SENSE-DATA AND THE PHILOSOPHY OF MIND: RUSSELL, JAMES, AND MACH

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Abstract

The theory of knowledge in early twentieth-century Anglo-American philosophy was oriented toward phenomenally described cognition. There was a healthy respect for the mind-body problem, which meant that phenomena in both the mental and physical domains were taken seriously. Bertrand Russell's developing position on sense-data and momentary particulars drew upon, and ultimately became like, the neutral monism of Ernst Mach and William James. Due to a more recent behaviorist and physicalist inspired "fear of the mental", this development has been downplayed in historical work on early analytic philosophy. Such neglect assumes that the "linguistic turn" is a proper and permanent effect of twentieth- century philosophy, an assumption that distorts early analytic historiography, and begs a substantive philosophical question about thought and cognition.

In early twentieth-century Britain and America the once prevailing philosophical idealism was in retreat. Pragmatism and various realisms were coming forth to take its place. Debate and discussion focused partly on the notion of truth, and partly on the theory of knowledge. The latter topic is my interest here. Theories of knowledge in early twentieth-century philosophy drew some inspiration from renewed discussion of the classical empiricist writings of Berkeley and Hume. But they were also deeply conditioned by the prevailing theories of mind and cognition found in the new experimental psychology in Germany, Britain, and America, and in the scientific epistemologies of German natural scientists such as Helmholtz and Mach. Both influences served to foster perception-based analyses of thought and cognition.

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For better or worse, the many and varied works in the theory of knowledge, and their connection with scientific psychology and epistemology, have been underrepresented in recent work in the history of early twentieth-century Anglo-American, or analytic, philosophy. Much of this historical work has been aimed at the history of logic and the philosophy of language. In this context, the anti-psychologism in logic of authors such as Frege and Husserl has been extended into the history of philosophy itself, causing the many positive relations between philosophy and psychology in this period, not only in Germany but also in Britain and American, to be largely ignored. Dummett (1993), for instance, treats perception-based analyses of thought as something that had to be overcome in the course of the "linguistic turn", a turn that he (incredibly) dates to the late nineteenth century. Dummett (1993, p. viii) leaves the work of Bertrand Russell and G. E. Moore out of his account of the origins of analytic philosophy. Theories of sense-data and of the place of perception in thought and knowledge have received less attention than would be warranted by the extensive role they played in early twentieth-century Anglo-American philosophy itself.

The interplay among the theory of knowledge, experimental psychology, and scientific epistemology is represented in the changing philosophical positions of Bertrand Russell, and his adoption of the neutral monism of William James and the American Neo-Realists.[1] Russell's own thought—as that of James and his sources within scientific psychology—expressed a major concern of the time: the relation between mind and body, or, as it was often put, between mental and physical phenomena. This relation was widely discussed in experimental psychology and in theories of knowledge. Russell's concern with this topic is evident both before and after his turn to neutral monism in 1918. Although the many authors who addressed this relation did not agree on the ontology of mind and body, there was wide agreement that mental and physical phenomena must both be taken seriously. And the paradigm instance of a mental phenomenon was considered to be immediate conscious experience itself, in its full phenomenality. It is, I think, precisely because Russell, James, and others took the phenomenal mind so seriously that aspects of their work has been avoided in recent histories of Anglo-American, or analytic, philosophy at the turn of the century. This avoidance of the mind-body problem is itself characteristic of a mid to late twentieth-century tendency to deny the mental, a tendency I will take up in the concluding section.

1. Russell's Turn to Neutral Monism

The fact that Russell's views on the analysis of consciousness or perceptual awareness underwent significant change in 1918 ought to be well known, for Russell himself announced and described his change of mind in several places. The first public notice was given in a paper from 1919, entitled "On Propositions", read before the Aristotelian society and published the same year. Later, in *My Philosophical Development*, he described this change as follows:

> During 1918 my view as to mental events underwent a very important change. I had originally accepted Brentano's view that in sensation there are three elements: act, content and object. I had come to think that the distinction of content and object is unnecessary, but I still thought that sensation is a fundamentally relational occurrence in which a subject is "aware" of an object. I had used the concept "awareness" or "acquaintance" to express this relation of subject and object, and had regarded it as fundamental in the theory of empirical knowledge, but I became gradually more doubtful as to this relational character of mental occurrences. In my lectures on logical Atomism I expressed this doubt, but soon after I gave these lectures I became convinced that William James had been right in denying the relational character of sensations. [1959, p. 134]

Russell here describes three positions he held over a period of less than ten years: his original position (here ascribed to Brentano, elsewhere to Meinong), which distinguished among mental act, subjective content (sense-datum), and object (external physical thing); a subsequent position, held from 1914 to 1918, which still distinguished between subject and object; and the position he newly adopted in 1918, which denied a separate subject.

Concerning the intermediate view he held prior to accepting James' position, he says in the quotation that he "thought that sensation is a fundamentally relational occurrence in which a subject is

'aware' of an object". He expressed this position in his papers "The Relation of Sense-Data to Physics" (1914b) and "The Ultimate Constituents of Matter" (1915), and in a paper in which he rejected James' theory, "On the Nature of Acquaintance" (1914a). In this context, when speaking of the "relational" nature of sensation Russell did not have in mind relations among sensations, but rather a fundamental relation that he held occurs in all acts of sensation: the relation between the subject, who is aware of the sensation, and the sensation itself, which is the object of that awareness. It is the necessity of positing a relation between a distinct subject and the objects of thought that James had challenged, and that Russell himself subsequently came to reject.

We can elaborate Russell's position in 1914 more fully by considering his criticism of James expressed in that year. The discussion took place in a context in which Russell was considering various relations that might obtain between the physical and the mental. (During this time he sometimes advocated dualism, as in Russell, 1915; at other times he was agnostic about the mind-body relation, as in Russell 1914a/1956, pp. 164–5.) In this context, he endeavored to distinguish his own position both from an idealism which reduces the physical to the mental, and from the neutral monism which denies any fundamental ontological distinction between mental acts and their objects, hence between the physical and the mental. He found that he was now in agreement with the neutral monists, against the idealists, that the mind is not subject to a veil of perception, according to which it would know the external world only through the medium of "ideas". But he disagreed with them on other points:

> I do not think that, when an object is known to me, there is in my mind something which may be called an "idea" of the object, the possession of which constitutes my knowledge of the object. But when this is granted, neutral monism by no means follows. On the contrary, it is just at this point that neutral monism finds itself in agreement with idealism in making an assumption which I believe to be wholly false. The assumption is that, *if anything is immediately present to me, that thing must be part of my mind*. The upholders of "ideas", since they believe in the duality of the mental and physical, infer from this assumption that only ideas, not physical things, can be immediately present to me. Neutral monists, perceiving (rightly, as I think) that constituents of the physical world can be immediately present to me, infer that the mental and the physical are composed of the same "stuff", and are merely different arrangements of the same elements. But if the assumption is false, both these opposing theories may be false, as I believe they are. [1914a/1956, p. 147]

The upholder of ideas in this case is a representational realist, who maintains that we know physical things through the intermediary of ideas that are "part of" the mind. Russell himself espoused such a view in his earlier *Problems of Philosophy* (1912, chs. 1–3), in which he considered sense-data to be private objects of perception. Now in 1914 Russell agrees with the neutral monist in rejecting that position. He agrees with the neutral monist that "physical things" may be "immediately present" in perception—though care must be taken in interpreting what Russell meant by "physical things" in this period, in which he had rejected representational realism. Russell distinguishes himself from the neutral monist, by attributing to the neutral monist the view that whatever is "immediately present" in perception is "part of" the mind. He in effect accused the neutral monist of reducing the physical to the mental. Since Russell's neutral monist is represented primarily by James, Russell here accused James of a kind of Berkeleyan idealism. And in fact, many years later, in his *History of Western Philosophy*, Russell alleged that James had not developed a genuine neutral monism, which would abolish the division between physical and mental, but that his position conveyed a latent Berkeleyan idealism (1945, p. 813).

In his intermediate position, Russell held that the things immediately present to mind as physical objects are sense-data (1914b, 1915). By "sense-data", he now meant "momentary particulars" (1915/1963, p. 102; 1918/1956, pp. 201–2), which possess properties such as shape and color. These particulars are modeled on perceptual experience, in that they are like perspective images of what we ourselves might call "ordinary objects" (which Russell now considered to be constructions from these particulars) seen from a particular point of view. Sense-data are *momentary* particulars because they exist as sensory data only while we are perceiving them. They have the properties immediately experienced in perception, such as phenomenally-

characterized color and shape, as opposed to the properties posited by physics, such as sub-visible, rapidly moving waves, or sub-visible structures of particles. As now theorized by Russell, these sense-data are not themselves perceptions; they are not themselves sensations or awarenesses, but are the objects of perception. They are not mental. Nor are these sense-data "third things" lying between subject and object; rather, they are instances of what Russell now terms "physical" things themselves. To allow for the continuity of "physical" objects beyond perception, Russell posited unperceived momentary particulars (which, because unperceived, cannot be called "data"), which he called sensibilia. Physical objects as conceived by the physicist (as collections of particles in motion) he regarded as fictions, or as logical constructions. During this period Russell rejected the "ordinary" physical objects of representational realism. But he still agreed with the representational realist (and the idealist, for that matter) that mental acts are distinct from their objects. His subsequent turn to neutral monism marked a denial of a separate subject, and a rejection of the distinction between mental act and object.

When Russell became a neutral monist he also came to reject sense-data (1919/1956, p. 306; 1921, pp. 141–2; 1959, p. 135). Care must be taken in interpreting this change. In rejecting sense-data, he did not reject sequences of momentary particulars. Rather, he came to reject the distinction between such particulars and a subject who senses them. The particulars were no longer to be regarded as "data" for a subject, because the subject itself was denied. Or, to put it another way, the experience had by a certain subject is now regarded simply as a specific sequence from among the various sequences of momentary particulars that constitute everything, and which are the only particulars whose existence is explicitly allowed. (As we shall see, Russell did not flatly deny that the subject exists, but he took the theoretical attitude that its existence was not needed and should not be posited.) Russell's immediate particulars are now to be equated with the "elements" of James and Mach (as noted in Russell, 1919/1956, p. 305; 1914a/1956, p. 140).

In his 1919 article "On Propositions", in which he ultimately affirmed his agreement with James, Russell provided yet another guide to the positions held by himself and others. Prior to announcing his change of position, he described various philosophical positions toward "ideas" or "presentations":

> We have here a great variety of theories urged by different authors. Many analytic psychologists—Meinong, for example—distinguish three elements in a presentation, namely, the act (or subject), the content, and the object. Realists such as Dr. Moore and myself have been in the habit of rejecting the content, while retaining the act and the object. American realists, on the other hand, have rejected both the act and the content, and have kept only the object; while idealists, in effect if not in words, have rejected the object and kept the content. [1919/1956, p. 305]

Russell now describes his intermediate position (of 1914–18) as a form of realism, which he contrasts with idealism and with the "American realism" of James and others, as well as with his own previous position (now compared to Meinong's position). All of these contrasts are characterized as ways of thinking about "presentations", that is, about perceptual presentations or mental contents (contents of consciousness, taken more broadly than the Meinongian notion of "content" in the quotation). These contrasts require a bit of unpacking.

In the quotation Russell refers first to the position of "analytic psychology", which distinguishes act, content, and object. The "act" here is the act of perception by a subject, and is glossed as such. The distinction between content and object, which goes unexplained here, was motivated by a variety of concerns about capturing both the content and subjectivity of thought. In his discussion of Meinong's distinction in 1914, Russell focused largely on its use to explain how actually existing thoughts can have non-existent objects as their Meinongian content (1914a/1956, pp. 170–3). Previously, in "On Denoting" (1905), Russell had offered his own analysis of thoughts about non-existent objects, which did not require a special "content" presenting such objects to the mind; discussion of such objects was mediated by descriptions that did not directly name a non-existent object.

A further motivation for distinguishing subjective content from object arises with a contrast between physical properties and their

mental presentation (1914a/1956, p. 173). Prior to adopting his intermediate position in 1914, Russell himself had been a representational realist who distinguished between phenomenal color as found in sense-data and the physical color properties that cause those sense-data by reflecting light waves of a certain sort (Russell, 1912, ch. 3). In the terms attributed to Meinong in the quotation above, the subjective content of perception was sometimes called the "mode of presentation", and sometimes simply the "content" of the presentation. A description of Russell's 1912 position in these terms would distinguish subjectively experienced color, as content or mode of presentation, from physical color. But in the period from 1914–1918 Russell rejected the kind of independently existing physical object posited by the representational realist, and identified the object of perception with momentary particulars. These momentary particulars (sense-data and sensibilia) could be both shaped and colored, and also reflected a "point of view". Russell therefore now had no need to distinguish mental content from object properties, since he identified the object with the momentary particulars present in perception. He could therefore do away with a separate Meinongian content, and be left with just the object. But it must be emphasized that "object" in this context does not mean the ordinary physical objects of a representational realist or of a more recent physicalist realist. In 1914–18 (and after) Russell conceived of those sorts of objects as constructions from the momentary particulars that stand as objects of perception in the Moore-Russell account mentioned in the quotation.

The review of positions further describes "idealists" and "American realists". The first are not the "upholders of ideas" from the 1914 paper (who were representational realists). They are genuine idealists, who, by denying the object and affirming the content, reduce everything to minds and their states (since content is a state of the subject). The American realists, by contrast, "have kept only the object". This again does not mean that they have kept what we have been calling ordinary physical objects; rather, they have kept presentations, or objects of perception (which Russell called momentary particulars, and James and Mach called elements), now no longer conceived as objects of perception for a subject, since the subject is

denied. From a naive physicalist perspective, or a position of realism about "ordinary" physical objects, the alleged realism of Russell and the Americans is very odd, since their particulars and elements are modeled on perceptual states. But they both insisted on their realism because they insisted that their particulars and elements are not to be conceived as states of mind, or as states apprehended by a knowing subject. Rather, the notion of knowing subject must be interpreted by stringing together multitudes of elements, in the same way as ordinary physical objects have been reinterpreted as sequences of momentary particulars. Thus, their positions allow neither for the view that all reality is reduced to states of a subject, nor for the view that reality somehow lies beyond the elements or particulars of perception. Reality is taken to be the sequences of momentary particulars themselves.

Having laid out these various positions, Russell immediately declares that he has thrown in with the American realists. The grounds for his conversion, he makes clear, are empirical and epistemic. Indeed, he seems to have adopted a position quite close to James' radical empiricism:

> I have to confess that the theory which analyses a presentation into act and object no longer satisfies me. The act, or subject, is schematically convenient, but not empirically discoverable. It seems to serve the same sort of purpose as is served by points and instants, by numbers and particles and the rest of the apparatus of mathematics. All these things have to be *constructed*, not postulated: they are not of the stuff of the world, but assemblages which it is convenient to be able to designate as if they were single things. The same seems to be true of the subject, and I am at a loss to discover any actual phenomenon which could be called an "act" and could be regarded as a constituent of a presentation. The logical analogies which have led me to this conclusion have been reinforced by the arguments of James and the American realists. [1919/1956, p. 305]

Russell describes his change of position as an extension to the knowing subject of his previous constructivist view toward ordinary objects (as in Russell, 1914b, 1915). Having, in the earlier papers, treated the entities normally posited by a certain type of realist interpretation of physical theory as logical constructions out of sense-data, he

now says that the subject itself is another such construction. As will become clear, the subject is constructed by following out sequences of momentary particulars from the theoretical point of view of psychology, while physical objects are constructed by following out sequences of momentary particulars from a physical point of view.

In the quotation Russell appeals to epistemic grounds, and specifically to a lack of empirical evidence for a separate subject, in justifying its rejection. These are simliar grounds to his objections to "ordinary" physical objects: they would be unknowably locked away behind a veil of perception. Now in fact, just as he did not deny outright that such "ordinary" physical objects exist, he also did not assert outright that subjects do not exist. As he put it:

> Not that it is certain that there is no such thing as a "subject", any more than it is certain that there are no points and instants. Such things *may* exist, but we have no reason to suppose they do, and therefore our theories ought to avoid assuming either that they do exist or that they do not exist. The *practical* effect of this is the same as if we assumed that they did not exist, but the theoretical attitude is different. [1919/1956, p. 305]

Presumably, we have no reason to posit either physical points or experiencing subjects because we lack direct empirical evidence for them. Not going beyond the evidence, we are left only with momentary particulars, modeled on perceptions but not to be equated with objects of perception for a knowing subject, since we are not positing the existence of knowing subjects, but are recognizing only the particulars themselves.

In addressing the need to posit a subject, Russell was engaging a long-standing problem in modern philosophy, dating back to Descartes, but also posed prior to modern philosophy in discussions of Aristotle's *De anima*. The problem arises from disagreement over whether we have any direct apprehension of the subject itself. In Descartes' philosophy, the question was posed as one of whether we have immediate acquaintance with mental substance as the substrate of thought. Some later philosophers have interpreted Descartes as holding that through the *cogito* we directly apprehend a simple, thinking substance, whereas others find that the *cogito* is only one step in

an argument to the conclusion that the subject is a simple substance (see Hatfield, 2003). Be that as it may, by the time of Hume and Kant the focus of discussion had shifted somewhat. It concerned not only the question of a direct apprehension of a simple substance (which both Hume and Kant denied), but also the question about whether there is awareness of *mental acts*, beyond awareness of the objects of thought. Hume (1739–40), who spoke freely of the subject "noticing" things or "attending" to them, nonetheless seems to have ruled out any direct awareness of mental acts, since he admitted awareness merely of bare, picture-like impressions and ideas. Kant allowed *consciousness* of the synthesizing activity of the subject itself, but no *knowledge* of that activity in itself (1787/1998, B187–8, B411n, B422n). Debate over this issue continued throughout the nineteenth century, and the topic was much discussed in late nineteenth and early twentieth century experimental psychology. It was part of the imageless thought controversy (on which, see Kusch, 1999, chs. 1–2). It was now straightforwardly an empirical and epistemic question: Do we have any direct apprehension of the act of perception or thought, as opposed to being aware simply of the objects of perception or thought?

Mach and James, and later Russell, found no direct evidence for the "act". Recall how Russell put this point in the quotation: "The act, or subject, is... not empirically discoverable"; and further: "I am at a loss to discover any actual phenomenon which could be called an 'act' and could be regarded as a constituent of a presentation". An example may help to clarify this empirical claim. Suppose I am thinking of a cat. Let's say that my image of the cat is my object. Suppose I picture the cat as lying on its back with its four paws dangling out, showing a whitish underbelly streaked with the stripes of an orange tabby. Beyond merely being aware of this image, I may at the same time be wanting to buy the cat, or missing the cat, or feeling affection for the cat. Brentano (1874/1973, pp. 79–80) regarded these various attitudes toward the object of thought as so many psychological acts taken toward the presentation. Russell's idea is that each of these alleged "acts" is just a feeling, that is, another presentation experienced along with the image of the cat, and that there is no direct apprehension of any act of awareness in itself. Hence there is no need to posit

a subject or a mind lying beyond or behind the presentations or momentary particulars and performing these acts, for there is no hard evidence for acts apart from presentations or momentary particulars. The notion of the subject then becomes a logical construction out of momentary particulars. You as a subject are to be identified with the sequence of momentary particulars that constitute your moment to moment states of consciousness, and I am to be equated with another sequence, and so on.

The position of neutral monism, according to which individual minds and bodies are logical constructions from momentary particulars, has a certain oddness about it for us now. Normally, we think of objects as fundamental and of experiences of objects, or momentary particulars modeled on experiences of objects, as secondary. Thus, we might think of wood, metal, and varnish as the materials from which we construct a table, carbon, hydrogen, oxygen, and nitrogen as the constituents of those materials, protons, electrons, and neutrons as making up those elements, and on down to quarks or whatever is basic. But in Russell's terms, tables are logical constructions out of momentary particulars, and it now seems odd to think of phenomenally conceived color and phenomenally conceived shape as more basic than tables, chairs, and human bodies. Yet that is the position of Russell, James, and Mach. Some insight into how such a position arose can be gleaned by following its origin back to Russell's predecessors. Russell himself has already given us a hint about the leading motivation for the position. The position seeks to admit as real only what is empirically well attested, and it finds that only the "elements" of experience pass this test.

2. James' Radical Empiricism

The epistemic basis of the position had previously been articulated by James. In his *Principles of Psychology* (1890, ch. 10), he had expressed reservations about whether psychology, as a natural science, needed to posit a subject. He concluded it did not. No thinking subject, or thinker, is needed. As he put it in his famous conclusion to Chapter 10, "If the passing thought be the directly verifiable existent which

no school has hitherto doubted it to be, then that thought is itself the thinker" (1890, 1:401).

This quotation concluded a discussion of whether a transcendental ego is required in the analysis of thought. One reason given for positing an ego had been to explain how all individual thoughts can be the thoughts of one and the same thinker. James argued that in order to explain this unity of consciousness, we need only posit the various thoughts themselves, occurring in a sequence in which each thought inherits ownership of the previous thoughts. Empirically, this ownership comes down to a feeling directed toward prior thoughts. Such a feeling is a component of each successive thought in the sequence. The role of the thinker as owner of thoughts is thus reduced to an aspect of individual thoughts: the feeling of ownership of previous thoughts.

When James published the essay "Does Consciousness Exist" in 1904, he went beyond merely questioning the empirical need for a thinker in scientific psychology, and advanced the philosophical thesis that the thinker is a fiction. In the essay he first stated this point as a result of the supposition that there are not two "stuffs" in the world (mind and matter), but only one:

> My thesis is that if we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff "pure experience", then knowing can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter. The relation itself is part of pure experience; one of its "terms" becomes the subject or bearer of the knowledge, the knower, the other becomes the object known. [1904a/1996, p. 4]

The stuff of "pure experience" is the momentary particulars of Russell. There is no knower or subject. James' position may indeed better account for the phenomenology of thought ownership than would Russell's, through the feeling individual thoughts have of grasping, knowing, and being related to other thoughts. But he no more posited a substantial subject than did Russell. For both James and Russell the thoughts themselves constitute the thinker.

James did not hold this position merely as a supposition. He regarded it as a consequence of a radical empiricism. In his essay "A

World of Pure Experience" (1904b), he wrote:

> To be radical, an empiricism must neither admit into its constructions any element that is not directly experienced, nor exclude from them any element that is directly experienced. For such a philosophy, the relations that connect experiences must themselves be experienced relations, and any kind of relation experienced must be accounted as "real" as anything else in the system. Elements may indeed be redistributed, the original placing of things getting corrected, but a real place must be found for every kind of thing experienced, whether term or relation, in the final philosophical arrangement. [1904b/1996, p. 42]

The "elements" here mentioned are instances of the "one primal stuff" of the previous quotation. They are elements modeled on perceptions and theorized as intrinsically neither mental nor physical, but as neutral elements that constitute the phenomena of both domains (1904a/1996, pp. 11–5).

These elements are able to account for both mental and physical phenomena by being regarded in various sequences, some constituting physical processes, some psychological. If I am looking at a candle, I can regard the candle as a light source and consider a sequence of thoughts that include the effect of light-energy upon the retina and subsequent neural stimulation (see James, 1890, 1:25). This is the physical sequence. Or I may consider my initial experience of the candle as part of a sequence of thoughts, some of which are the same as the thoughts in the physical sequence, and some of which are different. Thus, seeing the candle, I may be reminded of a candle I once saw in Rio, and then begin to daydream about my trip to Brazil, and imagine the beautiful setting in Florianópolis. This sequence of elements falls under psychological laws, and of course includes the very same thoughts about the physical process of the candle which are interspersed among, or interrupted by, my reveries about Brazil. But even if there were no reveries, the very sequence of thoughts about the candle could be viewed as both a psychological and a physical sequence, depending on how it was further connected with other thought elements. There is no difference in kind among the elements themselves, only a difference in how they are regarded as having different relations among themselves.

Russell summed up this part of James' position pretty well in the 1919 paper "On Propositions":

> William James, in his *Essays in Radical Empiricism*, developed the view that the mental and the physical are not distinguished by the stuff of which they are made, but only by their causal laws. This view is very attractive, and I have made great endeavours to believe it. I think James is right in making the distinction between the causal laws the essential thing. There do seem to be psychological and physical laws which are distinct from each other. We may define psychology as the study of the one sort of laws, and physics as the study of the other. But when we come to consider the stuff of the two sciences, it would seem that there are some particulars which obey only physical laws (namely, unperceived material things), some which obey only psychological laws (namely, images, at least), and some which obey both (namely, sensations). Thus sensations will be both physical and mental, while images will be purely mental. [1919/1956, p. 299]

The last part of the summary is suspect, since James was one to emphasize the material conditions (i.e., corresponding brain states) for all psychological states, and so also for images (1890, ch. 18). Russell was less willing to venture into discussion of brain processes. Otherwise, the description of two sets of laws captures James' position. The notion of "law" might admit further investigation, but for now we can regard such laws as well-confirmed empirical generalizations. The "unperceived material things" correspond to what Russell earlier called "sensibilia". The neutral monisms of Russell and James were indeed quite similar, and both appealed to a radical empiricism in support of their positions.[2]

3. Machian Elements and German Positivism

In his initial discussion of neutral monism, Russell invoked the name of Mach as well as James (Russell, 1914a/1956, pp. 127, 140).[3] Mach had developed a similar position in his *Science of Mechanics* (1883/1960, pp. 579, 610–2), which he stated more fully in his *Contributions to the Analysis of Sensations* (1886). Mach often presented the position as a bald ontological thesis, as when he said "The assertion, then,

is correct that the world consists only of our sensations" (1886/1897, p. 10). But it seems clear that the spirit in which he presented it was not as someone who reduced the world to mental entities, that is, to sensations, but as someone who adopted an austere epistemological modesty according to which only sensations, or sensory contents, are known (see Cohen, 1970). His position would then be read as a claim that all that can be known, and hence all that science can investigate, are sequences of the basic elements of experience. We have seen that Russell, too, when he was being careful, characterized his own monism as an attitude toward what should be accepted as real based on what is known, as opposed to a dogmatic assertion that the mind as the subject of mental acts, and bodies as conceived by physics, do not exist.

In the *Analysis of Sensations* Mach presented the position as one to which the scientist is driven by a careful attention to what is really known:

> As soon as we have perceived that the supposed unities "body" and "ego" are only makeshifts, designed for provisional survey and for certain practical ends (so that we may take hold of bodies, protect *ourselves* against pain, and so forth), we find ourselves obliged, in many profound scientific investigations, to abandon them as insufficient and inappropriate. The antithesis of ego and world, sensation (phenomenon) and thing, then vanishes, and we have simply to deal with the *connexion* of the *elements* $\alpha\ \beta\ \gamma \ldots\ A\ B\ C \ldots\ K\ L\ M \ldots$, of which this antithesis was only a partially appropriate and imperfect expression. This connexion is nothing more nor less than the combination of the above-mentioned elements with other similar elements (time and space). Science has simply to *accept* this connexion, and to set itself aright (get its bearings) in the intellectual environment which is thereby furnished, without attempting to explain its existence. [1886/1897, p. 11]

The various sequences or complexes of elements mentioned here are sequences of elements into which Mach has resolved the phenomenal content of experience. The elements *A B C* are the "colors, sounds, and so forth, commonly called bodies"; the elements *K L M* constitute "the complex, known as our body", which is a part of total set of elements making up what we call bodies; and the elements α β γ are "volitions, memory-images, and the rest", that is, they are the remaining contents of experience, which are not taken as perceptions of external objects (1886/1897, p. 10). Mach was not here positing an analysis down to bare punctiform sensations of quality, as had other radical empiricists (such as Helmholtz, 1878), for he, as James and Russell would later, held that both spatial and temporal structure are found in the elements of sensation and perception (1886/1897, p. 8).

In this analysis, bodies and the ego are "makeshifts" framed out of the elements of experience, as a result of regular co-occurrences among them. Thus, we find in experience a regularly co-occurring complex of visual appearances with a characteristic shape, some feelings of tactual sensations, and so on, which we take to be our arms and legs; we associate these with other internal sensations, with images we see in the mirror, and so on, to produce the "supposed unity" we call "our body". As Mach (1886/1897, pp. 15–7) observed, we are virtually always aware of our body if for no other reason than because of the appearance of the side of our nose in the visual field. We may also note special consequences when the sequence of elements which includes what we call our hand is brought very near to what we call fire, for a new element arises, that is, pain. But, Mach thinks, if we pay careful attention to what we actually find among our experiences, we will arrive only at the spatially and temporally articulated elements he calls sensations.

Positions similar to Mach's were prevalent in late nineteenth-century German thought, and could be found in methodological form in psychological writings in both Germany and America. In standard historical accounts of the philosophy of this period (e.g., Falckenberg, 1893, pp. 618–9; see also Perry, 1925, pp. 507–9), a position similar to that of Mach and later James was ascribed to the "German positivists", including Emil Laas, Alois Riehl, and Richard Avenarius. Laas (1879–84, bk. 1, sec. 22) and Avenarius (1888–90, citing Mach and Laas) especially focused on facts of perception as the basis of all knowledge, and saw subject and object as interdefinable only in terms of these facts. The scientific philosopher Hermann Helmholtz also analyzed all knowledge into sensational elements (though he, unlike Mach, did not include space among the elements, but regarded spa-

tial experience as constructed, on which see Hatfield, 1990, ch. 5). For him, as well as Mach and James, knowledge is to be sought in the lawful relations among sensations or perceptions (Helmholz, 1878). Mach, Helmholtz, and the German positivists all shared an impatience with what they called "metaphysics", including the metaphysics of materialism. They agreed in denying both the "spiritualist" hypothesis that minds are real entities apart from matter, and the materialist hypothesis that mind is really matter (see, e.g., Helmholtz, 1867/1924–25, 3:532). They sought to articulate a view of the world that stayed close to the evidence. Thus, sensations or perceptions would be admitted, regularities among them would be charted, and laws stating these empirical regularities would be accepted. But the positing of entities underlying perceptions and their laws—whether these entities be minds or bodies—was to be avoided, as unnecessary and ungrounded.

4. Motivation and Fate of Neutral Monism

Viewed from a present-day commonsense perspective, neutral monism is a crazy position. It tells us that bodies are to be viewed as constructions out of momentary particulars, or out of the elements of perception. It forbids us from treating bodies as independently existing unities; rather, only momentary particulars are to be regarded as (perhaps) having independent existence beyond the actual sequence of our own perceptual states. Commonsensically, we think that bodies do exist, that they are made of compounds of the various chemical elements in the periodic table, and that these elements are composed of subatomic particles that can be isolated and manipulated by physical means. Mach's (1883/1960, pp. 579–90) refusal to posit molecules and atoms has not retained its intellectual attraction.

How then, did this apparently crazy position come to be accepted by the likes of Mach, James, and Russell? The explicit motivation arose from a desire to be true to empiricism, and so to avoid making posits that moved unnecessarily beyond the data of perception. Mach, James, and Russell all offered a justification of this sort. However, this justification cannot by itself explain why they would dispense with both ego and mind-independent physical things in favor of perceptually-characterized momentary particulars. To understand that, we must understand why they began with perception as the basis of knowledge. And to understand how their position came to be so thoroughly rejected by the latter half of the twentieth century, we will need to trace the fate of their beginning assumptions.

When Mach, James, and Russell were writing, the base-line assumptions about the character of thought and cognition were quite different from those that became prominent in subsequent decades. In particular, these authors all were continuing an empiricist theory of cognition that had been expressed in Hume and J. S. Mill, and that shared certain beginning assumptions with Kant and even Hegel. A common assumption held by all these authors was that perception is the primary medium of cognition. In this context, while language might be viewed as an important cognitive tool, both the primary content and basic activity of thought were conceived perceptually. As adopted by the empiricist tradition, this assumption came to mean that the elements of thought are concrete, particular elements in perception. These elements were regarded as the medium of thought, and hence viewed as requisite in any analysis of cognition and knowledge.

A perspective in which perceptual data, or perceptually characterized particulars, are the fundamental components of thought and cognition need not lead one to neutral monism. Russell himself, in the period prior to 1914, had held that sense-data are the basis of knowledge, but had espoused a representational realist view, according to which subjectively experienced sense-data are the means by which mind-independent material objects are known. But Russell, as others before him, came to believe that this position could easily lead to skepticism about the external world, through a "veil of perception" problematic. That is, if what we know immediately, as regards existent physical objects, are the momentary particulars of perception; and if these momentary particulars present colors and perspectivally-ordered sizes and shapes, whereas external objects are thought to consist of comparatively rigid collections of moving particles with a single, objective size and shape, and physical colors are thought to be constituted by micro-properties of surfaces and

by wavelengths of light; then this situation may seem to pose an insuperable epistemological problem: How are we to claim knowledge of the mind-independent world that allegedly causes our perceptions? In the face of this problem, Russell adopted the view (both in the period 1914–18 and after the switch to neutral monism) that the immediately known—the momentary particulars of perception—should themselves be regarded as "physical", or as characterizable as "physical" under a physical attitude.

The appeal of neutral monism was not just to provide a framework for avoiding the veil of perception problem. It also helped avoid the mind-body problem. In the late nineteenth and early twentieth centuries, thinkers such as Mach, James, and Russell had a healthy respect for both mental and physical phenomena. Mach and James acknowledged from the outset two domains of laws: mental or psychological laws, studied in psychology, and physical laws. For a representational realist, or for anyone who was a realist about minds and bodies, this state of affairs could lead to difficulties. If one was a dualist, such as Russell in at least some moods during his intermediate period, the problem was to explain how mind and body interact. If one was a realist about both physical objects and about mental phenomena—the position taken by James in his *Principles* (1890, ch. 7)—then the problem was how to account for the relation between mental phenomena and the brain.

Mach's position permitted a way out of this problem. As developed by James and Russell, neutral monism avoided the mind-body problem by positing only one "stuff", the allegedly neutral "stuff" of momentary particulars, or pure experiences, or Machian elements. Mach, James, and Russell could then point to two sets of laws to be found empirically in the successive states of this stuff: psychological laws governing successions of perceptions and other mental states considered as mental, and physical laws governing successions of perceptions and posited sensibilia, or unexperienced pure experiences, considered as physical. The mind-body relation then became a matter of tracing connections between physical sequences and intersecting psychological sequences of momentary particulars (as in Russell, 1921, ch. 15). The question of whether all mental events have physical causes could then become, in Russell's terms, the question of whether all mental states assigned to an individual can be viewed in relation to the processes of the individual's brain, which processes are themselves viewed as constructions based on momentary particulars.

In the subsequent history of philosophy, there was a turn away from the neutral monism of James and Russell. This was mediated partly by the failure to adequately account for the construction of "ordinary" physical objects from momentary particulars, a failure brought home through Carnap's abandoned constructive project in the *Aufbau* (1928). The subsequent history of twentieth-century philosophy—including the history of late twentieth-century histories of early twentieth-century philosophy—saw a further turning away from the basic assumptions shared by Russell, James, and others, the assumptions about the fundamentality of phenomenally characterized perception in thought. Dummett (1993) characterized this turn partly as a quest for a satisfying analysis of the possibility of public, objective knowledge. In his story, he cites the subjectivity and internality of sensation and perception as one reason for turning away from perceptual analyses of thought. He also cites the desire to avoid the alleged fallacy of psychologism, in which the occurrent contents of consciousness are taken for thoughts, as another factor. A further factor was the rise of philosophical behaviorism, with its general rejection of mentalistic descriptions (e.g., Carnap, 1932; Hempell, 1935). When talk of the mental became openly acceptable in the 1970s and 1980s, the conception of the mental had been transformed. Informational content and intentional relation now became the paradigms for analyzing mental content generally (as in Dretske, 1981), and for (ostensibly) accounting for phenomenal content (as in Tye, 1995). These accounts adopted a propositional and hence language-based account of mental content. The phenomenal, in the form of the qualia of perceptual experience, were cast into suspicion as hold-overs from a dualistic past.

Whether these analyses, from Dummett's history to the recent systematic theories, can stand as good philosophical analyses of the problems and prospects for a theory of perception, and of the role of perception in cognition and thought, cannot be decided here. But it is appropriate to note a potentially harmful effect of such positions on historical accounts of early analytic, and Anglo-American, philoso-

phy. The systematic currents mentioned above, from behaviorism to information-based theories, exhibit to one degree or another a fear of the mental. In the heyday of behaviorism, the coherence and legitimacy of any talk of the mental was challenged. With the recent informational accounts, the fear is of the phenomenal. But the phenomenal aspects of perception were central to the accounts of perception, cognition, and thought of Mach, James, and Russell. To the extent that current history adopts the perspective of behaviorism, or the less sweeping anti-phenomenalist bias of the informational accounts, it runs the risk of discounting a major line of thought in early analytic philosophy.

There are really two dangers here. The first is the possibility of begging a substantive philosophical question. It is a substantive question whether non-linguistic analyses of the role of perception in cognition should be rejected. Those who think they should be rejected have no trouble discounting the positions of Mach, James, and Russell. But it remains possible that Mach's theory, as elaborated philosophically by James and Russell, captured an important aspect of cognition and thought. Or perhaps a new analysis of the role of phenomenally-characterized perceptual states in cognition and thought will retain some insights from James and Russell, and reject other parts of their theories. This is a systematic matter, to be decided by ongoing philosophical work.

The second danger is historiographical. The flourishing revival of work in the history of modern philosophy has been guided in part by a contextualist approach to the work of past philosophers. This approach prescribes that past texts be read in historical context. The push toward historical context contrasts with a presentist orientation that reads and evaluates past texts as if they might directly contribute to present-day philosophical discourse (which of course they might). One of the results of the contextual approach is that it treats past positions on their own terms, instead of attempting to make them conform from the outset to current philosophical tastes. A consequence of this approach has been that aspects of past philosophical texts that had seemed unworthy of attention and easy to discount have come to new prominence in the revised historiography. Such topics include the mentalism and the apparent psychologism of authors such as Descartes, Hume, and Kant. Whereas previous generations of scholars ignored Descartes' appeal to intellectual experiences occurring independently of the senses, new scholarship highlights the importance of Descartes' distinction, which he cast in phenomenal terms, between sensory and intellectual cognition (Hatfield, 2001; Owen, 1999). Descartes' phenomenology of the intellect is now taken seriously. Similarly, Kant's talk of synthesis was ignored by past commentators as an example of irrelevant psychological musings injecting themselves in what should have been a purely logical, or conceptual, investigation (e.g., Strawson, 1966). But again, new work suggests the value of attending to Kant's own conception of what is central to his theory of cognition (e.g., Anderson, 2001).

The moral of this second point, as applied to the present case, is that the phenomenalist and perceptual analyses of thought found in James and Russell should not be dismissed out of hand, or left out of the history of early analytic philosophy. To do so would produce a distorted picture of the major trends in that philosophy, by making the same sort of retrospective adjustment of past theories that harmed the history of early modern philosophy. Why should we care about distortion? Aren't creative misreadings a source of progress? They certainly are. But they are not the only source. The value of studying past philosophical theories does not lie solely, or even mainly, in what can be cribbed from them by way of "new" ideas. Another important contribution lies in coming to understand the formation of our current conception of philosophical positions and problems. In seeking such understanding, it simply won't do to have our historical perspective determined by the bland acceptance of a local philosophical outcome, as if we could be sure that the linguistic turn described by Dummett (1993) were permanent. We will be in a better position to understand that turn itself, and to assess the legitimacy and grounds for restricting the role of the phenomenal in the analysis of mind, if we examine for ourselves the major trends in early twentieth-century philosophy. This means being willing to pursue for that period, as for the early moderns, a contextualist account of the conceptions that the major figures considered central to their own philosophical work. In the case of James and Russell, this means taking seriously the role of phenomenally characterized perceptions in thought, and tracing

out the fortunes of neutral monism as a response to skepticism and as a solution to the mind-body problem.

Those who retain a fear of the mental need not worry about being infected simply as a result of taking seriously the serious consideration of phenomenally-conceived mental states by past philosophers. For the aim is not, in the first instance, to adopt their positions outright. The aim is rather to understand their positions, in the course of rethinking the paths that have led to our present philosophical landscape. Serious attention to history can both produce a new understanding of the paths taken, and also reveal paths not taken. It both cases it allows us to gain distance on the philosophical intuitions—often gained uncritically in the course of philosophical training—held by ourselves and our contemporaries, by understanding the historical process through which they were formed. In this way, serious history of philosophy has been contributing and will continue to contribute to the advance of philosophy itself.

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Keywords

Epistemology, mind-body problem, neutral monism, perception, psychology, sense-data

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Notes

[1] Among Russell scholars, little attention has been paid to Russell's turn to neutral monism. Hylton (1990, pp. 330–1, n. 4) leaves it out of his account. Some recent work has paid attention to the place of sense-data in early twentieth century philosophy, with mention of Russell (Crane, 2000, p. 172; Martin, 2000, p. 199). But in these accounts Russell is described as a "representative" realist in accordance with Russell (1912), thereby ignoring Russell's own characteristic positions regarding sense-data and what he termed "momentary particulars", positions he developed in what I call below his intermediate period (1914–18) and after his turn to neutral monism (late in 1918). The American Neo-Realists mentioned above included not only James, but also his student Ralph Barton Perry (1912), and the collaborators in Holt *et al.* (1912).

[2] Ralph Barton Perry, who saw James' *Essays in Radical Empiricism* through the press after James' death (in accordance with James' earlier intention to publish the essays under that title), cites evidence that James considered his "radical empiricism" to be of greater philosophical import than his pragmatism (Perry, 1996, pp. xvi-xvii). Russell agreed with this assessment. He was quite critical of James' pragmatism, and in any case regarded James as

one of three turn-of-the-century protagonists of pragmatism (the other two being John Dewey and F. C. S. Schiller). But he had strong praise for radical empiricism (which he saw as allied with neutral monism), and said that for his development of that position alone James would "deserve a high place among philosophers" (Russell, 1945, pp. 811–7, quotation from p. 812).

[3] Russell noted the similarity between the positions of James and Mach, but was unaware of any reference by James to Mach on the subject. Indeed, James did not refer to Mach in the papers collected in James (1996). But he had met Mach in Prague during October, 1882, six months prior to the completion of Mach (1883). At that time he heard a physics lecture by Mach, and spent four hours conversing with him (James, 1920, 1: 211–2). In James (1890) he referred several times to Mach (1886).