

THE INCONSISTENCY OF PUTNAM'S INTERNAL REALISM*

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A nova teoria do 'realismo interno' vem substituir o anterior 'realismo metafísico' no pensamento de Hilary Putnam. Não é sempre claro porque Putnam ainda se auto-denomina um 'realista'. Neste artigo, argumenta-se que Putnam ainda se baseia na noção de designação rígida como fundamento para o realismo, embora essa noção tenha sofrido uma eliminação de suas conotações realistas (no sentido metafísico). Procura-se localizar as razões para essa mudança, começando pela interpretação que dá Putnam da noção de 'realismo' (I). Analisa-se a seguir seu tratamento do critério T de Tarski (II), seu próprio princípio de 'indeterminação da referência' (III), e a comparação desse princípio com o de designação rígida (IV). Na última seção, mostra-se que o princípio de designação rígida diluído é demasiado fraco para sustentar qualquer posição realista, seja ela interna ou outra (V).

Putnam's new theory of Internal Realism has replaced his previous theory of Metaphysical Realism. It is not always clear why Putnam now calls himself a "realist". In this paper it is claimed that Putnam still relies on rigid designation as a ground for realism, even if rigid designation has been stripped of its metaphysically realist interpretation. This paper seeks to trace the reasons for this, beginning with how he interprets "realism" (part I), his treatment of Tarski's criterion T of correspondence (part II), his own principle of Indeterminacy of Reference (part III), and its comparison to the principle of Rigid Designation (part IV). In the final section, it is shown that the watered down principle of Rigid Designation is too weak for any realist position, internal or otherwise (part V).

I

Until 1978 Putnam was an advocate of the doctrine which he called "metaphysical realism" but in that year he published his book *Meaning and the Moral Sciences*, (Putnam 1978), whose last chapter, "Realism and Reason", was meant to show why the position of metaphysical realism was no longer tenable. In that chapter he adopted a new account of realism which he called "internal realism".

Because his book embraced, under a single cover, both his older metaphysical realism and his newer internal realism, it was not at first clear to what degree he had given up his commitment to metaphysical realism. Tuomela (Tuomela 1982, p. 114) in fact suggested that perhaps Putnam was "defending . . . actually two different kinds of realism". Yet this

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was an overly optimistic view. In all his subsequent writings Putnam has reinforced his attacks on metaphysical realism, and strongly advocated his new theory of internal realism.

It is his deep doubts over truth and reference that have brought Putnam to his new position. Putnam conceives the issue of truth as dichotomous: either one upholds a correspondence theory of truth or one is bound to accept some variety of rational acceptability as an account of truth.

In this article I do not propose to deal with this dichotomy. Neither do I wish to examine the internalist side of Putnam's realism. Rather I would like to trace the source of Putnam's dissatisfaction with the notion of correspondence to its roots, by way of his attack on metaphysical realism. The dissatisfaction with correspondence antedates his new theory of internal realism.

His attack begins with the interpretation of Tarski's semantic conception of truth as a correspondence theory. This attack does not hinge on Putnam's later internal doctrine of rational acceptability. Putnam's attack is used in two ways; firstly, it is meant to undermine metaphysical realism because that doctrine is supposed to depend on a correspondence theory of truth. But secondly, it is meant to present a view of truth which is no longer correspondential.

Out of his attack on correspondence Putnam distills a general argument, wholly semantic in character, which he has called "The Indeterminacy of Reference". I wish to show that the logic behind this argument cannot be used as a justification of his internal realism.

Putnam has come to characterize metaphysical realism as a certain "picture" with four different tenets:

- (1) There exists a world independent of any theory, representation or picture we might have of it, the *mind-independent world*.
- (2) There exists one ideal theory of the world, which is a true description of it, *the one true theory*.
- (3) Metaphysical realism is not a theory among theories, but a vantage point from which the true theory can be selected. A theory is true when there is a "determinate relation of *reference* between terms in L and pieces (or sets of pieces) of THE WORLD. . ." (Putnam 1978, p. 125). Thus *metaphysical realism is theory-transcendent*.
- (4) *Truth is correspondence* between the sentences of a theory and THE WORLD.

The general criticism that Putnam offers against the metaphysical realist picture of the world is that it makes truth into a radically *non-epistemic notion* (Putnam 1978, p. 125). Given all the resources of our knowledge-gathering procedures, despite all the reasons we might have for holding a theory true, we are supposed to assume that it might be false. In a recent article, "Why there isn't a Ready-Made World" (Putnam 1982a), Putnam has tried to show that any further reason we might have for assuming that a

theory might be wrong could only be a cause in the world and not a reason in thought or theory. This possibility is rejected by him.

Putnam holds that the following two conditions are not simultaneously satisfiable.

- (i) The idea that "It is a property of the world itself . . . that it 'admits of these different mappings'" (Putnam 1978, p. 132).
- (ii) That a sentence can change truth-value when passing from one theory to another.

If the world could be mapped onto different theories none of which describe it in the same way, then no meaningful description can be given of the world.

Pearce and Rantala have attacked condition (ii) (Pearce and Rantala 1982, p. 441). They argue that if an interpretation of one theory in another is a truth-preserving map between theories, then a sentence could not change truth-value when passing from one theory to another. Given Φ , a sentence in language L_1 in which theory T_1 is couched, and given ψ , a sentence in language L_2 in which theory T_2 is couched, then there are two interpretations I and I' , where I maps sentences of L_1 into L_2 and I' maps sentences of L_2 into L_1 such that we are able to assert the following two transformations:

$$\begin{aligned} T_1 \models \Phi &\Rightarrow T_2 \models I(\Phi) \\ T_2 \models \psi &\Rightarrow T_1 \models I'(\psi) \end{aligned}$$

Yet this argument is beside the point, and does not offer a counterexample to Putnam. Putnam is not denying that every sentence has a transform with an equivalent truth-value in another equivalent theory (so long as the cardinality of sentences is preserved). It is the truth-value of the *same* sentence which is at issue. Pearce and Rantala have to show that Φ in T_2 cannot have a different truth-value from Φ in T_1 . "My car takes five gallons"¹ could be true in American (where "gallon" refers to U.S. gallons) but false in English (where "gallon" refers to imperial gallons). Of course there is a true sentence in English which is an interpretation of the American sentence. One such interpretation is the true sentence in English "My car takes 4.05 gallons". The truth-preservation that Pearce and Rantala seek is not to be found between the same sentence in each language.

It might be attractive to deny that the *same* sentence is in question here. Yet if one were to counter Putnam in this way one would have to use a reason other than that the *two* sentences have different truth-values.

¹ This example could have been further complicated by adding the word "gas" which designates a non-liquid in England. "Petrol" may have lead to equal difficulties in America.

Without a Platonic view of the meaning of sentences, say as propositions, one could not raise this objection to Putnam's move.

II

It is Putnam's doubts over correspondence theories of truth which is at the root of his dissatisfaction with metaphysical realism. Before even having abandoned metaphysical realism Putnam had argued that Tarski's convention T could not be a correspondence theory of truth (Putnam 1978, lecture I). If truth is only a device for semantic ascent, and convention T is only an equivalent relation between sentences, then (Putnam 1978, p. 15):

to say that something is true need not commit . . . (one) . . . to a view about what that something in turn means or about how that something is or is not to be verified.

If this is what Tarski's convention T means then it cannot offer a substantial theory of truth. Putnam acknowledges his debt to Hartry Field for showing how Tarski's theory is inadequate as an account of reference. Field has claimed that Tarski's *primitive reference* only leaves one with a list, but says nothing about another sense of reference which is essential to truth, the relation between one kind of thing, words, and another kind of thing, which are not words. Field sees this relation as a physicalist relation. Putnam does not find this solution of Field's satisfactory and in a later work disputes that reference could be a physical relation. Yet the impact of Field's view on Putnam has been his withdrawal from adherence to a correspondence theory of truth.

Putnam's attack on correspondence has been made from very different angles. In the first chapter of *Reason, Truth and History*, "Brains in a Vat", (Putnam 1981, pp. 56-58), Putnam begins within an example which is meant to undermine the correspondence theory as an *epistemological* theory. He asks us to imagine that an ant has traced out a "picture" of Winston Churchill in the sand. Could the *similarity* between the "picture" and Sir Winston be a necessary or sufficient ground for the tracing to *represent* Sir Winston? Putnam answers: No. However, if instead of similarity, we were to resort to *intention* as the sufficient grounds for the "picture" to represent Sir Winston, then the intender would have to *think of* Churchill himself in order to claim that the "picture" truly represented Sir Winston. Both sides of the representation relation would have to be available for correspondence to succeed. If there were some correspondence between the "picture" and Sir Winston I would have to be able to think not only of

Sir Winston but also of the correspondence itself which is not a part of the "picture" This argument is succinctly put in a later article (Putnam 1982a, p. 143):

I would need *already* to be able to *think about* the correspondence C – and C, being a relation to things which are external and mind-independent, is itself something outside the mind, something "external"! In short, if the mind does not have the ability to grasp external things or forms directly, then no *mental* act can give it the ability to single out a correspondence (or anything else external) for that matter.

Apart from this epistemological argument there is a *semantic* argument which Putnam uses against correspondence, which in no way utilises representations, intentions or similarity. This argument is often referred to as the argument for *Metaphysical Glue*. According to this argument we can construct an infinite number of models for a language, each of which meets up to the theoretical and operational constraints of our language. Each of these models has a corresponding reference relation. Yet there is no principle of selection for any particular one of these reference relations in preference to any other (Putnam 1983, p. 130).

Thus there are an infinite number of acceptable reference relations R_1, R_2, R_3, \dots . Someone who believes that only one of them, say R_{17} , is the unique, *true* reference relation, the only one that is truly a reference relation, believes that the word 'reference' is linked to R_{17} (rather than R_1, R_2, \dots) by *metaphysical glue* (my translation).

This argument is not only used to reject tenet (4), the Correspondence Theory of Truth, but also militates against tenet (3), the theory-transcendence of Metaphysical Realism. However, the selection of one reference relation in preference to the others may be advocated on grounds other than that of transcendence. Any naturalist view of language would advocate *reducing* reference to some natural relation. The glue between R_{17} and its model would be *physical glue* rather than metaphysical glue. This is the physicalist position we encountered when discussing Tarski's convention T which Putnam attributed to Hartry Field.

Against the reductionist view of correspondence, namely that reference is a natural relation in the world, Putnam has developed the following *anti-reductionist* argument, quite distinct from his semantical and epistemological arguments. Reductionist arguments about reference need to employ a *reduction sentence* of the form (Putnam 1981, p. 45):

x refers to y if and only if x bears R to y .

If this is a physicalist reduction then R will be some physical relation, perhaps causality (if it be proposed that causality be a physical relation)². Now, although we may claim that

'dog' refers to dogs if and only if 'dog' bears a causal relation to dogs,

we cannot use the reduction sentence to explain 'cause' itself. It is not an explanation of 'cause' if we claim.

'cause' refers to causes if and only if 'cause' bears a causal relation to cause.

In general our reduction sentence requires the conclusion

'R' refers to R if and only if 'R' bears R to R.

Glymour in his "Confessions of a Metaphysical Realist", rejects this *reductio ad absurdum* and counter-argues (Glymour 1982, p. 178):

It does not follow that causal relations fail to fix the reference of "causes", only that sentences containing the word "causes" fail to fix the reference of "causes". I do not believe that causal theorists hold that reference is ultimately fixed by *sentences* containing the word "causes"; they hold that reference is fixed by causes.

This answer of Glymour's does not refute Putnam's argument for it does not show how we are able to determine the truth of the sentence "reference" fixed by "causes" without vicious circularity.

Putnam mentions that Devitt (in an unspecified source) argued in a similar way. Putnam points out that such an argument is guilty of a serious *type error*. We are supposed to include a relation in its own counter-domain since we are supposed to accept R('R', R) (Putnam 1983, pp. 130-131).

When arguing against materialism as a version of metaphysical realism, Putnam uses a different argument from the previous ones in order to point out the difficulties of Correspondence Theory, an argument which he calls

²Putnam rejects causality being explained as a physical relation. See the section on causation in "Why There Isn't a Ready-Made World" (Putnam 1982, pp. 147-152).

"*The Ready-Made World*" argument. Unlike the former argument, this argument is substantively metaphysical. Putnam points out that materialism usually goes hand-in-hand with anti-essentialism. However, he claims that materialism nonetheless requires admission of essentialism if it is to be made coherent, so as to allow an account of correspondence. If essentialism is denied, then nothing is "connected to any one relation it may have to other things (including our thoughts) in a way which is special or essential or intrinsic" (Putnam 1982a, p. 143). Most particularly there is no essential relation between an external object and one specific thought, any more than there is such a relation between that object and any other of my thoughts. Materialists have sought such a relation in causality. Yet causality cannot be given a physicalist explanation, or if merely Humean, cannot achieve what we are supposed to achieve through reference. No theory of materialism can yield the One True Theory. The world cannot cause us to know which theory might be true as part of its Ready-Made Structure. The "Furniture of the World" is not waiting out there to grasp us.

III

These are the philosophical arguments that Putnam has been contending with through his rejection of the correspondence theory of truth. Out of these objections Putnam has fashioned an argument of his own, *The Indeterminacy of Reference* (Putnam 1981, pp. 32-38) which is supposed to capture all of his remarks against correspondence. This argument draws on the Löwenheim-Skolem theorem, which Putnam believes is akin to Wittgenstein's conclusions about "following a rule". He comments on the philosophical conclusions which he draws from this theorem³: (Putnam 1980, p. 481)

What Skolem really pointed out is this: no interesting theory (in the sense of a first-order theory) can, in and of itself, determine its own objects up to isomorphism. Skolem's argument can be extended as we saw, to show that if theoretical constraints do not determine reference, then the addition of operational constraints will not do it either. It is at this point that reference begins to seem "occult"; that it begins to seem that one cannot be any kind of realist without being a believer in non-natural mental powers.

The moral Putnam draws from the Löwenheim-Skolem theorem is that *truth does not determine reference!* He offers an argument of his

³ For similar remarks see also, Putnam 1981, p. 67.

own which shows that even for two *single* sentences one can construct different models in different possible worlds, while preserving equivalent truth-values for those sentences in those possible worlds. The examples he gives of how this is to be accomplished are the two sentences: "A cat is on the mat" and "A cat* is on the mat*", for which we can construct three possible worlds as follows (Putnam 1981, p. 34 and espec. pp. 217-8).

- "(a) Some cat is on some mat and some cherry is on some tree
- (b) Some cat is on some mat and no cherry is on any tree
- (c) Neither of the foregoing"

Then cat* and mat* are defined as follows:

- "x is a cat* if and only if case (a) holds and x is a cherry, or case (b) holds and x is a cat; or case (c) holds and x is a cherry"
- "x is a mat* if and only if case (a) holds and x is a tree; or case (b) holds and x is a mat, or case (c) holds and x is a quark"

This construction guarantees the simultaneous truth-values of the two sentences, despite the fact that the terms in those sentences have different referents.

I have tried to show that Putnam's attack on metaphysical realism has its roots in his earlier doubts about Tarski's convention T. Once he had ceased to see Tarski's convention as a correspondence theory of truth he extended his criticism to correspondence in general, and not only to a correspondence theory of truth. His rejection of correspondence occurred prior to the development of his own argument for the Indeterminacy of Reference.

The rejection of metaphysical realism has not led to Putnam's new view of internal realism. The argumentation so far has been negative, not in favour of internal realism, but only against metaphysical realism. Putnam's doctrine of internal realism is not easy to pin down. It is difficult to do so because, although Putnam does offer an account of truth, it is not clear that this has any realist implications. Putnam has objected to viewing truth as something non-epistemic, as a relation between knowledge and what is not knowledge. To do so would require that we give up all rational enquiry, so that for any theory we might hold, for whatever good reasons, such a theory might be false irrespective of our reasoning (Putnam 1982b, p. 20):

If one abandons the notions of justification, rational acceptability, warranted assertibility, right assertibility, and the like, completely, then "truth" goes as well, except as a device for "semantic ascent", that is, a mere mechanism for switching from one level of language to another.

Putnam's new doctrine of truth is a non-correspondence doctrine of truth, truth as warranted assertibility. It might be tempting to think of Putnam as a verificationist, except that he nowhere accords a privileged status to observation sentences. He does admit, in "Models and Reality", that he opts for verificationism, but this commitment is not spelled out in detail in his later works. Rather, he advocates a form of Kantianism without *a priori* invariants. He rejects such theoretical constraints on our conceptual frameworks such as determinism (Putnam 1981, p. 31) and interprets Kantianism as: "*Truth is ultimate goodness of fit*" (Putnam 1981, p. 64).

IV

So much for the internalism of his new view. But what makes it realist? This is only achieved if truth is not solely identified with warranted assertibility. Indeed, this is what Putnam wishes to achieve when he rejects relativism as the alternative to metaphysical realism. "The relativist cannot, in the end, make any sense of the distinction between *being right* and *thinking he is right*" (Putnam 1981, p. 122).

How, though, are we to make sense of Putnam's own distinction between being right and merely thinking one is right? It is not a Wittgensteinian move that Putnam is making here, since the distinction between privacy and publicity are not offered as grounds for being right as compared to merely thinking one is right. The notion of sameness is not employed here directly as a public notion.

But neither can we look to Kant for a clue to Putnam's realism. It is tempting to think that Kant's realism is of the same nature as Putnam's. When first introducing his new variant of realism, Putnam in fact uses the Kantian expression "*empirical realism*" rather than his own later expression "*internal realism*" (Putnam 1978, p. 130). Yet Putnam does not accept *a priori* Kantian categories as constraints on the objects of thought. There are indeed theoretical constraints on *theories* but there are no invariant constraints on *things*. Categories are supposed to rigidify perception into objective experience, on the Kantian view. For Putnam, categories are subject to revision. They play no absolute part in the operational or theoretical constraints of a theory.

It is in Putnam's own earlier writings that we must seek roots of realism, and these lie in his previous doctrine of metaphysical realism. It is somewhat noteworthy that Putnam does not mention why he advocated his early realist position. In his earlier view Putnam had claimed that there are two traditional doctrines of meaning that he wished to scrutinize, the doctrine that 'meanings are in the head' and the doctrine that 'intension

determines extension' (Putnam 1975, pp. 215-217). The direct theory of naming was meant to pare away any description we might give of an object, from its name. Putnam applied the theory of rigid designation to natural kind terms in order to deny that such terms could differ in extension in different possible worlds. The reference of a term was to be determined by two components: a same_L relation between a thing named and other samples of that thing, and a social component where society, in turning to experts who determine the microstructure of matter, employs a division of linguistic labour. Individual language-users are not the sole authority for the extension of terms. We on Earth may have the same notion in our heads as our Doppelgänger on Twin Earth, and we could equally use the same term to express this. But the extension of our term could differ entirely from that of our Doppelgänger. Yet, if what we had in our head was the meaning of the term we were employing, and meaning supposedly determined extension, then the same meaning could determine different extensions. Putnam had rejected the possibility that natural kind terms can vary in extension in different possible worlds, for otherwise the extension of terms would be entirely plastic. If we discovered that samples of gold sometimes include fool's gold, then the extension of the term 'gold' would, supposedly, include fool's gold.

Having discovered that the term 'gold' refers to a substance with the microstructure of the element Au in the real world, there is nothing further to discover about the extension of 'gold' in other possible worlds. From the discovery that gold = Au it is to be concluded that:

- (i) *Necessarily*, gold = Au
- (ii) *Nothing* counts as a possible world in which gold is not Au.

Thus, on this theory, 'analyticity' is strongly distinguished from 'necessity'. It is indeed an *empirical* discovery that gold is Au, but this in no way undermines the *necessity* that gold = Au. Were all necessary truths analytic then gold could not be *discovered* to be Au. This would be known through the meaning of the term 'gold'. But it is not through language or its use that necessary identities like 'gold = Au' are revealed. Only empirical discovery accomplishes this.

Putnam claims that this picture of the relationship between language and its referents is fully assimilable into his new theory. He does not interpret the doctrine of necessary identity as a doctrine of metaphysical necessity. It does not employ a correspondence theory of truth. Realism is internalised. Terms have their reference established *a priori*, relative to a theory (Putnam 1978, p. 136):

' "Cow" refers to cows' is a logical truth.

Yet, there is no unique interpretation as to how a theory with this logical truth is to be interpreted. There is no transcendent position from which to view a theory, a position from which one can judge the truth of this theory.

Later he explains this views further (Putnam 1982a, p. 157):

"It has long been our *intention* that a liquid should *count* as "water" only if it has the same composition as the paradigm examples of water. . . . *Given those referential intentions*, it was always impossible for a liquid other than H₂O to be water, even if it took empirical investigation to find it out."

There has been a major shift in the interpretation of necessary identity here. Referential intention now accomplishes what discovery was meant to accomplish previously. So if indeed intension does not determine extension, *intention* certainly does. But are intentions independent of what goes on in the head? The infinite number of interpretations of a theory will now allow my Doppelgänger to claim that water is not H₂O (in his possible world). How rigid can we make 'rigid' designators, given this free use of referential intentions? The main stance of rigid identity lay in the denial of a verificationist position over names. It was not the meaning that established the extension attributed to a name. There was no way in which the reference of a term could alter from possible world to possible world as a function of the 'use' of the term. 'Gold' could not include iron pyrites in its extension in one world and not in another. Natural terms were as rigid as proper names. Proper names were taken as the model for singular referring terms, and the analysis of such terms was seen as equivalent to the analysis of natural kind terms. 'Water', 'Tigers' and the like, were the natural kind terms to which there corresponded real water, tigers, etc.

V

Yet how far are we to extend the Indeterminacy of Reference? Are there any natural tigers and water left after reference has been shaken at the foundations? Putnam intimates that there are, and still espouses necessary identity in *Reason, Truth and History*⁴.

Are we to treat 'cats' and 'cats*' as natural kind terms? This is the crux of Putnam's dilemma, for whichever answer he gives, whether affirmative or negative, he must amend or forego one of his two principles, either

⁴This is especially clear in his argument against 'Brains in a Vat' on pp. 24-25 where he uses the principle of necessary identity extensively. Nowhere does he deny this principle.

Indeterminacy of Reference or Rigid Designation. We can sharpen this dilemma by asking whether the following sentence is to be taken as a statement of necessary Identity or not⁵:

Cats are cats*.

We have already seen that Putnam has constructed models in different possible worlds in such a way that these two terms would be co-referential in some possible world ((b) in his previous analysis), but not co-referential in at least one possible world. Thus, it appears that the horn of the dilemma which Putnam should seize upon is the horn of contingency: it is *not necessary* that cats be cats*. The new position seems to be:

In world w_2 , cats are cats*. (case (b))

In worlds w_1 and w_3 , cats are not cats*. (cases (a) and (c))

So: It is false that 'if $a = b$ then necessarily $a = b$ '.

If the *realism* of Putnam's internal realism is supposed to be interpreted as *necessary identity* then it cannot be assimilated into his new semantics. Either realism or internalism has to be foregone. They are not simultaneously satisfiable. My Doppelgänger might just as well maintain that gold is not Au, for although their extensions may coincide in *my* world they need not coincide in his world, and this by the mutual semantic agreement of the Indeterminacy of Reference. He would be speaking of gold* where I speak of gold. We are not in disagreement about what 'gold' and 'gold*' refer to. Our disagreement lies in taking these two terms to be identical in reference.

It seems very curious that we could reach this state of affairs. By the Indeterminacy of Reference the following three sentences cannot be satisfied in all possible worlds:

(1) A cat is on a mat.

(2) A cat* is on a mat*.

(3) Cats are cats*.

Putnam's energy has been dedicated to showing that the first two sentences are simultaneously satisfiable in all possible worlds. Putnam's case (b) is indeed a model for this sentence triad but his other two cases are not.

But if (3) is not a necessary identity statement are we to conclude that 'cats' and 'cats*' are no longer rigid designators? Interestingly enough this is not the case. If we examine how Putnam's models are constructed we can see how the principle of rigidity has been separated from the principle of necessary identity. Let us construct domains of interpretation for each possible world such that with each possible world we construct a set of individuals

$\{a_{ij} : i \text{ is the } i\text{-th individual in world } j\}$

⁵ If we wished to be purists we might speak of the class of cats and cats* respectively, i. e. $\{x : x \text{ is a cat}\} = \{x : x \text{ is a cat}^*\}$. I have left the ordinary English reading which is simple to follow and intuitively expresses the same idea.

We can now give the interpretation of our terms 'cats' and 'cats*' as follows: (these are examples)

$$I('cats', w_2) = \{a_{11}, a_{21}, a_{31}\}$$

$$I('cats^*', w_2) = \{a_{11}, a_{21}, a_{31}\}$$

But in world w_1 :

$$I('cats', w_1) = \{a_{21}, a_{22}, a_{23}\}$$

$$I('cats^*', w_1) = \{a_{24}, a_{25}, a_{26}\}$$

and so on for other possible worlds.

Clearly the extensions of 'cats' and 'cats*' are identical in world w_2 but not in world w_1 . But we cannot conclude that 'cats' and 'cats*' are not rigid designators. Thus, despite the fact that we have:

$$I('cats', w_2) = I('cats^*', w_2),$$

It is *not the case* that:

$$I('cats', w_1) = I('cats^*', w_1).$$

What are we to make here of rigid identity? 'Cats' and 'cats*' pick out *fixed* individuals in different possible worlds but not the same individuals in all possible worlds. The *fixedness* of reference is no longer a guarantee of identity but is it a guarantee of rigidity, though?

It now seems odd that terms such as these were ever treated as rigid designators. Yet what allowed such rigid identity is no longer available to Putnam. When still a metaphysical realist it made sense to speak of the *same* individuals in different possible worlds, or at least it was possible to speak of counterpart individuals in different possible worlds. Individuals were language-independent. This was the *metaphysics* of metaphysical realism. It is precisely this metaphysical position which Putnam can no longer adopt.

What remains is merely the set-theoretic notion of a model with no metaphysics attached. The domain of interpretation of our language is totally neutral as to what 'objects' it contains. That some sequence may contain a term 'a' does not lead to any metaphysical conclusions about 'a' in another sequence. The letters representing the objects of a domain are wholly indifferent to natural kinds or to some particular thing. That a word is attached to certain objects *across* possible worlds is a matter of choice and in no way has to do with those objects. There is no longer any absolute access to such objects.

This neutralism can give rise to unease. How could 'cats*' ever refer to cherries? Well, this is achieved precisely because there are no pre-ordained objects out there to be corresponded to by language. Reference is *radically* indeterminate. There is no access to objects except through language, and there is even less sense in speaking of access to *kinds* of objects apart from language. We have already traced Putnam's retreat from correspondence and representationalism.

Thus if internal realism rests on necessary identity then it does so at the risk of inconsistency. The semantics of the Indeterminacy of Reference preclude such identity. Putnam has gone farther than Quine's arguments

for the Indeterminacy of Translation. Even identical analytical hypotheses between two speakers would not prevent indeterminacy of reference. Could one go any further?

Perhaps Putnam was wary of Rorty's (1980) complete abandonment of any theory of reference, and was thus motivated to maintain a realist clause in his internalism. Yet Putnam is not a philosopher of Rorty's bent. He is not prepared to take up the cause of "What was, is not. What is, will not be!" There remains some sort of ideal to which science aspires and to which realism is committed. There remains some criterion of warranted assertibility. Not everything goes. This is realism at its lowest ebb. Necessary identity is no longer available.

But if truth is perfection — the closer a theory be to the ideal the truer it is — there is no semantic component to Putnam's realism. One cannot pick out which theory is more perfect because one *cannot describe* the ideal theory. To attempt to describe the ideal theory is to recede to the *correspondence* theory of truth: just that theory has been abandoned.

Perhaps Tuomela was correct in the very first appraisal that was given of Putnam's new theory after the publication of *Meaning and the Moral Sciences* (Tuomela 1982, p. 114):

My view is that this kind of internal realism could be called coherentism (or perhaps even idealism) and that it is close to being the opposite kind of realism Putnam tries to defend in his John Locke lectures.

Later critics have put us off the track of Putnam's difficulties. Most vociferous in their opposition have been the hard-line physicalists. Hartry Field has taken Putnam to task for his anti-physicalism and tried to allow for a physicalist theory of truth (Field 1982). We saw that Glymour tried to offer such a physicalist theory of truth and Smart has also tried to answer Putnam's new idealism (Smart 1982).

However, I have tried to show that Putnam's main weaknesses are internal. External criticism, although clearly demarcating the opposing camps, does not undermine the faithful. I have tried to show that even without physicalism Putnam has insoluble problems.

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