

Russell on sense data and the material world

PHIL 43904
Jeff Speaks

October 15, 2007

1	The problem of knowledge of the material world	1
2	The nature of sense data and the mental/physical distinction	2
3	The analysis of material things	3
3.1	The idea of a logical construction	3
3.2	Private space and perspective-space	5
3.3	Things and matter	5

1 The problem of knowledge of the material world

Few problems in philosophy are older than the problem of explaining how it is possible for us to have knowledge of the physical world. For Russell, this problem took a particularly difficult form. Remember that Russell's philosophy of perception committed him to thinking that sensory experiences are acts of awareness of sense data, which seem to be items distinct from ordinary material things. In sensation, we never are directly aware of, for example, tables and chairs, and other medium sized objects. So how can we know anything about those items on the basis of sensation?

Russell put the problem like this:

“What can we learn by observation and experiment?

Nothing, so far as physics is concerned, except immediate data of sense: certain patches of colour, sounds, . . .

The supposed contents of the physical world are *prima facie* different from these: molecules have no colour, atoms make no noise, electrons have no taste . . .

If such objects are to be verified, it must be solely through their relation to sense-data: they must have some kind of correlation with sense-data, and must be verifiable through their correlation *alone*.

But how is this correlation itself ascertained? A correlation can only be ascertained empirically by the correlated objects being constantly *found* together.

But in our case, only one term of the correlation, namely, the sensible term, is ever *found* . . . Therefore [physics] is itself utterly and for ever unverifiable.

There are two ways of avoiding this result.

(1) We may say that we know some principle *a priori* . . . that our sense data have *causes* other than themselves, and that something may be known about these causes by inference from their effects. . . .

(2) We may succeed in actually defining the objects of physics as functions of sense data. . . .”

Russell finds the first unsatisfactory, since it makes all of our empirical knowledge of the world rest on a suspicious sort of philosophical principle. He thinks, then, that the possibility of knowledge of the material world rests on (2): analyzing ordinary material objects in terms of sense data. If we can do this, then there is no real gap between sense data and material things, and hence no gap for a principle of the sort invoked in (1) to bridge.

2 The nature of sense data and the mental/physical distinction

Before seeing how such an analysis might go, we need to get a handle on what sorts of things sense data are. Remember that we argued for the existence of sense data by noticing differences in the perceptual experiences of people viewing the same material thing. If you and I are both looking at a table, then probably we are both aware of slightly different colors, shapes, etc. The table itself has at most *one* color and shape. So we both can't be aware of the real table; but if one of us isn't, then neither of us is; so we are both aware of something other than the table. We are both aware of distinct sense data.

This makes it clear that sense data are the immediate objects of awareness, and are such that different people are, at least in the usual case, always aware of distinct sense data.

This suggests certain further theses about sense data: that they are mental items which are essentially private, and cannot exist without being perceived. Russell, however, rejects these further theses:

“I regard sense-data as not mental, and as being, in fact, part of the actual subject-matter of physics. . . .

The word ‘physical’, in all preliminary discussions, is to be understood as meaning ‘what is dealt with by physics.’ . . .

Logically a sense-datum is an object, a particular of which the subject is aware. It does not contain the subject as a part, as for example beliefs and volitions do. . . . There is therefore no *a priori* reason why a particular which is a sense-datum should not persist after it has ceased to be a datum, nor why other similar particulars should not exist without ever being data.” (149-152)

This makes clear that Russell has the following views about sense data:

- There is no impossibility in sense-data existing either while they are not being perceived, or indeed without ever being perceived. (In Russell’s terminology, this is to say that sensibilia can exist without being sense data, or without ever being sense data.)
- ‘Physical’ means just ‘whatever is studied by physics, or composes the stuff studied by physics.’ Since sense data compose the stuff studied by physics, sense data are physical, not mental.

This last point makes it tricky to state Russell’s views. One wants to explain his views in the philosophy of perception by saying ‘Russell thinks that we are always immediately aware of sense data, and never of physical things.’ But of course this can’t be quite right, if sense data are physical things. What we can say is that sense data are neither

“the ‘thing’ of common sense [n]or the ‘matter’ of physics.”

This is why the ultimate aim of explaining things and matter in terms of sense-data is a “long and difficult journey” (152). We can see why sense data are neither things nor matter in two ways:

- Sense data do not have the properties of the elements of matter; as Russell says, ‘molecules have no colour.’
- Where there is one ‘thing’, there are indefinitely many sense data. One table corresponds to indefinitely many perceptions ‘of it.’

3 The analysis of material things

3.1 The idea of a logical construction

Russell states his core idea as follows:

“The supreme maxim in scientific philosophising is this:

Wherever possible, logical constructions are to be substituted for inferred entities.” (155)

This idea is related to what’s sometimes called ‘Ockham’s razor’: the idea that we should not multiply entities without necessity. The idea here is that if we know of the existence of some class of entities, and are incline to infer on that basis of the existence of another class of entities, we should prefer the hypothesis (if possible) that talk about the second class of entities really is just disguised talk about the known class. Hence Russell’s idea would be more aptly put by saying that we should not multiply *kinds* of entities without necessity.

This motivation for Russell’s view comes out clearly when he writes,

“Since the ‘thing’ cannot . . . be identified with any single one of its appearances, it came to be thought of as something distinct from all of them and underlying them. But by the principle of Occam’s razor, if the class of appearances will fulfill the purposes for the sake of which the thing was invented by the prehistoric metaphysicians to whom common sense is due, economy demands that we should identify the thing with the class of its appearances. It is not necessary to *deny* a substance or substratum underlying these appearances; it is merely expedient to abstain from asserting this unnecessary entity. Our procedure here is precisely analogous to that which has swept away from the philosophy of mathematics the useless menagerie of metaphysical monsters with which it used to be infested.” (155)

But it remains to be seen how we can do without these sorts of metaphysical monsters. He explains his method of logical constructions as follows:

“The method by which the construction proceeds is the same in these and in all similar cases. Given a set of propositions nominally dealing with the supposed inferred entities, we observe the properties which are required of the supposed entities in order to make these propositions true. By dint of a little logical ingenuity, we then construct some logical function of less hypothetical entities which has the requisite properties. . . . This method, so fruitful in the philosophy of mathematics, will be found equally applicable in the philosophy of physics, where, I do not doubt, it would have been applied long ago but for the fact that all who have studied this subject hitherto have been completely ignorant of mathematical logic.” (156-7)

The example of numbers and sets; what it means to say that ‘numbers are logical constructions out of sets.’ Plausible further examples of this strategy: groups and nations; the average child.

The parallel with the case of material things and sense data. Given that material things are logical constructions out of sense data according to Russell, the key question is: how do we analyze statements which seem to be about ordinary things in terms of statements about sense data?

3.2 Private space and perspective-space

A first step comes from Russell’s treatment of space. The central idea here is that of ‘private space’:

“... each person, in so far as his sense-data are concerned, lives in a private world. This private world contains its own space . . . each private world may be regarded as the appearance which the universe presents from a certain point of view.” (159-60)

You can think of your private visual space as ‘the world as you see it’ — if you see a red patch to your right, then redness occupies that portion of your private space.

Private space is contrasted with perspective-space. Perspective-space is a construction out of private space. Which private spaces? Clearly, Russell means to include the private spaces of every actual perceiver. But it also seems (see pp. 157-8) that he wants to include private spaces which correspond to no actual perceiver. Perspective-space is a three-dimensional array of private spaces —intuitively, it is the three-dimensional array of private spaces which places the private spaces in the locations ‘from which’ they view the universe. (See the discussion of the penny on p. 161.)

3.3 *Things and matter*

Things, like tables and chairs, are ‘classes of appearances.’ Which classes of appearances? Russell explains that

“By moving, and by testimony, we discover that two different perspectives ... contain very similar [sensibilia]; ... in this way one ‘sensible’ in one perspective is correlated with one ‘sensible’ in another. Such correlated ‘sensibilia’ will be called ‘appearances of one thing.’ ” (160)

A thing is identified with a set of appearances arrived at in that way. This makes Russell’s ‘things’ somewhat unlike things as ordinarily conceived. Suppose that I put on red glasses and look at the sidewalk. The sidewalk appears red to me, even though (intuitively) it isn’t. But that red appearance of the sidewalk is every bit as much a genuine appearance of the thing as the appearance without the glasses.

Russell recognizes this, and this is part of the reason that he introduces the category of ‘matter’, defined as follows:

“The *matter* of a given thing is the limit of its appearances as their distance from the thing diminishes.” (165)

What’s the purpose of this definition? Some problems with giving a noncircular explanation of the idea of ‘ideal observational conditions.’

The problems caused by hallucinations, and making sense of the idea of experience which seems to be about something which is not really there.