from the marble out of which Michelangelo actually sculpted David.

Parsons (1980) and Priest (2005) propose that worlds be understood as nonexistent objects. Of all the worlds, just one, these physical surroundings of ours, has the feature of existing. All the others lack it. One way to mark the difference between what is actual and what is not, while leaving room for the non-actual, is to identify the actual with the existent. One can then claim that existence (and so actuality) is not all there is. Non-actual worlds are nonexistent objects which are, in some sense, maximal. Priest's (2005) Meinongian account comes endowed with both possible and impossible worlds.

(p.53) Some worry that nonexistents (including nonexistent worlds) have no clear identity conditions, and that we cannot know about such entities as they are devoid of spacetime location and causal powers. But these difficulties also apply to other realist accounts of worlds. Usually ersatz accounts (§2.4 and Chapter 3) have it that worlds are abstract objects. If they are constructions out of propositions or maximal property-like entities, then a rigid Quinean may ask for plausible identity criteria for things of these kinds before accepting ersatz worlds. (For an extended discussion of identity criteria for nonexistent objects, see Berto 2012, part II and chapter 8.) Abstract objects are also devoid of causal powers and spatial location. On the other hand, Lewisian genuine possible worlds are concrete, but by definition causally and spatiotemporally isolated from one another and from us. So epistemic access to worlds is problematic whether they are Lewisian, abstract, or nonexistent. Overall, it is not clear that a Meinongian view of worlds as nonexistents is worse off than other realist accounts.

Priest argues that modal facts can be known, on the Meinongian view of worlds, largely by stipulation and imaginative exercise. This, he claims, is similar to how we know things about nonexistent fictional characters. Conan Doyle was free to stipulate that Holmes lived in Baker Street, rather than Oxford Street (Priest

2008, 31). Similarly, we can stipulate worlds that are particular ways: for instance, such that Trump lost the US presidential election. Just as we can stipulate that Holmes lived in Baker Street, so can we stipulate that Hobbes squared the circle. But a world where one can square the circle with ruler and compass is not a possible world. So stipulation can give us nonexistent worlds that represent possibilities and impossibilities. How do we know which is which? That is a difficult question of modal epistemology, but it might be that answering it is no more problematic than for other views.

What is harder for the Meinongian view, we submit, is to give a precise explanation of how worlds represent (or realize) possibilities and impossibilities. The Meinongian view complicates the issues surrounding GENUINENESS. In a sense, there is a metaphysical (or, **(p.54)** ontological) difference between the actual world, which exists, and the rest, which do not. But given how Meinongians understand existence, this does not tell us anything about how nonexistent worlds represent what they represent.

It is difficult to defend the view that nonexistent worlds can represent as genuine worlds, that is, by realizing the relevant possibility or impossibility as a part. Some problems for this view look similar to the ones examined above for genuine realism, having to do with the EXPORTATION principle. A genuine nonexistent impossible world would represent there being round squares by having real round squares as parts. Those round squares are nonexistent, but they really are both round and square. So the Meinongian who takes this stance is committed to move from asserting 'world *w* represents something as being round and square' to asserting 'something is both round and square'. In other words, she is committed to EXPORTATION, just as Lewisians are, and so it stuck with true contradictions. (This may be no problem for dialetheists such as Priest (1987), but it is for anyone who aims for a consistent metaphysics of worlds.)

One may ask what it means for a nonexistent entity to have parts. The idea of parthood is most intuitive when it involves concrete existents, such as this table having its legs as parts. One could gesture to an answer by claiming that parthood relations make sense for abstract objects (as in, 'the antecedent is part of the conditional'), which also lack spatial features. But it is an open issue to what extent this is more than a metaphor. (What does 'part' really mean when we say that writing accurate reviews is part of being a good referee?)

Another worry is that we want worlds to represent things as existing. For a genuine world to represent something as existing – Wittgenstein's sister, say – is to have a sister of Wittgenstein's as an existing part. But how can a wholly nonexistent world have a part which exists? Moreover, given EXPORTATION for genuine Meinongian worlds, that sister of Wittgenstein exists, simpliciter. But this undermines talk of taking mere possibilia to be nonexistent entities. One may think that we should not infer from the existence of the parts to existence of

the whole. In general, it's fallacious to infer a **(p.55)** property F of the whole from its parts being F s. (Thanks to Graham Priest for suggesting this move.) However, a whole with an existent part is surely something that *in part* exists, whereas a Meinongian should say that her worlds are wholly nonexistent entities.

Given these worries, one may think that nonexistent worlds had better represent as ersatz worlds, without realizing the relevant possibilities or impossibilities. (We'll discuss ersatz approaches in §2.4 and then again in Chapter 3.) Nonexistents are often invoked as representational targets: we seem to be able to speak about them, quantify over them, and also to intend them in our thoughts (Crane 2013). Nonexistents are introduced as what is represented, rather than as what does the representing. An associated account of representation is lacking. This is not a refutation of such Meinongian approaches to worlds as nonexistents, but a challenge to be addressed.

2.4 Ersatz Modal Realism

On our understanding of what it takes for a world to be genuine, it must represent the existence of an F by having an F as a part. Such worlds represent the existence of a talking wombat by having a real talking wombat as a part. Ersatz worlds, by contrast, represent the existence of an F in some other way. We are using 'ersatz world' as a catch-all term, to cover worlds which represent such-and-such, not in the way genuine worlds do. To get a sense of how this might go, consider how a story represents some event. It does so by being composed of sentences of some language, whose meaning conveys that such-and-such happened. It's clear that the story can exist even if the things and events it describes do not, and never have: that's what it is to be a fiction. We have no ontological trouble with stories of hobbits, insofar as we can make sense of them without thereby committing ourselves to the existence of hobbits.

We can think of worlds on that model. They exist, and they represent such-and-such as existing and as being certain ways. But they don't represent those things being those ways by having those **(p.56)** things being those ways as parts. So we should feel no urge to infer from the existence of those representations, of hobbits, say, to the existence of hobbits.

In general, when the relevant world w is ersatz, EXPORTATION will not hold. This helps especially with impossible worlds: w can consistently represent inconsistencies, such as *that x is both F and not- F* , without implying the reality of any such x . This approach, *ersatz modal realism*, is thus compatible with *actualism* in metaphysics: the view that nothing exists but what actually exists. In particular, ersatzists say that their worlds, and all their constituents, actually exist and are part of the actual reality surrounding us. (Again, compare the situation with stories. Their constituents are the words that make them up, all of which actually exist.)

How can our world include a plurality of worlds within itself? There seems to be insufficient room in actuality for that! The standard ersatzist reply (Divers 2002, chapter 10) consists in distinguishing between (a) actuality, this reality surrounding us and which, for actualists, is everything there is; and (b) what is *actualized*. Of the various representations of how things could have been, one stands out as representing actuality precisely as it is, and this is the one which is actualized.

Ersatz modal realism can then analyse possibility and necessity in the standard way, as existential and universal quantification over possible worlds, respectively (§1.2). Ersatzists typically take their worlds to be abstract entities: maximal properties, or sets of sentences or propositions. (We will get to the details in Chapter 3.) In this way, ersatzists typically have the resources to include impossible as well as possible worlds in their ontological toolkit, for example, as sets of ‘worldmaking’ sentences which include both A and $\neg A$. This encourages a positive reply to the PARITY question. Once one has the relevant abstract objects at one’s disposal, one can put them to work in the representation of impossibilities as well as possibilities, at no extra ontological cost. (Just as one can put a storytelling language to work to compose stories that speak of impossible as well as possible happenings.)

(p.57) Now go back to the project of giving a reduction of modal notions to purely extensional ones. Taking again our clause for unrestricted possibility:

(P) $\diamond A$ is true iff A is true at some world w

How should we delimit the quantification on the right-hand side, so that it ranges only over ersatz *possible* worlds? This seems hard to achieve if worlds are constructions out of abstract entities such as properties, propositions, or sentences. A widespread answer among ersatzists consists in biting the bullet (Vander Laan 1997). This approach accepts that no complete and accurate reduction of modal notions to non-modal ones is feasible. Nevertheless, say the defenders of this approach, conceptual elucidation may come from an analysis given in other, allegedly better understood, notions – even if they are modal concepts. This answer can be paired with a *tu quoque* argument, showing that genuine realism too cannot achieve a fully extensional modal reduction (Divers and Melia 2002).

The big question for ersatzists is: *how* do ersatz worlds represent such-and-such as being the case? Different answers give us different versions of ersatz modal realism. Here are some ways to represent *that A*:

(STATE) By using a state of affairs of a certain kind.

(PROPERTY) By using a property reality would have, were things such that A ;

(COMBINATORIAL) By taking objects and properties which, if recombined in a given way, would make it the case that *A*;

(MAP) By using a map, picture, or image which depicts things being such that *A*;

(PROPOSITIONAL) By using the proposition or some other content-carrying entity *that A*;

(LINGUISTIC) By using bits of language, whose meaning is *that A*;

(p.58) (PRIMITIVE) By taking the relevant representation to be a basic, unanalysable feature.

Each of these ways of representing that *A* gives us a form of ersatz modal realism: we'll call them *property ersatzism*, *combinatorial ersatzism*, *map ersatzism*, and so on. Ersatz modal realism, in its various guises, provides a rich resource for theorizing about possibilities and impossibilities. Because of the range of options available, we're going to postpone discussion of the various ersatz accounts until Chapter 3, which will be wholly dedicated to evaluating the approaches in detail.

We're unsure whether the final option just mentioned, *primitive ersatzism*, should be counted as a form of ersatz modal realism at all. To be sure, it's a realist view without genuine worlds: in that sense, it's a form of ersatzism. The source of our hesitation is that it refuses to answer the central question for ersatzists, 'how do worlds represent?' We'll treat this option as a separate account, in §2.7 below. Before that, we'll quickly examine a metaphysics of worlds which is intermediate between the genuine and ersatz approaches.

2.5 The Hybrid View

Hybrid modal realism endorses a hybrid view of what possible and impossible worlds are and of how they represent. It gives a negative answer to our fourth metaphysical question, PARITY, and denies what Priest (1997b) and Rescher and Brandom (1980) call the *Parity Thesis*. Possible and impossible worlds are not on a par metaphysically: the answer to at least one of our previous three questions is different, depending on whether we're talking about possible or impossible worlds. The view is defended in Berto 2010, following suggestions from Divers (2002, Chapter 5) and Kiourti (2010, Chapter 3).

According to hybrid modal realism, both possible and impossible worlds are real and both exist. (That answers REALISM and EXISTENCE.) However, they represent in different ways (GENUINENESS). **(p.59)** Possible worlds are taken as concrete, genuine Lewisian worlds with their real inhabitants, the Lewisian *possibilia*. Impossibilities are represented by set-theoretic constructions from genuine worlds. Genuine worlds represent possibilities by realizing them,

whereas impossible worlds are ersatz set-theoretic constructions. They represent impossibilities without realizing them. All possibilities really exist out there in some disconnected spacetime. But there are no real impossibilities, only set-theoretic constructions which merely represent ways things could not have been.

Berto (2010) shows that the hybrid account can distinguish between certain impossible propositions, such as *that swans are black and not black* and *that John is a married bachelor*. The former is a partition on possible worlds, into those where swans are black and those where swans are not black. The latter is a partition on possible worlds, into those where John is a bachelor and those where he is married. Since these are distinct partitions, we have distinct propositions.

The hybrid account also avoids resorting to primitive modality (at least to the extent that Lewisian modal realism does). It is a fully extensional ontology of genuine Lewisian worlds and sets. In our clause for possibility (P), $\Diamond A$ is true iff A is true at some world w , we take the quantification on the right-hand side to range over the genuine Lewisian worlds only. Since these are characterized extensionally (as maximal mereological sums of spatiotemporally related *concreta*), this restriction of the quantifier doesn't resort to any primitive modal notions.

Like other accounts which use ersatz impossible worlds, hybrid modal realism has no problem with the EXPORTATION principle. Inconsistencies and impossibilities at impossible worlds do not spill over into the actual world, nor into any genuine possible world. Impossible worlds are world-stories: abstract set-theoretic constructions. 'At impossible world w , A ' means 'according to ersatz-world-story w , A '. From the fact that, according to ersatz world w , A and not- A , it does not follow that: according to w , A and it is not the case that according to w , A .

(p.60) Hybrid modal realism has other problems, though. One is that it asks us to buy the Lewisian ontology of infinitely many concrete disconnected spacetimes and *possibilia* inhabiting them. Few have accepted such an ontology. Perhaps the most resilient attitude towards Lewisian modal realism is what Lewis himself called 'the incredulous stare'. In spite of Lewis's (1986b) rebuttal of several objections, philosophers remain unconvinced.

Another problem is the extent to which the account can be developed, in order to make all the hyperintensional distinctions we may want to make. (Here we draw on Jago 2014a, 110–12.) In its current form, hybrid modal realism can discriminate between absolute impossibilities on the basis of logical propositional structure. But what about non-logical impossibilities? Hybrid modal realism cannot distinguish between the propositions *that Hesperus is the*

second planet from the Sun and that *Phosphorus is the second planet from the Sun*. Since (necessarily) Hesperus is Phosphorus, there is but one planet from which to construct ersatz impossible worlds. So no impossible world contains Hesperus but not Phosphorus, and no impossible world says that Hesperus is not Phosphorus. Yet we want impossible worlds which do distinguish Hesperus from Phosphorus. After all, people believed they were distinct. One may believe herself to be looking at Hesperus but not Phosphorus (or perhaps, she has no particular attitude towards Phosphorus at all).

These worries apply to the specific version of hybrid modal realism presented in Berto 2010. But the idea behind the approach is much more general (see Reinert 2018 for an insightful discussion): start with Lewisian possible worlds, and from them construct ersatz impossible worlds. Different ways of achieving the construction give different versions of hybrid modal realism. If any actualist ersatz approach can be made to work, then hybrid modal realism can too, since it has all the actualist's ontological resources (and then some).

Perhaps what's really at stake in the debate over hybrid modal realism is the issue of modal reduction. This is the hybrid modal realist's key advantage over actualist ersatz accounts. If it turns out that actualist ersatz accounts can define 'possible world' using **(p.61)** only non-modal concepts, or if it turns out that so doing isn't that important, then hybrid modal realism loses its trump card. But otherwise, the view is appealing.

2.6 Encoding Worlds

We've discussed both genuine and ersatz accounts of worlds, distinguished by asking whether worlds represent, say, the existence of a talking wombat by containing a talking wombat. Genuine worlds that represent (*de dicto*) *that A* are such that *A*; whereas ersatz worlds may represent *that A* without being such that *A*.

In Zalta's powerful *abstract object theory* (Zalta 1983, 1997), however, 'being such that' is ambiguous. More generally, saying that some object *o* is *F* is ambiguous. This approach is interesting for our purposes, for it offers a conception of possible and impossible worlds which promises to capture some of the advantages of genuine worlds, but without the pitfalls we discuss in §2.2. (Berto and Plebani (2015, chapter 7) give an introduction to Zalta's view.)

Zalta's central claim is that '*o* is *F*' is ambiguous, between (i) *o*'s *exemplifying* (or *possessing*, or *instantiating*) property *F*; and (ii) *o*'s *encoding F*. Encoding is a primitive notion, and applies only to abstract (non-spatiotemporal and non-mental) objects. For an abstract object to encode a property means, roughly, that that object is partly defined in terms of, or determined by, that property. Abstract objects both exemplify and encode properties, and may encode properties they do not exemplify and vice versa.

Within this theory, *situations* are defined as abstract objects that encode states of affairs, taken in their turn as 0-ary properties, of the form *being such that* —. Worlds are maximal situations (encoding, for each *A*, either the state of affairs *that A* or *that* $\neg A$). Those that could obtain are the possible worlds, and those that remain are the impossible worlds.

This characterization of worlds bears some similarity to (our version of) Plantinga's approach, which we'll discuss in §3.2. On **(p.62)** Plantinga's approach, worlds are identified maximal states of affairs, whereas on Zalta's, worlds are abstract entities which maximally encode states of affairs. So much of what we'll say about the features of Plantinga's approach in §3.2 applies to Zalta's approach as well.

Zalta (1997) is keen to emphasize that his is not an ersatz conception of worlds (even though they are abstract entities). A given state of affairs, *that A*, obtains at world *w* (possible, or not) when *w* encodes the property *being such that A*. And something is such that *A* (at *w*) just in case the state of affairs *that A* obtains (at *w*). In the encoding sense of 'is', a world *w* which encodes *being such that A* is indeed such that *A*. So, on the 'encoding' disambiguation of 'is', Zalta's worlds are genuine worlds. But on the 'exemplification' disambiguation of 'is', they are not.

To illustrate the point: all possible worlds exemplify *being abstract*, but may encode *being concrete*. None exemplify *being such that there is a talking wombat*, else we could infer the existence of that clever marsupial. But some encode this property, for there could have been a talking wombat.

With the notion of encoding, Zalta's theory has a unique take on how worlds represent possibilities and impossibilities. Unlike the genuine worlds discussed above, Zalta's talking-wombat-world does not have a talking wombat as a part. Abstract objects do not have concrete things as parts. And, unlike many of the ersatz worlds we'll discuss in Chapter 3, Zalta's worlds are not constructed by representational entities.

Zalta's object theory is designed to deliver a wide range of benefits, including a theory of mathematical entities. The account of worlds is something of a by-product of the overall theory. To evaluate the approach properly, we'd need to assess its benefits across those areas. In particular, we'd need to assess whether those benefits justify treating 'is' as ambiguous. But that's well beyond the scope of our discussion here. We'll merely note that positing an ambiguity, with little or no linguistic evidence, is always hard to justify.

To highlight the worry, consider some reasoning involving 'is': Lenny is barking; therefore, something is barking. That seems a priori **(p.63)** valid. But if it is, then the 'is' here cannot have the 'encoding' reading, for that reading would not support the inference. (Recall that some worlds encode *being such that there is*

a talking wombat, but we cannot infer that something is such that there is a talking wombat.) And if an ordinary use of 'is' like this one cannot have the 'encoding' reading, then positing a general ambiguity looks a doubtful move.

Another way to bring out the worry is by noting that encoding is entirely unconstrained. An object can encode, say, *being maroon* without thereby encoding *being red*. Absent this flexibility, the theory could not deliver impossible worlds. But this is further evidence that *encoding F* is not a viable reading of 'is F'. For if something is maroon, there's no escaping that it's red.

There are also worries about the notion of encoding itself. Byrd (1986, 247) argues that Zalta's 'dual predication view must face the task of giving a satisfactory account of the notion of encoding'. He questions whether a 'non-pictorial understanding can be articulated of the conditions under which 'o encodes F' is true' (1986, 247). But that seems unfair to Zalta. *Encoding* is a primitive of his theory, so one can hardly ask for a definition. The choice of primitives is vindicated if the theory's successful applications reach far enough, and Zalta's approach certainly has wide scope (Zalta 1983, 1988).

A more pressing concern is that the facts about what properties an object encodes seem entirely ungrounded. When an object encodes, say, *being red*, there is no reason why it does so. It just does. We cannot say that it encodes *being red* because it encodes *being maroon*, or *being scarlet*, or some other determinate of red. It may encode no determinate of red at all. It is a primitive, unanalysable fact that that object encodes *being red*.

Similarly, when a world encodes *that A*, there is no reason why it does so. It's a metaphysically basic fact about a world that it encodes what it does. It's not even that a Zalta world encodes *that A* \wedge *B* in virtue of encoding both *that A* and *that B*, since some (impossible) worlds encode *that A* \wedge *B* but neither *that A* nor *that B*.

Zalta's approach to worlds seems to be a form of *primitivism* (which we'll discuss in §2.7). On such accounts, there's no story to **(p.64)** be told about why they represent (or encode) what they represent (or encode). They just do, and that's all we can say on the matter. We'll offer objections to that approach in §2.7. Zalta's approach adds a further worry, in that it's more theoretically complex than straightforward primitivism. It involves postulating the notion of *encoding*, as well as a claim about 'is' being ambiguous. But if this approach to worlds is at bottom a primitivist one, what would be lost, specifically in the theory of worlds, by simply stipulating that some worlds exist, which primitively represent that such-and-such?

2.7 Primitivism about Worlds

Primitivism about worlds says that there's no informative answer to the question, 'how do worlds represent?' Rather, worlds represent what they represent, and that's all we can say on the matter. There is no further theory to give of how or why a given world represents what it represents. Facts such as *that world w represents that A* are primitive facts: they are 'metaphysical bedrock'.

Primitivism about worldly representation is a natural match for primitivism about the metaphysical structure, or nature, of worlds. On this view, worlds have no analysable structure. They don't have parts, or constituents. We might think of them as dimensionless 'points' in modal space. This is the view Lewis (1986b, §3.4) calls 'magical ersatzism'. (See also Lewis 1986a and Nolan 2005 for discussion.)

One might go for primitivism about worlds because one thinks questions about their nature (and about how and why they represent what they do) are bad questions. But we don't think this line is very plausible, given willingness to analyse metaphysical notions of possibility and necessity. We can offer all kinds of explanations about how, for example, natural languages, paintings, photographs and the like represent what they do. In general, the question, 'how (or why) does X represent that A?' is meaningful. Why should the case of worlds be any different?

(p.65) One might find motivation for primitivism about worlds from *quietism* about certain metaphysical questions. Quietists about a certain topic or question, such as moral truth or the ultimate nature of reality, don't look to provide a positive characterization of their subject matter. They deny that any such positive characterization is called for. That view naturally aligns with certain kinds of pragmatism (Macarthur 2008), although its supporters often find their inspiration in Wittgenstein (1953).

We don't think committed quietists should be primitivists about worlds. We're interested in the metaphysics of worlds because we're attempting to give a constructive analysis of metaphysical notions, including possibility and necessity, and perhaps of various notions of content, too. Neither pragmatist nor Wittgensteinian quietists will be attracted to this kind of constructive theorizing about those notions. Having gone in for constructive metaphysical theorizing, it's no good to then claim 'quietism!' whenever a tricky question arises.

A better motivation for primitivism, in our view, comes from the problems encountered in trying to answer the question, 'how does a world represent?' If none of the accounts surveyed above manage to give a satisfactory, informative answer, then primitivism becomes more attractive. On this approach, the question makes good sense, but has no informative answer.

Merricks (2015) offers an approach along these lines, but for propositions, not worlds. His view is that propositions are primitive, unanalysable entities, whose nature is to represent states of affairs, but for which there's no informative theory to be given of why they represent what they do. That's just what the primitivist about worlds says about worlds. Merricks's argumentative strategy is to consider each informative proposal (about propositions) in turn, arguing that all have irreparable problems. Primitivism then emerges that the last theory standing.

This comparison with Merricks's primitivism about propositions throws up an unexpected issue for the primitivist about worlds. Many of the issues we've encountered in our discussion of worlds have parallels in the literature on propositions. In particular, questions **(p.66)** about their constituents or structure, about how they represent what they do, and how these two facets interrelate, are central when discussing both worlds and propositions. Merricks's arguments in favour of primitivism about propositions, if they work at all, would seem to work just as well for primitivism about worlds.

So should one be a primitivist just about worlds, or just about propositions, or about both? Given primitivism about propositions (including facts about their modal and entailment properties), we have all we need to understand worlds in terms of propositions. But equally, given primitivism about worlds, we have all we need to understand propositions in terms of worlds. Why prefer one approach over the other? And yet being a primitivist about both worlds and propositions begins to look like a phobia against giving informative answers.

Our main issue with primitivism about worlds emerges from the following considerations. Take a complex representation, *that* $A \wedge B$. Primitivism, taken literally, denies any links between a world's representing *that* $A \wedge B$, representing *that* A , and representing *that* B . But that seems absurd. In order to theorize at all, we need to establish some link between conjunctions and their conjuncts. After all, conjunctions entail their conjuncts. That is a modal fact, and so needs to be accounted for in our theory of worlds.

A natural reply is that a world represents *that* $A \wedge B$ because it represents both *that* A and *that* B individually. But this forgets about impossible worlds. It is impossible for a conjunction, but not its conjuncts, to obtain. So we might infer that there's an impossible world representing *that* $A \wedge B$ but not *that* A . How so? The question is hard indeed, and it calls out for an answer.

To give a feel of what an answer might look like, we might claim that worlds somehow contain propositions, and so represent *that* A when they contain that very proposition. An impossible world representing *that* $A \wedge B$ but not *that* A would then be one which contains the conjunctive proposition but not its conjuncts. We mention this not because we think it best answers the question,

but because it shows what an answer may look like. Our point is **(p.67)** that, faced with the question of complex representations, we may begin to doubt the very coherence of impossible worlds. We require a theory of how they can represent (e.g.) conjunctions but not the conjuncts. Replying ‘they do so primitively’ clearly will not assuage those worries.

Before moving on, we should note that, in a sense, the primitivist approach to worlds may be the implicit default in formal worlds-based semantics as practiced by many logicians, linguists, and computer scientists. They often endorse a practical instrumentalism, of the kind we hinted at at the end of §1.4, about what worlds are and how they represent. Worlds are treated as primitive points; a model is built by assigning atomic sentences randomly to worlds; and that’s it. That’s all fine, in a context where the aim is to investigate the logical properties of classes of such models. We shouldn’t have to answer all the metaphysical questions before doing any semantics: that would be hugely impractical. However, we should not confuse this attitude with an *argument* for metaphysical primitivism. The semantic approach will work (just about) whatever the metaphysics says about worlds, and so neither requires nor implies metaphysical primitivism.

2.8 Fictionalism

We’ll close this chapter with an anti-realist take on worlds, represented here by *fictionalism about worlds*. Fictionalism gives a negative answer to our initial question on REALISM. Recall (§2.1) that we’re using ‘realism’ to mean the view that we can talk about, refer to, and quantify over worlds, even when we’re being at our most metaphysically serious. We’re using ‘anti-realism’ for the view that we may use world-talk, but without ontological commitment to non-actual worlds.

Fictionalist strategies in ontology and metaphysics have gained popularity in recent years. (Berto and Plebani (2015, chapter 6) survey different approaches.) According to such strategies, claims **(p.68)** that seem to commit us to entities that may be, for whatever reason, controversial – abstract objects, mathematical entities, propositions, properties (or properties of a certain kind) – can be, as the fictionalist motto goes, ‘good without being true’ (Field 1989). Numbers, for instance, are useful for counting objects. If there are n things of a certain kind F , it is useful to speak as if there is a number, n , that counts them. Such talk can help us as a representational aid, or to shorten and facilitate communication and inference, although what it appears to be about is really no part of the furniture of the world.

To see how this might be possible in general, let’s switch the topic to moral properties as an example. Anti-realists in this area will typically say something like the following:

There are moral truths, such as *it is wrong to cause unnecessary harm intentionally*. However, literally speaking, there are no moral properties: it is literally false that there is such a thing as the property of *being morally wrong*. But we can engage in a moral fiction, according to which there are such properties. While it is literally true that causing unnecessary harm is morally wrong, it is only true in the fiction that the property of moral wrongness is possessed by such acts.

On this way of thinking, the moral anti-realist pretends ('in the fiction') that reality is as the moral realist says it is. When the fiction delivers a moral verdict, say that such-and-such is wrong, she treats those actions as being wrong. But all the *prima facie* ontologically committing claims (such as 'there is a property of moral wrongness') are true only within the fiction. Since being true within the fiction is not factive (it does not export to being true *simpliciter*), the anti-realist doesn't feel any pressure to commit to such properties.

The anti-realist may then align 'everyday' moral talk with her 'in the fiction' talk, and reserve her 'out of the fiction' talk for the kind of debate we typically engage in when doing metaphysics. (Note that this fictionalist isn't an *error theorist* about morality, in Mackie's (1977) sense. For, unlike Mackie, she allows for moral truth.)

This kind of move is appealing when the realist's metaphysics seems to deliver good results, but you can't quite bring yourself to accept **(p.69)** her ontological claims. So, for example, if you agree with Mackie that moral properties would be 'a very strange sort, utterly different from anything else in the universe' (1977, 38), then it's tempting to be a fictionalist about moral properties.

Similarly, you can engage in *modal fictionalism* (Rosen 1990). The name is a bit misleading: modal fictionalists are not fictionalists about modality, but rather about *worlds*. According to fictionalists, talk of (and quantification over) worlds should be understood as literally false: it is only true within a 'worlds fiction', which we make-believe because it gives useful results in the analysis of modal notions. (For a survey, see Nolan 2016a.)

To understand how the fiction might work, take the following passage:

There are countless other worlds ... The worlds are something like remote planets; except that most of them are much bigger than mere planets, and they are not remote. Neither are they nearby. They are not at any spatial distance whatever from here. They are not far in the past or future, nor for that matter near; they are not at any temporal distance whatever from now. They are isolated: there are no spatiotemporal relations at all between things that belong to different worlds. Nor does anything that happens at one world cause anything to happen at another. Nor do they overlap; they have no parts in common. ... The worlds are many and varied.

There are enough of them to afford worlds where (roughly speaking) I finish on schedule, or I write on behalf of impossibilia, or I do not exist, or there are no people at all, or the physical constants do not permit life, or totally different laws govern the doings of alien particles with alien properties. There are so many other worlds, in fact, that absolutely every way that a world could possibly be is a way that some world is.

(Lewis 1986b, 1)

You might be attracted to this ‘philosophers’ paradise’ of genuine Lewisian worlds, while being unable to bring yourself to believe in the real existence of talking wombats and other non-actual entities. Then it’s tempting to be a fictionalist about worlds, interpreting these Lewisian claims as true only within a worlds fiction.

(p.70) Modal fictionalism, as presented in Rosen (1990), has been understood as fictionalism about possible worlds. If it works, it seems that its extension to impossible worlds should be straightforward. After all, if modal fictionalism is right about possible worlds, there really are no such things (other than the actual one). One may add that it’s also true in the fiction that there are impossible worlds – but no worries, for in reality there are no such things. Similarly, it would have done no harm to *The Lord of the Rings* if Tolkien had added winged goblins to the population of Middle Earth, had the addition been useful to the overall plot.

How should we choose the right modal fiction? This is an issue raised by Sainsbury (2010, chapter 8). In the case of other forms of fictionalism, such as the one embedded in Field’s nominalistic reconstruction of mathematical discourse (Field 1980, 1989), there is one standard story, namely standard mathematics. In this case, we have a conservativeness constraint with respect to such story: only a fiction which is conservative with respect to the results of standard mathematics will be acceptable. In this case, established mathematical results provide the relevant constraints.

In the modal case, however, there is no standard worlds-story to tell. Fictionalism about worlds is probably most attractive when it takes a genuine realist account as its fiction. Rosen (1990), for example, formulates his modal fictionalism by taking Lewis’s *On the Plurality of Worlds* (1986b) as the relevant fiction. But what is the standard fiction for impossible worlds? Perhaps it is Yagisawa’s 2010; perhaps Priest’s 2016b. (The latter would be a somewhat strange choice for modal fictionalists, resulting in a fiction according to which some entities don’t exist!)

The point we wish to stress is that fictionalism, in and of itself, doesn’t propose any solution to the issues genuine realism faces with impossible worlds (§2.2). If those problems render genuine realism problematic, or even inconsistent, then

we can't base the fiction of worlds on genuine realism (Jago 2016, §8). An adequate account requires the fictionalist first to solve the genuine realist's problems with impossible worlds. That is no easy task.

(p.71) Fictionalists aim to get the advantages of realism about worlds, but without the ontological costs. Yet it is sometimes hard to tell just what the fictionalist's ontological beliefs are. She analyses modal talk based on what is true in the fiction. But within the fiction, worlds exist (in the most literal sense). So how is she to avoid saying that worlds exist, simpliciter? It might be that she uses her 'in the fiction' operator only for claims beginning 'it is possible that ...' or 'it is necessary that ...'. But 'it is necessary that there exist worlds' is true in the fiction and hence, she is forced to say, true simpliciter. But this entails that worlds exist! Fictionalists have to work hard to avoid this issue.

Another issue with fictionalism about worlds is that, if the worlds do not literally exist, then neither do constructions out of worlds. World-based theories often analyse propositions, meanings, subject matters, and other notions of semantic content, in terms of constructions from worlds. The fictionalist can do this too, in her fiction, but must say that, literally speaking, there are no such entities as propositions, meanings, or subject matters.

This may be a worrying conclusion to draw. If truth is a property which attaches to propositions, as many philosophers hold, but there are no propositions, then there are no truths. That can't be right. Similarly, some sentences have the same meaning: 'raccoons like to somersault' and 'procioni piace capriola' have the same meaning. But if they have the same meaning, then they have a meaning. Some thing is their meaning, shared between the two of them. This puts fictionalism about worlds in an awkward position. Either they deny that there are propositions, meanings, and so on, or else they accept that they exist and analyse them in some other way, without using worlds. But this undercuts much of the motivation for talking about worlds in the first place (§1.2).

(p.72) Chapter Summary

The metaphysics of possible and impossible worlds revolves around a number of questions (§2.1). Should we treat worlds as *genuine* entities, which represent something as being *F* by having an *F* as a part? This is a hard position to maintain in the case of impossible worlds (§2.2). Should we treat (non-actual) worlds as non-existent beings (§2.3)? Or should we think of them as abstract entities and, if so, what kind of abstract entity (2.4)? Should we give the same answer to these questions for possible and impossible worlds (§2.5)? Yet a further option is to distinguish two senses of 'is' – *encoding* vs *exemplifying* some property – and claim that impossible worlds encode without exemplifying impossibilities (§2.6).

We argued that all of these approaches face difficulties. If one thinks these difficulties are insuperable, one can always adopt the approach that worlds are primitive entities (§2.7). We argued that this is a difficult line to maintain. Another fallback position is *fictionalism* about world, on which truths about worlds are always given 'in the fiction' (§2.8).

Of all the views considered, the most promising seems to be the one which takes impossible worlds (and perhaps the non-actual possible worlds too) to be ersatz entities. There are many competing ways to understand this suggestion (§2.4). We'll devote the next chapter to discussing which, if any, of these approaches is the most promising.

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