

Introduction

A doctrine known as "content-externalism" is widely taken to provide a correct analysis of mental content. A doctrine known as the Computational Theory of Mind (CTM) is widely taken to provide a correct analysis of mental operations. These doctrines support each other.

The present work is divided into two parts. In Part I (Chapters 1–12) it is argued that content-externalism is false, but that a related doctrine known as "semantic externalism" is correct. An alternative to content-externalism is proposed.

In Part II (Chapters 13–25) it is argued that CTM is false. Special attention is paid to the concept of syntactic form. It is seen that CTM involves a misunderstanding of this concept, and that this misunderstanding is embedded in misunderstandings that are reinforced by content-externalism.

PART I

**A defense of content-internalism and
of a descriptivist theory of concepts**

CHAPTER 1

Basic concepts

Content-externalism

Let W and W^* be two different possible worlds satisfying the following conditions. In W , Max sees rock R at time t . In W^* , Twin-Max sees rock R^* at the same time. R is numerically distinct from R^* . But apart from that, there are no differences between W at t and W^* at t . (It follows that Max and Twin-Max are numerically identical.) So even though R and R^* are numerically distinct, they nonetheless look the same, and have the same mass, shape, and so on. And even though Max is looking at one rock, whereas Twin-Max is looking at some other rock, the physiological disturbances that result in the one case are qualitatively identical with those that result in the other.

Of course, Max and Twin-Max do not have exactly the same relational properties. For example, Max's visual experience at time t is caused by R , not R^* , and Twin-Max's corresponding experience is caused by R^* , not R . Nonetheless, Max and Twin-Max are obviously extremely similar. So long as we consider the regions of space-time occupied by their bodies, there is nothing that distinguishes Max from Twin-Max. If there is an electron-jump in the region occupied by Max, there is a qualitatively identical electron-jump in the region occupied by Twin-Max.

According to a widely held doctrine, Max's perceptions and subsequent thoughts don't have the same contents as Twin-Max's corresponding perceptions and thoughts. Here is the reasoning behind this claim:

Max's visual perception is veridical exactly if R has certain properties, it being irrelevant whether R^* has those properties. And Twin-Max's visual perception is veridical exactly if R^* has certain properties, it being irrelevant whether R has those properties. Similarly when Max thinks *that rock is lovely*, his thought is correct exactly if R is lovely, it being irrelevant whether R^* is lovely. And when Twin-Max thinks *that rock is lovely*, his thought is correct exactly if R^* is lovely, it being irrelevant whether R is lovely. Therefore Max's R -perceptions and subsequent thoughts don't have the same truth-conditions, or therefore the same contents, as Twin-Max's R^* -perception and subsequent-thoughts.

Leaving aside facts about the origins of their conditions, Max and Twin-Max are qualitatively identical. So it is solely in virtue of the fact that they are embedded in different environments that they have perceptions and thoughts with different contents. Thus, in at least some cases, a mental state's content is fixed, at least in part, by facts about the origins of that state. Two brain-states can be qualitatively identical, leaving aside facts about their causal origins, and yet have different contents. Thus,

what a person (or creature) is thinking is *constitutively* (and not just causally) dependent on facts about his environment, the same being true of the information encoded in his sense-perceptions.¹

The doctrine just described is known as “content externalism.” The present work is concerned with content-externalism (among other things). We will argue that it is false.

Content-externalism must at all costs be distinguished from another doctrine that we will refer to as “semantic externalism.”

Semantic externalism

A continuation of our story about Max and Twin-Max will help us define the term “semantic externalism.” Max later tells people about R, referring to it as “Rocko.” Because Max is an eminent person, “Rocko” becomes part of the English language. So people who have never seen R refer to it as “Rocko”, and they say things like: “the rock in your backyard is smaller than Rocko” and “Rocko is supposedly the most beautiful rock in the world.” Thus, in W, “Rocko” refers to R, i.e. it becomes a semantic rule of English that “Rocko” refers to R (just as, in actuality, it is a semantic rule of English that “Socrates” refers to Socrates). Everything that we just said about Max is true *mutatis mutandis* of Twin-Max. Thus, in W*, “Rocko” refers to R*.

Here is what semantic externalism says about this situation. In W, an utterance of “Rocko weighs over five lbs” has for its literal meaning the singular proposition *R weighs over five lbs*. In general, for any predicate phi, an utterance in W of “Rocko has phi” has for its literal meaning the singular proposition *R has phi*. For exactly similar reasons, an utterance of “Rocko has phi” in W* has for its literal meaning the singular proposition *R* has phi*. Thus, what is literally meant by an utterance in W of “Rocko has phi” neither entails, nor is entailed by, what is literally meant by a homonymous utterance in W*. (Salmon 1986, Kaplan 1989, Soames 1989, 2001, 2005).

Content-externalism and semantic-externalism are distinct doctrines.² The first is a doctrine about what people think. The second is a doctrine about what our words mean. As we will see, a failure to distinguish between these two doctrines has led to much confusion in contemporary thought. We will find that semantic-externalism is unqualifiedly true, even though content-externalism is unqualifiedly false.

There are many well-known *apparent* problems with semantic-externalism. For example, if semantic-externalism is right, then “Hesperus=Hesperus” has precisely the same literal meaning as “Hesperus=Phosphorous.” But surely, it will be said, these sen-

1. See Burge (1979, 1982), Kaplan (1989b: 322-326), McGinn (1986), Salmon (1986), and Davidson (2004: 77-86).

2. Blackburn (1984: 328-333) makes this point.

tences must have different meanings, given that one of them is trivial whereas the other is non-trivial.

We will find that this problem, and others like it, vanish when we take a few basic facts into account – in particular, the fact that one must always exploit background semantic and non-semantic knowledge to compute the meanings of the sentence-tokens that one encounters.

Some apparent problems with content-externalism

As we have already seen, there is much to be said for content-externalism. It is a datum that, notwithstanding their similarities, Max and Twin-Max are seeing, and subsequently thinking about, different rocks. So it seems a datum that the contents of Max's mental states are, to that extent, different from the contents of Twin-Max's mental states. Finally, there is no way to explain these differences *except* in terms of the fact that Max's mental states don't have the same origins as Twin-Max's. These differences have no *intra*-cranial basis, and must therefore be sought in what is *extra*-cranial, i.e. in what is external.

But there is a problem. So long as we confine ourselves to the regions occupied by their bodies, there is nothing that distinguishes Max from Twin-Max. It immediately follows that they are physically identical. And unless we take the dubious measure of saying that their minds engulf regions of space larger than those encompassed by their bodies³, it also follows that they are *psychologically* identical.⁴ So to the extent that it must be understood along content-externalist lines, mental content is without any psychological significance: what a person is thinks, believes, and doubts is irrelevant to how that person is psychologically. But it would seem to be a truism that two people differ psychologically if they differ in respect of what they believe, think, or doubt. As we will see, some authors reject this supposed truism on the grounds that it conflicts with content-externalism. But it is *prima facie* to the discredit of that doctrine that it has such a revisionist consequence.

Before moving on, we should consider a possible externalist rejoinder to the argument just given:

You say that Max's mind is confined to his cranium, and that to think otherwise is "dubious." But in saying this, you are simply begging the question. The essence of content-externalism is that some facts about Max's mind *are* fixed by extra-cranial facts. So *if* that doctrine is correct, it is *not* absurd to say that someone's mind literally encompasses some remote region of space-time; and it is thus *not* absurd

3. This position is taken by McGinn (1986: 20-30).

4. Stich (1978: 590-591) powerfully explains why it is not an option, even for the content-externalist, to say that Max and Twin-Max are psychologically different.

to say that Max and Twin-Max have qualitatively different minds. So I don't see that you've made any headway here against content-externalism.⁵

It is easy to show that this response has consequences too revisionist to accept. Because light travels at a finite speed, one often sees stars that went out of existence long ago. Given this, suppose that, instead of being nearby rocks, R and R* are qualitatively identical but numerically distinct stars that went out of existence 100 million years ago. In that case, the objector's response amounts to this: at least some portion of Max's mind was around 100 million years ago. But that is straightforwardly false. There were no human minds back then.

This point can be generalized. One sees states of affairs, not objects. You don't just see *Smith*. Rather, you see a dated situation that has Smith as a component. Because light travels at a finite speed, anything that you see has since ceased to exist, and anything that is contemporaneous with your visual perception is, at most, a successor or continuation of the state of affairs that you are seeing. Since content-externalism makes the thing you are seeing into a veritable constituent of the content of your perception, it follows that the objector's response drains *all* of your perceptions of any content. Given that our perceptions obviously do have content, we may conclude that Max and Twin-Max are psychologically and physically identical, contrary to what the objector says.

Some apparent problems with content-externalism (continued)

Suppose that Max does, whereas Twin-Max does not, believe that there is a nearby ATM machine that is spitting out hundred dollar bills. There will be an immediate difference between Max and Twin-Max in regards to what they feel, want, and do. Max will, whereas Twin-Max will not, experience a crisis of conscience ("should I take money that is not mine?"). Max will, whereas Twin-Max will not, repress feelings of guilt that result from committing theft. Max does, whereas Twin-Max does not, develop a feeling of self-loathing, which is defensively cloaked under a veneer of excessive self-confidence. And so on.

Here, we have a situation where Max's mental content *clearly* differs from Twin-Max's. That initial difference quickly ramifies into others, and Max and Twin-Max forever cease to have parallel lives.

5. McGinn holds that content-externalism is correct and that, consequently, one's mind is spread out all over the cosmos. See McGinn (1986: 20-30). McGinn then argues that this consequence of content-externalism is innocuous since the mind is not a "substance."

It is extremely unclear what it means to say that the mind is not a "substance." But what is clear is that there are representational mental events. Once this is granted, it follows (as we will now see) that, if content-externalism is right, parts of your mind existed millions of years ago. It follows that content-externalism is false, given that your mind came into existence only a few decades ago.

To see why this is a problem for the content-externalist, let us return to the previous scenario – the one where the *only* differences between Max and Twin-Max coincide with, or derive from, the fact that the one person saw R while the other saw R*. In *that* scenario, the alleged difference in content doesn't lead to any lack of parallelism. Even if we concede to the content-externalism that Max and Twin-Max have *different* psychological contents, those contents are perfectly *parallel*.

For reasons of a purely methodological nature, that perfect parallelism is suspicious. We are reminded of Poincaré's famous thought-experiment. Let W and W* be two different universes. (These needn't coincide with the two homonymously named universes previously discussed.) At time t, everything in W undergoes a tenfold increase in size. Apart from that, W and W* are qualitatively identical.

Is there *any* difference between W and W*? Poincaré famously said “no”, and his answer was vindicated by later developments in both physics and logic. Because the changes that occurred in W were perfectly uniform, the relational properties of events in the one world remain identical with those of events in the other world. Thus, I am twice as tall as my niece in W iff I am twice as tall as she is in W*. If my pants are too tight in W, then they are too tight by exactly the same amount in W*. It is obvious that these points generalize without limit. There is thus no conceivable way of differentiating between W and W*, and the statement “I am in W, as opposed to W*” is without any explanatory or experimental significance. So we are guilty of making a distinction without a corresponding difference if we say that those worlds differ. It follows that the notion of absolute size, and therewith of absolute position (and velocity and mass...), are empty.⁶

The differences between Max and Twin-Max are like those between the worlds in Poincaré's thought-experiment. Genuine differences destroy parallelism and disrupt relational facts. But the supposed differences between Max and Twin-Max are completely non-disruptive. Those two individuals remain in perfect lock-step (Fodor 1987, Jackson and Pettit 2004: 45–46).

A content-externalist might respond by saying:

You are begging the question. Max and Twin-Max *don't* remain in lock-step. Max has dreams about R, whereas Twin-Max has dreams about R*. Max wants to build a miniature replica of R, whereas Twin-Max wants to build a miniature replica of R*. And these differences *do* ramify into others. Given that both Max and Twin-Max believe that there are no square circles, Max comes to believe *either R weighs over five lbs or there are square circles* whereas Twin-Max comes to believe *either*

6. Matters are actually not quite as simple as this. Given only the just-described similarities between W and W*, it is still possible that they are *dynamically* different, even though *kinematically* they are the same. See Schlick (1919) and Reichenbach (1958). The thought-experiment has to be developed further to generate the result that Poincaré wants. But these subtleties are obviously not relevant here.

R weighs over five lbs or there are square circles.* So contrary to what you said, we don't have *one* difference: we have a whole pattern of differences.⁷

The content-externalist wishes to show that, because Max's perception results from R as opposed to R*, his mental content is qualitatively different from Twin-Max's. All of the differences cited by the objector presuppose that this is the case. So the differences cited by the objector in defense of the content-externalist's position presuppose the truth of that position, and thus don't provide any independent support for it.

Content-internalism versus content-externalism

A theory is a way of modeling data. In philosophy, these data consist of intuitions. For example, we all have the intuition that killing infants is evil; and any viable ethical theory must either validate that intuition or it must show that, relative to intuitions of an even more fundamental kind, it can be explained away.

It is a datum that some of Max's thoughts are made true by facts about R, and that Twin-Max's corresponding thoughts are made true by facts about R*. It is also a datum that there are certain *apparent* similarities between Max's R-thoughts and Twin-Max's R*-thoughts. Content-externalism provides one model of such data. Content-*internalism* rejects that model, and must therefore propose an alternative to it.⁸ (By "content-internalism" I mean the doctrine that content-externalism is false.) This work will propose a content-internalist model of the data in question.

These days most philosophers believe that content-externalism is correct. In other words, most philosophers believe that, because of the differences between W and W*, Max and Twin-Max differ in respect of the identity of the information encoded in their sense-perceptions and subsequent thoughts.

For the reasons given a moment ago, it seems very reasonable to believe that there is a kind of representational content that Max and Twin-Max have in common, and that this common content is *not* affected by the differences between their two worlds. Following convention, we will refer to that kind of content (supposing that it exists) as "narrow content" (Loar 1985, Jackson and Pettit 2004c). So supposing that individuals x and y are qualitatively identical, leaving aside facts about the origins of their conditions, x and y cannot differ in respect of the *narrow* contents of their perceptions and thoughts.

Of course, all content-*internalists* believe that there is such a thing as narrow-content, and so do some content-*externalists*. Such content-externalists are forced to ad-

7. This is John McDowell's position. See McDowell's commentary on Chapter 6 of Evans' *Varieties of Reference* (Evans 1982: 203-204).

8. It is an open question in the philosophy of science whether there can be two different but equivalent ways of modeling the same data.

vocate a “two-tiered” or “two-dimensional” conception of mental content. We will refer to this position as “soft content-externalism.”⁹

A number of eminent content-externalists deny that there is such a thing as narrow-content. Of these, the most prominent are probably Tyler Burge, Gareth Evans, and John McDowell. We will refer to this position as “hard-line content-externalism.”

In this work I will argue that both forms of content-externalism are quite false. I will also argue that *semantic* externalism is entirely correct. We will see that many of the grounds for content-externalism vanish as soon as that doctrine is sharply distinguished from semantic externalism.

Jerry Fodor (1998) is a hard-line externalist who has proposed a very definite view as to the nature of conception, and he has presented a number of powerful arguments for that view. Indeed, *given* an acceptance of hard-line content-externalism, Fodor’s analysis of conception follows, as we will see in a moment.

The essence of Fodor’s position is this. For individual *x* to have a concept of object *y* is for some of *x*’s states to have been caused, in a certain way, by states of affairs involving *y*. (In other words, there is some causal relation *R* such that *x* has a concept of *y* just in case some state of affairs involving *y* *R*-caused *x* to undergo changes of a certain kind.) Fodor’s view can be understood in terms of the following scenario. I see Fred. This involves some state of affairs involving Fred causing me to have certain psychological states (various sensory experiences and attendant thought-processes). In their turn, those states lead to my being able to think about Fred, i.e. they lead to my subsequently having a concept of Fred. Here we have a case where one thing’s having a concept of some other thing involves the second thing’s having some kind of effect on the first thing. Since it is an obvious fact that there exist situations like the one just described, nobody denies that conception may *involve* a causal connection between subject and object. But Fodor goes a step further, saying that any instance of conception not only involves, but is *identical with*, an instance of the kind of causal relation just discussed. My having a concept of Socrates not only involves, but is identical with, my being on the receiving end of a causal chain that begins with some state of affairs involving Socrates.¹⁰ Fodor attempts to show that my concepts of theoretical entities (e.g. muons) and also of abstract entities (e.g. the property of justice) can be explained along similar lines.¹¹

Of course, this conception of conception is not an easy one to accept. But Fodor provides independent corroboration for it. More specifically, he successfully shows that each of three widely held and independently plausible doctrines implicitly presupposes the truth of his analysis (Fodor 1975, 1987, 1994, 1998). Those doctrines are the Computational Theory of Mind (CTM), the Symbolic Conception of Thought (SCT),

9. Loar (1985) is a soft content-externalist. So are Jackson and Pettit (2004b). Chalmers’ (1996) argument for dualism involves a version of soft content-externalism.

10. Fodor (1998).

11. Fodor (1990).

and content-externalism. SCT is the view that we think in symbols and thus in some kind of language. CTM is the view that all thinking is computing. In due course, we will say more completely what SCT and CTM are.

Given that each of these doctrines presupposes the truth of Fodor's analysis, it follows that there is at least as much support for the latter as there is for the best supported of those three doctrines. Further, there is, as we will see, considerable independent support for each of these doctrines. So even though Fodor's analysis might initially seem counterintuitive, there is much to be said in support of it.

Conceptual atomism and content-externalism

As I will be using the word "concept", x has a concept of y iff x can have thoughts about y . Because you are able to think about Socrates, you have a concept of the man.

If correct, Fodor's analysis warrants the acceptance of a doctrine that we will refer to as "conceptual atomism." Consider your concept of Socrates. It would seem, on the face of it, that you can have that concept only because you already have various others. Supposing that X is a creature that has no conception of space or time or corporeality, could X have a concept of Socrates? Most of us would say "no." It seems absurd to suppose that a creature so totally lacking in cognitive wherewithal could possibly have a concept of Socrates. More generally, it seems absurd to suppose that, for anything x , an otherwise conceptless creature could have a concept of x . It seems, therefore, that one's concept of Socrates (or of anything else) is not an "atom", and is necessarily embedded in a network of other concepts. Some kind of *conceptual non-atomism* seems obligatory.¹² One of the objectives of this work is to show that conceptual non-atomism is in fact correct.

But if Fodor's analysis is right, conceptual atomism is not only permissible, but *de rigueur*. According to that analysis, my having a concept of Socrates consists *solely* in my having a certain causal connection with Socrates. Whatever causal connection I have with Socrates could presumably be had by an otherwise conceptless being, e.g. a photographic plate. So Fodor's analysis seems to allow that such a being could have a concept of Socrates. In general, it seems that if we accept a *strictly* causal analysis of conception, such as that advocated by Fodor, then we are committed to conceptual atomism.

Fodor recognizes this and, true to his own premises, he accepts conceptual atomism. Fodor says that an otherwise conceptless creature *could* have a concept of Socrates – or of my desk or of justice or of the color green. Because he is keenly aware that many

12. Sellars (1963) made a strong case for non-atomism. Non-atomism is now generally, but not universally, accepted. Bonjour (1985) discusses why non-atomism must be accepted. Fodor (1998) argues that it must be rejected. In Kuczynski (2003, 2004), I provide non-Sellarsian arguments for non-atomism. Elsewhere (Kuczynski 2007c), I have argued that a version of Sellars' argument was given by Berkeley in *A Theory of Vision* and, in fact, that Berkeley's version is superior to Sellars'.

will disagree with this atomism, he attempts to find independent corroboration for it. The merits of these attempts will be evaluated in Chapters 16–18.

Fodor's atomism is easily shown to be at least *conditionally* correct. (Here we will outline an argument that we will give in full in Chapter 13.) Suppose that content-externalism is correct. In that case, two people can be qualitatively identical but for the fact that one of them has one concept where the other has some different concept. According to the content-externalist, Max has a concept of R instead of a concept of R*, even though, apart from that, Max and Twin-Max are qualitatively identical. If all concepts were *constitutively* linked with other concepts, then it wouldn't be possible for two people to differ with respect to just one concept. So to the extent that mental content is to be understood along content-externalist lines, concepts come one at a time, and not in clusters.

A brief digression may help. Suppose that members of species X don't have hearts. In that case, it won't be a biological possibility that members of that species are *otherwise* just like human beings. Members of that species must differ systemically from people – otherwise they would be in the same health-situation as a person without a heart, and would thus immediately go out of existence.

According to the non-atomist, what we just said about hearts is true of concepts. If Smith has the concept of a conversion-reaction whereas Jones does not, then Smith must have *other* concepts that Jones does not. Jones' acquiring the concept of a conversion-reaction involves his acquiring other concepts – e.g. the concepts of repression, of a punitive super-ego, and of unconscious mental activity. The non-atomist says that any acquisition of a single concept involves an acquisition of multiple concepts; and this is equivalent to the view, stated a moment ago, that conceptual differences between people cannot be confined to a *single* concept. (We will develop this argument in Chapter 13.) As we've seen, content-externalism presupposes the falsity of that view.

So *given* content-externalism, Fodor's atomism follows, as does his strictly causal conception of conception, as we will now see. According to the content-externalist, Max has a concept of R, this being the *one* concept that Max has that Twin-Max lacks. Max is causally connected to R, this being the *one* thing that distinguishes Max from Twin-Max. Of course, exactly the same points *mutatis mutandis* hold of Twin-Max. The conceptual differences between Max and Twin-Max supervene *wholly* on the differences in their causal liaisons. The fact that Max does, whereas Twin-Max does not, have a concept of R is wholly a function of the fact that Max is, whereas Twin-Max is not, causally connected to R in a certain way. So to the extent that the content-externalist account of mental content is the right one, it follows that *differences* in concepts are to be understood in strictly causal terms, and therefore that conception itself is so to be understood. So given an acceptance of content-externalism, Fodor's atomism and his strictly causal conception of conception both follow.¹³

13. This general line of thought lurks beneath the arguments found in Fodor (1990). But it is not explicitly stated there. Nor, to my knowledge, is it explicitly stated *anywhere* in the externalist (or, for the matter, the internalist) literature.

Thus, Fodor is simply being true to his own premises in accepting these two doctrines. Most other content-externalists have not gone so far as to say that conception is to be understood in purely causal terms or that a strictly atomistic view of concepts is correct. But so far as this is the case, the systems advocated by those other content-externalists are not consistent ones.

The relation of CTM to conceptual-atomism

But Fodor's primary reason for accepting conceptual atomism is not that content-externalism demands it. His primary reason is that he accepts CTM and, as Fodor himself cogently argues, the truth of CTM depends on that of atomism. (Fodor (1968, 1975) accepted CTM before content-externalism even came into existence.) In Chapters 13–22 we will argue that CTM is not viable and that the arguments for it are fallacious. Let us briefly outline what we will say.

For the sake of argument, suppose that CTM is right. In other words, suppose that all thinking is "computing." A question immediately arises: What exactly does the word "compute" mean in this context?

Right now, I could compute a sum – I could add 134 to 397. But *that* kind of computation obviously presupposes various cognitive faculties, and thus cannot underlie all cognition.

Fodor is aware of this, and he defines the word "computation" in a way that, he believes, does not render CTM viciously circular. A computation, he says, is a "formal operation on symbols" (Fodor 1987: 19). It is an operation that is causally driven by the forms, not the meanings, of the symbols involved. A machine can respond to the *form* of the expression "23+15" in such a way that it produces the right output. No thinking is needed to perform a purely formal operation. Given that computing is a purely formal operation, it follows that there is no vicious circularity in supposing that thinking is computing (Fodor 1981: 13–17, Fodor 1987: 18–20).

An immediate consequence of CTM – indeed, the very essence of it – is that thinking is not content-driven (Fodor 1987: 19). Of course, such a position initially strikes us as very odd. I learn that Bill fell off of a tall building, and I immediately thereafter form the belief that Bill is now injured or deceased. Surely my believing the proposition *Bill fell off of a tall building* led, or at least might have led, to my believing the proposition *Bill is now injured or deceased*. Thus, at least some sequences of thoughts are content-driven. So supposing that we think in symbols, it is very hard to believe that the semantic properties of those symbols are causally inert.

But Fodor (1987, 1990) has produced an argument that, if cogent, shows why we mustn't put too much stock in this particular criticism of CTM. The purely formal properties of symbols can be *coordinated* with their representational properties in such a way that all of the relevant facts are easily explained – e.g. the fact that, if I believe that Bill has seven cars, then I am likely to form the belief that Bill has a prime number of cars.

True – this account does strip the mental *per se* of causal efficacy. But theories are to be evaluated in terms of their degree of concordance with the relevant data, not in terms of their concordance with our *a priori* conceptions. In this case, the relevant datum is that certain kinds of thoughts are likely to follow other kinds of thoughts. It is *not* a datum that semantics is what is causally responsible for these patterns.

The concept of syntax: an introduction

There are a number of points to make in response to the argument just outlined. I will now only outline these points, since they will be discussed at length later on.

Supposing that a computation is understood to be a “form-driven” operation, we must ask: what is meant by the term “form”? Sometimes Fodor says that what he has in mind is *syntactic* form. So Fodor’s position becomes: a computation is a syntax-driven operation. Is this claim feasible?

Before we can answer this question, we must note that the term “syntax” is ambiguous: what linguists mean by it isn’t what mathematical logicians mean by it. Let us now see if either disambiguation of the term “syntax” validates Fodor’s position. According to a linguist, the sentences:

(*) “John punched Fred”

and

(**) “Larry kissed Mary”

have similar (or identical) syntactical structures. What does this mean? It means that they have similar *derivation-trees*. To say that they have similar derivation-trees is to say that the (complex) semantic rule that assigns meaning to the one sentence is structurally similar to the semantic rule that assigns meaning to the other. Those sentences are syntactically similar because of *how* they are assigned their respective meanings by the semantic rules of English. In general, the syntax of a sentence lies not in what it means, but in *how* it means what it means. Syntax is meaning-how. (Semantics is meaning-what.) The concept of syntax is therefore *not* a meaning-innocent one.

So supposing, as Fodor does, that thinking is an operation on expressions, syntax-driven operations *are* meaning-driven. They are driven by a sensitivity not to *what* the operands mean, but to *how* they mean what they mean. Sensitivity to meaning-how, no less than sensitivity to meaning-what, presupposes a heavy cognitive arsenal. It is therefore not tenable to suppose that syntax-driven operations could be cognitively foundational.

Let us give a different version of the argument just outlined. The term “wet” is not interchangeable with the expression “the property of wetness.” After all, “one shouldn’t drive on wet roads” is meaningful, whereas “one shouldn’t drive on the property of wetness roads” is not. If you know *only* that the term “wet” denotes or expresses a cer-

tain property, and do not know the syntactic properties of that expression, then you are ignorant of a crucial aspect of its meaning. Syntax is thus an aspect of meaning.

More precisely, syntax is combinatorial semantics. One knows the syntax of a complex expression when one knows the combinatorial semantic properties of its constituents. Equivalently, one knows the syntax of an expression when one knows how its meaning is derived from those of its constituents – when, in other words, one knows its derivation tree. Thus, an operation is syntax-driven iff it is driven by a sensitivity to combinatorial semantics. Since such an operation can be carried out only where there is already an awareness of meaning, it is not an option to hold that such operations form the foundation of our cognitive lives.

The linguist's disambiguation of the term "syntax" thus fails to validate Fodor's position. Let us now see if Fodor's position is validated by the mathematical logician's disambiguation of that term.

First of all, how are the two disambiguations different? Most linguists would say that

- (1) "Bob is tall or Bob is not tall"

has the same syntax as

- (2) "Bob is tall and Bob is not tall."

The linguist sees "or" as being in the same syntactic category as "and." From his standpoint, (1) and (2) are no more syntactically different than "Bob is tall" and "Bob is short." But the mathematical logician says that, because (2) has an "or" in the place where (1) has an "and", those sentences *are* in different syntactic categories. What is the basis of this (apparent) disagreement?

When a mathematical logician says that a sentence S , belonging to language L , is "syntactically true", he means that it is a theorem or consequence of the semantic rules of L that S is true.¹⁴ And when a mathematical logician says that two sentences S and S^* have the same syntax, he means that they are interchangeable from a proof-theoretic standpoint. Equivalently, S_1 and S_2 have the same "syntax" iff... S_1 ...is syntactically true iff the same is true of... S_2(So, for example, if there is some sentence S_3 such that $S_1 \rightarrow S_3$ is a semantic theorem and $S_2 \rightarrow S_3$ is not, then S_1 is syntactically different from S_2 .) It is a theorem of the rules of English semantics that (1) is true, but not that (2) is true. (Indeed, it is a theorem of those rules that (2) is false.) And that is why, from a mathematical logician's standpoint, S_1 and S_2 are syntactically different.

Even though the mathematical logician's disambiguation of the term "syntax" is different from the linguist's, the former poses the same problems for Fodor's analysis as the latter. On both disambiguations, a sentence's syntax lies in *how* it means what it means.

Of course, the linguist and the logician don't have quite the same thing in mind when they think about *how* a sentence is assigned the meaning that it has. The latter is

14. We will defend this claim in Chapter 13. It is anticipated by Carnap (1937, 1956) and Gödel (1953).

concerned with non-psychological notions such as provability; the former is concerned with psychological notions such as comprehension and learnability. But in both cases, a sentence's syntax lies in a relationship that holds between the semantic rules of the relevant language and the sentence's meaning. So given either disambiguation of the term "syntax", syntax-driven operations are meaning-driven. This immediately entails that Fodor's position is a non-starter

Indexicality and the impossibility of a syntactic characterization of logical form

There is an entirely different reason why CTM is in trouble if "form" is identified with syntax. For CTM to work, it must be possible to coordinate syntax with semantics. But there is no disambiguation of the term "syntax" that makes such a coordination possible. A linguist would say that:

(\wedge) "Smith is ill because Smith doesn't smoke."

has the same syntax as

($\wedge\wedge$) "Smith is ill and Smith doesn't smoke."

Given this sense of the word "syntax", if some syntax-driven entity accepts each of "Smith is ill" and "Smith doesn't smoke", it is just as likely to transition to (\wedge) as it is to transition to ($\wedge\wedge$). But this clearly doesn't correspond to the transitions that a rational person would make. So the linguist's definition of "syntax" fails to validate the idea that thinking consists in syntax-driven operations.

According to the mathematical logician, (\wedge) and ($\wedge\wedge$) *do* have different syntactic structures. Indeed, from the mathematical logician's viewpoint, the "syntax" of a sentence is *by definition* identical with its logical form. So it would seem that this disambiguation of the term "syntax" would validate Fodor's analysis.

But this is not so. Relative to this reading of the term "syntax", syntax tracks logical form only if the language in question satisfies conditions that would make that language useless in the way of mediating rational thought. In that sense of the word "syntax", an utterance of "that [accompanied by an ostension of Smith] is identical with that [accompanied by an ostension of Jones]" has the same syntax as an utterance of "that [accompanied by an ostension of Smith] is identical with that [accompanied by another ostension of Smith]." So a purely syntax-driven entity wouldn't be capable of registering the profound logical differences between these two utterances. Since it is obvious that human beings *can* do so, it follows that, in this sense of the word "syntax", we aren't syntax-driven entities (Kuczynski 2006b).

What we just said about "that" is true of "here", "now", "this", "over there", and any other context-sensitive expression. Syntax can be coordinated with logical form only where there is no context-sensitivity. So supposing that we think in a language whose

syntactic structures are coordinated with their logical forms, it follows that those sentences have no context-sensitive component and, consequently, that one isn't capable of thinking things like *it is now 3:00 p.m.* or *that guy is Jones*. Since we obviously do have such thoughts, our thoughts are not mediated by a language of the kind just described.

Syntax as morphology

Sometimes when Fodor talks about sentential "form," he is referring to the property of having a certain shape. He is referring to form in a purely geometrical sense (Fodor 1987: 18–20).

But this disambiguation of the word "form" doesn't validate the contention that thought is syntax-driven or, therefore, that it is meaningfully described as computational. Syntax is not morphology. Syntax doesn't supervene on morphology. Syntax is no more capable than semantics of being coordinated with morphology. (We will argue for these claims in Chapter 14.) So in direct opposition to what Fodor holds, thought is not syntax-driven, and is therefore not computational, to the extent that it is morphology-driven.

To be sure, there is a long tradition of identifying syntax with morphology. But that tradition is mistaken, and it involves erroneous views as to the meanings of expressions such as "syntax", "algorithm", "mechanical procedure", and "formal truth." It might be appropriate to outline what we will say in defense of these claims. Given two sentence-tokens that have the same syntax, there is no limit to how different they can be in respect of morphology. And given two sentence-tokens that have the same morphology, there is no limit to how different they can be in respect of syntax. So syntax isn't morphology, and it isn't realized by morphology. It is true that, within narrow contexts, a "morphological characterization" of syntax is possible, making it *appear* as though morphology-driven processes are syntax-driven. But this appearance is misleading. To say that there is a "morphological characterization" of syntax is to say that there is a function that assigns syntactic structures to symbol-tokens on the basis of their shapes. Given this, it is clear why, even in a context where a morphological characterization of syntax is possible, no process can possibly be syntax-driven *in virtue* of its being morphology-driven. Suppose that, in possible world *W*, all round wheels are red and all square wheels are green. In *W*, a vehicle with red wheels would *ceteris paribus* function better than a vehicle with green wheels; and we could say that, in *W*, there is a "chromatic characterization" of what it is to be a good wheel. But the red wheels aren't good *because* they are red – they are good because they are round. Similarly even if all and only those expressions having a certain shape have a certain syntax, they don't have that shape *because* they have that syntax. A corollary is that, even in contexts where morphology tracks syntax, it doesn't do so because morphology *is* (or realizes) syntax. Thus, morphology-driven processes are no more syntax-driven than, in *W*, instances of successful transportation are color-driven.

The idea that formal (morphology-driven) processes are also formal (syntax-driven) involves a failure to see that the term “form” is ambiguous between two totally different meanings. The terms “mechanical procedure”, “algorithm”, and “formal truth” are comparably ambiguous and are used in a comparably equivocal manner by CTM. Once these equivocations are exposed, that doctrine loses its intuitive appeal and the arguments for it crumble.

The root-problem with CTM and content-externalism

But there is a problem with CTM, and also with content-externalism, more fundamental than any thus far mentioned. It is states of affairs, not objects, that make things happen. It is not the rock that breaks the window – it is the rock’s colliding with the window. In light of this point, suppose that brain-state *B* realizes a condition of believing that Socrates was bald. There is no doubt that *B* has causal properties: it has a certain shape and a certain mass; it consists of particles with certain charges; and so forth. But, for the reasons given earlier, *B*’s encoding the proposition that Socrates was bald is causally inert, at least so far as content is to be understood along externalist lines, and *B*’s having that content thus becomes as explanatorily idle as its having the property of being a thing *x* such that *x* is either a circle or not a circle (Jackson and Pettit 2004: 46–48, Kuczynski 2006c).

It follows that content-externalism threatens the very *existence* of mental content. Where the occupants of the spatiotemporal are concerned, existence and causal potency are indistinguishable. Fodor (1968) himself makes this point very clearly,¹⁵ and so does Jaegwon Kim (1993: 348). A state of affairs that has no causal powers is no state of affairs at all. Since content-externalism strips mental content of causal powers, it denies its existence.

John McDowell argues that content-externalism is compatible with the causal efficacy of the mental.¹⁶ But McDowell’s argument is a straightforward non-starter, as we will see in a moment.

Fodor sees clearly that, if content-externalism is right, no brain-state has causal powers in virtue of its representational properties; i.e. he sees that content-externalism strips content of causal efficacy. (That is why, in his view, it is the “syntactic structures” of brain-states, not their semantic (representational) properties, that do all the causal work.) But Fodor seems not to see that this jeopardizes the very existence of representational, and therefore mental, properties.

Like McDowell, Frank Jackson and Philip Pettit hold that content-externalism is consistent with the causal potency of the mental (Jackson and Pettit 2004–2004c). But their argument is very different from McDowell’s, and has considerably more merit.

15. Of course, spatiotemporal points and lines, and so forth, lack causal powers. But they are not *occupants* of space-time. Rather, they are sets of space-time coordinates.

16. See McDowell’s commentary in Evans (1982: 203–204).

Their argument is based on a distinction between what they call "program-causality" and "efficient-causality." They argue that content-externalism allows representational states of affairs (e.g. a brain-state's being a belief that Plato was wise) to be program-causes, even though it doesn't allow them to be efficient-causes.

I believe that the Jackson-Pettit analysis of causality is accurate and that the distinction between program-causality and efficient-causality is of the highest importance. But their worthy analysis of causality does *not* show that content-externalism is compatible with the presumption representational states of affairs have *any* causal properties: it no more allows mental states to be program-causes than it allows them to be efficient causes. This will be shown in Chapter 12.

The key distinctions

In this work, it will be argued that, so far as content-externalism appears plausible, that is because we are failing to make the following three distinctions:

- (1) The distinction between what is literally meant by our expressions and the information that is imparted to us *in the process of computing their literal meanings*.
- (2) The distinction between content and truth-maker.
- (3) The distinction between perceptual and meta-perceptual data (between what is encoded in our perceptions, taken by themselves, and what we *infer* from our perceptions).

Since much of Part I will be spent delineating (1)-(3), I will now only give an outline of what they mean. For the sake of argument, suppose that, as Kaplan (1989) holds, demonstrative expressions are "directly referential." In that case, the proposition literally meant by a token of:

- (A) "that overbearing and generally unsavory man standing over there next to that atrocious painting is a professor of anthropology"

is simply:

- (B) x is a professor of anthropology,

for some value of x. But obviously what is *communicated* by a token of (A) will not be so threadbare. What is communicated is (inter alia) that somebody is overbearing and generally unsavory and is also standing next to some atrocious painting. Thus, what is *communicated* by a token of (A) will involve concepts like *painting*, *overbearing*, *unsavory* that are quite absent from (B). How is this to be reconciled with Kaplan's thesis that (B) is the literal meaning of (A)?

There is no problem. We need only take into account the fact that people typically understand the expressions that they encounter *on the basis of their knowledge of the semantic rules that assign them meaning*. The semantic rule for the demonstrative expression “that overbearing and generally unsavory man standing over there next to that atrocious painting” is:

- (C) For any context C, and any predicate phi, if somebody x in C is uniquely a salient overbearing and generally unsavory man standing next to a uniquely salient painting, then a token in C of “that overbearing and generally unsavory man standing over there next to that atrocious painting has phi” means: *x has phi*.

The rule for (A) specifically is:

- (D) For any context C, if somebody x in C is uniquely a salient overbearing and generally unsavory man standing next to a uniquely salient painting, then a token in C of “that overbearing and generally unsavory man standing over there next to that atrocious painting is a professor of anthropology” means: *x is a professor of anthropology*.

When one hears a token of (A), one has to work *through* (D). Anyone who knows (D) will know that an utterance of (A) will not be true unless, in the context of utterance, somebody x is a uniquely salient overbearing and generally unsavory man standing next to a uniquely salient atrocious painting and, moreover, x is a professor of anthropology. So even though what a token of (A) literally means is (B), and thus doesn't involve the concepts of being unsavory or overbearing, what such a token *communicates* to someone does concern these very concepts. Because of the information that one must *work through* in order to assign the right proposition to a token of (A), what such a token communicates is very different from what it literally means.

I will refer to information conveyed in this way as “pre-semantic implicature.” We will find that what we just said about tokens of (A) is true, to some degree or other, of *all* sentences. In connection with this, we will find that pre-semantic implicatures are exponentially more powerful than the post-semantic implicatures studied by Grice.

Let us now briefly say what is meant by (2) and (3). Consider the sentence:

- (S) “Somebody invented bifocals.”

This sentence is true because *Benjamin Franklin* invented bifocals. So Franklin's inventing bifocals is the *truth-maker* of (S). But the *meaning* of (S) obviously isn't: *Franklin invented bifocals*. After all, even though it is false, “somebody invented bifocals, but Franklin did not do so” is not self-contradictory.¹⁷ What we just said about sentences is true of perceptions and thoughts. When I look at an ice-cube, what makes my perception veridical is that there are various H₂O-molecules in a certain configuration in a

17. I am borrowing an argument given by Russell (1919: 165).

certain region of space-time. So the *truth-maker* of my perception is given by some proposition having the form: *in region R, there are various molecules consisting of hydrogen and oxygen atoms, and those molecules are interrelated in such and such a manner.* But what my perception *tells me* isn't given by such a proposition. So the *content* of my perception doesn't involve the concepts *molecule, oxygen, or hydrogen.*

Distinction (3) is easily understood in terms of these points. Given my sense-perception, along with my knowledge of chemistry, I can *infer* that there are various molecules of a certain kind in front of me. But, as we just saw, the concepts *molecule, oxygen,* and so on, are no part of the content of my perception. We mustn't confuse what, given one's background knowledge, one can infer from a given perception with what that perception itself tells one; we mustn't confuse perceptual data with post-perceptual meta-data.

In his landmark work *the Varieties of Reference*, Gareth Evans put forth deep and original analyses of conception, semantic content, and the relationship between the two. I believe that, by combining Evans' insights with (1)-(3), we are able to produce models of both semantic and cognitive content that satisfy two important requirements. First, those models enable us to hold onto all of the pre-theoretic intuitions that are *prima facie* inconsistent with content-externalism. For example, those models enable us to hold onto our intuition that, in at least some cases, our beliefs about our own minds are characterized by a kind of certainty and incorrigibility that could not possibly characterize our beliefs about the external world. (As we will see, content-externalism cannot accommodate this datum.) Second, those models enable us to account for the important fact, stressed (but misunderstood) by content-externalism, that our concepts of spatiotemporal objects have an ineliminable causal *component.*

Evans' notion of a "cognitive map" is going to play a crucial role in our analysis of conception. We will also find important applications for Evans' distinction between "conceptual" and "non-conceptual" content. Evans' idea of a *de re* sense (Evans 1985: Chapter 10) – which came to have an important place in McDowell's work (McDowell 1998: Chapters 10–13) – will also be discussed at length. We will find that it is an incoherent synthesis of a number of deep insights.

McDowell on mental causality

We will end this chapter by substantiating a point made earlier. As previously noted, John McDowell holds that content-externalism *is* consistent with the fact that the mental is causally efficacious. McDowell's position can be understood in terms of the following story. Let w^* be a world that is just like ours except that w^* contains XYZ, instead of H_2O . Let Smith be a person in our world, and let Smith* be Smith's doppelganger in w^* . In our world, Smith's perception of a certain glass of H_2O causes him to reach for that glass. In w^* , Smith*'s perception of a certain glass of XYZ causes him to reach for *that* glass.

Here is what McDowell says about this situation. Smith's perception has a different content from Smith*'s. There is some glass x such that the content of Smith's perception does, whereas the content of Smith*'s perception does not, have x has a constituent. And there is some glass y such that the content of Smith*'s perception does, whereas the content of Smith's perception does not, have y has a constituent. Further, there is some natural kind N – namely, H_2O – such that the content of Smith's perception does, whereas the content of Smith*'s perception does not, have N has a constituent. Finally, there is some natural kind N^* – namely, XYZ – such that the content of Smith*'s perception does, whereas the content of Smith's perception does not, have N^* has a constituent.

(Before we continue, we should note that we've already seen *some* reason to believe that the contentions just stated are wrong, as they involve a conception of perceptual content that is rendered incoherent by its failure to recognize some key distinctions – in particular, the distinction between data and meta-data, between literal and cognitive meaning, and between content and truth-maker. But let us leave that aside for now, and continue with our exposition of McDowell's analysis.)

According to McDowell, it is obvious why content-externalism is consistent with the fact that the mental has causal powers. In virtue of having glass x , as opposed to glass y , for its content, Smith's perception has causal powers not had by Smith*'s perception. Smith's perception does, whereas Smith*'s perception does not, cause somebody to reach for glass x . And in virtue of having glass y , as opposed to glass x , for its content, Smith*'s perception has causal powers not had by Smith's perception. Smith*'s perception does, whereas Smith's perception does not, cause somebody to reach for glass y . Similar remarks explain why, in virtue of having H_2O , as opposed to XYZ , for part of their contents, Smith's post-perceptual mental states (e.g. his intention not to make loud slurping noises when drinking the contents of the glass in question) have causal powers not had by Smith*'s post-perceptual mental states.

But contrary to what McDowell says, the scenario just described is consistent with the view that the causal properties of Smith's perception and post-perceptual states are *identical* with those of Smith*'s corresponding states. Magnet A is attracted to magnet B . Magnet B happens to be green. But *ceteris paribus* if B were red or purple or orange, A would still be attracted to it. It is true that, because B is green, A is behaving in a way that it would not behave if B were some other color. (A is drawn towards a green magnet, instead of a red one.) But it doesn't follow that B 's color has anything to do with A 's behavior. A 's behavior wouldn't *ceteris paribus* be different in a world where B were some other color. In other words, A 's behavior wouldn't be *relevantly* different. This shows that B 's being green has no effect on what A does, notwithstanding that, because B is green, A is doing something (namely moving towards a green magnet) that it wouldn't be doing if B were red.

Similarly, given only that Smith's behavior is caused by H_2O , as opposed XYZ , it doesn't follow that the glass's containing H_2O has any effect on Smith's behavior and mentation that the glass's containing XYZ would not have had.

And it is easily shown that, indeed, Smith and Smith* coincide in respect of their causal properties. Let C_1, \dots, C_n be Smith's causal properties. Given that Smith has those properties, it follows that he will act just like Smith* if he is embedded in a situation exactly like the one in which, in the scenario described a moment ago, Smith* is embedded. The same thing *mutatis mutandis* is true of Smith*. It would therefore be absurd to conclude from the differences between Smith's behavior and Smith*'s behavior (viz. that Smith reaches for a glass of H_2O whereas Smith* reaches for a glass of XYZ) that they have different causal powers.

This argument is basically identical with one given by Fodor (1987b). Let S be the situation described by McDowell. Now suppose that Smith and Smith* switch places, but that otherwise w^* and our world remain the same. Let S* be the situation that results. Obviously Smith and Smith* are going to act differently *given* that they are confronted with numerically different objects. But that doesn't mean that one of them is causally different from the other. Two individuals are causally different just in case, *were they to switch places but all other factors were held constant*, they would act differently from how they in fact act. Smith and Smith* don't satisfy this condition. Nor, for exactly similar reasons, do any two individuals who differ only in respect of how their current conditions originated. It follows that mental content is without causal powers to the extent that it is to be understood along content-externalist lines. And from this it follows that content-externalism strips mental content of causal potency and thus of existence itself.

An object's causal properties are to be understood not strictly in terms of its behavior in actual circumstances, but in terms of those aspects of its behavior that are invariant with respect to counterfactual changes in those circumstances (Fodor 1987b). McDowell's argument involves a failure to appreciate this fact, and that is why it crumbles.

McDowell's analysis also involves a failure to distinguish causal properties from *instances* of such properties. On Monday, Jones beats Aaronson in a boxing match. On Tuesday, Jones beats Brown in a boxing match. Jones uses the very same boxing techniques on both days. So Jones' boxing capabilities are instantiated on Monday, and those same capabilities are instantiated again on Tuesday. Of course, what Jones is doing on Monday is different from what he is doing on Tuesday: on Monday, he is defeating Aaronson; on Tuesday he is defeating Brown. But this is because some one set of causal powers is instantiated in two different contexts.

Smith's causal properties are instantiated in one context, and Smith*'s causal properties are instantiated in a qualitatively different context. But it obviously doesn't follow that the properties being instantiated are different. Each of Smith and Smith* is behaving in exactly the way in which, were the two to switch places (but everything else was held constant), the other would behave. This is consistent with their being identical in respect of their causal properties. So if, as the content-externalist alleges, Smith and Smith* differ in respect of the contents of their mental states, those differences have no causal significance. Once causal properties are distinguished from their instances, there ceases to be any temptation to say that Smith and Smith* are causally different.

Content-externalism is the view two individuals may have different mental contents even though, leaving aside facts about the origins of their conditions, those individuals are qualitatively identical. But we've seen that those alleged differences in mental content are causally inert. In other words, there are no differences in causal properties without differences in intrinsic properties. (How a given set of causal properties is *expressed* is a function of what is in the environment of the individual whose properties we are considering. But that is irrelevant, as we have seen.) Mental properties are not Cambridge properties; instance of them are not causally inert or explanatorily trivial. If they are anything at all, mental properties are causal properties. So a difference in mental properties must mean a difference in causal properties.¹⁸ If Smith's mental content really is different from Smith*'s, then Smith's thoughts must be causally different from Smith*'s. The supposed differences between Smith and Smith* turn out to be causally inert, and this means that those differences don't exist.

Let us sum up. Differences in mental content are causally inert, and therefore non-existent, so far as they are to be understood along externalist lines. A corollary is that content-externalism is inconsistent not only with the causal potency of the mental, but with its very existence.

Stephen Stich (1978, 1983) sees that content-externalism is inconsistent with the presumption that instances of representational properties can do any causal or explanatory work. (As Stich puts it, content-externalism is inconsistent with the "autonomy of the mental.") At the same time, Stich takes it for granted that content-externalism provides a correct analysis of the concept of representational content. On this basis, Stich holds that we must reject the idea that our mental states are to be understood in terms of the concept of representation or in terms of any concepts that involve that concept (e.g. the concepts of belief, hope, doubt, desire, and so on). Stich concludes that "folk-psychology" in its entirety must be thrown out and replaced with an entirely different kind of psychology.

Stich is right to say that content-externalism strips representational properties of any causal or explanatory significance. But Stich is guilty of a major non-sequitur in inferring from this that folk-psychology must be jettisoned. For, as we will see, folk-psychology is easily reconciled with content-*internalism* and thus with the fact that psychological properties are causally and explanatorily important.

18. See Kim (1993: 339-367).