

**Dr. Enrique Villanueva**  
**Ridgeview Publishing Company**

---

Aims and Claims of Externalist Arguments

Author(s): Martin Davies

Source: *Philosophical Issues*, Vol. 4, Naturalism and Normativity (1993), pp. 227-249

Published by: [Ridgeview Publishing Company](#)

Stable URL: <http://www.jstor.org/stable/1522843>

Accessed: 07/08/2011 07:35

---

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at  
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



*Dr. Enrique Villanueva and Ridgeview Publishing Company are collaborating with JSTOR to digitize, preserve and extend access to Philosophical Issues.*

<http://www.jstor.org>

# Aims and Claims of Externalist Arguments

Martin Davies

In this paper, I shall advance an externalist argument. Specifically, I am going to defend externalism in respect of some of the representational properties of perceptual experiences. A visual experience, for example, might present the world to a subject as containing a surface with a certain shape, lying at a certain distance, in a certain direction; perhaps a square with sides about 30 cm, lying about one metre in front of the subject, in a direction about 20 degrees to the left of straight ahead. My externalist argument will concern such representational properties of experiences as these. The argument, which proceeds by examples, comes in Section 4 of the paper. The first three sections are taken up with setting the scene.

In the first section, I shall distinguish between two kinds of externalist claim: between *constitutive* and *modal* claims. In fact, I shall set out a constitutive externalist claim and a variety of modal externalist claims. Each of the modal externalist claims entails the constitutive claim; but there is no reason to suppose that the converse entailments hold. The constitutive externalist claim could be true even while the modal claims were all false. The constitutive externalist claim might well be sufficient to satisfy many of the philo-

sophical motivations for externalism, but in this paper I shall be trying to establish a modal externalist claim (from which, of course, the constitutive claim would then follow).

In the second section, I shall draw another distinction. There are two views that we might take about the representational properties of experiences. On the one hand, we might hold that the content of a perceptual experience is just the content of the judgement that the subject would make if he or she took the experience at face value. In that case, perceptual content is the same kind of content as the content of judgement and belief. On the other hand, we might hold that perceptual content is a distinct kind of content, different from belief content. I shall be adopting this second view, and distinguishing between belief content and perceptual content. The distinction between belief content and perceptual content is, by my lights, a distinction between conceptualised content and a kind of non-conceptual content. To say the perceptual content is non-conceptual is to say that a subject can have an experience with a certain perceptual content without possessing the concepts that would be used in specifying the content of that experience. Some people will not want to accept this distinction; they will not want to recognise the distinct category of non-conceptual representational content. But, the argument of this paper need not be without interest to these theorists. For it is quite likely that they will have a less heavily committed view of concept possession than the one that I favour, so that their unitary notion of content will have a good deal in common with the non-conceptual content which I shall be arguing to be externalist.

The third section will complete the preliminaries. My objective is to defend externalism for perceptual content, but without having any generally accepted philosophical theory of what it is for an experience to have a particular content. In the absence of such a theory, I shall offer a very crude taxonomy of possible theories of content, with a view to seeing what prospects the different kinds of theory offer for externalist arguments. To a first approximation, the upshot will be that the theories of content that make it easier to establish externalism are also the theories of content that are more problematic in their own right. So, externalism concerning the representational properties of perceptual experiences is unlikely to follow immediately or straightforwardly from the correct theory of perceptual content.

Arguing for externalism concerning perceptual content is none too easy a thing to do; but in the fourth section I shall try. There, I shall present a selection of externalist examples. If just one of these examples carries conviction, a modal externalist claim about perceptual content is licensed; and the constitutive externalist claim follows.

To the extent that there is residual resistance to externalism, this may be because the opposing view —individualism— is thought to have independent arguments in its favour; or it may be because there is reckoned to be a terrible price that has to be paid for the otherwise plausible externalism. On the one hand, there is the idea that content must be individualist in order to be causally efficacious or causally explanatory (Fodor, 1986,1987; cf. Davies, 1986; Peacocke, 1993). On the other hand, there is the thought that externalism gives rise to epistemological problems, particularly about first-person authority (Burge, 1988; Davidson, 1987; McKinsey, 1991). Each of these possible sources of opposition deserves extended investigation before externalism can be solidly established; but the examination of these themes —efficacy, explanatoriness and authority— will not be undertaken in this paper.

## 1 Constitutive and Modal Claims

I begin, then, with the distinction between constitutive and modal externalist claims.

### 1.1 A STATEMENT OF CONSTITUTIVE EXTERNALISM

In order to reach a statement of constitutive externalism, we can begin with its opposite: constitutive individualism. Here is a statement of that doctrine (Burge, 1986, pp. 3-4):

Individualism is a view about how kinds are correctly individuated, how their natures are fixed... According to individualism about the mind, the mental natures of all a person's or animal's mental states (and events) are such that there is no necessary or deep individuating relation between the individual's being in states of those kinds and the individual's physical or social environments.

I take this to mean that the most fundamental philosophical account of what it is for a person or animal to be in the mental states in question does not need to advert to that individual's physical or social environment, but only to what is going on within the spatial and temporal boundaries of the creature.

Suppose for a moment that that were right —that constitutive individualism were correct— and imagine that some individual  $x$  is in some mental state  $S$ . Imagine, too, that  $y$  is a duplicate of  $x$  in the same, or in another, possible situation. Then, since  $x$  and  $y$  are just the same from the skin inwards, the constitutive account of what it

is for  $x$  to be in mental state  $S$  will be satisfied equally by  $y$ . For that account adverts only to features that  $x$  and  $y$  have in common as duplicates. So, if the constitutive individualist claim were correct for mental state  $S$ , then that state would be preserved across duplicates, whether in the same, or in different, possible situations.

In short, the constitutive individualist claim about a family of mental states or properties entails *modal individualist claims* about those states or properties —claims to the effect (Burge, 1986, p. 4) that they

could not be different from what they are, given the individual's physical, chemical, neural, or functional histories, where these histories are specified non-intentionally and in a way that is independent of physical or social conditions outside the individual's body.

Such a modal individualist claim is a claim about supervenience: the mental states or properties in question supervene upon physical, chemical, neural, or functional states or properties. More specifically, it is a claim of *local supervenience*, since it says that the mental states or properties of an individual are fixed by what goes on —physically, chemically, neurally, or functionally— within the boundaries of that individual's body. If a mental state or property of an individual  $x$  is locally supervenient, then any other individual  $y$  that is a duplicate of  $x$  (is the same from the skin inwards) shares that state or property.

Given the statement of constitutive individualism, we can assemble a claim of constitutive externalism just by negating it. Thus:

According to *externalism* about the mind, the mental natures of at least some of a person's or animal's mental states (and events) are such that there is a necessary or deep individuating relation between the individual's being in states of those kinds and the individual's physical or social environments.

I take this to mean that the most fundamental philosophical account of what it is for a person or animal to be in the mental states in question does advert to that individual's physical or social environment, and not only to what is going on within the spatial and temporal boundaries of the creature.

Because constitutive individualism entails modal individualism, we can establish this constitutive externalist claim by establishing a modal externalist claim; that is, by establishing the negation of one of the modal individualist claims. Roughly speaking, what we need to show is this. Given an individual  $x$  in mental state  $S$  in environment  $E$ , it is possible that there should have been an individual  $y$ ,

internally just the same as  $x$ , but in a different environment  $E$ , such that  $y$  would not have been in mental state  $S$ . The typical way to argue for such a modal externalist claim is by using ‘Twin Earth’ examples.

Modal externalism is sufficient for constitutive externalism —but it is not necessary. The constitutive claim might be true even if the modal claim were false. As a barely formal point, this failure of entailment is clear enough; but perhaps we should consider a couple of ways in which it might turn out to be impossible to generate the ‘Twin Earth’ examples that would establish modal externalism. One kind of case would be where there is a necessary connection between the relevant features of the environment  $E$  and  $x$ ’s inner constitution, so that a situation with environment  $E'$  instead of  $E$  is inevitably a situation in which there is no duplicate of  $x$ . Another kind of case would be where the fundamental philosophical account of what it is for  $x$  to be in mental state  $S$  adverts to  $x$ ’s environment, but only in a very general way. The account might speak, for example, of “whatever environmental feature is related in such-and-such a way to such-and-such an internal state  $I$  of  $x$ ”. In this case, so long as the internal state  $I$  was preserved —as it would be in a duplicate  $y$  —the mental state  $S$  would be preserved too.

## 1.2 THE STRENGTH OF THE MODAL CLAIM

Modal individualist claims and their negations —modal externalist claims— vary in strength along several dimensions. A modal individualist claim —that is, a claim about supervenience— might concern pairs of individuals in the same possible world: If  $x$  has mental property  $F$  in possible world  $w$ , and  $y$  is a duplicate in  $w$  of  $x$ , then  $y$  has  $F$  in  $w$ . This would be a ‘within a world’ modal claim: in the notation of McFetridge (1985) an (XYWW) claim.

‘Within a world’ modal claims are to be distinguished from various ‘across worlds’ claims. One kind of ‘across worlds’ supervenience claim concerns the same individual in different possible situations — an (XXWW) claim: If  $x$  has mental property  $F$  in possible world  $w_1$ , and  $x$  is internally just the same in  $w_2$  as in  $w_1$ , then  $x$  has  $F$  in  $w_2$ . Another kind of ‘across worlds’ supervenience claim concerns pairs of individuals in different possible situations but takes the ‘home base’ situation to be the actual world —an (XYAW) claim: If  $x$  has mental property  $F$  in the actual world, and  $y$  is a duplicate in  $w$  of  $x$  in the actual world, then  $y$  has  $F$  in  $w$ . A *modally strong* supervenience claim is restricted in neither of these ways. It concerns pairs of individuals in different possible worlds, neither of which need be the

actual world —an (XYWW') claim: If  $x$  has mental property  $F$  in possible world  $w_1$ , and  $y$  is a duplicate in  $w_2$  of  $x$  in  $w_1$ , then  $y$  has  $F$  in  $w_2$ .

The examples upon which modal externalist claims are based often seem to involve two contexts within a single possible world, and sometimes even seem to involve a single individual being transported between these two contexts. Certainly, the terminology 'Twin Earth' is suggestive of a picture in which we consider two different regions of a single possible world. But, we do not need to restrict ourselves to examples of these types. For the constitutive individualist claim entails 'across worlds', and not merely 'within a world', supervenience claims. Indeed, it entails the modally strong supervenience claim. Consequently, in order to argue for constitutive externalism, it is only necessary to establish the relatively weak modal externalist claim which is the negation of the modally strong supervenience claim.

In short, then, a modal externalist claim can be based upon an example that involves (a) two different possible worlds, neither of which need be the actual world, and (b) duplicates, rather than a single individual. Furthermore, (c) the possibility at stake can be just metaphysical (or 'broadly logical') possibility, rather than, say, causal or nomological possibility. This sets a minimal standard for a modal externalist ('Twin Earth') example.

For  $x$  and  $y$  to be duplicates is for them to be qualitatively the same 'inside the skin'. But, I take it that the constitutive individualist about a class of mental states will allow that, if  $x$  and  $y$  are not quite duplicates just because  $y$  has an in-growing toe nail while  $x$  does not, then  $x$  and  $y$  are still bound to be in just the same mental states within that class. And he will surely allow that if  $y$  differs from  $x$  just in having a stiff shoulder, or one slightly shorter finger, then this is not enough to make a difference in mental states. I take it, in fact, that the individualist will maintain that mental states are fixed by the state of the brain and central nervous system. Consequently, in an argument for externalism it will be dialectically adequate to produce an (XYWW') example, in which  $y$  is at least a replica of  $x$  in respect of brain and central nervous system. In some of the examples that follow (in Section 4), I shall take advantage of this freedom to tinker with peripheral bodily parts.

Up to this point, I have been formulating the individualist and externalist modal claims quite generally in terms of mental states and mental properties. However, since I am out to argue for externalism concerning the semantic content of certain mental states, the relevant modal externalist claims will be of the form: There is a possible situation  $w_1$  and an individual  $x$  in  $w_1$ , and a possible situation  $w_2$

and an individual  $y$  in  $w_2$ , such that  $y$  (in  $w_2$ ) is a (neural) duplicate of  $x$  (in  $w_1$ ), yet  $y$  (in  $w_2$ ) differs in respect of the semantic content of some of its mental states from  $x$  (in  $w_1$ ). Most externalist examples have  $x$  and  $y$  both enjoying mental states with semantic content, but vary the content with the different environments provided by  $w_1$  and  $w_2$ . However, we should notice that a perfectly adequate instance of the form would be provided by an example in which  $x$  (in  $w_1$ ) enjoys, while  $y$  (in  $w_2$ ) lacks, mental states with semantic content.

So much, then, for spelling out the minimal requirements upon an example that would establish a modal claim from which constitutive externalism would follow. The next step is to be clearer about the kind of mental content that is at issue.

## 2 Belief Content and Perceptual Content

When what is at issue is the semantic content of belief states, we are familiar enough with arguments that seek to establish externalism in one of two ways. On the one hand, there is the line of thought that starts with the idea that belief content is conceptual content, and moves from there to the ideas that it is language dependent, and socially determined. According to this line of thought (e.g. Burge, 1979), a modal externalist claim can be established by an example in which the social environment differs as between  $w_1$  and  $w_2$ . On the other hand, there is a line of thought that focuses on the idea that belief content is object involving. If  $x$  and  $y$  are each looking at an apple, and each thinks, 'That apple is rotten', then their beliefs may well differ in semantic content, since  $x$ 's belief depends for its truth upon the state of one apple, and  $y$ 's belief is —we may suppose consistently with the requirement that  $x$  and  $y$  be duplicates— about a different apple.

These two lines of thought are very familiar. The point of rehearsing them yet again is just to stress that neither kind of externalist argument will be available for perceptual content —as I am construing that notion. For perceptual content is a kind of non-conceptual content, and it is (in a certain sense) not object involving.

### 2.1 THE CHARACTER OF PERCEPTUAL CONTENT

When I say that perceptual content is non-conceptual, I do not mean to deny that experiences also have conceptual content. We can certainly assign to a perceptual experience the content of the (conceptualised) judgement that the subject would make if she took



the experience at face value. But I am saying that we need to recognise another kind of content that experiences have as well — a kind of content that is, in the order of philosophical explanation, more fundamental. I call it non-conceptual content to indicate that the subject of the experience need not possess — and certainly need not deploy — the concepts that would be used in specifying the content of the experience.

Because perceptual content is non-conceptual, it is not plausible that it is dependent upon the subject's mastery of a public language; and so there is no prospect of an argument for social externalism in this case. (In truth, I do not altogether accept those familiar social externalist arguments even in the case of belief content; but that is not my concern here.)

When I say that perceptual content is *non-object involving*, I mean that perceptual content abstracts away from the identities of the particular objects that are perceived. Part of the motivation for this is that perceptual content is a kind of 'phenomenological content' (McGinn, 1989, p. 66): two experiences that are indistinguishable for the subject should be awarded the same perceptual content. Now, a subject might not be able to tell two apples apart; so the content of an experience of the one should be the same as the content of an experience of the other, despite the fact that the objects of the two experiences are different (so that, also, the contents of some of the beliefs — 'That apple is rotten' — formed on the basis of the two experiences would be different).

To help fix ideas, we can take it that Peacocke's (1992) *scenario content* is a kind of perceptual content. Here is what he says about it (1992, pp. 61-2):

I suggest that one basic form of representational content should be individuated by specifying which ways of filling out the space around the perceiver are consistent with the representational content's being correct. The idea is that the content involves a spatial *type*, the type being that under which fall precisely those ways of filling the space around the subject that are consistent with the correctness of the content.

And here is the point that scenario content is non-conceptual (1992, p. 63):

There is no requirement at this point that the conceptual apparatus used in specifying a way of filling out the space be an apparatus of concepts used by the perceiver himself. Any apparatus we want to use, however sophisticated, may be employed in fixing the spatial type, however primitive the conceptual resources of the perceiver with whom we are concerned.

This enables us to make two further clarificatory points about perceptual content. First, just because perceptual content is not object involving, it does not follow that it is not fully representational—not truth conditional. On the contrary, the notion of perceptual content furnishes a distinction between veridical experiences and others; and veridicality (or truth) conditions can be specified using existential quantification. (*There is* an object of such a shape, at such a distance, in such a direction.) Second, because perceptual content is non-conceptual, we shall expect that it cuts more coarsely than conceptual content. This is well illustrated by scenario content. There are many different ways of specifying the same spatial type; and scenario content cuts as finely as the type specified, not as finely as the specification.

(We should note that, in Peacocke's account, a further layer of perceptual content—*protopositional content*—is introduced. Protopositional content may include a specification of perceived axes of symmetry, for example, in order to mark the distinction between seeing a shape as a square and seeing it as a regular diamond (1992, p. 77). Similarly, protopositional content may include a specification of certain collinearities, in order to mark the distinction between seeing an array of elements as grouped into columns and seeing it as grouped into rows (1992, p. 79). Protopositional content thus cuts more finely than scenario content—in the sense that two experiences with the same scenario content may yet differ in protopositional content. But this finer grained content is still non-conceptual.)

## 2.2 SENSATIONAL PROPERTIES OF EXPERIENCE

Mention of Peacocke's work in this area inevitably reminds us of a distinction that he drew in *Sense and Content* (1983) between the representational and the sensational (intrinsic but not representational) properties of experiences. Peacocke offered some examples that were intended to show that there could be pairs of experiences with the same sensational properties but different representational properties, and other examples that were intended to show the converse—that there could be pairs of experiences with the same representational properties but different sensational properties. In that earlier work, he took it that all representational content is conceptual content (1983, p. 19):

[N]o one can have an experience with a given representational content unless he possesses the concepts from which that content is built up.

As a consequence, many of the lessons drawn from the examples do not carry over into the framework of Peacocke's own later work, and of this paper, where non-conceptual content is recognised. (See Crane, 1992, for a helpful discussion of these differences.) For example, in the earlier work, grouping phenomena are described in terms of sensational properties (1983, pp. 24-5); in the later work, as we have just seen, they are described in terms of non-conceptual protopositional content (1992, p. 79). Nevertheless, there is still enough in the examples to make it plausible that perceptual experiences have sensational, as well as representational, properties.

In particular, the example of monocular and binocular viewing of the same scene—in a case where the scene provides sufficiently many cues so that there is no loss of depth information when only one eye is used (1983, p. 13)—seems to provide a pair of experiences that present the space around the subject as being filled out in just the same way. Yet the two experiences are phenomenologically different. What it is like to have the monocular experience is not just the same as what it is like to have the binocular experience, even though the experiences have the same perceptual content.

In my view, this forces us to acknowledge sensational properties of experiences: aspects of what it is like to have the experience which are not a matter of how the experience presents the world as being (though it must be admitted that not everyone is persuaded by this example (e.g. Tye, 1991, p. 130; 1992, p. 174)). To that extent, I differ from McGinn when he says (1989, p. 75), “perceptual experience has none but representational properties (at least so far as consciousness is concerned)”.

But such sensational properties of experience need not constitute any kind of supervenience base for representational properties. It would be one thing to accept that there are sensational properties of experience, and quite another to accept the idea of a sensational substrate: a layer of sensational (non-representational) properties upon which the representational superstructure is erected. Indeed, it would take a massive leap to move from the modest non-representational difference between monocular and binocular viewing of the same scene to a host of non-representational properties subvening under the myriad representational properties of every perceptual experience.

The idea of a sensational substrate is problematic—particularly in the context of externalism about the representational properties of experience—since we are bound to ask what constraints there may be upon the correlation between sensational and representational

properties. Just how different might be the representational superstructures erected upon one and the same sensational substrate?

It is far from obvious where theoretical constraints upon the relation between sensational substrate and representational superstructure might issue from. Yet, to the extent that the relation is unconstrained, we are left entertaining scarcely intelligible hypotheses, along the lines that I, or a duplicate, might enjoy an experience with just the same intrinsic phenomenal character as my visual experience now, yet with utterly different representational properties.

In a discussion of what it is like to be a bat (Nagel, 1974), Kathleen Akins says (1993, p. 267):

It is not clear that we know how to separate our conscious experiences into two parts, the representational and qualitative aspects, or whether, indeed, this notion even makes sense.

And she goes on to illustrate dramatically the dubious intelligibility of the hypotheses that the idea of a sensational substrate might lead us to entertain (*ibid.*):

Open your eyes and look around your office (it's the end of term) —at the stacks of books and papers, at the piles of articles, unopened mail and ungraded papers. Note the way the scene looks to you, the inner phenomenology of the event. Now, a bat's consciousness is just like that —the feel of the scene is exactly the same— except, of course, all those visual sensations *mean* something very different to the bat. They represent quite different properties. Imagine that!

As Akins remarks (*ibid.*), “The problem is that you cannot imagine that, no matter how sincerely or hard you try”. And what goes for imagining what it is like to be a bat goes equally for imagining the conscious experience of a counterfactual duplicate.

Open your eyes and look around your office... Note the way the scene looks to you; note the intrinsic phenomenal character of the visual experience. Now, your counterfactual duplicate's experience is just like that —except, of course, all those visual sensations mean (represent) something very different to your duplicate. Imagine that!

The problem is that we have no grasp upon what it is that we are supposed to imagine here.

Now, I do not say, definitively, that there is no way to answer the question about constraining the relation between sensational substrate and representational superstructure. But I do say that the

question is sufficiently problematic to cast doubt upon the idea of a sensational substrate (see also Dennett, 1988); and this obliges me to reconsider one of my own arguments from earlier work. For, in “Perceptual Content and Local Supervenience” (1992), I argued *for* a sensational substrate by putting modal externalism together with two plausible propositions about phenomenology.

The first of these propositions is:

- (P1) Perceptual content is a matter of how things seem to the subject.

The second is:

- (P2) Experience has a phenomenal character that is supervenient upon the internal state of the subject.

If perceptual content is a phenomenological notion —as (P1) says— then the inescapable conclusion appears to be that perceptual content supervenes upon whatever the phenomenal character of the subject’s experience supervenes upon. But then, by (P2), perceptual content turns out to supervene upon internal constitution —in contradiction with our externalist conclusion.

(P1) says that perceptual content supervenes on phenomenal character. (P2) says that phenomenal character supervenes upon internal constitution. The clash with externalism then appears to be a consequence of the transitivity of supervenience. I recommended (1992, pp. 41-3) getting around this problem by distinguishing carefully between ‘within a world’ supervenience and ‘across worlds’ supervenience. We are indeed committed to some version of (P1); but, if the supervenience in (P1) is just ‘within a world’ supervenience then we can allow the intuition that (P2) is true even for ‘across worlds’ supervenience— indeed, for modally strong supervenience —without endangering externalism.

Since I found the intuition in the ‘across worlds’ version of (P2) to be persuasive, I took this to be an argument from externalism to the recognition of a sensational substrate —an intrinsic phenomenal character that is not representational. For the whole strategy for blocking the unwanted consequence of transitivity depends upon recognising internal state, phenomenal character, and perceptual content as all distinct.

But now, if the idea of a sensational substrate is cast into doubt, what are we to do with the intuition that there must be some characterisation of experience that is modally strongly supervenient upon internal (particularly, neural) state?

For present purposes, I propose to leave it as an open question whether there is any characterisation of experience that is supervenient in this modally strong way. But, I need to fend off one potential objection. Suppose that someone seeks to turn the original intuition about (P2) to the advantage of the individualist by offering some kind of ‘narrow’ perceptual content as the characterisation of experience that is ‘across worlds’ supervenient upon internal state (e.g. Segal, 1989). Then, it is important to see that this does not yet threaten externalism about perceptual content.

It is quite consistent to hold both that perceptual content is externalist and that there are other ‘narrower’ notions of content that abstract away from certain aspects of a creature’s environmental embedding. We can be explanatory pluralists here, and allow that these different notions of content are fitted for different explanatory tasks. The ‘narrower’ notions fit into broader generalisations, but cannot provide explanations of happenings under more specific descriptions. Now, it is far from obvious that there can be a genuine notion of content that simultaneously abstracts away from all environmental features. But, if there is such a notion of ‘narrow’ content, it need not be in explanatory competition with externalist perceptual content. As Burge says (1986, p. 38):

[This kind of content] will not serve the needs of psychological explanation as actually practiced. For the descriptions of information are too inspecific to account for specific successes in solving problems in retrieving information about the actual, objective world.

In Section 1, I set out the minimal requirements upon an example that would establish modal externalism about perceptual content. Now, I have done something to make clear what perceptual content is: it is a kind of non-conceptual content that is not object involving. The next step is to consider, in a summary way, the possible options for a fundamental philosophical account of perceptual.

### 3 Theories of Content and the Prospects for Externalism

I am going to use a very crude tripartite classification of theories of content. In one category there are pure input-side theories. In a second category there are teleological theories. And in a third category there are other theories that have output-side components.

Pure input-side theories of content —such as causal covariance theories— certainly support modal externalism. In order to produce

a 'Twin Earth' example, we only need to vary the distal causes of a creature's sensory stimulation. But the problem with examples of that kind is that the particular variety of modal externalism that they support — what McGinn (1989, pp. 58-94) calls *strong externalism* — is not very plausible.

To see how the problem arises, it is enough to recall the example that McGinn himself uses. In possible world  $w_1$ , internal state  $S_1$  of the subject Percy is caused by square things and internal state  $S_2$  is caused by round things. In possible world  $w_2$ , Percy's internal constitution and behavioural dispositions are just as in the actual situation, but as a result of environmental differences, state  $S_1$  is produced by round things and state  $S_2$  is produced by square things. On a particular occasion in  $w_2$ , Percy is in state  $S_1$ . Is the perceptual content of his experience that there is a square thing before him or that there is a round thing before him? Is the experience as of something square or as of something round?

The strong externalist — whose particular variety of externalism is founded upon a pure input-side theory of content — must say that the content of Percy's experience on this occasion is individuated in terms of the distal causes of state  $S_1$  in  $w_2$ , thus the content of Percy's experience is that there is a round thing before him. McGinn argues, against this, that in  $w_2$  Percy is doomed to misperceive round things as square. In support of this conclusion, McGinn points to the fact that Percy's behaviour in  $w_2$ , consequent upon his being in internal state  $S_1$ , is appropriate to the presence of a square thing — for behavioural dispositions are preserved across the two possible situations. He makes it plausible that, where there is dislocation between the facts of covariance on the input side and the facts of behaviour on the output side, output-side factors should dominate in the ascription of perceptual content (1989, p. 66):

So when it comes to a competition between action and environment, in the fixation of perceptual content, action wins.

Externalism is easy to establish if a causal covariance theory of perceptual content is correct. But what McGinn reminds us is that it is very unlikely that any pure-input side theory of perceptual content is correct; rather, it seems that an adequate theory of perceptual content must advert to the behaviour that is consequent upon perceptual states. In any case, causal covariance theories face the familiar problem of misrepresentation; so perhaps we should never have been tempted by the apparently easy route to externalism.

McGinn's own preferred theory of perceptual content is teleological in character. Such a theory of content would enable us to explain why

merely changing the distal cause of an internal state is not enough to change the content of that state —why strong externalism is not correct. But, of course, teleological theories are still externalist, rather than individualist, theories of content —for  $y$  may be a duplicate of  $x$  and yet differ from  $x$  in its evolutionary history. In particular, if there is a teleological necessary condition in a theory of perceptual content, then it will be a straightforward matter to devise examples in which  $x$  has perceptual states with content and  $y$  does not, even though  $x$  and  $y$  are duplicates. However, teleological theories are liable to face a number of difficulties, including their own problem of misrepresentation.

Intuitively, we can make sense of the idea of an evolutionarily adaptive case of misrepresentation. Peacocke (1993, pp. 224-5) gives an example:

Suppose members of a species are subject to attack by a particularly dangerous kind of predator. The members of this species commonly perceive these predators as closer than they actually are —as, say, two-thirds of the distance they actually are. Perceiving them as closer has conferred a selective advantage, we can suppose, because it makes the perceiver run away faster, and generally activates flight responses at a higher level. In these circumstances, the perceptual state which represents the predator as at a distance which is measured by about 20 feet will be of a type which natural selection has operated to ensure covaries with the predator being about 30 feet away.

Just as the most simple kind of causal covariance theory legislates all misrepresentation out of existence —thus creating a research programme in complicated covariance theories— so also does the most simple kind of teleological theory rule against the idea of adaptive misrepresentation. A simple teleological theory of content will inevitably count the perceptual state of these creatures as having the content that the predator is about 30 feet away, and so as being veridical.

I turn now to the rather underdescribed category of other theories of content with output-side components. This category includes theories of content that fix the content of a perceptual state by reference to the kind of behaviour that the state causally explains. Thus, for example, returning to Peacocke's example, we note that (1993, p. 225):

The naive, misperceiving subject who experiences the predator as at a distance which is measured by 20 feet will throw a stone aimed at it to about 20 feet, not 30 feet (other things equal).



We can see that these theories —like teleological theories— can explain why merely changing the distal causes of perceptual states is not enough to change the contents of those states. Furthermore, we can see that these theories will support modal externalist claims only if we can construct ‘Twin Earth’ examples in which behavioural outputs are varied, even while the creature remains the same ‘inside the skin’ —or at least in respect of its brain and central nervous system.

At this stage, we do not actually have an adequate theory of perceptual content to hand. What we have are only reasons to expect that such a theory will not be a pure-input side theory and will not be a pure teleological theory. In this situation, putative modal externalist examples should not build in detailed assumptions about the final form of a theory of content. All that we are entitled to assume is that such a theory will advert to output-side factors, and may also appeal to input-side and teleological factors.

This dictates my fundamental strategy for generating externalist examples. I begin by considering a hypothetical creature  $x$  in possible situation  $w_1$ , and then imagine a (brain and central nervous system) duplicate  $y$  of  $x$  in a different situation  $w_2$  such that:

the distal causes of internal states are different; and

the behavioural consequences of internal states are different; while

there is ‘harmony’ between distal causes and behavioural consequences (input-output harmony); and (to satisfy teleological intuitions)

this harmony is the product of evolution.

## 4 Some Externalist Examples

I offer four examples. The first one takes off from McGinn’s example of Percy. In order to avoid a range of objections inspired by the fact that the circumference of a square has four peculiarly salient points (cf. Segal, 1991, p. 488), the example (Davies, 1992, pp. 37-9) uses ellipses and circles instead of squares and circles.

### 4.1 PERCY WITH A TWIST

In possible world  $w_1$ , internal state  $S_1$  of Percy is caused by elliptical things that are slightly elongated along the (gravitational) vertical

axis, and as before, internal state  $S_2$  is caused by round things. Furthermore, we suppose the internal states  $S_1$  and  $S_2$  to be surrounded by such input-side, output-side, and teleological factors that it is correct to say that Percy sees ellipses as ellipses, and sees circles as circles.

In possible world  $w_2$ , the retinal arrays—and the internal state  $S_1$ —that are produced in  $w_1$  by those vertically elongated ellipses are instead produced by circles—by distal round things. Also (this is the twist relative to McGinn's original example), the behaviour in  $w_2$  is squashed along the vertical axis so that input-output harmony is preserved. That is, we suppose that environmental differences between  $w_1$  and  $w_2$  have the consequence that the same nerve firings and muscle contractions as in  $w_1$  result in a rather different bodily trajectory in  $w_2$ . In particular, the behaviour consequent upon the creature's being in  $S_1$  is now appropriate to the presence of round things, and not to the presence of elliptical things.

Finally, we suppose that the creature  $y$  in  $w_2$  is not Percy himself, but a duplicate with a very different evolutionary history. This creature's ancestors survived to reproduce in part because their behaviour was appropriate to ('in harmony with') the distal causes of their perceptual experiences. This happy convergence of input-side, output-side, and teleological factors makes it plausible that, when Percy's duplicate is in state  $S_1$ , he has an experience as of a round thing. *A fortiori*, it is implausible that the duplicate  $y$  misperceives round things as elliptical.

The externalist claim about this example is that, when Percy's duplicate is in the same internal state  $S_1$  that Percy is in when he has an experience as of a vertically elongated ellipse, the duplicate's experience is as of a round thing, and *a fortiori* not as of an ellipse.

## 4.2 THE PROTO-CRAB

It has to be acknowledged that the twisted example with Percy is underdescribed. The second example, which makes use of Paul Churchland's (1986) crab, can in principle be described exhaustively.

The proto-crab performs sensori-motor co-ordination, reaching with its two-jointed arm for objects fixated by its two eyes. The position of a seen object is coded by a pair of angles, corresponding to the orientations of the two eyes when the object is fixated; and the existence of an object can then be represented by activation at a point in a sensory topographic map (Figure 1). Likewise, the position to which the proto-crab reaches is coded by another pair

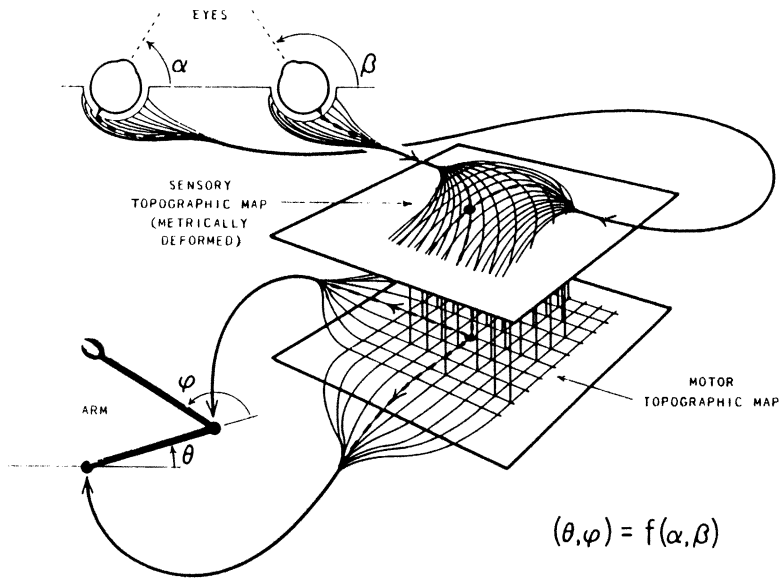


FIGURE 1. The proto-crab achieves hand-eye co-ordination in virtue of parallel connections between two topographic maps. (Reprinted with permission from Churchland, 1989, p. 89.)

of angles corresponding to the rotations of the shoulder and elbow joints; and the reaching movement to that position is represented by activation at a point in a motor topographic map. Parallel vertical connections between the two maps ensure the proto-crab's hand-eye co-ordination.

There is input-output harmony here. And if we take it that the proto-crab is the product of Churchland's intentional design, then we can also honour teleological intuitions while awarding semantic content to the activations in the topographic maps. Alternatively, we can imagine the proto-crab, not to have been built—as it might be—in Paul Churchland's garage, but rather to be an evolved system. In  $w_1$ , then, a particular internal state  $S$  of activation at a point in the proto-crab  $x$ 's sensory topographic map has the semantic content that the space in front of  $x$  is filled out in a particular way—that there is an object at the position  $p_1$  whose egocentric coordinates are  $(a, b)$ , say.

We now imagine a proto-crab  $y$  which is a near duplicate of  $x$ . The only difference is that  $y$  has a slightly longer forearm than  $x$  does. When  $y$  is in internal state  $S$ , activation passes to the mo-

tor topographic map, the shoulder and elbow joints rotate, and  $y$  reaches not to the position  $p_1$  with coordinates  $(a, b)$  but to a different position  $p_2$  whose coordinates are  $(c, d)$ . In  $w_1$ , this proto-crab would be doomed to starvation, constantly reaching too far forward and to the left to grasp the visible food. But, we do not imagine  $y$  in  $w_1$ . Rather, we consider  $y$  in a possible situation  $w_2$  where light behaves rather differently. In particular, when  $y$ 's two eyes are oriented at the angles that produce internal state  $S$ , the position that is optically triangulated is not  $p_1$  but  $p_2$ .

Thus far, the example is still underdescribed, since I have not provided a full account of the behaviour of light in  $w_2$ . But, in principle, it is 'merely' a matter of mathematics to work out how light would have to behave —over the range of distances salient for the proto-crab's food gathering— in order that input-output harmony should be achieved by the long-armed  $y$  in  $w_2$ . Then we can pile on such evolutionary —or other teleological— hypotheses as we wish, in order to underpin the claim that the semantic content of  $y$ 's internal state  $S$  in  $w_2$  is that there is an object at position  $p_2$ , and not that there is an object at position  $p_1$ .

### 4.3 THE PROTO-BAT

Now that we have seen a couple of these externalist examples, it is not difficult to construct more. The bat is a creature that has loomed large in the philosophical imagination, especially since Nagel (1974) pressed it into the service of his argument about the elusiveness of phenomenal consciousness. It is an interesting and delicate question whether the bat can provide a biologically realistic 'Twin Earth' example. This third externalist example sidesteps that question by employing a mere proto-bat.

Perceptual content is specified in terms of shaped surfaces with certain orientations, at certain distances, in certain directions. In the example with Percy, we aim to vary the perceptual content in respect of shape specification. In the example of the proto-crab, both distance and direction specifications are varied; it would be relatively straightforward to construct a similar example in which distance specifications vary alone. The idea of the present example is just to vary the direction component of the specifications of content for the proto-bat's internal states.

To this end, we consider a proto-bat  $x$  in an internal state  $S$  that has the semantic content that there is an object straight ahead. The relevant axes here are, of course, egocentric; but more specifically, let us suppose that they are head-centred.

The near duplicate proto-bat  $y$  is just like what would result from two pieces of cosmetic surgery on  $x$ . First, the position of  $y$ 's ears is slightly different: the line through the two ears is orthogonal, not the front-back axis through the proto-bat's head, but to a line rotated, say,  $10^\circ$  to the left. Second, the structure of  $y$ 's mouth is slightly different, so that the direction of maximum sound emission is not straight ahead but rather  $10^\circ$  to the left. The upshot of these two differences between  $x$  and  $y$  is that, in  $y$ , the internal state  $S$ —a state of the creature's tiny brain—is produced when there is an object in the direction  $10^\circ$  to the left of the head—relative straight ahead.

The fundamental strategy for generating these examples prescribes that there should be input-output harmony. Consequently, we need to ensure that the same motor instructions to the wings that would result in  $x$  flying straight ahead—supposing that the detected object is likely to be food—result in  $y$  turning  $10^\circ$  to the left, and that the instructions that lead  $x$  to turn  $10^\circ$  to the right have  $y$  flying along in a straight line. Perhaps one more cosmetic difference will turn this trick: we suppose that  $y$ 's right wing is larger than the left. Finally, if it helps, we can suppose the asymmetrical  $y$  to be a product of evolution.

With input-side, output-side, and teleological factors all in place, it should now be plausible that, in  $y$ , the internal state  $S$  has the semantic content that there is an object, not straight ahead, but  $10^\circ$  off to the left.

#### 4.4 THE AURAL DIRECTION SHIFT

The final example also involves a change in the direction component of perceptual content. We imagine a creature in  $w_1$  that uses binaural hearing to detect the direction of sounds, and then rotates a primitive one-jointed arm to point in the direction from which the sound is coming.

In the alternative situation  $w_2$ , we have a medium through which sound travels more slowly than in  $w_1$ : A consequence of this is that, for example, the internal state  $S$  that results in  $w_1$  from a sound  $30^\circ$  to the left, is produced in  $w_2$  by a sound that is only  $20^\circ$  to the left. The duplicate creature  $y$ , in this situation, still reliably points in the direction from which the sound is coming, since  $y$ 's shoulder joint is subject—let us suppose—to greater friction than is  $x$ 's. The impulse, triggered by internal state  $S$ , which produces a rotation of  $30^\circ$  in  $x$ 's arm produces a rotation of only  $20^\circ$  in  $y$ 's arm.

With the possible elaboration of the story to include an evolutionary dimension, the externalist claim about this case is that the

semantic content of the internal state  $S$  is different as between  $x$  in  $w_1$  and  $y$  in  $w_2$ , even though  $x$  and  $y$  are duplicates, save only for that stiff shoulder.

## 5 Conclusion

There are differences amongst these four examples offered in Section 4, and some of these differences may be important. The second example—that of the proto-crab— involves a change in the behaviour of light and so, presumably, a change in the laws of nature. In contrast, the third example—of the proto-bat— does not involve any environmental changes at all, but just some peripheral tinkering with the creature itself. The fourth example lies in between. There is an environmental change—in the medium through which sound passes—and also a modest alteration in the creature.

These features of the examples deserve discussion; but I want to draw attention to another aspect of the externalist argument. Where the examples are—or could be— fairly fully described they are also inevitably, very simple. But, where the creatures are so simple, it is far from obvious that we are entitled to suppose that they have any experiences at all. An opponent of externalism may seize upon this aspect, and press the question whether there can be a ‘Twin Earth’ example which is sufficiently simple for the differences between  $w_1$  and  $w_2$  to be specified in detail, yet sufficiently complex for it to be plausible that the creatures enjoy experiences.

My own view, of course, is that this battery of examples is quite persuasive in favour of modal—and so of constitutive— externalist claims. Furthermore, the opponent’s question, though it may indeed be pressed, stands in need of some motivation. However, such motivation might be furnished by the residual resistance to externalist claims that I recognised at the outset. So, externalist examples such as those offered in Section 4 need, in the end, to be accompanied by an investigation of the opposition to externalism that issues from worries about causal efficacy, explanatoriness, and first-person authority.\*

---

\* *Acknowledgements:* Work on the themes of this paper was begun at the Australian National University and at MIT in 1990 and 1991. I am grateful to ANU, the British Academy, MIT, and the Radcliffe Trust for financial support during that period. During the spring of 1992, I had the opportunity to spend a term at the King’s College Research Centre in Cambridge and to present some of this work at a seminar there. I am grateful to KCRC for financial support, and to the participants in the seminar for their comments. Thanks also to Ned Block, Jessica Brown, Tyler Burge, Frank Jackson, Christopher Peacocke, Gabriel Segal, Nigel Shardlow, and Tom Stoneham for comments and conversations.

## 6 REFERENCES

- Akins, K.A. 1993: "A Bat Without Qualities?" In M. Davies and G.W. Humphreys (eds.), *Consciousness: Psychological and Philosophical Essays*, Oxford: Blackwell Publishers, pp. 258-73.
- Burge, T. 1979: "Individualism and the Mental". In P.A. French, T.E. Uehling and H.K. Wettstein (eds.), *Midwest Studies in Philosophy*, vol. 4: *Studies in Metaphysics*, Minneapolis: University of Minnesota Press, pp. 73-121.
- Burge, T. 1986: "Individualism and Psychology". *Philosophical Review*, vol. 95, pp. 3-45.
- Burge, T. 1988: "Individualism and Self-Knowledge". *Journal of Philosophy*, vol. 85, pp. 649-63.
- Churchland, P.M. 1986: "Some Reductive Strategies in Cognitive Neurobiology". *Mind*, vol. 95, pp. 279-309. Reprinted in *A Neurocomputational Perspective*, Cambridge, MA.: MIT Press, 1989, pp. 77-110.
- Crane, T. 1992: "Introduction". In T. Crane (ed.), *The Contents of Experience: Essays on Perception*, Cambridge: Cambridge University Press, pp. 1-17.
- Davidson, D. 1987: "Knowing One's Own Mind". *Proceedings and Addresses of the American Philosophical Association*, vol. 60, pp. 441-58.
- Davies, M. 1986: "Externality, Psychological Explanation, and Narrow Content". *Proceedings of the Aristotelian Society*, Supplementary vol. 60, pp. 263-83.
- Davies, M. 1991: "Individualism and Perceptual Content". *Mind*, vol. 100, pp. 461-84.
- Davies, M. 1992: "Perceptual Content and Local Supervenience". *Proceedings of the Aristotelian Society*, vol. 92, pp. 21-45.
- Dennett, D. 1988: "Quining Qualia". In A.J. Marcel and E. Bisiach (eds.), *Consciousness in Contemporary Science*, Oxford: Oxford University Press. Reprinted in W.G. Lycan (ed.), *Mind and Cognition: A Reader*, Oxford: Basil Blackwell, 1990, pp. 519-47.
- Fodor, J. 1986: "Individualism and Supervenience". *Proceedings of the Aristotelian Society*, Supplementary vol. 60, pp. 235-62. Fodor, J. 1987: *Psychosemantics*, Cambridge MA.: MIT Press.
- McFetridge, I.G. 1985: "Supervenience, Realism, Necessity". *Philosophical Quarterly*, vol. 35, pp. 246-58. Reprinted in *Logical Necessity and Other Essays*, London: Aristotelian Society, 1990, pp. 75-90.
- McGinn, C. 1989: *Mental Content*, Oxford: Basil Blackwell.
- McKinsey, M. 1991: "Anti-Individualism and Privileged Access". *Analysis*, vol. 51, pp. 9-16.

- Nagel, T. 1974: "What is it Like to be a Bat?" *Philosophical Review*, vol. 83, pp. 435-50. Reprinted in T. Nagel, *Mortal Questions*, Cambridge: Cambridge University Press, pp. 165-80.
- Peacocke, C. 1983: *Sense and Content*, Oxford: Oxford University Press.
- Peacocke, C. 1992: *A Study of Concepts*, Cambridge MA.: MIT Press.
- Peacocke, C. 1993: "Externalist Explanation". *Proceedings of the Aristotelian Society*, vol. 93, pp. 203-30.
- Segal, G. 1989: "Seeing What Is Not There". *Philosophical Review*, vol. 98, pp. 189-214.
- Segal, G. 1991: "Defence of a Reasonable Individualism". *Mind*, vol. 100, pp. 485-94.
- Tye, M. 1991: *The Imagery Debate*, Cambridge, MA.: MIT Press.
- Tye, M. 1992: "Visual Qualia and Visual Content". In T. Crane (ed.), *The Contents of Experience: Essays on Perception*, Cambridge: Cambridge University Press, pp. 158-76.