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A Relational Response to Newman's Objection to Russell's Causal Theory of Perception

by

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Abstract: The causal theory of perception (CTP) has come under a great deal of critical scrutiny from philosophers of mind interested in the nature of perception. M. H. Newman's set-theoretic objection to Russell's structuralist version of the CTP, in his 1928 paper "Mr Russell's Causal Theory of Perception" has not, to my knowledge, figured in these discussions. In this paper I aim to show that it should: Newman's objection can be generalized to yield a particularly powerful and incisive challenge to all versions of the CTP. In effect it says that if the CTP is true, at least one of the following claims must be false. (1) Our perception-based judgements are made true or false by the state of mind independent objects. (2) The concepts we use in such judgments refer to the intrinsic, mind-independent properties of such objects. (3) Experience provides us with knowledge of these properties. The paper sets out the structure of the problem as Newman saw it, extends it to current debates in theory of perception and considers various responses to it. The response I argue for involves jettisoning the CTP in favour of a relational account of perceptual experience, in a way that allows us to hold onto all three claims.

Keywords: Russell, Newman, causal theory of perception, epistemic structural realism, relational theory of perception

1. Introduction

THE CAUSAL THEORY OF PERCEPTION (CTP) has, over the past three decades, come under a great deal of critical scrutiny from philosophers of mind interested in the nature of perception. M. H. Newman's set-theoretic objection to Russell's structuralist version of the CTP, in his 1928 paper "Mr Russell's Causal Theory of Perception", has not, to my knowledge, figured much if at all in these discussions. The major aim of what follows just is to show that it should. Newman's objection can be generalized beyond its official structuralist target to yield a particularly powerful and incisive challenge to all versions of the CTP. A second aim, as the title of the paper suggests, is to show how and why relational accounts of perceptual experience provide the most promising response to the challenge.

As the framework in which Newman's argument has been discussed in philosophy of science is somewhat removed from the way issues are formulated in debates about the nature of perception in the philosophy of mind, before setting it out in its own terms, it may help to have the background problem stated in more familiar perception-theoretic terms.

Suppose that on the basis of a visual experience you judge: “There is a rectangular and brown table in front of me”. Normally, we would make the following assumptions about such judgements.

- 1) They are made true or false by the state of the mind-independent object you see.
- 2) The concepts you use in such judgments, in this case “rectangular” and “brown”, for example, refer to intrinsic mind independent properties rather than to any structural equivalents, and it is the instantiation of such properties by the object you perceive that will render your judgment true or false.
- 3) Your perception provides you with knowledge of these instantiated properties.

As I will be returning to these claims throughout the paper, I will label generalized versions of them “Realism”, “Reference” and “Experiential Knowledge” respectively.

In these terms, according to Newman, if Russell’s version of the CTP is true we must give up reference. Experiential Knowledge could, in principle, secure Reference, but, on Russell’s own CTP assumptions, using experiential knowledge to secure reference would result in giving up Realism. That, in general very crude form, is the dilemma Newman presents us with, and to which he offers no solution. In sections 2 to 5, I set out Newman’s argument for the dilemma, in its own terms. In section 6, I consider responses derived from David Lewis, which are intended to secure reference and realism without experiential knowledge. I argue that though coherent they give us much less than we think we have; and the remainder of the paper examines what we need to have in place to secure all three claims, reference, realism and experiential knowledge. In section 7, I formulate a generalized version of Newman’s challenge, directed at current, non-structuralist versions of the CTP, which both highlights the role experiential knowledge in fact plays in our thinking, and claims that no version of the CTP can accommodate this role. In section 8, I sketch the basic structure of an acquaintance-based account of experiential knowledge, which jettisons the CTP. The remaining two sections consider the compatibility of this account with realism.

Before beginning, by way of a final orienting comment, it may help to note two analogies with recent arguments in the philosophy of mind, though I will not have the space to pursue them. First, with respect to theories of perception, as I will present it, the problem that frames Newman’s argument against Russell, as far as the play-off between realism and experiential knowledge is concerned, is anticipated, in some key respects, by the Berkeley of John Campbell’s “Berkeley’s Puzzle”, and my appeal to acquaintance in response to Newman’s way of formulating the issues is structurally related to Campbell’s appeal to it. (Campbell, 2002, 2011). Closely related echoes are to be found in Bill Brewer’s “inconsistent triad”

as formulated in his “Perception and Its Objects” (Brewer, 2007, 2011). Second, and more generally, the generalized version of the argument should also resonate with a variety of reference and meaning determinacy challenges to be found in the literature. To anticipate, very crudely, the relational response I will sketch says that acquaintance with the properties instantiated by the external objects of our commonsense realism comes to the (non-sceptical) rescue.¹

2. The Claims

In this section I introduce the claims that structure Newman’s argument, and make some preliminary, stage-setting comments about them. They can be summarized as follows.

- 1) If the CTP is true, our perception-based knowledge of the external world is purely structural, as Russell argues in *The Analysis of Matter*. (*Structuralism*.)
- 2) Purely structural claims about the external world are trivially true, given basic theorems in set theory, and hence devoid of empirical content. (*Triviality*.)
- 3) To achieve empirical content they need to be anchored to particular properties and relations in the external world. (*Anchoring*.)
- 4) Such anchoring is possible only if we are acquainted with the referents of the terms we use to refer to them. (*Acquaintance*.)
- 5) Acquaintance is only possible with the properties of mental items such as sensations. (*Sensation*.)
- 6) If (5) is true, we must abandon realism about the external world and adopt some form of phenomenal idealism. (*Idealism*.)
- 7) The problem with idealism, in particular of the phenomenalist and solipsist kind is that “it is doubtful whether anyone [is] really able to believe either of them. The belief in other people and the external world are just as much *data*, part of our mental makeup, as are sensations” (Newman, 1928, p. 138).

Clearly, each of the claims is highly debateable, and each deserves much more attention than I will be able to give it here. A few clarificatory remarks about some of the claims will help introduce the issues I will be concerned with in subsequent sections.

¹ As I will develop it, the relational response appeals specifically to a non-causal relation of Russellian acquaintance with objects, in a way that is perhaps closest to Campbell (2009). However, most theories which treat objects as constituents, rather than causes, of experience, or endorse naïve realism, in Mike Martin’s sense, will be able to avail themselves of many of the central claims I will make on behalf of the relational theory as I develop it. See, e.g., Martin (2006) and Brewer (2011).

Newman's own original contribution to debates about the viability of the kind of indirect realism and the CTP that Russell endorses in *The Analysis of Matter* (Russell, 1927) lies in his set-theoretic argument for triviality, and it is this that has attracted most attention in the philosophy of science. In section 3, I set out Newman's argument for triviality. For our purposes, I will assume that once spelled out the argument should be accepted, though it clearly raises very interesting and difficult issues.

The problems the paper will focus on are those raised by claims (3)–(5).

Anchoring is accepted by almost everyone who wants to do justice to realism and reference and is convinced by triviality.² The question for philosophers of science is whether it can be met while hanging onto structuralism (as many are inclined to do, given the highly abstract content of current physics). In section 5, I set out what I think are the two most convincing positive answers, both derived from Lewis' response to a related problem he dubs "Putnam's paradox". The defining feature of these responses, relative to the claims that structure Newman's argument, is that they meet anchoring without appeal to acquaintance. Acquaintance, as understood by Newman and Russell, delivers Experiential Knowledge, so they deliver Realism and reference without appeal to Experiential Knowledge. (Doing so immediately disposes of the need to take seriously claims (5)–(7).)

If the Lewisian moves succeed, as I will suggest they may well do (considered from a purely metaphysically perspective), the unmodified Acquaintance claim, which says that only acquaintance can provide the kind of anchoring required for meeting Anchoring must be false. But to concede this is not the same as conceding that acquaintance does not *in fact* provide the kind of anchoring to the external world that we should appeal to in response to Triviality. To argue that it does is to hang onto Acquaintance and to reject Sensation, with the aim of securing Experiential Knowledge. This is what I call, in the title, the "relational response" to Newman's challenge. Arguments for this position will be presented as a response to a generalized version of Newman's challenge.

As to structuralism: while widely accepted in the philosophy of science, current perception-theoretic discussions of the CTP are wholly independent of any such commitment. Initially, in setting out Newman's argument, I will simply lay out Russell's claims in this connection, without questioning the link between the CTP and structuralism. In section 6, I formulate a version of Newman's argument against the CTP, which retains the substance of his challenge, but does not presuppose a structuralist account of the contents of knowledge-expressing judgments about the external world.

2 "Ontic structural realists" have no need for it. See, e.g., Ladyman (2013). The realists I am concerned with throughout, in contrast, all hold that "nature carved at its joints" consists of entities with categorical or intrinsic properties. Ontic structuralism raises interesting questions in its own right, which do not directly affect the arguments I will be concerned with.

Finally, Newman's elaboration of (7) is brief. Although he thinks idealism is unbelievable, his commitment, sometimes implicit, to the preceding claims leaves this as a permanent threat that he cannot dismiss. The challenge he leaves us with is to find some way of avoiding it by modifying or rejecting any of the preceding claims. In what follows, I will not attempt to argue for (7), but will exploit it and elaborate it (with respect to the external world) when fleshing out what realism commits us to.

3. Newman's Argument for Triviality

A major aim of Russell's *The Analysis of Matter* is (a) to show that scientific theories deliver knowledge of a mind-independent external world, in contrast to earlier claims of his that the external world is a logical construction out of sense data; but (b) to argue that this knowledge is purely structural. The central idea is this. We have direct and immediate acquaintance only with sensations (or, "percepts", as he now calls them), where this gives us knowledge of their intrinsic character. It is, however, reasonable to assume the truth of a causal theory of perception, where this, in turn, gives us the right to assume the existence of a structural isomorphism between the structure of our sensational fields and the structure of the external world. But this is as good as it gets. As he puts it: "Thus, from the structure of our perceptions we can infer a great deal as to the structure of the physical world, but not as to its intrinsic character" (Russell, 1927, p. 400). Consequently: "The only legitimate attitude about the physical world seems to be one of complete agnosticism about all but its mathematical properties" (Russell, 1927, p. 270). This is the position that in current debates is labelled "epistemic structural realism".

Newman's summary of the basic claim Russell is making captures perfectly its central thrust.

Briefly: of the external world we know its structure and nothing more. We know about things that are not percepts, the kind of thing a blind man could be told about a picture, as opposed to the additional knowledge of intrinsic quality that we have of percepts. (Newman, 1928, p. 142)

Newman begins his discussion of the position sympathetically, noting its fit with current theorizing in physics, and, in particular, its initial attractiveness relative to earlier versions of indirect realism, an attractiveness stemming from the precision of Russell's notion of "sameness of structure". Sameness of structure, on the Russellian approach, is explained by Newman as follows.

Let a set A of objects be given, and relation R which holds between certain subsets of A . Let B be a second set of objects, also provided with a relation S which holds between certain subsets of its members. The two systems are said to have the same structure if a (1,1) correlation can be set up

between the members of A and those of B such that if two members of A have the relation R their correlates have the relation S, and vice versa.

Newman illustrates this with an example in which A is a random collection of people and the relation among them is one of acquaintance. This system will have the same structure as a map made by joining dots on a line, where each dot corresponds to a person, and the lines to the relations of acquaintance. Where there is a line, there is acquaintance, and vice versa. It is in this sense that the two systems have the same structure. The importance of the example is that it shows that on this definition of sameness of structure, “it is not at all necessary for the objects composing A and B, nor the relations R and S to be qualitatively similar. In fact to discuss the structure of the system A it is only necessary to know the incidence of R; its intrinsic qualities are quite irrelevant” (Newman, 1928, p. 142).

However, having given full credit to the attractiveness of this position, Newman immediately moves in for the kill, in two steps. The first step is to note that given this definition of sameness of structure, to say that a portion of the external world has the same structure as a given sensory field, for example, is to say no more than that the external world has a given number of objects (the same as that presented in the sensory field), and that there is a relation that holds between these objects that has a structure W. For example, returning to the example of acquaintance, consider the case of a society consisting of three people and the two-place relation of acquaintance. Suppose that in this society A is acquainted with B and B with C but A and C are not acquainted. To say that another system has the same structure is to say that it consists of three objects, and that there exists a two-place relation among them which generates that same structure.

Newman’s second step leads immediately to Triviality. Such claims about structure are trivially true, he says, given basic theorems of set theory.

Any collection of things can be organised so as to have the structure W (where W is an arbitrary structure), provided there are the right number of them. Hence the doctrine that only structure is known involves the doctrine that nothing can be known that is not logically deducible from the mere fact of existence, except (“theoretically”) the number of constituting objects. (Newman, 1928, p. 144)

What he means is this. First, being told that a system has a domain that consists of three objects, a, b, and c and that it instantiates a relation R, where, say, $R = \{(a, b), (b, c)\}$ tells us no more than that the system consists of three objects because elementary set theory shows that any three objects will instantiate a vast number of such relations.³ So, other than the assertion of cardinality, the instantiation claim is deducible from set theory, and is in this sense trivial. But it is also far more specific than is warranted, if uniqueness is being suggested, insofar as R is just one of the

3 For a development of this claim, and the proof, see Ainsworth (2009, p. 8).

vast number of non-empty relations they instantiate. And this, in essence, is what the triviality claim amounts to. To say we have only structural knowledge of the external world is tantamount to saying we have no empirical knowledge of it (other than that contained in the assertion of cardinality).

Most recent discussions of Newman, following Demopoulos and Friedman's lead in their agenda-setting paper (Demopoulos and Friedman, 1985), take as their point of departure the Ramsey-sentence approach to the structural knowledge claim, which was first formulated as such by Grove Maxwell, where it is this version that usually gets dubbed "epistemic structural realism". On this approach, we can capture the content of a complete theory of the world and the knowledge it provides us with by giving its Ramsey sentence, that is, by replacing all theoretical terms with variables, and then binding the variables with the appropriate quantifiers. We can treat such sentences as delivering the kind of purely structural claim about the world that Russell had in mind, though neither he nor Newman adopted this second-order approach. Newman's complaint, reformulated for this version of structural realism, remains, in essence, the same. The Ramsey sentence is bound to be satisfied, so long as the world contains the appropriate number of objects.

4. The Problem

Triviality has been extensively discussed and debated, mainly within the philosophy of science.⁴ I know of no convincing rejection of it, as formulated here. This will seem very quick, and is. For our purposes though, it will suffice, for the question I want to consider is this. Suppose, with many, that Triviality is right. What follows from it?

There are two important assumptions Newman makes in formulating what he took to be available responses to Triviality, both listed earlier.

First, he assumes that only appeal to acquaintance with intrinsic properties can overcome Triviality (Acquaintance). Second, he assumes (albeit implicitly) that acquaintance is only possible with sensations and their properties (sensation). Given both claims, as he saw it, the only way to address Triviality is to relinquish precisely the kind of realism Russell was trying to secure. That is the challenge he sets us. To put it in the terms I used in the introduction: Newman thinks that Reference requires Experiential Knowledge (secured by acquaintance), and that we can only have that if we give up Realism.

⁴ For an excellent, comprehensive review of these debates, though not under that heading, see Ainsworth (2009).

Suppose we want to uphold realism. What are our options? A claim almost universally accepted in response to this question is that there must be some way of anchoring the structural propositions to relations and/or intrinsic properties in the external world if propositions purporting to be about it are to have empirical content. This is what I called Anchoring. In the next section I set out two versions of it that are intended to secure realism while hanging onto Russell's basic epistemic structuralism.

5. Anchoring without Acquaintance

Developments in the literature of Anchoring are many, as are the dimensions along which they might be classified. From the perspective of the philosophy of science, perhaps the most important question is whether epistemic structural realism can be salvaged, if we accept Triviality. The two positive responses I want to have before us under this heading are both discussed by David Lewis in his "Putnam's paradox" (Lewis, 1984), in which he notes the similarity between Putnam's model theoretic argument against realism and Newman's argument. For our purposes, we can consider Lewis' responses to Putnam's argument as responses to Newman's.

The first type of response appeals to causation. One version says that it is a constraint on any theory of reference that the terms used are causally linked to the objects that cause their use. This is not part of the *content* of the general theory of the world, but a constraint on there being reference in play in the first place. A similar claim might be made about perception. For it to be true that perception is occurring there must be a causal link between the perceptual state and an object perceived. The reference to the causal link is not part of the content of the perception-based statement or thought, unlike the way it is conceived of in many classical causal theories perception, but, rather, a constraint on there being a perception in play in the first place. If something like this is right, then we can say that despite our purely structural knowledge, we are linked to a particular set of objects and particular properties, via our causal link, in perception, with members of the set. Someone who adopts the CTP and wants to salvage the pure structure claim will likely opt for this kind of account of anchoring.

The second type of response discussed by Lewis, originally proposed (though not endorsed) by G. H. Merrill (Merrill, 1980), is to invoke the idea that among all the possible things and classes that might make structural statements true, there are "elite" classes and things, carved at nature's joints, and only these are genuine or eligible candidates for reference. The world isn't just a collection of objects instantiating any number of possible relations. Rather, there are natural groupings of objects, by natural relations, and our quantifiers range over these natural objects, properties and relations. It is about these that we possess purely structural knowledge.

This is the position endorsed by Lewis. As he puts it, it turns out that “realism needs realism” (Lewis, 1984, p. 228). By this he means that “the realism that recognizes a nontrivial enterprise of discovering truth about the world needs the traditional realism that recognizes objective sameness and difference, joints in the world, discriminatory classifications not of our own making” (Lewis, 1984, p. 228). If realism makes sense at all, traditional realism must make sense. And if the latter makes sense, according to an adherent of this Lewisian approach, Newman’s problem is solved.

From the perspective of the philosophy of science, the most important feature of this kind of response is one that it shares with the kind of causal response mentioned earlier, namely the idea we can do justice to Realism and Reference without giving up the claim that the content of our knowledge of the world is purely structural. To say this is to reject acquaintance, which says that the only way to make structural claims latch onto particular objects, relations and properties, in the required way, is to treat the terms used in these claims as mediated by acquaintance with their referents.

Within the philosophy of science we find a series of objections to this and related proposals many of which, in effect, take the form of Putnam’s “just more theory” complaint. This objection presses the question of how “naturalness” and “causation” are to be understood. Either both “natural” and “causal” are replaced by purely structural definitions, in which case they are subject to the many possible realizations complaint. Or they are treated as brute primitives in the theory, inexplicable by us, that are somehow meant to secure reference only to natural properties, and this seems, at best, *ad hoc*.

An immediate response on Lewis’ behalf would be that to think this dilemma applies to his proposal is simply to miss the force of the distinction between a constraint on a theory and the content of the theory. To endorse the “just more theory” complaint, for the above reasons, is to assume that “naturalness” and “causation” occur in the content of the theory. The point of excluding them from the content and treating them as a constraint is that such worries fail to get a grip.

But what, exactly, is the source of the worries that Lewis is responding to in this way? I think the key issue here is this. Newman, and, indeed, Russell, assume that propositional knowledge requires *understanding*, on the part of the subject expressing such knowledge, of the concepts that go into grasping the proposition. And relative to that assumption, the distinction between external constraints and the contents of a theory will be of little interest. For questions of intelligibility arise, it might be said, whether “we” refers to us as everyday users, scientists, or philosophers giving an account of how thought latches onto the world. The problem is simply pushed back.

Put in this way, Lewis’ response would be that the mistake he is interested in is, precisely, that of subjecting metaphysics to questions of understanding, to questions about how we, as users and/or philosophers understand the terms we use. (This is

certainly the mistake he thinks Putnam makes.) If we do our metaphysics via a theory of understanding we are bound to end up with a rejection of realism. Questions about understanding are interesting, perhaps, in their own right, but the question at issue is a distinct one: can purely structural propositions secure reference to a wholly mind independent reality? The appeal to naturalness, or, for that matter, causation is intended as an explanation of how this is possible, whatever we go on to say about intelligibility and the like.

My own view is that this kind of response to Newman's Triviality is legitimate, as far as it goes, in that it contains no hidden incoherence or infinite regress and so forth. To put it in the terms of the trio of claims we set out with—Realism, Reference and Experiential Knowledge—Lewis' argument can work, formally, to secure the first two without any appeal to the third. But my question, from now on, will not depend on this view. For, even if it is a coherent response to the challenge, there is a further question as to whether it is the right one.

A fundamental reason for thinking that the Lewisian move is, at the very least, too quick is this. It is one thing to say that metaphysics should not be controlled or determined by questions of what we find intelligible. It is another thing to say that a philosophical vindication of realism should completely bypass any appeal to the way we in fact understand the concepts we use in perception-based judgments about what we take to be a mind-independent world. This is what Lewis is proposing. On the face of it, this is a line we should follow only *in extremis*, only if are convinced that what we think is going on when we make experience-based judgments about the world is wrong. In particular, in our case, only if we agree with Russell and Lewis, and of course all other scientific realists, on the one hand, and idealists on the other, that we must choose between experiential knowledge and realism. If this is not the case, a vindication of realism should, at the same time, be a vindication of our claims to knowledge on the basis of experience of the intrinsic properties of objects in the mind independent world.

In the next section I propose a simplified version of Newman's challenge, directed at all versions of the CTP, which highlights the role we intuitively give experiential knowledge. I then come back to the problem of the relation between experiential knowledge and realism.

6. Newman's Challenge Generalized

To get going, it will help to return to the way the general problem we are concerned with was formulated in the introduction. So, suppose, again, that you see an object and on that basis judge: "There is a rectangular and brown table in front of me". As noted in the introduction, normally we would make the following assumptions about such judgments.

- 1) They are made true or false by the state of the mind-independent object you see (*Realism.*)
- 2) The concepts you use in such judgments, in this case “rectangular” and “brown”, for example, refer to particular mind independent properties rather than to structural equivalents, and it is the instantiation of such properties that will render your judgment true or false. (*Reference.*)
- 3) Your perception provides you with knowledge of these instantiated properties. (*Experiential Knowledge.*)

Suppose now that a sceptic asks you: how do you know that the property you are perceiving is one intrinsic or categorical property, rather than one of limitless structurally equivalent properties?⁵ By a “structurally equivalent property” the sceptic means a property that satisfies the same structural description. The most natural and immediate answer is that you know because you are *presented* through perception with an instance of the intrinsic property of rectangularity, say, rather than with structural equivalents. It, rather than a structural equivalent, is phenomenally present to you. From now on, it will be integral to Experiential Knowledge, as I will be treating it, that its assertion delivers this kind of appeal to phenomenal presence in responding to the sceptic. It is a claim to knowledge, from within the perspective of consciousness, of the categorical properties perceived. (I return soon to possible objections to this stipulation.)

Finally, suppose you adopt the key claim made by current versions of the CTP. In such accounts, to say that S consciously perceives O is to say, at the very least, that S is in an experiential state that is caused by O. To focus on the case of vision, the key claim here is that the visual experience and the object are causally related “separate existences”, where this is understood as entailing that the phenomenal character of any particular experience can be explained without essential appeal to the object that in fact causes the occurrence of the experience.⁶ This independence of phenomenal character from the object perceived, typically argued for by appeal to illusions and hallucinations, is the key ingredient we need to focus on.

With all of this in place, the new version of Newman’s challenge can be formulated as follows. So long as you hold onto the CTP, you cannot appeal to experiential knowledge to answer the sceptic (assuming Realism and Reference). It is

5 There has been much debate about, and refinement of, the notion of an “intrinsic” property. I am using the term very loosely, to mean only a non-structural property, and, in this context, will use “intrinsic” and “categorical” interchangeably.

6 Of course there are other ways in which we might appeal to causation and causal explanation when accounting for what perception is, that do not commit to the separate existence claim, to which I return at the end of the paper. From now on, though, when I speak of the CTP, I will have this stipulative definition in mind. The *locus classicus* of the theory is Grice (1989). For important early critiques of the theory see Snowdon (1980–81) and Snowdon (1990).

generalized relative to Newman's version in that it does not link the CTP to Russell's structural account of our knowledge of the external world.

The reasoning behind this version of the challenge is simple. On all versions of the CTP, how things seem to the subject, on its own, cannot suffice to secure knowledge that rules out the claim that one's experience is caused by properties that are merely structurally equivalent to the intrinsic properties one would appeal to in describing phenomenal presence. For it is an article of faith in all such theories that how things seem to you from within the perspective of your experience is neutral about what in fact causes the experience. This is a straightforward extension and application of claims and arguments made for such independence in the case of illusions and hallucinations. Given this commitment, how things seem to the subject when she describes her experience as one in which she is presented with an instance of rectangularity cannot suffice to rule out the claim that the experience is in fact caused by an external structural equivalent of rectangularity. For all one's experiences tell one, from within the perspective of how things seem to one, it could be any one of structurally identical properties that is causing the experience—this is not something experience “as it presents itself to us” can rule out. If that is right, one cannot appeal to phenomenal presence to secure reference, unless one is prepared to give up realism, which we are here assuming is not up for grabs.

That is the challenge. Three of many possible responses are worth mentioning here.

- 1) The first agrees with the terms in which the challenge is formulated and sees it as providing yet another argument in favour of a Lewisian bypassing of any appeal to epistemological considerations in answering Newman's original challenge. For what it shows, the claim will be, is that if we want to secure reference and realism we must appeal to the kinds of extra-epistemological considerations Lewis appeals to.
- 2) The second response will object to the stipulative definition I gave of experiential knowledge. It is true, it says, that we have experiential knowledge when we make judgements on the basis of experience, but wrong to define it in the way sketched above, where phenomenal presence on its own suffices to silence the sceptic. Experiential Knowledge, as explained above, should be replaced by Experiential Knowledge*. The latter claim says that the kind of knowledge of perceived properties that we express when we make perception-based judgments should be given a bi-partite account on which phenomenology alone does not secure for the subject knowledge of which property she is perceiving. Such knowledge also depends on the existence of an external causal connection between one's experience and the property causing the experience. Ultimately one's knowledge of which particular property one is perceiving depends on the causal component in such

knowledge. In answering the sceptic, it is to this kind of causal link we should appeal. So, contra the sceptic, we can have both the CTP and experiential knowledge, when the latter is properly explained.

- 3) The final response accepts the terms in which the sceptical challenge has been formulated, and the sceptic's argument, but concludes that rather than reject experiential knowledge and its capacity to secure reference we should reject the CTP. This would be the response of someone who adopts a relational account of perceptual experience.

In the next three sections I sketch out what I take to be some of the basic claims needed for developing and justifying the third response. I end this section with a brief comment on the difference between it and the second.

Suppose we reformulate the sceptic's challenge as follows. For all you know, the property you are currently *experiencing*, on the basis of which you judge "this table is rectangular", is merely a structural equivalent of rectangularity. This would strike most people as absurd, no less absurd than the suggestion that when you have a toothache you might be experiencing a mere structural equivalent of pain. The advocate of the second response to the challenge would presumably agree that this is absurd but insist on a distinction between the earlier knowledge version of the sceptic's question and the current experiential one. How things seem in experience requires one explanation—an explanation that would indeed show why the structural equivalent hypothesis in this case is absurd; knowledge of which property one is in fact perceiving requires a distinct explanation, where causation and other external factors play an independent role. In contrast, Experiential Knowledge, interpreted so as to silence the sceptic, closes this gap between the reaches of experience and explanations of knowledge, in a way that is simultaneously designed to address the basic reference-determination question. Experience yields reference-securing knowledge of the categorical property one is perceiving.

I doubt anyone could really deny, hand on heart, that appealing to Experiential Knowledge in response to the sceptic is the natural move to make. We do not in fact think that our knowledge of which categorical property we are perceiving is beyond our experiential ken. Weighing in against such naturalness, though, we have centuries of philosophical theorizing in support of some version or other of the CTP. So the simple intuitiveness of experiential knowledge does not, on its own, constitute an argument in its favour. What it does do, I hope, is make an attempt at developing the third response a *prima facie* attractive undertaking, if only in order to see what its limitations are.

Of the many hurdles Experiential Knowledge must overcome, squaring it with Realism, is, arguably, the most pressing, certainly in the context of Newman's challenge. I make some preliminary moves needed for formulating and addressing this issue in the last two sections. Before that, in the next section, I set out the basic

structure of one kind of relational theory of experience which could be appealed to in developing the third response to the sceptic.

7. Experiential Knowledge and Acquaintance: The Relational Response

To put it first in brief summary form, relational theories of perceptual experience, as I will be treating them, all make the following two claims. First, perceptual experiences are essentially relational, where this is interpreted as entailing that the object perceived is a constituent of instances of the experiential relation (rather than being a cause of the experience, as on the CTP). Second, the phenomenal properties of the experience are inherited directly from the properties of the constituent object perceived.

The particular version of such an account that I will sketch in this section is intended as an answer both to Newman's original version of the challenge and to the simplified version considered in the previous section, and, for this reason, will be formulated in the terms used in Newman's original version, in particular his Acquaintance and Sensation claims. An additional reason for formulating it in these terms is that the concept of "acquaintance" is being increasingly appealed to in discussions of perceptual experience, sometimes quite loosely, so it may be useful to have as precise as possible an account of Russell's own version of it in play when appealing to it to explicate Experiential Knowledge.⁷

Newman's acquaintance says that only acquaintance can secure reference to categorical or intrinsic properties. Sensation says that acquaintance is only possible with sensations. The relational response adopts something I will label the "modified acquaintance claim". It says, first, that when a subject perceives objects such as tables and chairs the relation of acquaintance holds between the subject and these objects and their properties (sensation is discarded). Second, it concedes, contra Newman, that not only appeal to acquaintance can meet his challenge, as Lewisian and causal responses are also possible. It says, rather, that as a matter of fact perceptual experience acquaints us with external objects and their properties in such a way as to secure reference to categorical properties. Experiential Knowledge is true.

7 There is a certain degree of anachronism, as far as Russell himself is concerned, in appealing to acquaintance in response to problems raised in *The Analysis of Matter*, as he had by then, officially at least, abandoned the doctrine of acquaintance in favour of neutral monism. This does not matter for Newman's own puzzle though, which does appeal to acquaintance, and it is also worth noting that Russell himself appealed to it in his only known response to Newman, in which, conceding the force of Newman's argument, he extended the reach of acquaintance to external causal relations. For the text of the letter and an interesting discussion of it, see Demopoulos and Friedman (1985). For general scepticism about how deep the official abandonment went see Wade Savage (1989).

The following two passages from Russell capture the features of acquaintance I want to highlight when translating them, so to speak, into claims about our perceptual awareness of mind independent objects. (I will not be concerned with his use of acquaintance to explain direct memory, grasp of universals and so forth.) First, in his popular exposition in *Problems of Philosophy*, after defining acquaintance as “knowledge of things”, contrasted with knowledge of truths, he writes:

We shall say we have acquaintance with anything of which we are directly aware without the intermediary of any process of inference or the knowledge of truths. Thus in the presence of my table I am acquainted with the sense data that make up the appearance of my table—its colour, shape, hardness, smoothness etc. (Russell, 1912, pp. 46–47)

This passage is useful mainly for terminological reasons. Russell’s descriptions of the ontological category to which sense data belong underwent various, sometimes puzzling permutations, and drawing on his writings in explaining the relational account of experience inevitably involves a certain amount of tidying up and interpretation. That said, the examples he gives of sense data here suggest a reading on which they should be treated as instantiated properties, instances of colour, shape and so forth, and that is how I will treat them.⁸ I also read Newman’s challenge as directed at our knowledge of property (and relation) instances. I read his sensation claim as saying that we are only acquainted with instances of properties ascribable to sense data, defined as Russell does here, as independent and distinct from physical objects such as tables.

The main move made by the relationalist response to Newman’s challenge, and to its generalized version is to say, contra Russell, that the property instances we are directly aware of when we see, say, a table, are not to be ascribed to sense data caused by the table, and distinct from it, but to the table itself.

A final terminological point: instantiated properties are an example of what Russell called “simple objects”. Russell also said we are acquainted with complex objects, where again acquaintance is treated as knowledge of things, independent of knowledge of truths. An example of a complex object is a particular sense datum with an assortment of properties, redness and roundness, say. The relationalist response I will be considering extends this to external objects and says that when we see, say, a table, we are acquainted with the table. Put together with the claim that we are acquainted with properties of the object when we see them, experiential knowledge, as I will read it, says that when we consciously perceive an object we are acquainted with the object and some of its properties.

Moving on from terminological issues, the main substantive points I want to extract from Russell are forcefully made in the following passage in “The Nature of Sense Data”.

8 Here I am in agreement with Wade Savage (1989). His paper also contains an excellent discussion of Russell’s various takes on the nature of sense data.

Presentation (or acquaintance) is a two-term relation of a subject (or better of an act) to a single (simple or complex) object, while judgments is a multiple relation of a subject or act to the several objects concerned in the judgment. *From the fact that the presentation is a two-term relation, the question of truth or error cannot arise with regard to it: in any case of presentation there is a certain relation of an act to an object, the question of whether there is such an object cannot arise.* (Russell, 1913, p. 76)

The import of the highlighted passage is that the following combination is said to be impossible. You have a perceptual experience correctly described as a perceptual experience of the categorical or intrinsic property of rectangularity, say; and there is no such instantiated property. If we hold that such properties are borne by external objects, this requires the existence of the external object that bears it.

If we appeal to acquaintance thus explained to explicate Experiential Knowledge, and say Experiential Knowledge is true, the implications for both versions of the challenge, the generalized form and Newman's own are these. Contra Russell in *The Analysis of Matter*, we do not have only structural knowledge of the external world, and contra Newman himself (at least as he presents himself for the purposes of the challenge) acquaintance secures reference to non-structural intrinsic properties of external objects.

This kind of appeal to acquaintance can provide only a very crude initial statement of the basic idea of a relational theory, and it requires various modifications if it is to work as a theory that does justice to important features of the phenomenology of experience.⁹ With the space to hand, though, I want to turn now to the general problem of the compatibility of such a relational theory of experience with Realism. In the next two sections I set out what I take to be a few key issues that shape the debate here, and indicate lines of argument a defender of Experiential Knowledge should pursue and make good.

8. Experiential Knowledge and Realism

Many of the central problems that need considering under this heading are played out in the debate between Strawson and Ayer, as presented by Strawson in his "Perceptions and Its Objects", about the status and nature of commonsense realism. I briefly set out the general problem the paper is concerned with and then isolate two particular problems I want to focus on.

9 For example, an immediate and obvious objection is that surely we can and do make sense of claims to the effect that things that are rectangular look square. At the very least, it is plausible that the relational theory will need modification to allow for such cases, for example by thinking of perception as a three-place relation between subject, object and point of view (see for example, Campbell, 2009; Brewer, 2011).

Strawson's paper is an extended critique of Ayer's sophisticated version of the CTP, on which a) perceptions deliver sensations, mental items with no objective import; and b) our commonsense view of the world is the upshot of a (false) theory we form about what we take to be the causes of these sensations (Ayer, 1973, pp. 68–111).

Strawson and Ayer agree, roughly, about what our commonsense view of the world consists in. On this view, the world around us “contains objects, variously propertied, located in a common space and continuing in their existence independently of our interrupted and relatively primitive perceptions of them”. They also agree that this commonsense view of the world is a realist one, hence their title “commonsense realism” for this view. Finally, it is part and parcel of this shared understanding of the commonsense view that the various located objects that populate our world are “phenomenally-propertied”; they have “colours, visual shapes and felt textures” (Strawson, 1979, p. 54). Or, as Ayer puts it, the objects we think of as inhabiting the mind independent world we perceive are conceived of “visuo-tactile continuants”.

One of the points of disagreement turns on the truth, indeed coherence of this particular conception of objects as “phenomenally propertied”. A second turns on the status of appeals to causation in explaining our perception of objects. I consider these in turn in this section and the next.

Ayer holds that in thinking of objects as “visuo-tactile continuants” we project phenomenal properties of sensations onto the objects we perceive. An accurate account of both experience as it really is and the world out there as it really is will drop such a projection and ascribe these properties to sensations. The world we actually perceive, the mind independent world, has no such phenomenal properties, and everything essential to our everyday conception of the world is retained once we eliminate this mistaken projection.

If Ayer is right, Experiential Knowledge, as explained by appeal to acquaintance, is false. The latter requires that mind independent objects have the kind of phenomenology-determining properties that Ayer says they do not have. Conversely, if Experiential Knowledge is to be consistent with Realism, something like the basic commitments of our commonsense realism, as described by both philosophers, must be both coherent and true. In particular, it must make sense and be right to say that mind independent objects have properties that directly determine how things seem to us in experience.

Strawson's own defence of commonsense realism is subtle and complex, and in what follows I focus almost exclusively on one particular move he makes, which is intended to show that our conception of the objects of perception as mind independent is inextricably bound up with our taking them to be “phenomenally propertied”, possessing properties such as “colours as seen” and “shapes as felt”. On Ayer's view, as he presents it, our everyday notion of physical, mind independent

objects, the kind of entities we think of as cabbages and chairs, is fully explicable by appeal to the so called “primary quality” properties such as “shape” and “mass”—properties from which reference to all phenomenal aspects have been stripped away. This is Strawson’s response:

Surely we mean by cabbage a kind of thing of which most of the specimens we have encountered have a characteristic range of colours and visual shapes and felt textures . . . *The common consciousness is not to be fobbed off with the concession that, after all, the physical things have—in a way—a shape. The way in which scientific realism concedes shape is altogether the wrong way for common consciousness. . . . The lover of architecture who admires the lines of a building takes himself to be admiring features of those very objects themselves; but it is the visual shape, the visually defined shape that he admires.* (Strawson, 1979, p. 54, my emphasis)

Now this is exactly the kind of claim about perceived properties that a defender of Experiential Knowledge will find congenial. For it is precisely these kinds of properties that one might appeal to in claiming that properties of objects directly determine the contours of our phenomenology when we have perceptual experiences. The looming problem though is that such properties threaten to come apart from the properties science refers to in a way that might suggest a two-world view—the phenomenal or manifest world, on the one hand, and the world as described by science, on the other. And I suspect that in some form or other this underpins many intuitions to the effect that Experiential Knowledge as explained by appeal to acquaintance is incompatible with Realism.

This coming apart of worlds is certainly not something Strawson wants to promote, and at the end of the paper he suggests various strategies for avoiding this conclusion. I will not examine these here, as they contain ambiguities which it would take some work to unravel. Instead, I make a gesture at what seem to me to be the first kinds of move needed to quash two-world interpretations of the claim that objects are phenomenally propertied in the sense required by Experiential Knowledge.

A justification of commonsense realism as a genuine form of realism will focus on an explanation of what is required for a subject to have an understanding of the idea that the objects she perceives are independent of her perception of them. Part of such an explanation will focus on her understanding of the perception-independence of the properties she ascribes to the objects she perceives. The first point to make in response to the two-world charge is that our first question when asking about the consistency of Experiential Knowledge with Realism should be directed at its consistency with our grasp of the perception independence of the properties we perceive. Questions about the relation of these to the properties referred to in the various sciences should only come in as a second step, relative to the way we have explained the properties we need to refer to in making sense of their perception independence.

Consider now a claim often made that it is integral to making sense of the perception independence of the objects one perceives that one be able to make sense of the idea that a shape one sees on a particular occasion is identical with the shape one feels on that occasion. How should we describe what is involved in making sense of such an identity? Here is one account that a defender of Experiential Knowledge might appeal to. The subject's visual experience is determined by a shape as seen. Her tactile experience is determined by a shape as felt. Shapes as seen and as felt each have both core and periphery features. The phenomenology in each modality is determined by a combination of both. In making sense of their identity in thought we home in on the core (essential) features, abstracting away from inessential accretions to the property, accretions made salient by the different sensory modalities, the link with colours, say, in the case of vision.¹⁰

Turning to science, in the same vein, we may say that in deploying shape concepts in science, all interest in periphery features, the ones that interest us when describing conscious experience of the world, has been shed. But nothing here need prevent us from saying that the shapes referred to by science are identical to shapes referred to when we describe experiences as responses to shapes as seen and as felt.

An immediate objection might be that the kind of treatment sketched cannot be applied to so called secondary qualities, such as colours, and so long as shapes as seen, for example, are inextricably bound up with colours we have not really addressed the problem of how such phenomenal properties could be truly mind independent.

It is true that colours do require a slightly different treatment, but not one, as far as I can see, that would necessarily threaten the identity claim. What would threaten it is something referred to as the "revelation" claim, on which to experience a colour, for example, just is to grasp truths about its essence.¹¹ Indeed in some hands, it is such immediate knowledge of truths about essence that is (mistakenly) equated with Russellian acquaintance. But so long as you insist on respecting Russell's distinction between knowledge of truths and knowledge of things, you can say, with Campbell for example, that in experiencing objects and their properties, including colours, these properties are transparent to us, i.e., immediately present to us in a way that leaves it open that the properties we are talking about are exactly those that science goes on to talk about, and explain further.¹²

10 An alternative line to take, which is not open to an acquaintance theorist, is to say that the differences between shape as seen and as felt are differences in mode of presentation that determine the phenomenology of perceptions in each modality. My own view is that there are inherent difficulties in this line. But for our immediate purposes it suffices to say that a defender of the phenomenal property line can pursue the kind of approach just sketched.

11 For a comprehensive critical survey of various ways of appealing to revelation see Stoljar (2009).

12 For a development of this kind of approach see Campbell (2009).

This is clearly a very rough first gesture at the kinds of move a defender of a combination of Experiential Knowledge and Realism might make. The central point is that, as far as I can see, the issue raised by ascribing phenomenal properties to objects in the way required for such a consistency is not, or need not be, a deep metaphysical one, but, rather, one that requires careful technical formulations of conditions on property identity.

9. The CTP Again

I end with a brief comment on the second point of contention between Strawson and Ayer, which brings us back full circle to the very idea of the CTP. According to Ayer, the CTP is not part of our everyday concept of perception, but a theoretical addition. Strawson disagrees. He writes:

We think of perception as a way, indeed the basic way, of informing ourselves about the world of independently existing things: we assume, that is to say, the general reliability of our perceptual experiences; and that assumption is the same as the assumption of a general causal dependence of our perceptual experiences on the independently existing things we take them to be of. . . . It really should be obvious that with the distinction between independently existing objects and perceptual awareness of objects we already have the general notion of causal dependence of the latter on the former, even if this is not a matter to which we give much reflective attention in our pre-theoretical days. (Strawson, 1979, p. 51)

This reads like a straightforward endorsement of the CTP in the name of realism. And there is little doubt that it captures an important motivation for many for endorsing the CTP. This is an issue that any relational theory needs to address, and indeed there have been several suggestions in recent writings about how this might be done.¹³ For our immediate purposes it is sufficient to draw on some of these responses to make a very general point.

As Strawson notes, there does seem to be a link between thinking of objects out there as independent of our perception of them, and thinking of our perceptions as in some way causally dependent on the way the world is. It is a further question, though, how this understanding of causal dependence should be explained. The CTP is one way of doing so, but it is debateable whether it captures the particular role played by the idea of causal dependence in our very grasp of the idea of a mind independent world. An alternative will appeal to the role played by causal understanding in our grasp of a primitive theory of perception on which we explain our perceptions to ourselves as the joint causal outcome of the state of the world and our own position in it.

13 For a survey of recent examples of such strategies see Roessler (2011a, pp. 7–11); and papers in Roessler *et al.* (2011) by Child (2011), Steward (2011), Roessler (2011b) and Snowdon (2011).

Reasoning in the way required by grasp of the theory involves grasp of the *causally enabling conditions* of perception, grasp of the idea that in order to see something, for example, there must be nothing in the way, one must be correctly located and so forth. An understanding of these conditions grounds our realism about these objects by making intelligible the idea that its seeming to us that things are a certain way is not sufficient for them being such, these further causal conditions must be met. But it is possible to insist on the importance of this kind of causal understanding for commonsense realism while simultaneously insisting that the *explanandum*, the experience, is relationally individuated. There is no immediate route from the importance of this kind of causal explanation to the claim that experience and object must be “separate existences”.

To put the point another way: as far as doing justice to the link between realism and causal understanding is concerned, appeal to grasp of enabling conditions suffices. Contra Strawson, *both* the CTP and the relational theory should, arguably, be considered as further, philosophical theories about the way in which experiences should be individuated. The general background theoretical question, made vivid by Newman’s original challenge is, precisely: what are the theoretical constraints on such an individuation? The specific question is: should epistemological concerns provide a constraint, and if they should, are such constraints compatible with realism? I have been sketching first moves in the direction of defending a positive answer to both questions, an answer that tells strongly in favour of a relational treatment of experiences and against the CTP. If the line of argument I have been pursuing is along the right lines, this is the kind of approach Strawson himself should favour, given his insistence that experiences do provide us with immediate knowledge of the mind independent world.

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References

- AINSWORTH, P. (2009) "Newman's Objection." *British Journal of Philosophy of Science* 60: 135–171.
- AYER, A. J. (1973) *The Central Questions of Philosophy*. London: Weidenfeld and Nicolson.
- BREWER, B. (2007) "Perception and Its Objects." *Philosophical Studies* 132: 87–97.
- BREWER, B. (2011) *Perception and Its Objects*. Oxford: Oxford University Press.
- CAMPBELL, J. (2002) "Berkeley's Puzzle." In T. Szabo Gendler and J. O'Leary Hawthorne (eds), *Conceivability and Possibility*, pp. 127–143. Oxford: Oxford University Press.
- CAMPBELL, J. (2009) "Consciousness and Reference." In B. McLaughlin, A. Beckermann and S. Walter (eds), *Oxford Handbook of Philosophy of Mind*, pp. 648–662. Oxford: Oxford University Press.
- CAMPBELL, J. (2011) "Relational vs. Kantian Responses to Berkeley's Puzzle." In N. Eilan, H. Lerman and J. Roessler (eds), *Perception, Objectivity and Causation*, pp. 35–50 (Oxford: Oxford University Press).
- CHILD, W. (2011) "Vision and Causal Understanding." In J. Roessler, H. Lerman and N. Eilan (eds), *Perception, Causation and Objectivity* (Oxford: Oxford University Press).
- DEMOPOULOS, W. and FRIEDMAN, M. (1985) "Bertrand Russell's The Analysis of Matter: Its Historical Context and Contemporary Interest." *Philosophy of Science* 52: 621–639.
- GRICE, P. (1989) "The Causal Theory of Perception." In P. Grice (ed.), *Studies in the Ways of Words*. pp. 224–247. Cambridge, MA: Harvard University Press.
- LADYMAN, J. A. C. (2013) "Structural Realism." *Stanford Encyclopedia of Philosophy*. (Summer 2013 Edition), E. N. Zalta (ed.), <http://plato.stanford.edu/archives/sum2013/entries/structural-realism/>.
- LEWIS, D. K. (1984) "Putnam's Paradox." *Australasian Journal of Philosophy* 62: 221–236.
- MARTIN, M. (2006) "On Being Alienated." In T. S. Gendler and J. Hawthorne (eds), *Perceptual Experience*. pp. 354–410. Oxford: Oxford University Press.
- MERRILL, G. H. (1980) "The Model–Theoretic Argument Against Realism." *Philosophy of Science* 47: 69–81.
- NEWMAN, M. H. A. (1928) "Mr Russell's Casual Theory of Perception." *Mind* 37: 137–148.
- ROESSLER, J. (2011a) "Causation in Commonsense Realism." In J. Roessler, H. Lerman and N. Eilan (eds), *Perception, Causation and Objectivity*. pp. 103–120. Oxford: Oxford University Press.
- ROESSLER, J. (2011b) "Perception, Causation and Objectivity: Introduction." In J. Roessler, H. Lerman and N. Eilan (eds), *Perception, Causation and Objectivity*. pp. 1–17. Oxford: Oxford University Press.
- ROESSLER, J., LERMAN, H. and EILAN, N. (eds) (2011) *Perception, Causation and Objectivity*. Oxford: Oxford University Press.
- ROTHSCHILD, D. (2006) "Structuralism and Reference." <http://users.ox.ac.uk/~sfop0300/structureshort>.
- RUSSELL, B. (1912) *The Problems of Philosophy*. Oxford: Oxford University Press.
- RUSSELL, B. (1913) "The Nature of Sense-Data: A Reply to Dr Dawes Hicks." *Mind* 22(85): 76–81.
- RUSSELL, B. (1927) *The Analysis of Matter*. London: Kegan Paul.
- SNOWDON, P. (1980–81) "Perception, Vision and Causation." *Proceedings of the Aristotelian Society* 81: 175–192.

- SNOWDON, P. (1990) "The Objects of Perceptual Experience." *Proceedings of the Aristotelian Society* 64: 121–150.
- SNOWDON, P. (2011) "Perceptual Concepts as Non-Causal Concepts." In J. Roessler, H. Lerman and N. Eilan (eds), *Perception, Causation and Objectivity*. pp. 121–138. Oxford: Oxford University Press.
- STEWART, H. (2011) "Perception and the Ontology of Causation." In J. Roessler, H. Lerman and N. Eilan (eds), *Perception, Causation and Objectivity*. pp. 139–160. Oxford: Oxford University Press, 2011.
- STOLJAR, D. (2009) "The Argument from Revelation." In R. Nola and D. Braddon Mitchell (eds), *Conceptual Analysis and Philosophical Naturalism*. Cambridge, MA: MIT Press.
- STRAWSON, P. F. (1979) "Perception and Its Objects." In G. F. Macdonald (ed), *Perception and Identity*. pp. 41–59. London: The MacMillan Press.
- WADE SAVAGE, C. (1989) "Sense Data in Russell's Theories of Knowledge." In C. Wade Savage and C. Anthony Anderson (eds), *Re-Reading Russell: Bertrand Russell's Metaphysics and Epistemology: Minnesota Studies in the Philosophy of Science, Volume 12*, pp. 138–168. Minneapolis: University of Minnesota Press.