

Externalism before language:  
The real reason why “thoughts ain’t in the head”

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**Abstract**

It is argued that standard arguments for the *Externalism* of mental states do not succeed in the case of pre-linguistic mental states. Further, it is noted that standard arguments for *Internalism* appeal to the principle that our individuation of mental states should be driven by what states are explanatory in our best cognitive science. This principle is used against the Internalist to reject the necessity of narrow individuation of mental states, even in the pre-linguistic case. This is done by showing how the explanation of some phenomena requires quantification over broadly-individuated, world-involving states; sometimes externalism is *required*. Although these illustrative phenomena are not mental, they are enough to show the general argumentative strategy to be incorrect: scientific explanation does not require narrowly-individuated states.

Over twelve years ago, Jerry Fodor considered Methodological Solipsism as a research strategy for cognitive psychology [Fodor, 1981].

By “Methodological Solipsism”, he meant the belief that:

- ( $MS_F$ ) In order to explain a subject’s behaviour, one should not appeal to factors that are external to the subject; rather, one should stick to factors that are internal to the subject.

The internal/external distinction being appealed to here is a rather vulgar one, i.e., determined by the boundary of the skin.

Fodor’s considerations judged in favour of Methodological Solipsism; not only *should* one restrict oneself to such internal factors (he argued), but one *must*: a psychology that employed external factors (what Fodor calls a “Naturalistic” psychology) would be nigh on, if not just plain, impossible.

In the surrounding debate the focus of the discussion often was: Are thoughts in the head? That is, is everything that is relevant to determining which thought I am having located within my body? “Determining” is not meant here in an epistemological, investigative sense, but a metaphysical one: do the facts concerning my body alone “fix” the facts concerning, say, my propositional attitudes? Internalists answer “yes” to these questions; Externalists say “no”. Externalism is the claim that the external world plays a fundamental role in the individuation of thoughts. It is clear that advocates of Methodological Solipsism have to be Internalists. For if they were to be Externalists, then they would have to admit that the external world must play a fundamental role in individuating psychological states, and what could be more methodologically non-solipsistic than that?

I suppose it was inevitable that the debate should shift in this way, from Methodological Solipsism in general, to the individuation of mental states in particular. After all, the term “Methodological Solipsism” was not originally Fodor’s, but Putnam’s; and Putnam had coined the phrase while arguing that the external world does play a role in individuating the *meanings of words*, and therefore in the individuation of mental states. This was the upshot of the famed Twin-Earth thought experiment. For Putnam, Methodological Solipsism was the belief that:

- ( $MS_P$ ) “...no psychological state, *properly so called*, presupposes the existence of any individual other than the subject to whom that state is ascribed” [Putnam, 1975, my emphasis]

Thus, for Putnam, Methodological Solipsism was a claim about how psychological states should be individuated. One couldn’t individuate psychological states in a world-involving manner and be a Methodological Solipsist, since the possession of such states would place existential demands on the world external to the subject.

But as my talk of “in general” and “in particular” might have hinted, I do not think that the Naturalistic vs Methodological Solipsistic psychology debate with which Fodor was primarily concerned is the same as Putnam’s internal vs external individuation of psychological states debate.  $MS_F \neq MS_P$ . In particular, I do not think that asserting the world-involving individuation of thoughts is the only way of

refuting Methodological Solipsism; it might not even be *true* that thoughts should be individuated, as they say, “broadly”, while still being true that psychological explanations will, in general, have to make reference to states external to the subject. Thus, while Methodological Solipsists have to be Internalists, non-Methodological Solipsists do not have to be Externalists. But in order to see why, it will take a little work.

I think Methodological Solipsism is wrong. That is, I don’t recommend it as a research strategy for cognitive science. But I don’t think it is wrong for the reasons typically given by Externalists. I will not provide, at least not here, any direct arguments for the claim that the best cognitive science will not be Methodologically Solipsistic. For all I know, the appropriateness of Methodological Solipsism in cognitive science may even be an empirical issue, though I doubt it (there’s probably something about the nature of the intentional that requires, a priori, that the best explanation of it be world-involving). Rather, I will reject the arguments that have been put forward for the converse claim: that cognitive scientists should be Methodological Solipsists. My strategy in what follows will be to examine the inroads that Externalists have made against Internalism, and see what territories the Internalists have been forced to concede as inessential to their position. I hope that I will have then come to the “keep”, the inner defense, of Internalist thought: the set of claims, conditions, and qualifications that the Internalists think are unassailable, yet would demand a concession of defeat were they somehow to be overthrown. And then I will suggest that such a position *is* assailable; indeed, that it might actually be demonstrably false. I will, as Fodor himself might have put it, give the Internalists everything but what they want.

One must be careful when employing this kind of strategy. It would be unfair for me to make all these concessions on the part of the Internalists, and then use the concessions against them when attacking their inner defense. I will resist the temptation to be unsporting. Here is a list of the important concessions I will be making to the Externalists on the Internalists’ behalf:

- (E1) it makes sense to talk of the subvenient base for propositional attitudes (i.e. the internalism/externalism dispute makes sense); [this is actually pretty neutral, but the traditional Externalist arguments can’t actually get going without assuming something like this]
- (E2) the externalism of linguistic meaning: “meanings ain’t in the head”

(E3) knowing the meaning of a term is just a matter of being in a certain psychological state

(E4) the externalism of the truth-value and truth-conditions of mental content

On the other hand, I will be granting many concessions to the Internalists; here is a list of the important ones:

(I1) the underlying evaluation of a psychological taxonomy is based on its contribution to psychological explanation, as opposed to, say, a theory of meaning for natural language

(I2) there are, or could be creatures (e.g. animals and infants) which do not understand language but do enjoy content-involving psychological states]

(I3) the idea of content which does not, independently of context, fix its truth conditions, makes sense and can be used in psychological explanation

OK, so much for preliminaries. Let's get down to substance. To warm up, let's look at a bad argument for Internalism:

Externalism can't be true, because it would allow an individuation of thoughts such that they are never false. For example, one could individuate beliefs in such a way that one can be credited with the belief that, say, there is a dog in the house, only if there actually *is* a dog in the house (plus some other, more standard conditions). When there is not a dog in the house, no subject could, on this Externalist individuation of propositional attitudes, be ascribed the belief that there is a dog in the house. Thus, it would never be possible for someone to believe that there is a dog in the house and be wrong; the belief could never be false. But people have false beliefs all the time. OK, that seems contingent, so I'll make it stronger: it is essential to the notion of a belief that it be the kind of thing that could be false. So externally-individuated beliefs aren't really beliefs at all.

This should strike you as a bad argument (it's so bad, that I have never even heard of an Internalist putting it forward), a bad argument in several respects. Its premises are dubious (is the possibility of falsehood essential to the notion of belief? What about beliefs concerning tautologies?); it commits a logical fallacy (just because one crazy Externalist individuation of thoughts is problematic doesn't mean that all are); and it fails to give reasons for why our standard notion of belief is preferable to one in which the truth values *are* fixed by the individuation conditions (though

some such story may, no doubt, be told). A straw-man, but it gets our feet wet, to mix my metaphors.

To balance things out, let's look at a bad argument for Externalism, but one that will actually allow us to make a relevant point. McGinn [McGinn, 1982, McGinn, 1989] has argued that externalism is obviously true; just consider predicates and properties, he says. How could one be credited with the thought involving the predicate **square** if the property of being square did not exist? All of our ascriptions of contents involving predicates require that there exist properties corresponding to those predicates. Thus, all contents involving predicates are externally individuated: a mental state can only be the belief that a is F if the property corresponding to F exists.

Notice two things. First, note that this argument assumes a contentious, super-Platonist understanding of properties, in the weight that it places on their "existence". And it seems strange to think of Platonic entities being "external" to a subject; remember, externalism in this discussion is a crudely spatial notion. But more importantly, note that if this style of argument were correct, the effect would be that every individuation scheme, be it for psychology, physics, economics, or what have you, is externalistic. For every scheme of individuation will individuate in terms of properties of some kind, and thus will require the "existence" of those properties. But if every scientific individuation scheme is external, then it can hardly be a strike against cognitive psychology that it employs an externalistic scheme as well. And it is the upshot for psychological explanation with which we are concerned here; see concession II.

Thus, it seems that if we want to understand this argument to be successful in some sense, it must be in a very weak sense of "externalism". And to be fair, that's what McGinn calls the form of externalism that this argument supports. Weak externalism is the claim that *something* other than the subject, even if it only be a property, must exist in order for the subject to have a particular psychological state. And that's why weak externalism of the mental is trivially true, and trivially, well, trivial: irrelevant, uninteresting. The point of considering *this* Straw-man? It is an example of how the internalists can employ the concessions I made to them in order to refute some arguments for externalism.

All right, now it's time to bring out the big guns. And the Big Bertha of arguments for externalism is Putnam's Twin-Earth thought experiment. Twin-Earth is too weird and wonderful a place for me to do it justice with today's brief travelogue;

you must go on a proper fortnight holiday there in order fully to appreciate its, uh, *charm*? But a travelogue must and will suffice.

The standard argument for the position of externalism involves (following Putnam) the consideration of a Twin-Earth, a world just like our own in every detail (e.g., there's a Twin of each of us) except for one subtle difference: the chemical constitution of water, say. On Twin-Earth, what the TwEnglish-speaking natives call "water" is not good ol'  $H_2O$ , but is in fact XYZ, a compound which happens to have many of the properties (including all the superficial ones) of  $H_2O$ . Externalists argue that although I and my Twin are, by hypothesis, physically identical, nevertheless we mean different things when we each say things like "I hope there is some water near here". For when I say that, I am saying something about  $H_2O$ , but when my twin says those words, he is saying something about XYZ.

The full argument is long and subtle, and appeals to the idea that individuals don't determine linguistic meaning, but there is, rather, a social division of linguistic labour. Fortunately, and thanks to concession E1, we don't have to go over that argument here; the Internalists' capitulation of the issue preempts recapitulation of the argument.

The Internalist can grant the externalism of linguistic meaning (E2), and yet deny that this has any bearing on the internalism of mental content. Thus, the Internalists will concede E2 given that they are allowed to claim I1: that what is important is not the individuation of linguistic meanings, but psychological states.

The Externalists are not, as you might expect, going to give up so easily. Thus they try to tightly bind language to mind, so that externalism of the former implies externalism of the latter. Thus, Putnam employs, in his *reductio ad absurdum* of the Internalists' position, the explicit premise:

(E3) knowing the meaning of a term is just a matter of being in a certain psychological state

and the implicit subordinate premise:

(S) the content of the psychological state in question will be the same as the content of the term in question.

As for (E3) being essential to the attack on Internalism, compare another Putnamian passage:

"The whole aim of mentalism [roughly, the scientific explanation of behaviour in

terms of mental states] is to identify the meaning of a word with something that is in the brain/mind of *every* speaker who knows how to use the word”

and the even blunter McGinn:

“The concept expressed by a term is given by what it means”

Granted these premises, it follows from (E1) the externalism of linguistic meaning (which Internalists have conceded), and (U) the fact that we do understand some linguistic terms, that at least some psychological states cannot be narrow.

As for (E3): I don’t think Internalists are logically committed to it, but until someone comes up with a better account of language understanding, it’s the only account the Internalist, or anyone else for that matter, has. So the only polite thing to do is to concede it. Consider it done.

Although some famous Internalists might accept the crucial premise (S) (although I’m not sure if any would), it is not essential to one’s position as an Internalist. That is the reason why the Internalists are so willing to concede E2. An Internalist that believes *both* linguistic and mental content are internal might be forced to accept (S) given (E3). That is, if linguistic meaning supervenes on the subject, and if knowing the meaning of of a term is just a matter of being in a narrow mental state, then it is only natural to equate the content of the term with the content of the mental state that underwrites knowing the meaning of the term. However, once the mental Internalist concedes the externalism of language, there no longer is a need to have the mental recapitulate the linguistic. The linguistic content is determined by forces that are mainly out of the hands, so to speak, of the individual, so why should it be that in order for a subject to use language effectively, it should have to cram all that complexity into its head? Why can’t a subject, with conceptual simplicity, merely *defer* to experts and society? Once the cat of linguistic meaning is let out of the bag of the body, it seems odd to require subjects to coax it back inside in order to *understand* language.

Some, apparently including Evans (as Putnam admits), might even deny (U), in its full sense. That is, one might claim that no speaker ever really grasps the full meaning of socially-dependent terms like “gold”. But Evans is an Externalist, and it is unclear whether an Internalist can make this move. So let’s grant (U) for now; the Internalists can do fine for a while without denying it, and denying it won’t save them when they *aren’t* doing fine.

Burge [Burge, 1982] takes a different approach to trying to blend language and mind

together into a disagreeable, sour cocktail for the Internalist. His assumptions seem to be that:

(B1) the mental content of a subject's propositional attitude is the same as the content of the sentence, as uttered on the subject's lips, with the same "word forms" as the propositional attitude;

(B2) oh, and these mental "word forms" supervene on the internal state of an individual.

Assuming this, externalism of mental content follows from the externalism of linguistic content (E3). In corresponding situations, I and my Twin will have the same internal physical states, so we will, by (B2), "think the same word forms"; for example, we might think the forms "There's some water within ten miles of here, I hope". This means that my mental content is equal to the content of that sentence as uttered on my lips, and my Twin's mental content is equal to the content of the same sentence, only as uttered on his lips. But since, from (E3), the contents of the sentences will differ, so must our mental contents.

All very valid reasoning; if only the premises weren't so contentious! What are these word forms, anyway? Must we really *assume* that there is a Language of Thought? No, we need not. But I don't think it would be constructive to go over the reasons why not here. Instead, the Internalists can concede (B1) and (B2), and counter with one simple question that simultaneously employs (I2) and brings us to the title of the talk (finally!), viz., "What about the psychological states of creatures which do not understand language, but nevertheless enjoy content-involving psychological states? Word forms in their heads there may be, but where are the public language word forms to which they correspond? And if there are no externally-individuated contents with which such mental contents must be identical, why suppose that they must be externally individuated?." Ok, so that's three, not-so-simple questions, but they do rely on (I2) and do finally get us to the issue of externalism before language.

One quick Externalist argument can be mentioned here. The Externalist can insist on (E4): at least one has to admit that the world has a say in the truth values of all thoughts, and the truth-conditions of, say, indexical thoughts. One cannot determine the truth-conditions for the thought "That's red" without knowing what it is in the environment that the subject is thinking about. Rather than dispute these points, the Internalist can concede (E4), but is then faced with two options:



either conceding (I3), the unacceptability of which will be discussed later, or claim that it is only with respect to non-indexical thoughts that the internalist claim is being made. For these, one might think, one does not have to look to the world in order to determine the truth conditions, so the externalists' argument is disarmed. But there is a strong intuition that there are few, if any, entirely non-indexical thoughts (an intuition which would require valuable time to support). And when one moves to the non-linguistic case, this intuition approaches a conviction. Further consideration of such a debate would no doubt be interesting, but I have other fish to fry, so let's move on.

So, have there been any (other) arguments for Externalism that apply to non-linguistic creatures? Yes, there have been a few.

Consider biological-teleological accounts of content, like Millikan's [Millikan, 1984]. These accounts take psychological states to have their content in virtue of having a particular biological function. That is, just like there are the norms of 'well-functioning' and "non-functioning" for the case of say, hearts, there are norms of truth and falsity for, say, beliefs, and for the same reasons. Even if a particular heart is so malformed that it cannot pump blood, we nevertheless call it a heart because we know that the reason why it is there is because its ancestors *did* pump blood. Similarly, and crudely: even if the belief that P is present when it isn't the case that P, it is still the belief that P, since it has been produced because its ancestors *were* only present when it was the case that P.

Why is this thought to be an externalist individuation of mental states? Because one cannot tell which propositional attitudes creatures have just by looking at their internal states; one must also look at the past ancestors of those states, the the environments of those ancestors, in order to determine in virtue of what the ancestors were successful, in order to determine *why* the current state is here. This explanation will then provide the norms for the current internal state. Note that no appeals to language were made.

Note that this is a different kind of externalism: temporal externalism. This account does *not* have the consequence that if my current environment only is changed, then my mental states might change. That's because on this account, mental states are individuated by their histories, and those are independent of current environment.

So, the question arises: need Methodological Solipsists be opposed to temporal externalism? Well, if they are opposed to spatial externalism, then it look like they

will have to be opposed to temporal externalism, if they wish to be consistent. For it is causal potency which seems to be driving the Internalists' individuation of mental states. If they deny that the existence or non-existence of the object of a mental state is irrelevant to that state's causal powers, then they will also deny that the history of a state is irrelevant to its causal powers. And if they believe that causal irrelevance implies taxonomic irrelevance in the former case, then they will have to in the latter as well.

So on the biological-teleological account of the content of mental states, Internalism is wrong. And it's not just wrong about temporal externalism; because in order to accept temporal externalism, the Internalist will have to drop the assumption that supports spatial externalism:

(C) explanatory taxonomies are evaluated solely by the local causal potency of the states so individuated.

Why do Internalists believe (C)? Fodor states that a taxonomy that does not divide up states so that they are locally causally potent will miss out on generalizations, and not missing out on generalizations is what a good taxonomy is all about. This is true, but to think that it argues against external individuation is to misconstrue the situation. It is open to the externalist to group construct types of externally-individuated states, types that correspond to internally individuated states. Thus, the externalists can help themselves to all the generalizations of the Internalists' scheme. But the converse is not true: there are no typings of internally-individuated states that are equivalent to externally-individuated ones. In this sense, externally-individuated states are finer-grained than internal ones, hence the explanatory asymmetry that counts against the Internalist. It is this fact that refutes his "Modal argument for narrow content". Perhaps the reason why Fodor makes this mistake is that he believes that explanatory generalizations can *only* quantify over locally causally potent states. We'll see why this is incorrect in a moment.

Back to Millikan: I'm not eager to embrace biological-teleological accounts of mental content. They seem to invite anti-realism, they have troubles explaining full-blooded contents (such as universally quantified ones), they assume the norms of survival and reproduction, etc. So I'm not going to stop here. Instead, I'll move on to a different way of motivating the rejection of (C), one which does not assume a tendentious theory of content; in fact, it will assume no particular theory of content at all.

The insight has been made before: some explanations are relational. This is the kind of point that, *inter alia*, ecologists and cyberneticians have been trying to make for some time, I am told. I think that Petit and Jackson hinted at the idea recently, but after thinking this way on my own for a while, I found that straight-forward application to the internalism vs externalism debate has been made recently by Tuomela [Tuomela, 1989]. Several points in what follows are also made by him, but there's enough original development here for you not to feel short-changed.

The insight is this: for some kinds of systems, one will miss regularities in the behaviour of that system if one does not include the environment in which the system is embedded in one's explanations. Sure, in some sense, the behaviour of a system is always a function of its input and internal state. But in some cases, the behaviour of the system affects the *future input* of the system in a regularity-preserving way. If we squint away enough detail, we can see a familiar point being made here: the explanations on one (lower) level do not, typically, exhaust the explanations that can be made of a system. It seems strange that an advocate of the autonomy, even in the face of competing explanations on the level of physics, etc, of the special sciences, would not also see that there can be an autonomy of world-involving explanations, even in the face of (relatively) successful individualistic explanations.

Let's take a concrete example. One could give two different accounts of a flatworm's movement.<sup>1</sup> One, internalist, account (call it the "impulse response" account) would be given in terms of the (causal) relation between certain stimulations of the flatworm, and its corresponding movements, both in worm-centric terms. For example, one such regularity might be that a certain type of stimulation on the right side of the flatworm will cause certain numbers of the cilia on the right side of the worm to move more vigorously. But there is another account, that is not rendered redundant by the former one. Consider this fact: if the flatworm's body is in a straight line (heading "north"), and a piece of food is a small distance to the "east" of the flatworm, then the flatworm will spiral in toward the food. The spiral effect is a natural phenomenon, a recurring (and reproducible) salient pattern in nature. Such phenomena call out for explanation. The point in this context is: one can't explain the spiral effect simply in terms of an impulse response account of the worm alone, nor will merely adding an impulse response of the food help. The worm and the food have to be related, embedded in a common space, in order for the intuitive explanation to proceed. For only when the worm and the food are spatially related,

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<sup>1</sup>Thanks to David Gurr for this example.

only when one sees the worm as something that is moving through a space in which other objects exist, can one see that the input to the worm is not independent of the worm's behaviour. Rather, the behaviour of the worm at time  $t$  constrains (in this case, *determines*) the input at time  $t+1$ .

There might be some objections incubating out there, so let's look at this a little further. One might think that the internalistic, impulse response story can account for the spiral effect because it is possible to deduce from the input/output function the worm's egocentric motion throughout the time in question, *provided one is given the entire set of stimulations throughout that time period*. Several problems:

First, the explanation is inferior to the embedded one in that it requires much more information: the entire set of stimulations. Second, it fails to see any pattern in the movement/stimulation combinations. And third, one could not even describe the resulting ego-centric movements as tracing out a *spiral* unless one embedded the worm in an actual, relational space, where its movement at one time puts it into a location that bears certain spatial relationships to its positions at earlier and later times.

This is not to claim that the worm's behaviour is best understood as content-involving; we can leave discussion of that suggestion for some other time, perhaps. Rather, it is meant to show how relational properties can sometimes be used to provide explanations that are not available without those properties. Once the utility, and even possibility, of non-Methodological Solipsism explanation is made clear, then one has removed some important linch-pins in the Internalists' position. Of course, in order to secure the case against Methodological Solipsism, one would have to do more than this; one would have to give a philosophical account of why at least some kinds of intentional phenomena are the kinds of phenomena that must be explained in a world-involving manner. I suspect that account can be given, but I'm not going to give it here. I've *presented* the real reason why thoughts ain't in the head; I didn't say I was going to *prove* it.

By the way, it is not clear that such accounts are not causal. They involve properties of which Fodor would not approve: ones that are not locally causally potent. But they do involve causation in a fundamental way. Tuomela stresses this point, but I would rather not be so emphatic, since it seems to support the idea that explanations *must* be causal, or even that it is always preferable for them to be. I'm not sure about this, hence my reticence.

But I will get worked up about something else: Fodor's equation of Methodological Solipsism accounts with computational ones. Fodor assumes that computational accounts must be Methodologically Solipsistic; I suppose he would infer from my conclusions against Methodological Solipsism here something like "oh well, I guess that wraps it up for computational explanation in cognitive psychology". But I think computational accounts can be world-involving, need to be world-involving. Computation is *not* best understood as a "formal", Methodologically Solipsist phenomenon, despite the Methodologically Solipsistic appearance of what currently passes for the theoretical foundations of computation: Turing machines, FSA's, recursive function theory, etc. Explanations of real-world computational phenomena are world-involving; thus the world-involving nature of psychological states will not preclude a computational cognitive science (although something else might). End of hobby horse riding.

At this point, internalists might be trying to console themselves with thoughts like: "We lost the war, but at least we won the battle! That is, yes, Methodological Solipsism won't do; for some explanations, one must generalize over states of the world as well as of the subject. But that does not mean that psychological states have to be individuated externally. One could explain the worm phenomenon by appealing to an entirely internal component, plus the external components. Perhaps this is how it will be with psychological explanation: world-involving, but decomposable into purely internally individuated states."

Nice try, but I don't think even this manoeuvre, which is basically a dual component account (and thus implies asserting (I3)), is going to work. Yes, there will probably be some purely internally individuated component within any world involving explanation of intentional phenomena. Its boundaries may even line up nicely with those of the body of the subject. But it would be a mistake to think of such states as psychological. After all, the Internalist admitted, nay *insisted* that our evaluation of a scheme of individuation for psychological states is driven by the explanatory power of the scheme. Well, the double-edged sword cuts both ways. Since it seems that world-involving states might best explain intentional phenomena in some cases, then it seems that *those* states should be considered the intentional, psychological ones, not the explanatorily impoverished internally individuated states.

Of course, die-hard internalists could just *define* psychological explanation as non-world-involving explanation, and use (E3) to conclude that psychological states are defined to be non-world-involving. Then they could say that perhaps ecological,

cybernetic, feedback oriented embedded explanations are required for some phenomena that *involve* intentional agents, but that just shows that such phenomena themselves are not truly psychological, only some sub-components of them are.

Not only would such a move be a sign of extreme desperation, and do violence to the notions of psychological explanation and psychological states, but it wouldn't, as we have seen, get the internalist anywhere in any real sense: the war has already been lost. Fodor, for example has committed himself to being concerned with *methodologies* and *research strategies*. If he were to *define* psychological explanation solipsistically, then, as we have seen, he could very well be defining psychological explanation to be irrelevant to the explanation of much in-the-world human behaviour, a strange and unpalatable consequence indeed. This is because the explanation of human behaviour will most likely *require* reference to, if not psychological taxonomies dependent upon, the actual environment of the subject. There is certainly no incoherence in the suggestion that it *could* involve the environment.

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