4 Other Bodies

It is fairly uncontroversial, I think, that we can conceive a person's behavior and behavioral dispositions, his physical acts and states, his qualitative feels and fields (all non-intentionally described) as remaining fixed, while his mental attitudes of a certain kind—his *de re* attitudes—vary.[1] Thus we can imagine Alfred's believing of apple 1 that it is wholesome, and holding a true belief. Without altering Alfred's dispositions, subjective experiences, and so forth, we can imagine having substituted an identically appearing but internally rotten apple 2. In such a case, Alfred's belief differs, while his behavioral dispositions, inner causal states, and qualitative experiences remain constant.

This sort of point is important for understanding mentalistic notions and their role in our cognitive lives. But, taken by itself, it tells us nothing very interesting about mental states. For it is easy (and I think appropriate) to phrase the point so as to strip it of immediate philosophical excitement. We may say that Alfred has the *same* belief content in both situations.[2] It is just that he would be making contextually different applications of that content to different entities.' His belief is true of apple 1 and false of apple 2. The *nature* of his mental state is the same. He simply bears different relations to his environment. We do say in ordinary language that one belief is true and the other is false. But this is just another way of saying that what he believes is true of the first apple and would be false of the second. We may call these relational beliefs different beliefs if we want. But differences among such relational beliefs do not entail differences among mental states or contents, as these have traditionally been viewed.

This deflationary interpretation seems to me to be correct. But it suggests an oversimplified picture of the relation between a person's mental states or events and public or external objects and events. It suggests that it is possible to separate rather nearly what aspects of propositional attitudes depend on the person holding the attitudes and what aspects derive from matters external. There is no difference in the obliquely occurring expressions in the content clauses we attribute to Alfred. It is these sorts of expressions that carry the load in characterizing the individual's mental states and processes. So it might be thought that we could explicate such states and processes by training our philosophical attention purely on the individual subject, explicating the differences in the physical objects that his content applies to in terms of facts about his environment.

To present the view from a different angle: *de re* belief attributions are fundamentally predicational. They consist in applying or relating an incompletely interpreted content clause, an open sentence, to an object or sequence of objects, which in effect completes the interpretation. What objects these open sentences apply to may vary with context. But, according to the picture, it remains possible to divide off contextual or environmental elements represented in the propositional attitude attributions from more specifically mentalistic elements. Only the constant features of the predication represent the latter. And the specifically mental features of the propositional attitude can, according to this picture, be understood purely in *individualistic* terms—in terms of the subject's internal acts and skills, his internal causal and functional relations, his surface stimulations, his behavior and behavioral dispositions, and his qualitative experiences, all non-intentionally characterized and specified without regard to the nature of his social or physical environment.

The aim of this paper is to bring out part of what is wrong with this picture and to make some suggestions about the complex relation between a person's mental states and his environment. Through a discussion of certain elements of Putnam's twin-earth examples, I shall try to characterize ways in which identifying a attributed, but I shall be ignoring this point in order not to complicate the discussion unduly. Thus the content is, roughly speaking, the conceptual aspect of what a person believes or thinks. If we exclude the *res* in *de re* attitudes, we may say that the content is what a person believes (thinks, etc.) in *de re* or *de dicto* attitudes. We remain neutral here about what, ontologically speaking, contents are.

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[1] It is difficult to avoid at least a limited amount of philosophical jargon in discussing this subject. Since much of this jargon is subjected to a variety of uses and abuses, I will try to give brief explications of the most important special terms as they arise. An ordinary-language discourse is *intentional* if it contains *oblique* occurrences of expressions. (Traditionally, the term 'intentional' is limited to mentalistic discourse containing obliquely occurring expressions, but we can ignore this fine point.) An *oblique* (sometimes 'indirect' and, less appropriately, 'opaque' or 'non-transparent') occurrence of an expression is one on which *either* substitution of coextensive expressions may affect the truth-value of the whole containing sentence, *or* existential generalization is not a straightforwardly valid transformation. For example, 'Al believes that many masts are made of aluminum' is intentional discourse (as we are reading the sentence) because 'aluminum' occurs obliquely. If one substituted 'the thirteenth element in the periodic table' for 'aluminum' one might alter the truth-value of the containing sentence.

The characterization of *de re attitudes* (sometimes 'relational attitudes') is at bottom a complex and controversial matter. For a detailed discussion, see my "Belief *De Re*" (Ch. 3 above), esp. sec. I. For present purposes, we shall say that *de re* attitudes are those where the subject or person is unavoidably characterized as being in a not-purely-conceptual, contextual relation to an object (*re*), *of* which he holds his attitude. Typically, though not always, a term or quantified pronoun in non-oblique position will denote the object, and the person having the attitude will be said to believe (think, etc.) that object to be φ (where 'φ' stands for oblique occurrences of predicative expressions). *De re* attitudes may equivalently, and equally well, be characterized as those whose content involves an ineliminable indexical element which is applied to some entity. *De dicto* attitudes (sometimes 'notional attitudes') are those that are not *de re*.

[2] An attitude *content* is the semantical value associated with oblique occurrences of expressions in attributions of propositional attitudes. Actually, there may be more to the content than what is

person's mental states depends on the nature of his physical environment—or on specification, by his fellows, of the nature of that environment.[3]

Before entering into the details of Putnam's thought experiment, I want to sketch the general position that I shall be defending. What is right and what is wrong in the viewpoint I set out in the third and fourth paragraphs of this paper? I have already given some indication of what seems right: individual entities referred to by transparently occurring expressions, and, more generally, entities (however referred to or characterized) of which a person holds his beliefs do not in general play a direct role in characterizing the nature of the person's mental state or event. The difference between apples 1 and 2 does not bear on Alfred's mind in any sense that would immediately affect explanation of Alfred's behavior or assessment of the rationality of his mental activity. Identities of and differences among physical objects are crucial to these enterprises only insofar as those identities and differences affect Alfred's way of viewing such objects.[4] Moreover, it seems unexceptionable to claim that the obliquely occurring expressions in propositional attitude attributions are critical for characterizing a given person's mental state. Such occurrences are the stuff of which explanations of his actions and assessments of his rationality are made.

What I reject is the view that mental states and processes individuated by such obliquely occurring expressions can be understood (or "accounted for") purely in terms of non-intentional characterizations of the *individual subject's* acts, skills, dispositions, physical states, "functional states", and the effects of environmental stimuli on him, without regard to the nature of his physical environment or the activities of his fellows.[5]

In 'Individualism and the Mental' (Chapter 5 below) I presented a thought experiment in which one fixed non-intentional, individualistic descriptions of the physical, behavioral, phenomenalistic, and (on most formulations) functional histories of an individual. By varying the *uses of words* in his linguistic community, I found that the contents of his propositional attitudes varied.[6] I shall draw a parallel conclusion from Putnam's twin-earth thought experiment: We can fix an individual's physical, behavioral, phenomenalistic, and (on some formulations) functional histories; by varying the *physical environment*, one finds that

[3] Hilary Putnam, "The Meaning of 'Meaning,'" repr. in *Philosophical Papers*, in (Cambridge: Cambridge University Press, 1975), to which page numbers refer.

[4] This point is entirely analogous to the familiar point that *knowing* is not a mental state. For knowledge depends not only on one's mental state, but on whether its content is true. The point above about indexicals and mental states is the analog for predication of this traditional point about the relation between the mind and (complete) propositions. Neither the truth or falsity of a content nor the 'truth-of-ness' or 'false-of-ness' of a content, nor the entities a content is true of, enters directly into the individuation of a mental state. For more discussion of these points, see Burge, sec. IId.

[5] This rejection is logically independent of rejecting the view that the intentional can be accounted for in terms of the non-intentional. I reject this view also. But here is not the place to discuss it.

[6] Much of the present paper constitutes an elaboration of remarks in 'Individualism and the Mental', note 2.

the contents of his propositional attitudes vary. It is to be re-emphasized that the variations in propositional attitudes envisaged are not exhausted by variations in the entities to which individuals' mental contents are related. The contents themselves vary. At any rate, I shall so argue.

I

In Putnam's thought experiment, we are to conceive of a near duplicate of our planet Earth, called 'Twin-Earth'. Except for certain features about to be noted (and necessary consequences of these features), Twin-Earth duplicates Earth in every detail. The physical environments look and largely are the same. Many of the inhabitants of one planet have duplicate counterparts on the other, with duplicate macro-physical, experiential, and dispositional histories.

One key difference between the two planets is that the liquid on Twin-Earth that runs in rivers and faucets, and is called 'water' by those who speak what is called 'English' is not H_2O, but a different liquid with a radically different chemical formula, XYZ. I think it natural and obviously correct to say, with Putnam, that the stuff that runs in rivers and faucets on Twin-Earth is thus not water. I shall not argue for this view, because it is pretty obvious, pretty widely shared, and stronger than arguments that might be or have been brought to buttress it. I will just assume that XYZ is not water of any sort. Water is H_2O. What the Twin-Earthians call 'water' is XYZ. In translating into English occurrences of 'water' in the mouths of Twin-Earthians, we would do best to coin a new non-scientific word (say, 'twater'), explicated as applying to stuff that looks and tastes like water, but with a fundamentally different chemistry.

It is worth bearing in mind that the thought experiment might apply to any relatively non-theoretical natural kind word. One need not choose an expression as central to our everyday lives as 'water' is. For example, we could (as Putnam in effect suggests) imagine the relevant difference between Earth and Twin-Earth to involve the application of 'aluminum' or 'elm', or 'mackerel'.[7]

A second key difference between Earth and Twin-Earth—as we shall discuss the case—is that the scientific community on Earth has determined that the chemical structure of water is H_2O, whereas the scientific community on Twin-Earth knows that the structure of twater is XYZ. These pieces of knowledge have spread into the respective lay communities, but have not saturated them. In particular, there are numerous scattered individuals on Earth and Twin-Earth untouched by the scientific developments. It is these latter individuals who have duplicate counterparts.

[7] Anyone who wishes to resist our conclusions merely by claiming that XYZ is water will have to make parallel claims for aluminum, helium, and so forth. Such claims, I think, would be completely implausible.

We now suppose that Adam is an English speaker and that Adam$_{te}$ is his counterpart on Twin-Earth. Neither knows the chemical properties of what he calls 'water'. This gap in their knowledge is probably not atypical of uneducated members of their communities.[8] But similar gaps are clearly to be expected of users of terms like 'aluminum', 'elm', 'mackerel'. (Perhaps not in the case of water, but in the other cases, we could even imagine that Adam and Adam$_{te}$ have no clear idea of what the relevant entities in their respective environments look like or how they feel, smell, or taste.) We further suppose that both have the same qualitative perceptual intake and qualitative streams of consciousness, the same behavioral dispositions and inner functional states (non-intentionally and individualistically described). Insofar as they do not ingest, say, aluminum or its counterpart, we might even fix their physical states as identical.

When Adam says or consciously thinks the words, 'There is some water within twenty miles,' I hope,' Adam$_{te}$ says or consciously thinks the same word forms. But there are differences. As Putnam in effect points out, Adam's occurrences of 'water' apply to water and mean water, whereas Adam$_{te}$'s apply to twater and mean twater. And, as Putnam does not note, the differences affect oblique occurrences in 'that'-clauses that provide the contents of their mental states and events. Adam hopes that there is some water (oblique occurrence) within twenty miles. Adam$_{te}$ hopes that there is some twater within twenty miles. That is, even as we suppose that 'water' and 'twater' are not logically exchangeable with coextensive expressions salva veritate, we have a difference between their thoughts (thought contents).

Laying aside the indexical implicit in 'within twenty miles', the propositional attitudes involved are not even de re. But I need not argue this point. Someone might wish to claim that these are de re attitudes about the relevant proper-ties—of water (being water? waterhood?) in one case and of twater (etc.) in the other. I need not dispute this claim here. It is enough to note that even if the relevant sentences relate Adam and his counterpart to res, those sentences also specify how Adam and Adam$_{te}$ think about the res. In the sentence applied to Adam, 'water' is, by hypothesis, not exchangeable with coextensive expressions. It is not exchangeable with 'H$_2$O', or with 'liquid which covers two-thirds of the face of the earth', or with 'liquid said by the Bible to flow from a rock when Moses struck it with a rod'. 'Water' occurs obliquely in the relevant attribution. And it is expressions in oblique occurrence that play the role of specifying a person's mental contents, what his thoughts are.

[8] I am omitting a significant extension of Putnam's ideas. Putnam considers "rolling back the clock" to a time when everyone in each community would be as ignorant of the structure of water and twater as Adam and Adam$_{te}$ are now. I omit this element from the thought experiment, partly because arriving at a reasonable interpretation of this case is more complicated and partly because it is not necessary for my primary purposes. Thus, as far as we are concerned, one is free to see differences in Adam's and Adam$_{te}$'s mental states as deriving necessarily from differences in the actions and attitudes of other members in their respective communities.

In sum, mental states and events like beliefs and thoughts are individuated partly by reference to the constant, or obliquely occurring, elements in content clauses. But the contents of Adam's and Adam$_{te}$'s beliefs and thoughts differ while every feature of their non-intentionally and individualistically described physical, behavioral, dispositional, and phenomenal histories remains the same. Exact identity of physical states is implausible in the case of water. But this point is irrelevant to the force of the example—and could be circumvented by using a word, such as 'aluminum', 'elm', etc., that does not apply to something Adam ingests. The difference in their mental states and events seems to be a product primarily of differences in their physical environments, mediated by differences in their social environments—in the mental states of their fellows and the conventional meanings of words they and their fellows employ.

II

The preceding argument and its conclusion are not to be found in Putnam's paper. Indeed, the conclusion appears to be incompatible with some of what he says. For example, Putnam interprets the difference between earth and twin-earth uses of 'water' purely as a difference in extension. And he states that the relevant Earthian and Twin-Earthian are 'exact duplicates in ... feelings, thoughts, interior monologue etc."[a] On our version of the argument, the two are in no sense exact duplicates in their thoughts. The differences show up in oblique occurrences in true attributions of propositional attitudes. I shall not speculate about why Putnam did not draw a conclusion so close to the source of his main argument. Instead, I will criticize aspects of his discussion that tend to obscure the conclusion (and have certainly done so for others).

Chief among these aspects is the claim that natural kind words like 'water' are indexical (pp. 229–235). This view tends to suggest that earth and twin-earth occurrences of 'water' can be assimilated simply to occurrences of indexical expressions like 'this' or 'I'. Adam's and Adam$_{te}$'s propositional attitudes would then be further examples of the kind of de re attitudes mentioned at the outset of this paper. Their contents would be the same, but would be applied to different res.[9] If this were so, it might appear that there would remain a convenient and natural means of segregating those features of propositional attitudes

[a] Putnam, "The Meaning of 'Meaning'," in Philosophical Papers, ii. 224. Subsequent page numbers of this article are given parenthetically in the text.

[9] This view and the one described in the following sentence were anticipated and "Individualism and the Mental", criticized in Burge, sec. IId and note 2. Both views have been adopted by Jerry Fodor 'Methodological Solipsism Considered as a Research strategy in Cognitive Psychology', The Behavioral and Brain Sciences, 3 (1980) 63–73. I believe that these views have been informally held by various others. Colin McGinn, ("Charity, interpretation and Belief", The Journal of Philosophy, 74 (1977), 521–535), criticizes Putnam (correctly, I think) for not extending his theses about meaning to propositional attitudes. But McGinn's argument is limited to claiming that the res in relational propositional attitudes differ between Earth and Twin-Earth and that these res enter into individuating

that derive from the nature of a person's social and physical context, on one hand, from those features that derive from the organism's nature, and palpable effects of the environment on it, on the other. The trouble is that there is no appropriate sense in which natural kind terms like 'water' are indexical.

Putnam gives the customary explication of the notion of indexicality. 'Words like "now", "this", "here", have long been recognized to be *indexical or token-reflexive*—i.e. to have an extension which varies from context to context or token to token' (pp. 233–234). I think that it is clear that 'water', *interpreted as it is in English*, or as we English speakers standardly interpret it, does not shift extension from context to context in this way. (One must, of course, hold the language, or linguistic construal, fixed. Otherwise, every word will trivially count as indexical. For by the very conventionality of language, we can always imagine some context in which our word—word form—has a different extension.) The extension of 'water', as interpreted in English in all non-oblique contexts, is (roughly) the set of all aggregates of H_2O molecules, together, probably, with the individual molecules. There is nothing at all indexical about 'water' in the customary sense of 'indexical'.

Putnam suggests several grounds for calling natural kind words indexical. I shall not try to criticize all of these, but will deal with a sampling:

(a) Now then, we have maintained that indexicality extends beyond the *obviously* indexical words...Our theory can be summarized as saying that words like 'water' have an unnoticed indexical component: 'water' is stuff that bears a certain similarity relation to the water *around here*. Water at another time or in another place or even in another possible world has to bear the relation [same-liquid] to *our* 'water' in order to be water. (p. 234)

(b) 'Water' is indexical. What do I mean by that? If it is indexical, if what I am saying is right, then 'water' means 'whatever is like water, bears some equivalence relation, say the liquid relation, to *our* water.' Where 'our' is, of course, an indexical word. If that's how the extension of 'water' is determined, then the environment determines the extension of 'water'. Whether 'our' water is in fact XYZ or H_2O.[10]

These remarks are hard to interpret with any exactness because of the prima facie circularity, or perhaps ellipticality, of the explications. Water around here, or our water, is just water. Nobody else's water, and no water anywhere else, is any different. Water is simply H_2O (give or take some isotopes and impurities). These points show the superfluousness of the indexical expressions. No shift of extension with shift in context needs to be provided for.

mental states. (The congeniality of this view with Putnam's claim that natural kind terms are indexical is explicitly noted.) Thus the argument supports only the position articulated in the first paragraph of this paper and is subject to the deflationary interpretation that followed (cf. also note 4). McGinn's argument neither explicitly accepts nor explicitly rejects the position subsequently adopted by Fodor and cited above.

[10] Putnam, (1974), 451. Cf. also "Language and Reality" in Philosophical Papers, ii. 277. 'Comment on Wilfrid Sellars', *Synthese*, 27.

Narrower consideration of these 'meaning explanations' of 'water' brings out the same point. One might extrapolate from (a) the notion that 'water *means* (a') 'stuff that bears the same-liquid relation to the stuff we call "water" around here'. But this cannot be right. (I pass over the fact that there is no reason to believe that the meaning of 'water' involves reference to the linguistic expression 'water'. Such reference could be eliminated.) For if Adam and his colleagues visited Twin-Earth and (still speaking English) called XYZ 'water', it would follow on this meaning explication that their uses of the sentence 'Water flows in that stream' would be true. They would make no mistake in speaking English and calling XYZ 'water'. For since the extension of 'here' would shift, occurrences on Twin-Earth of 'stuff that bears the same-liquid relation to the stuff we call "water" around here flows in that stream' would be true. But by Putnam's own account, which is clearly right on this point, there is no water on Twin-Earth. And there is no reason why an English speaker should not be held to this account when he visits Twin-Earth. The problem is that although 'here' shifts its extension with context, 'water' does not. 'Water' lacks the indexicality of 'here'.

A similar objection would apply to extrapolating from (b) the notion that 'water' means (b') 'whatever bears the same-liquid relation to what we call "water"', or (b'') 'whatever bears the same-liquid relation to this stuff'. 'Water' *interpreted as it is in English* does not shift its extension with shifts of speakers, as (b') and (b'') do. The fact that the Twin-Earthians apply 'water' to XYZ is not a reflection of a shift in extension of an indexical expression with a fixed linguistic (English) meaning, but of a shift in meaning between one language, and linguistic community, and another. Any expression, indexical or not, can undergo such 'shifts', as a mere consequence of the conventionality of language. The relevant meaning equivalence to (b') is no more plausible than saying that 'bachelor' is indexical because it means 'whatever social role the speaker applies "bachelor" to' where 'the speaker' is allowed to shift in its application to speakers of different linguistic communities according to context. If Indians applied 'bachelor' to all and only male senators, it would not follow that 'bachelor' as it is used in English is indexical. Similar points apply to (b'').

At best, the term 'water' and a given occurrence or token of (b') or (a'), say an introducing token, have some sort of deep or necessary equivalence. But there is no reason to conclude that the indexicality of (a'), (b') or (b'')—which is a feature governing *general use*, not particular occurrences—infects the meaning of the *expression* 'water', as it is used in English.

Much of what Putnam says suggests that the appeal to indexicality is supposed to serve other desiderata. One is a desire to defend a certain view of the role of the natural kind terms in talk about necessity. Roughly, the idea is that 'water' applies to water in all discourse about necessity. Putnam expresses this idea by calling natural kind terms rigid, and seems to equate indexicality and rigidity (p. 234). These points raise a morass of complex issues which I want to avoid getting into. It is enough here to point out that a term can be rigid without being indexical. Structural descriptive syntactical names are examples. Denying

that natural kind terms are indexical is fully compatible with holding that they play any given role in discourse about necessity.

Another purpose that the appeal to indexicality seems to serve is that of accounting for the way natural kind terms are introduced, or the way their reference is fixed (p. 234, and (b) above). It may well be that indexicals frequently play a part in the (reconstructed) introduction or reference-fixing of natural kind terms. But this clearly does not imply that the natural kind terms partake in the indexicality of their introducers or reference-fixers. With some stage setting, one could introduce natural kind terms, with all their putative modal properties, by using non-indexical terms. Thus a more general rational reconstruction of the introduction, reference-fixing, and modal behavior of natural kind terms is needed. The claim that natural kind terms are themselves indexical is neither a needed nor a plausible account of these matters.

It does seem to me that there is a grain of truth encased within the claim that natural kind terms are indexical. It is this. *De re* beliefs usually enter into the reference-fixing of natural kind terms. The application of such terms seems to be typically fixed partly by *de re* beliefs we have of particular individuals, or quantities of stuff, or physical magnitudes or properties—beliefs that establish a semantical relation between term and object. (Sometimes the *de re* beliefs are about evidence that the terms are introduced to explain.) Having such beliefs requires that one be in not-purely-context-free conceptual relations to the relevant entities.b That is, one must be in the sort of relation to the entities that someone who indexically refers to them would be. One can grant the role of such beliefs in establishing the application and function of natural kind terms, without granting that all beliefs and statements involving terms whose use is so established are indexical. There seems to be no justification for the latter view, and clear evidence against it.

I have belabored this criticism not because I think that the claim about indexicality is crucial to Putnam's primary aims in 'The Meaning of "Meaning"'. Rather, my purpose has been to clear an obstacle to properly evaluating the importance of the twin-earth example for a philosophical understanding of belief and thought. The difference between mistaking natural kind words for indexicals and not doing so—rather a small linguistic point in itself—has large implications for our understanding of mentalistic notions. Simply assimilating the twin-earth example to the example of indexical attitudes I gave at the outset trivializes its bearing on philosophical understanding of the mental. Seen aright, the example suggests a picture in which the individuation of a given individual's mental *contents* depends partly on the nature (or what his fellows think to be the nature) of entities about which he or his fellows have *de re* beliefs. The identity of one's mental contents, states, and events is not independent of the nature of one's physical and social environment.

b Cf. Burge, "Belief *De Re*" (Ch. 3 above).

To summarize my view: The differences between Earth and Twin-Earth will affect the attributions of propositional attitudes to inhabitants of the two planets, including Adam and Adam$_{te}$. The differences are not to be assimilated to differences in the extensions of indexical expressions with the same constant, linguistic meaning. For the relevant terms are not indexical. The differences, rather, involve the constant context-free interpretation of the terms. Propositional attitude attributions which put the terms in oblique occurrence will thus affect the content of the propositional attitudes. Since mental acts and states are individuated (partly) in terms of their contents, the differences between Earth and Twin-Earth include differences in the mental acts and states of their inhabitants.

III

Let us step back now and scrutinize Putnam's interpretation of his thought experiment in the light of the fact that natural kind terms are not indexical. Putnam's primary thesis is that a person's psychological states—in what Putnam calls the 'narrow sense' of this expression—do not 'fix' the extensions of the terms the person uses. A psychological state in the 'narrow sense' is said to be one which does not 'presuppose' the existence of any individual other than the person who is in that state (p. 220). The term 'presuppose' is, of course, notoriously open to a variety of uses. But Putnam's glosses seem to indicate that a person's being in a psychological state does not presuppose a proposition P, if it does not logically entail P.[11]

Now we are in a position to explore a first guess about what psychological states are such in the 'narrow sense'.[12] According to this interpretation, being in a psychological state in the narrow sense (at least as far as propositional attitudes are concerned) is to be in a state correctly ascribable in terms of a content clause which contains no expressions in a position (in the surface grammar) which admits of existential generalization, and which is not in any sense *de re*. *De dicto*, non-relational propositional attitudes would thus be psychological states in the narrow sense. They entail by existential generalization the

[11] In explaining the traditional assumption of 'methodological solipsism', Putnam writes: "This assumption is the assumption that no psychological state, properly so-called, presupposes the existence of any individual other than the subject to whom that state is ascribed. (In fact, the assumption was that no psychological state presupposes the existence of the subject's *body* even: if P is a psychological state, properly so-called, then it must be *logically possible* for a "disembodied mind" to be in P.) (p. 220, the second italics mine). He also gives examples of psychological states in the 'wide sense', and characterizes these as *entailing* the existence of other entities besides the subject of the state (p. 220). Although there is little reason to construe Putnam as identifying entailment and presupposition, these two passages taken together suggest that for his purposes, no difference between them is of great importance. I shall proceed on this assumption.

[12] This guess is Fodor's ("Methodological Solipsism"). As far as I can see, the interpretation is not excluded by anything Putnam says. It is encouraged by some of what he says—especially his remarks regarding indexicality and his theory about the normal form for specifying the meaning of 'water'.

attitudes, or at least attitudes with these same contents? As the case has been described, I think it intuitively obvious that he does not.

At least two broad types of consideration back the intuition. One is that it is hard to see how Adam$_{te}$ could have acquired thoughts involving the concept of water (aluminum, elm, mackerel).[14] There is no water on Twin-Earth, so he has never had any contact with water. Nor has he had contact with anyone else who has had contact with water. Further, no one on Twin-Earth so much as uses a word which means *water*. It is not just that water does not fall in the extension of any of the Twin-Earthians' terms. The point is that none of their terms even translates into our (non-indexical) word 'water'. No English$_{te}$-to-English dictionary would give 'water' as the entry for the Twin-Earthians' word. It would thus be a mystery how a Twin-Earthian could share any of Adam's attitudes that involve the notion of water. They have not had any of the normal means of acquiring the concept. The correct view is that they have acquired, by entirely normal means, a concept expressed in their language that bears some striking, superficial similarities to ours. But it is different. Many people in each community could articulate things about the respective concepts that would make the difference obvious.

There is a second consideration—one that concerns truth—that backs the intuition that Adam$_{te}$ lacks attitudes involving the notion of water (aluminum, elm, mackerel). There is no water on Twin-Earth. If Adam$_{te}$ expresses attitudes that involve the concept of water (as opposed to twater), a large number of his ordinary beliefs will be false—that *that* is water, that there is water within twenty miles, that chemists in his country know the structure of water, and so forth. But there seems no reason to count his beliefs false and Adam's beliefs true (or vice versa). Their beliefs were acquired and relate to their environments in exactly parallel and equally successful ways.

The differences between the attitudes of Adam and Adam$_{te}$ derive not from differences in truth-value, but from differences in their respective environments and social contexts. They give different sorts of entities as paradigm cases of instances of the term. Their uses of the term are embedded in different communal usages and scientific traditions that give the term different constant, conventional meanings. In normal contexts, they can explicate and use the term in ways that are informative and socially acceptable within their respective communities. In doing so, they express different notions and different thoughts with these words. Their thoughts and statements have different truth-conditions and are true of different sorts of entities.

Of course, Adam$_{te}$ believes of XYZ everything Adam believes of water—*if* we delete all belief attributions that involve 'water' and 'twater' in oblique position,

[14] More jargon. I shall use the terms 'concept' and *'notion'* interchangeably to signify the semantical values of obliquely occurring parts of content clauses, parts that are not themselves sentential. Thus a concept is a non-propositional part of a content. The expressions 'concept' and 'notion' are, like 'content', intended to be ontologically neutral. Intuitively, a concept is a context-free way a person thinks about a stuff, a thing, or a group of things.

existence of no entities other than the subject (and his thought contents). *De re* propositional attitudes—at least those *de re* propositional attitudes in which the subject is characterized as being in relation to some thing other than himself and his thought contents—appear to be psychological states in the 'wide sense'. Having *de re* attitudes of (*de*) objects other than oneself entails the existence of objects other than oneself.

Granted this provisional interpretation, the question arises whether Putnam's twin-earth examples show that a person's psychological states in the narrow sense fail to 'fix' the extensions of the terms he uses. It would seem that to show this, the examples would have to be interpreted in such a way that Adam and Adam$_{te}$ would have the same *de dicto* propositional attitudes while the extensions of their terms differed. This objective would suggest an even stronger interpretation of the thought experiment. Expressions in oblique position in true attributions of attitudes to Adam and Adam$_{te}$ would be held constant while the extensions of their terms varied. But neither of these interpretations is plausible.[13]

Let us see why. To begin with, it is clear that Adam and Adam$_{te}$ will (or might) have numerous propositional attitudes correctly attributable with the relevant natural kind terms in oblique position. The point of such attributions is to characterize a subject's mental states and events in such a way as to take into account the *way* he views or thinks about objects in his environment. We thus describe his perspective on his environment and utilize such descriptions in predicting, explaining, and assessing the rationality and the correctness or success of his mental processes and overt acts. These enterprises of explanation and assessment provide much of the point of attributing propositional attitudes. And the way a subject thinks about natural kinds of stuffs and things is, of course, as relevant to these enterprises as the *way* he thinks about anything else. Moreover, there is no intuitive reason to doubt that the relevant natural kind terms can express and characterize his way of thinking about the relevant stuffs and things—water, aluminum, elms, mackerel. The relevant subjects meet socially accepted standards for using the terms. At worst, they lack a specialist's knowledge about the structure of the stuffs and things to which their terms apply.

We now consider whether the same natural kind terms should occur obliquely in attributions of propositional attitudes to Adam and Adam$_{te}$. Let us assume, what seems obvious, that Adam has propositional attitudes correctly attributed in English with his own (English) natural kind terms in oblique position. He hopes that there is some water within twenty miles; he believes that sailboat masts are often made of aluminum, that elms are deciduous trees distinct from beeches, that shrimp are smaller than mackerel. Does Adam$_{te}$ have these same

[13] Jerry Fodor (ibid.) states that inhabitants of Twin-Earth harbor the thought that water is wet—even granted the assumption that there is no water on Twin-Earth and the assumption that their thought is not 'about' water (H$_2$O), but about XYZ. Fodor provides no defence at all for this implausible view.

and assume that there are no relevant differences between uses of others among their natural kind terms. In a sense, they would explicate the terms in the same way. But this would show that they have the same concept only on the assumption that each must have *verbal means besides 'water'* of expressing his concept—means that suffice in every outlandish context to distinguish that concept from others. I see no reason to accept this assumption. Nor does it seem antecedently plausible.

So far I have argued that Adam and Adam te differ as regards the *contents* of their attitudes. This suffices to show that their mental states, ordinarily so-called, as well as the extensions of their terms differ. But the examples we used involved relational propositional attitudes: belief that *that* is water (twater), that some water (twater) is within twenty miles of *this place*, that chemists in *this country* know the structure of water (twater), and so on. Although these do not involve 'water' as an indexical expression and some are not even of *(de)* water (twater), they are, plausibly, propositional attitudes in the wide sense. Thus these examples do not strictly show that Adam and Adam te differ in their *de dicto* attitudes—attitudes in the narrow sense.

But other examples do. Adam might believe that some glasses somewhere sometime contain some water, or that some animals are smaller than all macker-el. Adam te lacks these beliefs. Yet these ascriptions may be interpreted so as not to admit of ordinary existential generalization on positions in the 'that'-clauses, and not to be *de re* in any sense. We can even imagine differences in their *de dicto* beliefs that correspond to differences in truth-value. Adam may believe what he is falsely told when someone mischievously says, 'Water lacks oxygen'. When Adam te hears the same words and believes what *he* is told, he acquires (let us suppose) a true belief: twater does lack oxygen.[15]

I shall henceforth take it that Adam and Adam te have relevant propositional attitudes from whose content attributions no application of existential generaliz-ation is admissible. None of these contents need be applied by the subjects—*de re*—to objects in the external world. That is, the relevant attitudes are purely *de dicto* attitudes. Yet the attitude contents of Adam and Adam te differ.

IV

Thus it would seem that on the construal of 'narrow sense' we have been explor-ing, the twin-earth examples fail to show that psychological states in the narrow

[15] As I mentioned earlier, one might hold that 'water' names an abstract property or kind and that attitude attributions typically attribute *de re* attitudes *of* the kind. I do not accept this view, or see any strong reasons for it. But let us examine its consequences briefly. I shall assume that 'kind' is used in such a way that water is the same kind as H_2O. To be minimally plausible, the view must distinguish between kind and concept (cf. note 14)—between the kind that is thought of and the person's way of thinking of it. 'Water' may express or indicate one way of thinking of the kind— H_2O another. Given this distinction, previous considerations will show that Adam and Adam te apply different concepts (and contents) to the different kinds. So even though their attitudes are not 'narrow', they still have different mental states and events. For mental states and events are individuated partly in terms of contents.

sense (or the contents of such states) do not 'fix' the extensions of terms that Adam and Adam te use. For different contents and different propositional atti-tudes correspond to the different extensions. This conclusion rests, however, on a fairly narrow interpretation of 'fix' and—what is equally important—on a plausible, but restrictive application of 'narrow sense'. Let me explain these points in turn.

Propositional attitudes involving non-indexical notions like that of water do 'fix' an extension for the term that expresses the notion. But they do so in a purely semantical sense: (necessarily) the notion of water is true of all and only water. There is, however, a deeper and vaguer sense in which non-relational propositional attitudes do not fix the extensions of terms people use. This point concerns explication rather than purely formal relationships. The twin-earth examples (like the examples from 'Individualism and the Mental') indicate that the order of explication does not run in a straight line from propositional atti-tudes in the 'narrow sense' (even as we have been applying this expression) to the extensions of terms.[16] Rather, to know and explicate what a person believes *de dicto*, one must typically know something about what he believes *de re*, about what his fellows believe *de re* (and *de dicto*), about what entities they ostend, about what he and his fellows' words mean, and about what entities fall in the extensions of their terms.

A corollary of this point is that one cannot explicate what propositional attitude *contents* a person has by taking into account only facts about him that are non-intentional and individualistic. There is a still flourishing tradi-tion in the philosophy of mind to the contrary. This tradition claims to explain psychological states in terms of non-intentional, functional features of the indi-vidual—with no reference to the nature of the environment or the character of the actions, attitudes, and conventions of other individuals.[17] Although there is perhaps something to be said for taking non-intentional, individualistic research strategies as one reasonable approach to explaining the behavior of individuals, the view is hopelessly oversimplified as a philosophical explication of ordinary mentalistic notions.

Even insofar as individualism is seen as a research strategy, like the 'meth-odological solipsism' advocated by Jerry Fodor, it is subject to limitations. Such strategies, contrary to Fodor's presumptions, cannot be seen as providing a means of individuating ordinary ('non-transparent') attributions of content.

[16] I am tempted to characterize this as Putnam's own primary point. What counts against yielding to the temptation is his interpretation of natural kind terms as indexical, his focus on meaning, and his statement that those on Twin-Earth have the same thoughts (p. 224) as those on Earth. Still, what follows is strongly suggested by much that he says.

[17] Works more or less explicitly in this tradition are Putnam, "The Nature of Mental States" in *Philosophical Papers*, ii. 437; Harman, (1973), 43–46, 56–65; D. Lewis, "Psychophysical and Theoretical Identifications", *Australasian Journal of Philosophy* 50 (1972), 249–250 idem, "Radical Interpretation", *Synthese*, 27 (1974), 331 ff.; J. A. Fodor, *The Language of Thought* (Cambridge, Mass: Harvard University Press) (1975), ch. 1, and *idem*, "Methodological Solipsism".

Indeed, it is highly doubtful that a psychological theory can treat psychological states as representational at all, and at the same time individuate them in a strictly individualistic, formal, or 'syntactic' way. One could, I suppose, have a theory of behavior that individuated internal states 'syntactically'. Or one could have a representational theory (like most of the cognitive theories we have) which abstracts, in particular attributions to individuals, from the question of whether or not the attributed contents are true. But the latter type of theory, in every version that has had genuine use in psychological theory, relies on individuation of the contents, individuation which involves complex reference to entities other than the individual. Putnam's examples, interpreted in the way I have urged, constitute one striking illustration of this fact.

These remarks invite a reconsideration of the expression 'psychological state in the narrow sense'. Putnam originally characterized such states as those that do not 'presuppose' (entail) the existence of entities other than the subject. And we have been taking the lack of presupposition to be coextensive with a failure of existential generalization and an absence of *de re* attitudes. Thus we have been taking psychological states in the 'narrow sense' to be those whose standard 'that'-clause specification does not admit of existential generalization on any of its expressions, and is not in any sense *de re*. But our weakened construal of presupposition. 'fix' suggests a correction in the application of the notion of presupposition. One might say that Adam's *de dicto* attitudes involving the notion of water *do* presuppose the existence of other entities. The conditions for individuating them make essential reference to the nature of entities in their environment or to the actions and attitudes of others in the community. Even purely *de dicto* propositional attitudes presuppose the existence of entities other than the subject in this sense of presupposition. On this construal, *none* of the relevant attitudes, *de re* or *de dicto*, are psychological states in the narrow sense.

I want to spend the remainder of the section exploring this broadened application of the notion of presupposition. The question is what sorts of relations hold between an individual's mental states and other entities in his environment by virtue of the fact that the conditions for individuating his attitude contents—and thus his mental states and events—make reference to the nature of entities in his environment, or at least to what his fellows consider to be the nature of those entities.

We want to say that it is logically possible for an individual to have beliefs involving the concept of water (aluminum, elm, mackerel) even though there is no water (and so on) of which the individual holds these beliefs. This case seems relatively unproblematic. The individual believer might simply not be in an appropriately direct epistemic relation to any of the relevant entities. This is why existential generalization can fail and the relevant attitudes can be purely *de dicto*, even though our method of individuating attitude contents makes reference to the entities.

I think we also want to say something stronger: it is logically possible for an individual to have beliefs involving the concept of water (aluminum, and

so on), even though there exists no water. An individual or community might (logically speaking) have been wrong in thinking that there was such a thing as water. It is epistemically possible—it might have turned out—that contrary to an individual's beliefs, water did not exist.

Part of what we do when we conceive of such cases is to rely on actual circumstances in which these illusions do not hold—rely on the actual existence of water—in order to individuate the notions we cite in specifying the propositional attitudes. We utilize—must utilize, I think—the actual existence of physical stuffs and things, or of other speakers or thinkers, in making sense of counterfactual projections in which we think at least some of these surroundings away.

But these projections are not unproblematic. One must be very careful in carrying them out. For the sake of argument, let us try to conceive of a set of circumstances in which Adam holds beliefs he actually holds involving the notion of water (aluminum, etc.), but in which there is no water and no community of other speakers to which Adam belongs. Adam may be deluded about these matters: he may live in a solipsistic world. What is problematic about these alleged circumstances is that they raise the question of how Adam *could* have propositional attitudes involving the notion of water. How are they distinguished from attitudes involving the notion of *twater*, or any of an indefinitely large number of other notions?

In pressing this question, we return to considerations regarding concept acquisition and truth. How, under the imagined circumstances, did Adam acquire the concept of water? There is no water in his environment, and he has contact with no one who has contact with water. There seems no reason derivable from the imagined circumstances (as opposed to arbitrary stipulation) to suppose that Adam's words bear English interpretations instead of English$_{te}$ interpretations, since there are no other speakers in his environment. Nothing in Adam's own repertoire serves to make 'water' mean *water* instead of *twater*, or numerous other possibilities. So there seems no ground for saying that Adam *has* acquired the concept of water.

Considerations from truth-conditions point in the same direction. When Adam's beliefs (as held in the putative solipsistic world) are carried over to and evaluated in a 'possible world' in which *twater* (and not water) exists, why should some of the relevant beliefs be false in this world and true in a world in which water exists, or vice versa? Nothing in the solipsistic world seems to ground any such distinction. For these reasons, it seems to me that one cannot credibly imagine that Adam, with his physical and dispositional life history, could have beliefs involving the notion of water, even though there were no other entities (besides his attitude contents) in the world.

We have now supported the view that the point about explication and individuation brings with it, in this case, a point about entailment. Adam's psychological states in the narrow sense (those that do not fix (in either sense of 'fix') the extensions of his terms. This is so not because Adam's beliefs involving the notion of water are indexical

or *de re*, and not because he has the same propositional attitudes as Adam$_{te}$ while the extensions of his terms differ. Rather it is because all of Adam's attitude contents involving relevant natural kind notions—and thus all his relevant attitudes (whether *de re* or *de dicto*)—are individuated, by reference to other entities. His having these attitudes in the relevant circumstances entails (and thus presupposes in Putnam's sense) the existence of other entities.

The exact nature of the relevant entailment deserves more discussion than I can give it here. As I previously indicated, I think that Adam's having attitudes whose contents involve the notion of water does not entail the existence of water. If by some wild communal illusion, no one had ever really seen a relevant liquid in the lakes and rivers, or had drunk such a liquid, there might still be enough in the community's talk to distinguish the notion of water from that of twater and from other candidate notions. We would still have our chemical analyses, despite the illusoriness of their object. (I assume here that not *all* of the community's beliefs involve similar illusions.[18]) I think that Adam's having the relevant attitudes probably does not entail the existence of other speakers. Prima facie, at least, it would seem that if he did interact with water and held a few elementary true beliefs about it, we would have enough to explain how he acquired the notion of water—enough to distinguish his having that notion from his having the notion of twater. What seems incredible is to suppose that Adam, in his relative ignorance and indifference about the nature of water, holds beliefs whose contents involve the notion, even though neither water nor communal cohorts exist.

V

It should be clear that this general line promises to have a bearing on some of the most radical traditional sceptical positions. (I think that the bearing of the argument in 'Individualism and the Mental' is complementary and more comprehensive.) The line provides fuel for the Kantian strategy of showing that at least some formulations of traditional scepticism accept certain elements of our ordinary viewpoint while rejecting others that are not really separable. Exploring the epistemic side of these issues, however, has not been our present task.

Our main concern has been the bearing of these ideas on the philosophy of mind. What attitudes a person has, what mental events and states occur in him, depends on the character of his physical and social environment. In some instances, an individual's having certain *de dicto* attitudes *entails* the existence of entities other than himself and his attitude contents. The twin-earth

[18] Thus I am inclined to think that, if one is sufficiently precise, one could introduce a 'natural kind' notion, like water without having had any causal contact with instances of it. This seems to happen when chemical or other kinds are anticipated in science before their discovery 'in nature'. The point places a prima facie limitation on anti-sceptical uses of our argument. Thus I have been careful to emphasize Adam's relative ignorance in our criticism of solipsistic thought experiments.

thought experiment may work only for certain propositional attitudes. Certainly its clearest applications are to those whose contents involve non-theoretical natural kind notions. But the arguments of 'Individualism and the Mental' suggest that virtually no propositional attitudes can be explicated in individualistic terms. Since the intentional notions in terms of which propositional attitudes are described are irreducibly non-individualistic, no purely individualistic account of these notions can possibly be adequate.

Although most formulations of the lessons to be learned from twin-earth thought experiments have seemed to me to be vague or misleading in various ways, many of them indicate a broad appreciation of the general drift of the argument just presented. In fact, as I indicated earlier, the general drift is just beneath the surface of Putnam's paper. A common reaction, however, is that if our ordinary concept of mind is non-individualistic, so much the worse for our ordinary concept.

This reaction is largely based on the view that if mentalistic notions do not explain 'behavior' individualistically, in something like the way chemical or perhaps physiological notions do, they are not respectable, at least for 'cognitive' or 'theoretical' as opposed to 'practical' purposes. I cannot discuss this view in the detail it deserves here. But it has serious weaknesses. It presupposes that the only cognitively valuable point of applying mentalistic notions is to explain individual 'behavior'. It assumes that the primary similarities in 'behavior' that mentalistic explanations should capture are illustrated by Adam's and Adam$_{te}$'s similarity of physical movement. It assumes that there are no 'respectable' non-individualistic theories. (I think evolutionary biology is a counterexample—not to appeal to much of cognitive psychology and the social sciences.) And it assumes an unexplicated and highly problematic distinction between theoretical and practical purposes. *All* of these assumptions are questionable and, in my view, probably mistaken.

The non-individualistic character of our mentalistic notions suggests that they are fitted to purposes other than (or in addition to) individualistic explanation. The arguments I have presented, here and earlier, challenge us to achieve a deeper understanding of the complex system of propositional attitude attribution. The purposes of this system include describing, explaining, and assessing people and their historically and socially characterized activity against a background of objective norms—norms of truth, rationality, right. Some form of fruitful explanation that might reasonably be called 'psychological' could, conceivably, ignore such purposes in the interests of individualistic explanation. But animus against mentalistic notions because they do not meet a borrowed ideal seems to me misplaced. That, however, is a point for sharpening on other occasions.