INNER AND OUTER TRUTH

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1. Introduction

The Modal Problem of Nonbeing. The problem of nonbeing is all too familiar: To deny that certain things exist we must refer to the things whose existence we wish to deny. But we cannot refer to things that do not exist—we cannot say anything about *them*! Richard Cartwright distinguished two solution-strategies: inflationism and deflationism.[1] Inflationists hold that all things whose existence can be denied *are*, even though they don't exist. Deflationists maintain that in order to deny the existence of something, that thing need not be referred to: We do not assert *of* an object that *it* does not exist.[2]

Deflationism has allowed us to extricate ourselves from the original puzzle of nonbeing without ontological cost, but the puzzle has reappeared in a modal setting: How does one assert of a thing that it *might* not have existed? The problem arises as follows. The proposition that Socrates might not have existed is a *singular* proposition about Socrates, a proposition that "directly involves" Socrates in the sense that its truth value turns, necessarily, on how things stand with Socrates. A singular proposition is ontologically dependent on the objects it involves: If the objects hadn't existed, the proposition wouldn't have existed either. Clearly, the proposition that Socrates might not have existed is true. So there is a possible world relative to which the proposition that Socrates does not exist is true. But for the proposition to be true relative to that world, it has to exist in that world. And it exists in that world only if Socrates exists in that world. But if Socrates exists in a world then the proposition that Socrates does not exist is not true relative to that world. Therefore, the proposition that Socrates might not have existed is false.[3] Where the original problem of nonbeing seemingly forced us

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1. See Cartwright (1960).
2. The inflationary strategy goes back to Meinong (2004), while the *locus classicus* for the deflationary strategy is Russell (1905).
3. This is a modification of an argument in Plantinga (1983) where it is used to to argue that propositions are necessary beings and do not ontologically depend on the contingent objects they appear to involve. The present version of the argument has been used independently in Williamson (2002) to establish that all actual objects exist necessarily.

to assume that the things whose non-existence we wanted to assert do exist, the modal version seemingly forces us to assume that the things whose possible non-existence we want to assert exist necessarily.

In order to see how we may extricate ourselves from *that* puzzle, let us start by isolating the assumptions that generate it:

(POSSIBILITY) If the proposition *possibly p* is true then there is a possible world w such that p is true relative to w.

(EXISTENCE REQUIREMENT (ER)) A proposition is true relative to a possible world w only if the proposition exists relative to w.

(DEPENDENCE) A singular proposition about an object o exists relative to a possible world w only if o exists relative to w.

These assumptions jointly entail that the proposition *Possibly, Socrates does not exist* is not true.

Options for Solving the Problem. As in the original problem of nonbeing, one might try approaching the modal version using either an inflationary or a deflationary strategy. The deflationary strategy construes *Socrates might not have existed* as a general proposition to the effect that there might not have been an individual instantiating the properties typical of Socrates. This blocks the argument by making DEPENDENCE inapplicable. This strategy strikes me as unpromising: Unlike in the case of negative existentials, we do want to assert *of* an actually existing individual that *it* might not have existed.

The inflationary strategy consists in enriching our ontology with a range of necessarily existing entities that allow tracking both actual and merely possible objects through modal space. *Possibilists* take these entities to be mere possibilia, while so-called *proxy actualists* take them to be actualia like Plantingan essences or Linsky and Zalta's contingent concreta.[4] On either variety of inflationism, singular propositions exist

necessarily because they are construed as depending ontologically on these necessarily existing entities rather than on the contingent objects we ordinarily take them to be about. This ensures that the existence requirement is trivially met. But while inflationism solves the problem, it comes at an unpalatably high ontological cost.[5] Whatever the final verdict on the matter, it seems worthwhile to seek an actualist alternative that is both non-deflationary and non-inflationary.

A Non-Inflationary Actualist Solution. What are the options? The most natural approach is to distinguish between two ways in which a proposition might be true relative to a world, the second of which is in direct conflict with ER:[6]

(INNER TRUTH) A proposition is true *in* a world, if it exists in that world and the world is as the proposition represents it.

(OUTER TRUTH) A proposition is true *at*, or *of*, a world, if the world is as the proposition represents it.

So, 'p is true relative to w' and the equivalent 'p is true with respect to w' are ambiguous, as talk of truth relative to a world can bear either the inner or the outer sense. There are, then, two options for how to understand world-relative truth in a possible worlds framework and thus two ways to understand POSSIBILITY:

(i) $\Diamond p$ is true if and only if p is true *at* some world
(ii) $\Diamond p$ is true if and only if p is true *in* some world

If truth with respect to a world was construed as outer truth, then ER could be rejected and the argument generating the puzzle would be blocked. And it would be blocked in a way that neither deflates the

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4. For details, see Plantinga (1974), Linsky and Zalta (1994) and Williamson (2002). Karen Bennett critically discusses this general approach in Bennett (2006). The term 'proxy actualist' is due to her.

5. Possibilism notoriously gets bad press. For criticism of actualist inflationism, see Adams (1981), McMichael (1983), Fine (1985) and Bennett (2006).
6. The labels 'inner truth' and 'outer truth' are Kit Fine's. See Fine (1985). Robert Adams draws essentially the same distinction—between truth *in* and truth *at* a world—in his Adams (1981). I will use this terminology interchangeably.

prima facie singular proposition that Socrates might not have existed to a general proposition nor inflates the world-relative ontologies. So the non-inflationary actualist ought to construe truth with respect to a world in Possibility as outer truth.[7]

But can the actualist appeal to outer truth and give up ER? There are at least two obstacles. First, ER appears to be an instance of what Alvin Plantinga calls *serious actualism*:

(Serious Actualism) No object could have had any properties without existing.[8]

Serious actualism entails, as a special case, that a proposition could not have been true without existing. Endorsement of outer truth appears to assume that a proposition could have been ("outer") true without existing. Many philosophers, including me, believe that actualists *are* committed to serious actualism. A rejection of ER would thus seem to involve a violation of one's actualist commitments.

The second obstacle is the alleged unintelligibility of the very concept of outer truth: '[A]ccording to the outer notion' of truth, Fine says, 'we can stand outside a world and compare the proposition with what goes on in the world in order to ascertain whether it is true. But according to the inner notion, we must first enter with the proposition into the world before ascertaining its truth.'[9] This has been criticized as 'picture thinking' and as being 'based on an incoherent metaphysical picture', one that takes possible worlds to have insides and outsides that afford us with vantage points from which to assess a proposition's truth.[10]

The challenge for the non-inflationary actualist, then, is to make the notion of outer truth intelligible, basing it on a coherent metaphysical picture, and to justify the rejection of ER by showing that it is, after all, compatible with actualism. This is the challenge that the present paper takes up. I will assume that serious actualism is true and argue first, that, properly understood, it does not conflict with a rejection of ER, and second, that outer truth is perfectly intelligible. The modal problem of nonbeing therefore neither necessitate a deflationary reading of statements that appear to express singular modal propositions nor does it force us to inflate our ontology with mere possibilia or their proxies.

Here is a brief preview: Section 2 will outline why outer truth, thought of as correct representation of a possible world, might seem problematic in the first place while inner truth admits of a straightforward account. Section 3 develops the machinery later employed to give a well-motivated account of outer truth. This should be of independent interest as it highlights and explores the consequences of modeling the space of possible worlds with the help of contingently existing entities. In this setting, the space of possible worlds itself becomes contingent. We will see that two actualistically acceptable construals of possible worlds are available that differ in how they represent what could have been the case. On both construals, the notion of outer truth has to be derived from the notion of inner truth. What appears to stand in the way of this derivation, namely a particular reading of serious actualism, is precisely what leads the critics of outer truth to believe that outer truth is incoherent. In section 4, I argue for a different and more plausible reading of serious actualism. It relies on the distinction between possibility and possible actuality which, to my knowledge, has been overlooked in the literature on serious actualism. The proposed reading of serious actualism allows us, in section 5, to derive outer truth from inner truth in a fashion compatible with actualist commitments. The general lesson is that actualists who want to model possibility by means of contingently existing entities need to take great care in laying down how the properties of these contingent entities are supposed to

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7. Both Plantinga and Fine stress that the friend of Dependence would have to understand the truth conditions of $\Diamond p$ in terms of outer truth. But they differ in their judgment as to the tenability of the notion of outer truth for contingently existing propositions. See Plantinga (1979), p.153 and Fine (1985), p.204.
8. See Plantinga (1983), p.4.
9. Fine (1985), p.194.
10. See Plantinga (1985), p.343 for the first charge, and Davidson (2006), p.564, for the second. For more criticism in the same spirit, see Plantinga (1979), Crisp (2003) and Williamson (2002).

reflect what could have been the case and what could have existed.

2. The Problem with Outer Truth

Why would an actualist think that outer truth was unintelligible? According to the outer truth conception, a proposition is true with respect to a world just in case it *correctly represents* how things stand in that world. A natural approach to explicating the concept of correct representation of a possible world involves taking advantage of the fact that we have a relatively clear conception of what it is for a proposition to correctly represent *the* world: Instead of talking about actual correct representation of an abstract object—a possible world—talk counterfactually about correct representation of a concrete object—the world. The account of correct representation we then arrive at is this:

(1) p correctly represents w iff, had w correctly represented the world, p would have been true.

But there is a problem. If we use this account of correct representation in an explication of the concept of truth relative to a world, we get what is in fact Plantinga's definition of truth with respect to a world:[11]

(2) p is true with respect to w iff had w been actual, then p would have been true.

Under the assumption of serious actualism, this amounts to a definition of *inner* truth, for only propositions that would have existed had w been actual are such they *could* have been true (or, for that matter, false) had w been actual. Inner truth, then, is easy to characterize and for the rest of the paper I will assume that the notion is sufficiently

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11. See Plantinga (1974), p.46.

clear. However, the most natural approach—explicate correct representation in terms of possible truth—fails to yield the notion of outer truth we seek.

How else might we proceed? We need to let our search for an appropriate account of correct representation be guided by what role the notion of world-relative truth is supposed to play in our theory of modality. Most prominently, the notion is employed in the possible worlds framework for laying down truth conditions for modal statements:

(3) $\Diamond p$ is true iff p is true with respect to some possible world.

This clause, in turn, is the formal counterpart of the informal idea that it is possible that p if and only if the world could have been such that p would have been the case. In the possible worlds framework, possible worlds play the role of capturing the ways the world might have been. If they do that job right, then what would have been the case had the world been any way whatsoever is represented by some possible world. So we arrive at the following definition.

(4) A proposition p correctly represents a possible world if and only if that p is one of the things the world represents as being the case.

But how do we determine whether a given possible world represents that p is the case? Not, as suggested by Plantinga, by considering whether p would have been true had that world been actualized. To come up with a better answer, let us start by looking at the actualist conception of possible worlds.

3. Actualist Possible Worlds

On one prominent form of actualism, a possible world is a maximally consistent set of propositions—a *world story* as it were. Other abstract objects may be used to model possible worlds—states of affairs, properties, sets of sentences—but in the following discussion I will take possible worlds to be world stories. Much of what I will say applies, with

some modifications, to other actualist models of possible worlds.[12],[13] Two issues need clarifying: First, what does *maximality* come to? Second, what concept of *consistency* is at work here? In this section I will take up the first issue, postponing discussion of the second until later.

Consider first sets of *sentences*. It makes sense to speak about a maximally consistent set of sentences only with respect to a language:[14] If a first-order language contains the predicate 'P' but lacks the name 'n', then neither '$P(n)$' nor '$\neg P(n)$' are members of any set of sentences maximally consistent with respect to that language. Extend or restrict the vocabulary of your language and you change what sets of sentences are maximally consistent relative to it. Similarly with maximally consistent sets of propositions. If you believe that singular propositions are ontologically dependent on the objects they involve, then you will believe that what maximally consistent sets of propositions, and hence what world stories, there are depends on what objects there are and thus on what world is actual.

With this in mind, we can identify three sets of propositions that are candidates for constituting the world story of a "given" possible world.[15] The first candidate is the maximally consistent set of actually existing propositions which characterize that world. This is the story of the world as we actually tell it. Let us call world stories of this kind *C-stories*.[16] For concreteness, suppose the world to be characterized is one in which Socrates does not exist but unicorns do.[17] The C-story of such a world will contain the propositions *Socrates does not exist* and *there are unicorns*, though—supposing that no actually existing entity could be a unicorn—it will not contain any singular instances of *there are unicorns*: None of the merely possible singular instances of *there are unicorns* actually exist and so none are available to be part of actually existing world stories. The second candidate is the maximally consistent set of propositions that would have existed and characterized the world had that world been actual. This is the world story as told by the "inhabitants" of that world, or rather the story we would have told if that world had been actual. Let us call world stories of this kind *P-stories*.[18] The P-story of a world in which Socrates doesn't exist but unicorns do will, or rather *would*, contain the proposition *there are unicorns* as well as numerous singular instances of that proposition. However, it will not contain the proposition *Socrates does not exist*, for that proposition would not have existed had Socrates failed to exist.[19] It is as if we asked our other-worldly counterparts 'What's *your* world like?' In their answer, they wouldn't, and couldn't, mention Socrates. They have nothing to say about him, not even that he doesn't exist or that he might have existed. We would know that Socrates does not exist in their world simply because they neglect to mention him. On

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12. In particular, it applies to those models on which the entities that play the role of possible worlds are contingent.

13. A note on terminology: Within the kind of actualist framework considered here, there are two senses of the term 'world' which we need to keep apart: First, there is *the* world, conceived of either as the physical universe we actually inhabit with all it contains or as the totality of actually obtaining facts. Second, there are the *possible worlds* in the actualist's technical sense—actually existing abstract objects, such as world stories, which represent a way the world might have been. I rely on context to disambiguate which of the two senses of 'world' is intended. Any talk of *a* world, for instance, is to be understood as talk of a *possible* world. One of the possible worlds is *actualized*, in that it represents the way *the* world is. When I speak of the *actual* world, I mean to refer to *the* world, while when I speak of the *actualized* world, I mean to refer to the possible world that is actualized.

14. There is a two-fold dependence of maximal consistency on language: First, on the *vocabulary* of the language and second, on the *logic* associated with the language. In this section, I am only interested in the first sort of dependence.

15. Both here and elsewhere I help myself to all sorts of possibilist discourse for ease of exposition. Being an actualist, I must insist that these are mere

manners of speaking whose literal truth is not required for an adequate account of modality. Below (footnote 22), I will provide a translation of this possibilist characterization of world stories into purely modal idiom.

16. 'C' for 'counterfactual'. The rationale for the mnemonic will emerge below.

17. In this paper, the predicate 'unicorn' is used as it is used in everyday English: Not rigidly for a kind of fictional creature but descriptively. The only two features of the predicate that my discussion relies on are, first, it's actually not applying to anything and, second, there not being any actually existing objects that the predicate could have applied to (while still meaning what it actually means).

18. 'P' for 'merely *possible*'.

19. Assuming, as I do throughout, that DEPENDENCE holds.

the other hand, they could, and would, mention entities, such as individual unicorns, that are beyond our grasp because "they" do not actually exist. In this case, our counterparts' story is a merely possible story on account of containing some merely possible propositions. As actualists, we cannot accept the existence of such stories and hence, in general, P-stories are not a suitable candidate for playing the role of possible worlds in the actualist's framework.[20] But we may compromise and so arrive at a third candidate for constituting world stories: We could trim down our counterparts' stories by ignoring those parts we cannot grasp. That is, we can let world stories consist of the *actually existing* parts of P-stories. Let us call world stories of this kind *A-stories*.[21] The A-story of a world consists of all those actually existing propositions that characterize the world and would have existed had that world been actual. A-stories, like P-stories, cannot contain the proposition that Socrates does not exist, representing his non-existence instead by not mentioning him. And, like C-stories but unlike P-stories, A-stories do not contain singular instances of *there are unicorns*, since no such instances actually exist.[22]

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20. Of course, *some* P-stories are actualistically acceptable. Those are the stories of worlds whose domains form a subset of the collection of actually existing entities.

21. 'A' for 'possibly *a*ctual'. The rationale behind this mnemonic will emerge below.

22. Note that the definition of the three types of world stories in no way depends on there being possible worlds that the stories describe. As suggested in footnote 15, and less vividly, the three types of stories could be characterized without appeal to worlds that are being described: We tell a C-story when we describe in as much detail as our expressive resources allow how the world as a whole could have been. We tell an A-story when we describe how the world as a whole could have been, restricting ourselves to expressive resources that would still have been available had the world been as described. Unlike C- and A-stories, P-stories are (often) mere possibilia: A P-story is a story we *would* tell if the world had been different from the way it actually is. In general, world stories should be thought of not as describing how some entities (the "possible worlds") *are* but how *the* world *could* have been. The types of stories differ in the expressive resources that they (attempt to) help themselves to.

For the possible world that is actualized, that is, the story of *the* world, all three candidate characterizations—its C-story, its P-story and its A-story—coincide. In general, however, only two of the candidates, C-stories and A-stories, are acceptable for actualists since many merely possible world stories include propositions that do not actually exist.

Representational and Ontological Completeness. Consider next the closely related issue of specificity. World stories are often thought to be maximally specific—to characterize a *complete* way for the world to be.[23] Maximal specificity can be thought of in at least two ways. First, one might think about it from the point of view of a set of representational resources: A characterization is maximally specific in this sense if it says everything there is to say about that which is characterized using the given representational resources. Maximal specificity in this sense, call it *representational completeness*, depends on the representational resources used to formulate the characterization.

A second way one might think about maximal specificity is from the point of view of that which is characterized. The paradigm of maximal specificity in this sense is the deductive closure of a diagram of a first-order structure: The complete theory of the structure formulated in a language that contains predicate and function symbols for all relations and functions in the structure as well as names for every element in the structure's domain. A world story maximally specific in this sense contains all the propositions true about a given world that are built from the representational resources available in that world. Every existential proposition in such a world story is witnessed by a singular proposition. What is crucial here is that the representational medium is fashioned so as to be adequate to capture all the intrinsic ontological and structural features of what is characterized. The intrinsic features of that which is characterized are those that it doesn't have in virtue of its relation to other things and in particular in relation to the actual world. We may call this world-driven maximal specificity *ontological*

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23. See Adams (1974), p.190.

completeness.[24] No actual human language is up to the task of formulating an ontologically complete story of the world as it actually is. But that presents no problem since the actualist need not require that world stories be expressible in any actual language.[25]

The actual story of our world—the set of all true propositions—is both ontologically and representationally complete with respect to the representational resources actually available. C-stories are representationally complete relative to our actual representational resources: Each of them comprises everything that we can actually say about a way the world could have been. But not all C-stories are ontologically complete. Ontological completeness can be achieved only by those C-stories characterizing worlds whose ontology is included in that of the actual world. For worlds with additional entities, any actual characterization is going to be less than maximally specific in this sense. It might contain existential propositions, such as *there are unicorns*, without any singular instances as witnesses. P-stories, if they existed, would be ontologically but, in general, not representationally complete.[26] For every existential proposition they contained, they would contain singular instances, yet they would not contain any singular negative existentials such as *Socrates does not exist*. A-stories are a hybrid between C- and P-stories and as such inherit, in general, both the representational incompleteness of P-stories and the ontological incompleteness of C-stories:

The A-story of a Socrates-free world populated by unicorns will contain neither the proposition that Socrates does not exist nor any singular instances of the proposition that there are unicorns.

Ontological completeness cuts both ways: The C-story of any world which lacks at least one of the objects that actually exist is going to be ontologically *overspecific* by mentioning objects that are not "internal" to the world characterized, in the sense that they would not have existed had that world been actualized. There are, for instance, C-stories that include the proposition that Socrates does not exist. In contrast, the actualized world story does not contain a singular proposition to the effect that, say, Pegasus does not exist.[27] This asymmetry has worried some people who subscribe to serious actualism. That worry will be allayed below.

Since ontological completeness requires, in general, reference to merely possible individuals—an ontologically complete characterization of a world in which there are unicorns would require mention of individual unicorns—the actualist has to recognize that the only kind of completeness she can hope for is representational completeness. To achieve representational completeness, possible worlds have to be construed as C-stories. But representational completeness has to be paid for with ontological overspecificity.

How World Stories Represent What Might Have Been the Case. Our goal is to give an account of what it is for a proposition to correctly represent a possible world. What that account should look like will depend on whether possible worlds are construed as A-stories or as C-stories, for the two differ in how they represent what might have been the case. C-stories, being representationally complete, represent *explicitly* what might have been the case: They represent that Socrates does not exist by containing the proposition that Socrates does not exist. A-stories

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24. You may like to think of the distinction between representational and ontological completeness as capturing the two key aspects of *Henkin sets*. In logic, a Henkin set is a set of sentences which is both negation complete and witnessed. A representationally complete set of propositions is negation complete while an ontologically complete set of propositions is witnessed.

25. Taking up a suggestion by David Lewis, she could appeal to a *Lagadonian* language in which every thing serves as its own name. See Lewis (1986), p.145

26. That is, they wouldn't be representationally complete with respect to our actual representational resources.

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27. Throughout the paper, the name 'Pegasus' is not used to refer rigidly to a fictional character. Rather, it is used as a disguised definite description, say, *the winged horse of Bellerophon.*

may be taken to represent *implicitly* some of what might have been the case: They represent that Socrates does not exist by not containing any propositions about him.[28] This is something *we* can read off an A-story that doesn't mention Socrates because we know that the A-story says everything about a way the world might have been that could be said if the world had been that way.

Since a proposition *p* correctly represents a possible world just in case *p* is one of the things that the world represents as being the case, whether worlds are modeled as C-stories or as A-stories will make a difference to our explication of the notion of correct representation.

C-Stories: Explicit Representation. First, consider how to model correct representation of a world if worlds are taken to be C-stories. This is the easy part. Since C-stories represent what might have been the case by way of containing proposition that say what might have been the case, we get:

(CORRECT REPRESENTATION$_C$) *p correctly represents w* iff $p \in w$.

That a proposition is a member of a possible world does not imply that it exists according to that world. In the framework considered here, membership in a possible world models not counterfactual existence of a proposition but correct representation of *the* world had it instantiated the possible world in question. We can now straightforwardly define outer truth in terms of the above definition of correct representation:

(OUTER TRUTH$_C$) *p is true at w* iff *p correctly represents w* (iff $p \in w$).

If desired, the notion of inner truth can then be defined as follows

(INNER TRUTH$_C$) *p is true in w* iff (i) *p is true at w* and (ii) the proposition which states that *p exists is true at w*.

For worlds which are ontologically impoverished relative to the actual world, the additional condition for inner truth filters out some of the

propositions which are true at the world. But for worlds whose ontology equals or properly extends that of the actual world, the condition will be idle. The propositions true *at* such worlds will coincide with those true *in* those worlds.

Since the conception of possible words as C-stories gives a well-motivated and straightforward account of outer truth and outer truth is the kind of world-relative truth the friend of DEPENDENCE requires for her modal semantics, it is tempting to adopt that conception and just stop here. Unfortunately, however, that won't do, because of difficulties with specifying exactly what propositions are supposed to go into a C-story: We characterized C-stories as maximally *consistent* sets of actually existing propositions. As David Lewis pointed out, the only viable characterization of the sets of propositions suitable for playing the role of possible worlds is in terms of possible truth:[29] A set of propositions is consistent in the relevant sense just in case the propositions in the set can all be true together. Here, the nature of the world is thought to determine what is possible and thus which propositions can be true together. But we know that in a non-inflationary actualist setting, this won't work. Assuming serious actualism, any collection of propositions that can all be true together consists of propositions that would have existed had what they say been the case. Such collections then, amount to A-stories, and the propositions they contain are all true *in* the corresponding possible world.

We may, of course, take C-stories or other representationally complete entities such as maximal states of affairs or maximal world properties as primitive. But this doesn't adequately address the problem of understanding the theoretical concept of correct representation of possible worlds. It merely hides it behind a stipulation. And the critic of outer truth will maintain that such a stipulation is incoherent.

A-Stories: Implicit Representation. Suppose, then, that we take possible worlds initially to be A-stories, that is a maximally consistent sets of

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28. See Adams (1981).

29. Lewis (1973) and Lewis (1986).

propositions all of which can be true together. Membership in such a story amounts to inner truth with respect to the corresponding world. So A-stories represent explicitly only states of affairs that would still be characterizable if the world in question had been actualized. Call such states of affairs 'internal'. For instance, Socrates' non-existence is not internal to any possible world, as his non-existence would not have been characterizable had a world story that doesn't mention Socrates been actualized. Yet, looking at such a world story, *we* can tell that had the story been actualized, Socrates would not have existed. So we may take an A-story that doesn't mention Socrates to *implicitly* represent that Socrates does not exist.

In general, we ought to be able to systematically recover what is implicitly represented by a possible world, the "external facts" as it were, from the explicitly represented internal facts. After all, the external facts are given by what *we* can actually say about worlds with those internal facts. To use Fine's metaphor,[30] we "stand outside" the world explicitly characterized by an A-story and fill in the story using our actual representational resources. As Plantinga says, this is picture thinking, but the underlying metaphysical picture is not incoherent. We don't literally stand outside a world. Rather, we consider a story w and read between the lines to recover the complete story that *we* may tell about how the world would have been had it instantiated w. This is what the story w represents to us.[31]

If we succeed in systematically recovering what an A-story w represents implicitly we can once again define correct representation of a possible world:

(CORRECT REPRESENTATION$_A$) p correctly represents w iff w represents, either explicitly or implicitly, that p.

Outer truth can then be defined as before in terms of correct representation and inner truth in terms of membership:

(OUTER TRUTH$_A$) p is true *at* w iff p correctly represents w.
(INNER TRUTH$_A$) p is true *in* w iff $p \in w$.

How, then, do we recover what an A-story represents from what it represents explicitly? What can we read between the lines of an A-story?

Given the above definition, recovering what an A-story w represents from what it represents explicitly amounts to determining what propositions are true *at* w in terms of the propositions true *in* w. So we can reformulate our question thus: How do we recover the propositions true *at* a world from those true *in* a world?

From Inner to Outer Truth: Adams' Account. Robert Adams has proposed an account of outer in terms of inner truth in what he believes are actualistically acceptable terms.[32] Here is how it goes: Suppose that w is an A-story and that o is an object not mentioned in w.

(i) If p is true in w, then it is true at w.

(ii) If p is an atomic singular proposition involving o, then $\neg p$ is true at w.

(iii) If p follows truth-functionally from propositions true at w, then p is true at w.

(iv) If $\varphi(o, x_1, \ldots, x_n)$ is a propositional function from n-tuples

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30. Fine (1985), p.194.
31. Note that implicit representation, unlike explicit representation, is not inherent in the story. A story may implicitly represent different things to different readers. From the point of view of a world in which, say, a particular winged horse exists, a world story that doesn't mention that winged horse implicitly represents the nonexistence of that very individual. It represents no such thing to us, for we don't have the resources to represent singular facts involving that particular winged horse.

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32. Adams (1981). Adams does not quite put it this way. But he in effect assumes that possible worlds are A-stories and defines the extension of 'true at' in terms of membership in the story.

of objects to atomic singular propositions involving o, then $\neg\exists x_1 \dots \exists x_n \varphi(o, x_1, \dots, x_n)$ is true at w.

(v) If p follows in free quantificational logic from propositions true at w, then p is true at w.

To put it in terms of representation: Whatever a world represents explicitly, it represents simpliciter. Whenever a world does not mention an individual—and so implicitly represents its non-existence—it represents that no atomic fact involving that individual obtains, and that the individual does not stand in any relations to any individuals that are represented as existing.

The most difficult case is that of modal propositions. Adams suggests:

(vi) If p is a singular proposition involving o, then $\neg\lozenge p$ and $\neg\square p$ are true at w.

(vii) If $\neg\exists x_1 \dots \exists x_n \lozenge \varphi(o, x_1, \dots, x_n)$ and $\neg\exists x_1 \dots \exists x_n \square \varphi(o, x_1, \dots, x_n)$ are singular proposition involving o, then they are true at w.

That is to say, whenever a world does not mention an individual, it represents both that there are no possibilities and no necessities involving that individual and that no objects are possibly or necessarily related to it.

Adams' construal of outer truth has undesirable consequences for the logic of metaphysical modality. If a world does not mention Socrates, then the world represents that it is not possible for Socrates to exist: '$\neg\lozenge\exists x(x = \text{Socrates})$' is true at that world. But at the same time, the world represents that it is not necessary that Socrates fails to exist: '$\neg\square\neg\exists x(x = \text{Socrates})$' is true at that world. So unless we allow true contradictions at a world, the possibility and the necessity operator had better not be interdefinable as is standardly assumed. We thus need a notion of possibility on which not being false at all possible worlds is not the same as being true at some possible world, and not being false at any possible world is not the same as being true at some possible world. Adams proposes to consider '$\neg\square\neg$' as a weak possi-

bility operator—p is weakly possible if it is not false at all possible worlds—and '$\neg\lozenge\neg$' as a weak necessity operator—p is weakly necessary if it is not false at any possible world—, and replace the ordinary modal notions in the various modal axioms with these weak modalities. But a modal semantics that works with weak modalities has a number of well-known shortcomings. One of them is that weak possibility is too weak to do the work we expect the notion of possibility to do, for it turns out that at worlds at which Socrates does not exist, it is weakly possible that Socrates is both wise and not wise.[33]

Adams is aware of the drawbacks but willing to pay the cost in technical complication for he finds '[t]his treatment of singular modal propositions . . . metaphysically satisfying . . . , from an actualist point of view': '[T]here *are* no possibilities or necessities *de re* about non-actual individuals. So if I were not an actual individual there would be none about me'.[34] I, on the other hand, don't find the treatment of singular modal propositions metaphysically satisfying. Adams takes it to be justified by his serious actualist commitments. However, I believe that it cannot be justified by appeal to serious actualism and is in fact in conflict with Adams' motivation for introducing the distinction between inner and outer truth in the first place.

In the next section, we will have a closer look at serious actualism. I will argue that, properly understood, it is not quite as constraining as it is sometimes assumed to be. This will clear the path for both (i) a recovery of outer from inner truth that does not have the technical drawbacks of Adams' procedure and (ii) an actualistically acceptable rejection of the EXISTENCE REQUIREMENT.

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33. At such worlds, the singular proposition that it is not the case that Socrates is both wise and not wise is not necessarily true and hence it is weakly possible that Socrates is both wise and not wise. See also Menzel (2008), who discusses this kind of problem in connection with Arthur Prior's modal logic.
34. Adams (1981), p.29.

4. Serious Actualism

The dispute over serious actualism has, to my mind, been vitiated by a conflation of two ideas: On the one hand, the thought that if an entity had not existed, it would not have been involved in any facts, and on the other hand, the thought that if an entity does not exist in a possible world then it is not involved in any facts relative to that world. The first idea is well-motivated on actualist grounds, the second is not. Or so I shall argue.

Let's start by looking at the first idea: The actualist believes that there are no non-actual individuals. And since there are no non-actual individuals, no facts involving non-actual individuals obtain. Further, the actualist does not take the claim that only the actual exists to be merely contingent—there *could* not have been non-actual individuals.[35] And since there could not have been any non-actual individuals, no facts involving non-actual individuals could have obtained. This, I believe, is the line of reasoning behind serious actualism. And it strikes me as utterly plausible.[36]

The motivation behind the second idea is more indirect. It appears to be something like this: How things might have been is a genuine alternative to how things actually are. Thus, every possible world is possibly actual. Everything that is the case relative to a possible world— everything that the world represents as being the case—might actually have obtained. Now suppose it is the case, relative to some world, that a certain individual o that is not actual relative to that world—i.e. that would not have existed had that world been actualized—has property P with respect to that world. Then had that world been actual, it would

have been the case that o has P. But that means that had that world been actual, a fact involving a non-actual individual would have obtained. And this, in turn, is in direct conflict with the first idea: If an entity hadn't existed, then no facts involving *it* would have obtained.[37]

Since both ideas may lay some claim to capturing what in the literature has been discussed under the label 'serious actualism', let us refer to the first idea as SA_1 and to the second as SA_2. The above line of reasoning in support of SA_2 suggests that SA_1 entails SA_2. SA_2 can be seen to entail SA_1.[38] So it appears that the two formulations capture what is at heart the same doctrine: serious actualism. I will argue that the two should not be taken to say the same.

Note first that SA_1 is stated in ordinary modal idiom, while SA_2 is stated in terms of two theoretical notions: that of a possible world and that of an entity's having a property relative to a possible world. So the question is how these notions are to be understood. In particular, we need to understand what an entity's having a property—more generally: its being involved in facts—relative to a possible world is meant to represent.

Possibility and Possible Actuality. The argument in support of SA_2 assumes that whatever a possible world represents as obtaining would have obtained had that world been actual. In particular, whenever an entity has a property relative to a possible world then that entity would have had that property had the world been actual. So the argument assumes that whatever is possible is possibly actual. But that assumption can and should be resisted. Distinguish between two representational roles possible worlds may play. First, possible worlds may represent (counter*factual*) possibility—how things might have been from

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35. 'Non-actual', here, is to be read non-rigidly. Thus, the claim is that the would could not have been such that it contained individuals that would not then have been actual.

36. There is controversy about whether actualism—the claim that there are no non-actual individuals and there could have been no such individuals—implies the claim that no object could have had a property without being actual, and, more generally, no object could have been involved in an facts without being actual. Plantinga believes that it doesn't (see Plantinga (1983), p.13). But however that may be, the latter claim is independently plausible on actualist grounds.

37. Plantinga may be read as arguing along these lines in Plantinga (1987). For a version of this argument in a slightly different context see Bennett (2005).

38. Suppose o had not existed. Then a world w would be actual in which o does not exist. So by SA_2, o would have had no properties relative to w, the world that would then have been actual, and thus o would not have had any properties.

our point of view. This is the role we are most familiar with since ordinary possibility is just counterfactual possibility. When we evaluate an ordinary modal statement to the effect that things *could* or *must* be thus and so, we consider, from our actual point of view, how things might or might not have differed from how they actually are. We often specify the relevant differences by reference to things that actually exist but that would not have existed had the situation characterized obtained. We may, for instance, describe a counterfactual situation by saying that Socrates does not exist in it. Second, possible worlds may represent *possible actuality* (or counter*actual* possibility)—how things might have been from the point of view of a world at which things are that way. When we consider how things might have been *actually*, we consider how things are from a counterfactual point of view. The only facts obtaining from the point of view of a world are those "internal" to that world and those, in turn, are the ones that would have been representable had that world been actual. From the point of view of a world in which Socrates does not exist, it is not the case *de re* that Socrates does not exist, just as from the point of view of the actual world, it is not the case *de re* that Pegasus does not exist.

We can let a single theoretical entity w play both representational roles if we provide the means of determining, for every proposition true relative to w, whether it is meant to represent how things stand with w from our actual point of view or whether it is meant to represent how things would stand from the point of view of the world had it instantiated w. The required distinction is afforded by our distinction between truth *in* and truth *at* a possible world:

(Possibility) $\Diamond\, p$ iff p is true *at* some world.

That is, $\Diamond\, p$ is true just in case from the actual point of view it is the case that p with respect to some possible world. On the other hand,

(Possible Actuality) $\Diamond_a\, p$ iff p is true *in* some world.

That is, $\Diamond_a\, p$ is true just in case, had w been actualized, it would have been the case that p from the point of view we would then have occu-

pied.

Relation Between the Candidates for Serious Actualism. With this, return to the question whether SA_1 entails SA_2. The argument for the entailment assumed that if an individual has a property with respect to a world, that is, if the world represents that the individual has the property, then the individual would have had that property had that world been actualized. The above distinction allows us to see that this does not follow: A possible world might represent the counterfactual possibility that Po obtains, without thereby representing that o would have had P had that world been actualized, that is without representing the possible actuality of Po. So an actualist can embrace SA_1 while rejecting SA_2.

The distinction between possibility and possible actuality allows us to explicitly characterize another distinction that has already been in the background in our earlier discussion: That between inner and outer *facts*: The *inner facts* of a world are the facts described by propositions true *in* the world. Those are facts pertaining to the internal structure *the* world would have had had it realized the possible world in question. The *outer facts* of a world are the facts described by propositions true *at* the world.[39] And the *properly outer facts* of a world are the facts concerning the relationship between that world and *the* world from the point of view of which the possible world in question is considered. Those are described by propositions true at but not true in the possible world.

The Proper Formalization of Serious Actualism. We have distinguished between two kinds of possibility. Now we may ask how the modality in

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39. Note that the inner facts of a possible world do not in general exhaust the facts that would have obtained had that world been actual. That is because many world stories are ontologically underspecific. This generalizes: The extension of the inner notion—of truth, fact, existence or possibility— with respect to a non-actualized world will often not exhaust the extension that the notion would have had had that world been actualized.

the principle of serious actualism—if an entity *had* not existed, then it *would* not have been involved in any facts—is to be read: as counterfactual necessity or as necessary actuality. There may well be two viable versions of serious actualism, corresponding to each of the two readings of the principle. I plead for the version that understands the modal in the principle to express necessary actuality: From the point of view of a Socrates-free world, no facts involving Socrates obtain, that is, had a Socrates-free world been actualized, Socrates would not have been involved in any facts. This captures what I take to be the the core commitment of serious actualism and it is precisely what the serious actualist principle says when the modal is read as expressing necessary actuality. An ordinary counterfactual reading of the principle, on the other hand, seems too strong. We can actually characterize a Socrates-free world by reference to Socrates and other objects that would not have existed had that world been actualized.[40] So the outer facts of a possible world may involve objects that would not have existed had that world been actualized. Therefore, serious actualists should subscribe to

(SA) $\forall x \square_a(\varphi(x) \supset \exists y(x = y))$,

where this is read as asserting that for any object *o*, if $\varphi(o)$ is the case from the point of view of a world *w*, then it is also the case, from the point of view of *w*, that *o* exists.[41] The other and to my mind less plausible version of serious actualism subscribes to

(SA′) $\forall x \square(\varphi(x) \supset \exists y(x = y))$

instead, which involves ordinary counterfactual necessity and some restriction on what formulas can be substituted for φ.[42] I suggest, then, that the proper modal generalization of the actualist principle that non-actual individuals are not involved in any facts should be understood as stating that the principle is true *in* all possible worlds, not that it is true true *at* all possible worlds.

Serious Actualism and the Quest for Outer Truth. If we understand serious actualism as proposed above, the motivation for Adams' cautious recovery procedure stands undermined. The actualist is not committed to maintaining that no singular propositions can be true *at* worlds *in* which the objects involved does not exist. Propositions true *at* a possible world don't capture *how we would have characterized* the world had it been different in certain ways. They capture *how we actually characterize* how *the* world might have been. The point of drawing a distinction between inner and outer truth is precisely to divorce the question of what would be the case from the question of what propositions would be true. Adams admits that much when the propositions in question are singular negative existentials. But once the distinction between inner and outer truth is in place, there is no *in principle* obstacle to allowing singular propositions other than negative existentials to be true at worlds in which the individuals they are about do not exist. Whether there are in fact singular propositions, other than negative existentials, which *should* be taken to be true *at* worlds *in* which they are not true is a separate question which we will take up in the next section.

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40. *Had* that world been actualized, we *could not* have characterized the world by reference to Socrates, but we *actually* can so characterize it using ordinary modal locutions.

41. Note that if $\varphi(o)$ does not exist in a world, then it is not the case, from the point of view of that world, that $\varphi(o)$.

42. Typically, that would be a restriction to formulas φ which express *properties*. Taking seriously the distinction urged in this paper between possibility and possible actuality obviates the need to worry about restricting φ in the formulation of the serious actualist principle.

5. From Inner to Outer Truth

What propositions *are* true at a given possible world construed as an A-story? In other words, what does an A-story represent as being the case? This question does not have an obvious answer. Given any non-natural representational vehicle—a device that has *derived* rather than *original* intentionality—what it represents is a matter of what we take it to represent and thus a matter of convention. We have adopted a specific convention for what we take a world story to represent *explicitly*: An A-story represents explicitly that *p* just in case *p* is a member of the story. This is the natural convention to adopt, but it is a convention nonetheless. When we ask how to get from inner to outer truth, we are asking how to extend the convention. There are constraints on what conventions we can reasonably adopt: While what we take a world story to represent is a matter of convention, what is possible is not a matter of convention. So we need to ensure that what we take a story to represent tracks what is really possible. For explicit representation we have solved that problem: Since we let the world determine what sets of propositions count as A-stories, whatever is represented explicitly by some world is in fact possible. We need to extend these conventions to what we take a world to represent *implicitly*, so that they too track what is possible. In this section, we revisit Adams' conventions to see how they might be modified in light of the understanding of serious actualism advocated above.

Given an A-story *w*, let's say, with Adams, that if a proposition is true in *w*, then it is also true at *w*. Recall that propositions true in *w* are all members of *w* and that the objects they involve would have existed had *w* been actualized. What about propositions that involve some object *o* not mentioned in *w*?

First, consider singular atomic propositions involving *o*. Adams proposes to count all such propositions as false and their negations true at *w*. At first sight this is not implausible. After all, if an object had not existed, there would not have been any atomic truths about it. But it

is in principle compatible with the absence of atomic truths about an individual *in* a world that there be atomic propositions about that individual true *at* that world. That there be, in other worlds, "outer facts" about the individual at that world. This, in turn, is just a fancy way of saying that we can give a certain characterization of such a world by reference to that individual. Now, while it is compatible with an actualist outlook to allow singular propositions to be true at worlds in which the individual doesn't exist, we might not have any use for the representational possibility this opens. I think that we do in fact have use for it.[43] Suppose *φ* is an essential property of *o*. If a property is essential to an object, then we'd like to say that it is necessary that the object has the property. For instance, Socrates is essentially a man. So, we would like to say, it is necessary that Socrates is a man. Now, if we do not allow singular propositions other than negative existentials to be true at worlds in which the objects involved do not exist, then not all propositions expressing essential predications are necessarily true. Instead we'd have to take recourse to the more cumbersome: If *o* is essentially *φ* then it is necessary that if *o* exists, *o* is *φ*. It would simplify matters if instead our modal semantics made it true that necessarily, *o* has *φ*. If, in other words, the proposition that *o* is *φ* were true at every possible world. I therefore propose the following convention: If *p* is an atomic singular proposition involving *o* and *o* does not exist in *w*, then *p* is true at *w* just in case ¬*p* is not true in any possible world.[44] This choice of convention is technically convenient, because it allows for a straightforward account of the necessity of essential property attributions to contingent objects, and, if we remember not to understand the necessity of a singular proposition to imply the necessary existence of

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43. The following train of thought is inspired by Fine (2005a).
44. Here, the failure of ¬*p* to be true *in* any world indicates (given that *p* is atomic) that *p* attributes an essential property to *o*, since there is no world in which *o* exists without *p* being true. The convention does not require us to decide up front which propositions attribute essential properties to objects. The world decides that for us by ensuring that if *φ* is an essential property of *o*, then ¬*φ*(*o*) is not contained in any A-story, i.e. any set of propositions that can all be true together.

the objects it involves, it does not involve any substantial assumptions about what is possible.

Next, consider propositions to the effect that there are objects which stand in some atomic relation to o, that is propositions of the form $\exists x_1 \ldots \exists x_n \varphi(o, x_1, \ldots, x_n)$, where φ is atomic.[45] Adams proposes to consider all such propositions to be false and hence their negations to be true at w. Again, we can motivate a different convention. Consider

(5) Jones' parents could have had, instead of him, a son who would have been a little taller than he is.[46]

Adams' convention forbids us to read this as expressing a *de re* proposition involving Jones. But we do characterize how things might have been in relation to how some actual things are and as we saw in the last section, there is no harm in letting our modal semantics reflect this.

Not all relations are going to be suitable for this. One can wink only at one's worldmates. But one can be taller than a precisely characterized possible individual. Gary Kemp has argued that the relations fit for being had "across worlds" are precisely those that allow us to abstract from their relata appropriate qualities, such as height qualities, the relationship between which grounds the relation between the objects. And that those, in turn, are the equivalence and the comparative relations. Given such a relation, we first obtain suitable abstracta from (the precise characterizations of) the objects related across worlds, then we define a suitable order on the abstracta, and finally, we determine the truth of a cross-world predication in terms of a the order-relation between the abstracta.[47] For instance, the singular proposition expressed by (7) is true at a world just in case in that world, Mr. and Mrs. Jones have a son of height h, Jones actually has height h' and h is a little more than h'. This convention reflects our understanding of

singular modal statements and does not arbitrarily settle any questions about what is possible.

Next, consider modal propositions. Here, it will be useful to be able to refer to possibilities that are "smaller" than possible worlds. Intuitively, *that p* is a possibility just when it might have been the case that p. Let us therefore model possibilities as propositions that are true at some world. A world story can be thought of as a maximal or total possibility.[48] The possibility that p exists in a world just in case there is, in that world, a world story according to which p.

According to Adams' recovery procedure, all singular modal propositions involving individuals that don't exist in a world are false at that world. For instance, if an A-story w represents that Socrates does not exist, then it it is not true at w that Socrates could have existed. Consequently, a sentence like

(6) Even if Socrates hadn't existed, he could have

does not express a true singular proposition about Socrates. It is precisely this treatment of singular modal propositions which has the technically inconvenient consequences discussed above. So it is worth looking into whether actualists might not adopt representational conventions that allow them to count singular modal propositions as true at some worlds.

We can discern two considerations that might motivate Adams' convention: First, the thought that a commitment to serious actualism requires us to say that if an object does not exist *in* a world then there are no modal facts about that individual *at* that world.[49] As argued above, a commitment to serious actualism does not require this. Second, the thought that when a proposition is evaluated relative to a world, the quantifiers it contains range over what there is *in* that world. We think of modal operators as quantifiers over possible worlds, so if in w there

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45. I use the locution 'a proposition of form S' as a shorthand for 'a proposition expressed by a sentence of form S'.
46. Adams uses a similar example in Adams (1981), p.33.
47. See appendix for an implementation of this convention.

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48. With the caveat introduced earlier that there are different kinds of completeness.
49. Or, to put it in representational terms: No propositions about the individual are true *at* that world. See Adams (1981), p.29.

is no possible world that represents that *p*, then the quantifier in *There is a possible world at which p* turns up empty relative to *w*. Thus, Adams' convention is just a natural consequence of our interpretation of the quantifiers relative to possible worlds. But there are good reasons for treating modal operators differently when we assess whether a modal proposition is true at a world.

We can characterize the modal variability of a non-actual world from either of two points of view: From the point of view of that world, and from the point of view of the actual world. Both types of characterization have their uses. Sometimes, we are primarily interested in the modal character of a world from the point of view of that world—a character that can be captured by appeal to the representational resources available *in* that world. For instance, the serious actualist wants to say that had a world in which Socrates does not exist been actual, then there would not have been any modal facts involving Socrates. In particular, it would not have been *de re* possible that Socrates exists—just as it is actually not de re possible that Pegasus exists. This is best conceived of as involving possible actuality rather than counterfactual possibility: No world story *in* the non-actual world involves Socrates. Here, the modal operator, thought of as a quantifier over possible worlds, does range over the world stories *in* the world we are characterizing.

Most of the time, however, our iterated modal statements do not aim at describing what modal facts would have obtained relative to a counterfactual point of view. Rather, we use our actual representational resources to characterize how *the* world might have been in both modal and non-modal respects. Take (6). It is a statement about the modal variability of *the* world: The nature of the world is such that even if Socrates had been absent, the world would still have had metaphysical "room" for him. To get a grip on the intuitive idea of a world's leaving "room" for the existence of particular individuals consider the following: Pegasus does not exist but might have. Since there are no singular propositions involving Pegasus, it is not *de re* possible that Pegasus exists. But intuitively, the world has "room" for Pegasus—it

is not incompatible with the nature of the world that Pegasus should have existed.[50] But what does that mean? The intuition concerns not the possible existence of a *particular* individual—we have no intuitions about *it*—but a *generic* possibility: There might have been a creature that has the properties that the myth associates with the name 'Pegasus'. Propositions, and hence world stories, to *that* effect do exist if it is indeed possible for such creatures to exist. The existence of such generic world stories reflects the fact that the world has "metaphysical room" for winged horses. If such a creature had existed, there would have been a particular individual, maybe several, that particularize the generic possibility. From the point of view of a world in which some such particular individual exists, the actual world has room for "that" individual and indeed for any individual that, from the point of view of the counterfactual world, particularizes the generic possibility.

Similarly, consider *w*, a possible world in which Socrates does not exist. As with any possible world, there are going to be many generic possibilities *in w*. Those delimit the modal variability of *w* from the point of view of *w*. From our point of view, we can particularize some of these generic possibilities. Then *w* has "room" for Socrates just in case, from our point of view, some particularization of a possibility *in w* involves Socrates. Thus, the possibilities *in* the world determine generically what metaphysical room there is, and *we* see that Socrates fits into that room. If it is true, from the point of view of the actual world, that a possibility *in w* leaves room for Socrates, then there is, actually, a possible world story *s* that mentions Socrates and that entails *p*.[51]

Just as we can distinguish between non-modal facts that obtain *in* and those that obtain *at* a world, we can distinguish between *de re*

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50. Of course, that intuition might be wrong. It might be metaphysically impossible that winged horses exist. If so, substitute your favorite example of an individual that might have existed and that we can characterize generically. Say, a possible sibling of yours.

51. Note that unlike in the case of ordinary A-type world stories, we cannot take a story that is a world story with respect to another possible world to represent that Socrates doesn't exist if it doesn't mention Socrates.

modal facts that obtain *in* a world and *de re* modal facts that obtain *at* that world: The latter characterize the modal variability of that world from our point of view. And again, this sort of treatment is not incompatible with serious actualism. To think otherwise is to confuse possibility and possible actuality.

Finally, consider propositions which assert that there are entities possibly related to *o*, that is propositions of the form $\exists x \Diamond(\varphi(x,a))$. Adams proposes to count the negations of all such propositions as true at worlds in which *o* does not exist. For reasons parallel to those given above, we ought to rethink this convention. Consider

(7) Jones' parents could have had, instead of him, a son who, though a little taller, could have been the same height as him.

Setting aside the artificiality of the example, this appears to express a *de re* modal truth about Jones. It would be nice if our modal semantics reflected that.

But now there is a bit of a problem: (7) ought to come out true at a world *w* only if there is an individual in *w* such that *it* might have been as tall as Jones. And that, in turn, appears to require that there are world stories according to which that very individual is as tall as Jones. However, as "that individual" does not actually exist, there are no world stories involving it. This is a version of the problem of iterated modalities, also often referred to as the *McMichael problem*.[52]

Intuitively, a possible world that witnesses the truth of (7) contains an individual that does not actually exist, and it fails to contain Jones who does actually exist. Our problem can therefore be analyzed into two sub-problems: First, the problem that arises from the fact that the truth of (7) turns on how things stand with an individual that does not actually exist—this is the McMicheal problem in its usual form—and second the problem arising from the fact that Jones does not exist in worlds that witness the truth of (7). Let us start by looking at a strategy to overcome the first problem, and then combine this strategy with our

earlier strategy to treat singular propositions of the form $\Diamond p$ in order to overcome the second problem.

A systematic account of the semantics of

(8) $\Diamond \exists x \Diamond Gx$

has to include a story about the semantics of '$\Diamond Gx$' where '*x*' appears to pick out a merely possible individual. What could that story look like? Presumably, something like this: Actually, if '*x*' picks out an individual *o*, then '$\Diamond Gx$' is true just in case '*Gx*' expresses, under the assignment of *o* to '*x*', a possibility. Generalizing along the modal dimension, if '*x*' had picked out an individual that does not actually exist, then '$\Diamond Gx$' would be true just in case '*Gx*' would have expressed, under the assignment of that individual to '*x*', a possibility.

Unlike possibilists and proxy-actualists, non-inflationary actualists cannot easily tell this story. If the proposition that '*Gx*' would have expressed does not actually exist, we cannot straightforwardly track whether "it" would have been a possibility. What we need is convention for when we can reasonably take a possible world to represent that there is a possibility involving some non-actual individual.

To motivate a suitable convention, consider the following observation:[53] Socrates is a philosopher and he might not have gone into philosophy. Thus, the proposition *There is some individual who is a philosopher who, according to some world story, does not go into philosophy* is true. This truth does not involve any actually existing individual, yet it reflects the fact that there are world stories according to which some actually existing individual does not go into philosophy. Similarly, propositions to the effect that there is an individual that according to some world story has a certain property may be true in a non-actual world without having any singular instantiations that are true in the

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52. After Alan McMichael who discussed the problem in McMichael (1983).

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53. The convention proposed here is motivated by Reina Hayaki's actualist semantics for iterated modalities Hayaki (2003).

world. Thus, the truth in a world of the actually existing proposition expressed by

(9) $\exists x$(there is a world story according to which x has G)

can be taken to reflect the fact that had that possible world been actualized, there would have been an individual that could have been G.

But this is no more than the first step toward a representational convention that allows us to handle propositions like those expressed by (7): If an individual o does not exist in w, then no proposition of the form

(10) $\exists x$(there is a world story according to which x is φ-related to o)

is true in w. So no proposition to the effect that the Jones' have a son who according to some world story is taller than Jones is true in a world that witnesses the truth of (7).

To remedy the situation, we need to take recourse to our earlier strategy and determine whether there is in w a suitable world story that leaves the right kind of "metaphysical room" for Jones. While there won't be a world story in w according to which Jones is taller than the individual in question, there may be a story according to which *some* individual is taller than the individual in question. From our actual point of view, we may see that Jones fits into the role of that individual. So as before, the generic world stories that exist *in* a world provide a measure of the world's "metaphysical room"; from our actual point of view, we may see that certain actually existing individuals fit into that room.[54]

This completes my proposal for a set of conventions to guide the recovery of the outer truths of a possible world from its inner truths, or, alternatively, the determination of what an A-story represents in terms of what it represents explicitly.

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54. See the appendix for implementational details.

6. Putting it All Together

We start with the assumption that the world has certain modal features. The world makes many modal statements true and many others false. For a systematic modal semantics we require a range of entities, the "possible worlds", that we can quantify over and that reflect the modal variability of the world. For the possible worlds apparatus to do its semantic job properly, and reflect what is possible, we need to set it up in such a way that whenever it is possible that p, there is a possible world which represents that p. The representative work is done by the package consisting of the possible worlds on the one hand and the relation *p is true relative to w* on the other. These two components need to be specified so as to work in tandem.

We choose world stories, maximal sets of propositions, to do the job of possible worlds,[55] but find that the most natural characterization of those sets of propositions that amount to descriptions of how the world could have been—namely, let the space of possible worlds consist of maximal sets of propositions all of which could have been true together—gives us what I have called A-stories. We then face the task of specifying the relation *p is true relative to w*. The inflationist has it easy here: He assumes that everything that exists exists necessarily (or has a necessarily existing proxy) and that nothing that doesn't exist (or doesn't have an existing proxy) could have existed. As a consequence, his A-stories are representationally complete and he can define the relation to consist in set membership. Not so the non-inflationist. Her A-stories are, in general, representationally incomplete, so she has to think more carefully about what the space of A-stories tells us about how the world could and could not have been. The above recovery procedure is the outcome of that investigation. It can be used to specify either of the two components of the representational package referred

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55. As mentioned earlier, we could have chosen other actualia such as states of affairs or world properties instead. This would have led to difficulties susceptible to solutions parallel to those discussed.

to above: The space of possible worlds on the one hand, or the relation *p is true relative to w* on the other.

If we use the procedure to define the space of possibilities, we let a possible world be the union of a maximal set of propositions, $\mathcal{P}$, all of which can be true together with the set $\{p \mid \mathcal{P}$ represents that $p\}$, and define the relation *p is true relative to w* to consist in set membership.

If we use the procedure to define the relation *p is true relative w*, we let a possible world simply be a maximal set of propositions all of which can be true together, and say that *p is true relative w* just in case *w* represents that *p* in the sense given by the procedure.

Both ways make available to the non-inflationary actualist a well-motivated conception of possible worlds and an equally well-motivated conception of truth with respect to a world that allow her to reject ER yet hold on to POSSIBILITY and DEPENDENCE. This combination of views blocks the puzzle-generating argument: The proposition that Socrates does not exist is true *at* worlds *in* which neither Socrates nor any putative proxies of Socrates exist. So the proposition that it is possible that Socrates does not exist is true.

As Fine points out, under the assumption of DEPENDENCE, outer truth and the concept of possibility go hand in hand: 'If the world-relative outer concept were coherent, then the classical concept of possibility could be explained, in the usual way, as truth … [*at*] some possible world. Conversely, anyone who finds the classical concept of possibility acceptable should also find the relative outer concept of truth acceptable. In some sense, the outer concept of truth is already presupposed in the possible worlds semantics for the classical concept.'[56]

7. Closing

I have argued that non-inflationary actualists can responsibly reject the existence requirement and employ a well-motivated and coherent conception of outer truth in their account of modal semantics. In this

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56. Fine (1985), p.204. See Plantinga (1979), p.153, for a similar assessment.

section, I would like to draw some more general lessons from the discussion whose interest extends beyond the topic of this paper.

First, we may fruitfully distinguish between possibility and possible actuality. If we model the space of possibilities with the help of contingently existing entities, as I think we should, then not everything that is possible is possibly actual. So if we insist on conflating the two we are pressured to assume, with the inflationists, that the space of possibilities must be modeled my means of necessary existents.

Second, there is a position deserving of the label 'serious actualism' that is compatible with the claim that objects may be involved in states of affairs that obtain relative to possible worlds in which these objects do not exist. Serious actualism need thus not be quite as constraining as it is often taken to be.

Third, whenever we introduce a piece of machinery to model some phenomenon, we have to carefully lay down what features of the apparatus correspond to what features of that which is modeled. Failing to do so can easily lead us to take the apparatus to commit us to things that it does not really commit us to. For instance, a possible world, in the technical sense, is a representational device. What it represents is not fully determined by the nature of the device but depends on what and how we use the device to represent. I hope to have shown that taking a possible world to represent that something is true of an object does not commit the actualist to taking that world to represent the object as existing. Along the same lines, that a proposition is a member of a world story does not represent that the proposition would have existed had the story been actualized.

Forth, we should not let our prima facie representational needs dictate our metaphysical view of what there is, what there could have been and what could not have failed to be. Meinong was famously led by a prima facie representational need—it appears to be a truth *about* Pegasus that *he* does not exist—to the acceptance of nonexistent objects. Possibilists as well as proxy-actualists, it seems, are led by a similarly felt need to accept the necessary existence of additional entities—mere possibilia, essences or contingently concrete objects. In

both cases, careful reconsideration of the prima facie need reveals that it is merely apparent: In order to represent that Pegasus *does* not exist, we do not need a proxy for Pegasus. And in order to represent that Socrates *might* not have existed, we do not need a necessarily existing proxy for Socrates.[57]

8. Appendix: Details of the Recovery Procedure

This section implements the proposals made above for how to amend Adams' recovery procedure of the propositions true *at* a world from those true *in* a world.

(i′) If p is true in w, then it is true at w.

(ii′) If p is an atomic singular proposition about o, then p is true at w if $\neg p$ is not true in any world.

(iii′) If p follows truth-functionally from propositions true at w, then p is true at w.

(iv′) To implement a convention for propositions of the form $\exists x \varphi(o, x)$ we require a little technical machinery:[58] First, for suitable relations φ, we abstract the qualities in virtue of which φ is had "across worlds". Then, where necessary, we define an ordering on those qualities. Finally, the representational convention is formulated in terms of the qualities and their ordering.

(a) If φ is an equivalence relation, let

$$f_\varphi(x) = f_\varphi(y) \quad \text{iff} \quad \varphi(x, y)$$

Then $\exists x \varphi(o, x)$ is true at w if

$\exists x (f_\varphi(x) = f_\varphi(o))$ is true in w.

Note that $\exists x (f_\varphi(x) = f_\varphi(o))$ is a purely qualitative proposition, so either it or its negation is in the A-story w.[59]

(b) If φ is a comparative relation, let

$$f_\varphi(x) = f_\varphi(y) \quad \text{iff} \quad \forall v \forall z (\varphi(v, x) \equiv \varphi(v, y) \ \wedge \ \varphi(x, z) \equiv \varphi(y, z))$$

Thus, two objects are associated with the same φ−relevant quality if they occupy the same position is the order induced by the comparative relation φ. Next, we define an order on the qualities abstracted:

$$x <_\varphi y \quad \text{iff} \quad \Box \forall v \forall z (x = f_\varphi(v) \wedge y = f_\varphi(z) \supset \varphi(v, z))$$

That is to say, quality x is is below quality y in the φ-order just in case, necessarily, whatever has quality x is φ−related to whatever has quality y. With this, we can define

$\exists x \varphi(o, x)$ is true at w if

$\exists x (f_\varphi(x) <_\varphi f_\varphi(o))$ is true in w.

Again, $\exists x (f_\varphi(x) <_\varphi f_\varphi(o))$ is a purely qualitative proposition, and so either it or its negation is a member of w.

(c) Otherwise, $\neg \exists x \varphi(o, x)$ is true at w.[60]

Next, we turn to modal propositions, both those of the form $\Diamond p$ and those of the form $\exists x \varphi(x, o)$. Here, we need to implement the idea

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58. The formulation of this convention—as well as the general point that the relations suitable for cross-world predication are precisely the equivalence and comparative relations—owes a lot to Kemp (2000).

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59. For instance, for $\varphi(x, y)$ being the relation that holds between x and y iff x and y have the same height, f_φ maps each individual onto its height. Then, assuming o's height is 180cm, $\exists x (f_\varphi(x) = f_\varphi(o))$ says that there is an individual who's height is 180cm.

60. This applies to all relations φ that are neither equivalence nor comparative relations.

that the "metaphysical room" of a possible world is measurable by "particularizing" the generic possibilities that exist in the world.

Let us say that a possibility is *generic* if it does not involve any individuals.[61] A possibility is *non-generic* or *particular* otherwise. Genericity comes in degrees. A possibility—and at the extreme, a world story—may be a *generalization* or a *particularization* of another: If $p[o]$ is a possibility involving o, say that $\exists v p[v]$ is the *o-generalization* of $p[o]$, and that $p[o]$ is a *particularization* of $\exists v p[v]$. More generally, if p is a possibility involving the objects in the collection O, say that $p^O = \exists x_1 \ldots \exists x_n \ldots p[x_1, \ldots, x_n \ldots]$ is the O-generalization of p, and that p is a particularization of p^O. A possibility p need not be a complete generalization of some possibility p' but may generalize over only some of the objects involved in p'.

Our representational conventions for modal propositions rely on the assumption that the space of generic possibilities is the same from the point of view of every possible world:[62] Whatever the world may have been like, the same generic possibilities would have existed. What, if anything, changes, are the particular possibilities. Further, any two possible worlds share all those possibilities—generic and particular— that involve only objects that exist in both worlds. Thus, we can, from our actual point of view, assess the metaphysical room in a non-actual world by considering suitably generic possibilities that exist in it and compare it to modal space as it appears from the actual point of view.

Here, then, are the representational conventions:

(v′) A modal singular proposition about o is true at w just in case the modal proposition is true simpliciter and an o-generalization of the world story that witnesses the truth of the proposition exists in w.

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61. If, in other words, the proposition that models it is not singular with respect to any individual.
62. This presupposes that the logic of metaphysical necessity is captured by S5. I believe that this is indeed the right logic for the metaphysical modalities and that alleged counterexamples can be handled by appeal to the distinction between possibility and possible actuality.

Formally: If p is a singular proposition involving o, then $\Diamond p$ is true at w iff there is a world story v s.t.

(a) p is true at v, and
(b) For some o-generalization v^a: $\exists x(x$ is a world story and $x = v^a)$ is true in w.

(vi′) To assess whether a singular modal singular proposition of the form $\exists x \Diamond \varphi(o, x)$ is true at a world w we need to generalize twice—first with respect to o, then with respect to the merely possible individual that's a candidate for being possibly φ-related to o. If the proposition is true, then the possibility obtained by these two generalizations exists both in w and in the actual world. The final step is to see whether it is an o-generalization of some actually existing possibility. Putting it all together, we get

$\exists x \Diamond \varphi(o, x)$ is true at w iff there are

(i) a world story v according to which $\exists y \varphi(o, y)$, and
(ii) an o-generalization v^a of v, s.t.

$\exists z \exists s \exists s'(s$ is a world story according to which $\exists r \varphi(r, z)$ and s' is a z-generalization of s and $s' = v^a)$

is true in w.

(v′) If p follows in free quantificational logic from propositions true at w, then p is true at w.

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