

M. Jago, *The Impossible: An Essay on Hyperintensionality*, Oxford University Press, 2014, 312 pages. ISBN: 9780198709008. Hardback: £40.00/\$74.00.

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In his book *The Impossible: An Essay on Hyperintensionality*, Mark Jago is concerned with impossible contents. Much reasoning (especially philosophical reasoning) is about impossibilities. Yet standard theories of content in terms of possible worlds rule out meaningful thought about impossibilities. Jago's goal is to remedy this situation by developing a hyperintensional theory that allows us to draw fine-grained distinctions and enables us to make sense of impossible contents. In particular, he is concerned with avoiding a commitment to logical omniscience, wanting to make sense of bounded rationality, i.e. of rational yet non-ideal agents that satisfy various normative requirements without having to know/believe the consequences of all those things they know/believe, and thereby also make sense of the idea that deductive reasoning can be informative even though it can be broken down into small steps each of which is trivial.

According to Jago, there are two options of modifying the possible worlds approach: one can either add impossible worlds or one can add further structure. Jago argues against the structuralist alternative in chapter 3 and instead opts for extending the possible worlds framework by including impossible worlds. In chapters 4 and 5, he is concerned with the metaphysical status and nature of possible as well as impossible worlds. Jago endorses an ersatz view, in particular a linguistic form of ersatzism (since he argues that the pictorial approach runs into difficulties when it comes to representing impossibilities). Given his ersatzist commitments, he is faced with the problem of accounting for alien properties as well as alien individuals, i.e. properties as well as particulars that do not actually exist but could have existed.

In chapter 5, he proposes to deal with alien properties by means of negative facts, arguing that if a property F is an alien property such that nothing in the actual world instantiates it, then everything has the property of lacking F ness.¹ From the fact that everything lacks F ness one can abstract the negative property being non- F . Jago then suggests that via property negation one can end up with the positive property F .

This proposal is problematic for a number of reasons. Jago understands property negation as set-theoretic negation (cf. p. 141), yet we are not informed with respect to what set one is to take the complement of the property in question. More importantly, such a conception of property negation implies double

¹He considers it to be a fundamental fact that something lack F ness, which is implausible as a general thesis since in many cases one can perfectly explain why something fails to be F in terms of its being G where the latter property precludes the former.

negation elimination and thereby the identity of necessarily co-extensive alien properties (since they will have the same negation/complement and hence will be identical), which is in conflict with a thoroughgoing hyperintensional approach. (It should be noted that one cannot appeal to impossible worlds to distinguish such properties since these worlds are constructed out of the properties, i.e. the distinctness of the properties needs to be established first.) Moreover, a commitment to double negation elimination is especially unpalatable given that Jago wants to differentiate between a negated fact and a negative fact (cf. p. 147). Since a negated fact does not correspond to a negative fact, why should one think that the negation of a negative property (which is abstracted from a negative fact) corresponds to a positive property? Put differently, if one does not end up with a positive/negative fact by negating a negative/positive fact, why think that one can get to a positive property by negating a negative property?

Jago goes on to address the problem of alien individuals via non-attributive property bundles that rigidly designate possible particulars (the way in which these bundles represent is modelled on the *D*THAT operator). In order for this approach to work, each property bundle must be uniquely instantiated in all of modal space (even in the extended modal space that includes impossible worlds). This condition, however, is only satisfied if one accepts the identity of indiscernibles for possible particulars, which is a rather problematic outcome that conflicts with Jago's commitments (cf. p. 134).

Having provided an account of how to represent both actual and alien particulars as well as properties, Jago then goes on to construe worlds as sets of sentences in a Lagadonian worldmaking language. Since he recognises not only impossible worlds that are impossible due to representing inconsistencies but also ones that represent incompleteness, Jago argues that we should make use of double-worlds that represent both what is the case and what fails to be the case, where representation proceeds via inclusion rather than entailment (since he does not want to impose any closure conditions on worlds).

Unfortunately, it is not clear whether this account gives us the requisite resources to draw all the relevant hyperintensional distinctions. For instance, a satisfactory account of content should be able to distinguish 'x is triangular' and 'x is trilateral', even though these contents cannot be distinguished in terms of possible worlds. Does Jago's understanding of impossible worlds satisfy this desideratum? It only does so if triangularity and trilaterality are distinct properties, since there will then be different predicates in the Lagadonian language, allowing us to construct a world that is non-trivially impossible in which x is triangular whilst failing to be trilateral. Otherwise the impossibility of x being triangular yet failing to be trilateral would be the same as that of x both being and failing to be triangular. They would thus both be trivial impossibilities, even though the question whether triangularity and trilaterality are identical is not a trivial matter. The

problem now is that these properties might (for all Jago has told us) be identical.² Yet, these contents are nevertheless distinct.

The problem is thus that our conceptual and representational resources might well outrun the structure of the world, i.e. distinctions at the level of representation might be more fine-grained than the distinctions at the level of properties. This points to a deeper conflict between, on the one hand, wanting to respect the very fine-grained differences in content (= how we conceptualise and think about the world), and, on the other, wanting to respect a worldliness constraint (= how the world itself is structured, cf. pp. 262-264). These goals may not be co-satisfiable since there is no guarantee that the worldmaking language is sufficiently fine-grained to allow us to draw all the distinctions that need to be drawn to capture the differences at the level of content. In short, our representational resources may well outrun the resources of the Lagadonian language.

An analogous problem arises in the context of Frege's puzzle. A satisfactory theory of content should allow for informative identity statements and allow for 'N is F' and 'M is F' to differ even though N and M refer to the same thing. Yet, since there is only one object that is at issue, there will only be one name in the Lagadonian language. This means that the situation in which N is F whilst M fails to be F will be as trivially impossible as the one in which N both is and fails to be F, i.e. they will amount to the very same impossibility.

Jago is aware of this problem and suggests that one should move from objects to property-bundles (i.e. not just merely possible particulars but also actual particulars will be named by means of property-bundles): "replace all Lagadonian names in the worldmaking language with non-attributive property bundles, all of which uniquely pick out the particular in question. There will in general be multiple such names-qua-bundles for each actual particular. When distinct names qua property-bundles are uniquely satisfied by the same particular, those names co-refer and thus give us distinct ways of representing (by name) one and the same individual" (p. 158).

The idea is that one can in this way have different property bundles that uniquely pick out the relevant individual but that can come apart in impossible worlds, thereby making sense of the idea that the identity in question is a non-trivial matter. This, however, is problematic since we are not told how rigid designators behave in the extended framework that includes impossible worlds. Since we have not been provided with an account of what they designate in impossible worlds, it is not clear why one should think that two rigid designators

²Jago does not provide any informative criterion for distinguishing properties and, more generally, does not provide a satisfactory account of when two contents are the same, i.e. he does not give an account of fineness of grain. (One cannot simply say that $F = G$ iff they have the same extension across both possible and impossible worlds. As we have already seen, such a criterion would not be informative since the relevant worlds have to be constructed out of the properties, i.e. one first needs to settle whether there are two distinct properties to determine whether there are impossible worlds in which they differ.)

of the same object can come apart in impossible worlds, yet this is precisely what Jago requires. Moreover, as we have seen, referring to alien particulars is problematic due to the fact that each bundle name must be uniquely instantiated in the extended modal space. The effect of Jago's proposal is that these problems will apply equally to actual particulars. In fact, these problems will now be much more pressing since addressing Frege's puzzle requires there to be multiple distinct bundles for each object. The uniqueness requirement, accordingly, has to be satisfied even for such incomplete bundles, which will only be the case when dealing with a modal space that is drastically impoverished.

These problems highlight that there two quite different motivations for hyperintensionality that Jago does not sufficiently disentangle (and that may well require different frameworks), namely 1. making room for fine-grained distinctions, and 2. making sense of impossible contents and of bounded rationality. It is the latter objective that primarily seems to be motivating Jago's project and it is in addressing these concerns that his approach is most successful. Whilst Jago's account runs into problems in the construction of (possible as well as impossible) worlds and whilst he does not succeed in developing a satisfactory general theory of hyperintensionality due to problems involving fineness of grain, there is much to be learnt from his discussion of impossibility in chapters 6-8, which contain plenty of interesting, original and promising material that is likely to constitute a lasting contribution to the field.