

THE RUSSELLIAN ROOTS OF NATURALIZED EPISTEMOLOGY

PAUL O'GRADY

Philosophy / Trinity College, University of Dublin
Dublin 2, Eire

I. A PUZZLING STORY

Once upon a time, according to Richard Rorty,¹ when all of us were less sophisticated, we played a game called philosophy. Part of this game consisted in telling what things really existed, as distinct from what people in lesser games such as science said existed. Another part of the philosophy game involved telling the story about how we knew that such things really existed. The game began in Greece and flourished through all the periods of Western Civilization, but by the mid-twentieth century many of the chief players believed that the game had played itself out. These disenchanted glass-bead gamesters included Wittgenstein, Heidegger, Dewey and Quine. Those expressing this disenchantment in the English language incurred the wrath of the *magister ludi*, Bertrand Russell, who still passionately believed in the game, its importance in society, and who bitterly resented what he regarded as its trivialization.²

One of the chief reasons Rorty believed, against Russell, that the game was over, was because of the changes Quine had wrought in both objects of the game—telling how the world really is, and telling how we

¹ *Philosophy and the Mirror of Nature* (Princeton, N.J.: Princeton U.P., 1980), "Introduction".

² "I cannot feel that the new philosophy is carrying on this tradition. It seems to concern itself, not with the world and our relations to it, but only with different ways in which silly people say silly things. If this is all that philosophy has to offer, I cannot think that it is a worthy subject of study" (*MPD*, p. 230). This was specifically directed towards the practitioners of ordinary language philosophy.

really know that (pp. 221–9). Quine seemed to think that the world can be described in various ways, none of which can claim to be how it really is. He also seemed to say that philosophy hadn't any special role in talking about knowledge, as distinct from other games, particularly the game of physical science. Russell, on the other hand, representing the old tradition of the game, believed that philosophy did still carry out these two tasks. The second of these tasks was epistemology—and Russellian Epistemology on this account was significantly different from Quine's Naturalized Epistemology.

A puzzling feature of this is that Quine is heavily indebted to Carnap, who in turn is heavily indebted to Russell—so where exactly did the major break occur? Quine gives an account of the development in his article "Epistemology Naturalized", which lends itself to a plausible account of the development and break.

At the turn of the century, the Logicist programme (with Russell at the helm) attempted to reduce mathematics to logic, that is, it attempted to show the logical derivation of mathematics from logic. Quine points out that it is better described as a reduction to logic and set theory. Because set theory has poorer epistemological credentials than logic on its own, the reduction was not an epistemological success: "it does not reveal the ground of mathematical knowledge, it does not show how mathematical certainty is possible."³

However, paralleling the reduction of mathematics to logic, could one reduce scientific knowledge to sense experience? In answering this, Quine uses a distinction between conceptual and doctrinal studies. Conceptual studies are concerned with meaning, and doctrinal with truth and proof. In mathematics the two areas are linked, for if one translates all mathematical concepts into clearer, more favoured terms (those of logic), then one doctrinally justifies them simply in performing the conceptual reduction. Traditional epistemology attempted to clarify the meaning of our scientific concepts by showing how they reduced to sense experience and also justified them by establishing this link—"to endow the truths of nature with the full authority of immediate experience" (p. 74). Now Hume despaired of such a doctrinal reduction, and

³ W. V. O. Quine, "Epistemology Naturalized", in *Ontological Relativity and Other Essays* (New York: Columbia U.P., 1969), p. 70.

Quine agreed with him, neatly saying that "the Humean predicament is the human predicament" (p. 72).

However, it seems to be the case that Russell was more sanguine about proving our knowledge of the physical world, and wrote quite a number of books to that effect. He begins his *Problems of Philosophy* with the doctrinal question "Is there any knowledge in the world which is so certain that no reasonable man could doubt it?" and spends the rest of the book attempting to establish an answer to this. His celebrated distinction between knowledge by acquaintance and description is often articulated in terms of knowledge that is certain and knowledge derivative from that. All this is doctrinal in that it seeks truth and proof, and it is in continuing this task that Russellian Epistemology differs from Naturalized Epistemology.

One who appeared to read Russell in this light was Carnap, who while reading *Our Knowledge of the External World* felt the call to

the creation of a school of men with scientific training and philosophical interests, unhampered by the traditions of the past, and not misled by the literary merits of those who copy the ancients in all except their merits.⁴

Inspired by this vision, Carnap went on to write *Der Logischer Aufbau der Welt*, which was an heroic attempt to carry out the reductionist programme outlined by Russell. It used the logic of relations of *Principia Mathematica* to show how all scientific concepts could be reduced to a basis of immediate sense experience.

The attempt failed, and, soon after writing the *Aufbau*, Carnap acknowledged this. The shift to naturalized epistemology quickly follows. While one cannot justify our scientific knowledge through reduction, nevertheless much can be learnt about the structure of our knowledge through reduction. This is the process of rational reconstruction. Quine says, "If all we hope for is a reconstruction that links science to experience in explicit ways short of translation, then it would seem more sensible to settle for psychology" ("Epistemology Naturalized", p. 78). The rational reconstruction is the one which follows the actual psychological processes of cognition. This of course abandons the attempt to

⁴ Quoted in Carnap's "Autobiography", in P. A. Schilpp, ed., *The Philosophy of Rudolf Carnap* (La Salle, Ill.: Open Court, 1963), p. 13.

provide a doctrinal justification. In fact, because it uses the resources of empirical science, it cannot be distinguished from empirical science. Epistemology, construed as telling the story of the derivation of scientific knowledge from sense experience, is a branch of empirical psychology. Since it doesn't attempt a doctrinal justification, no circularity is involved. However, it is a big move from the traditional position, what Quine calls "the dislodging of epistemology from its old status of first philosophy" (p. 87).

This account gives a plausible explanation of the shift in epistemology from Russell to Quine. Carnap provided a *reductio ad absurdum* of Russell's doctrinal position, which paved the way for naturalism. Russell's game could no longer lay claim to the status he himself accorded it. While a plausible story, the account ignores the roots of Quine's position in both Russell and Carnap. Elements of the naturalistic position are visible in Russell's epistemological ambivalence and more evident in Carnap's *Aufbau*, and so Quine's move to naturalism is not so great as might appear on this reading. To substantiate this claim I shall first look more closely at the distinction between the two types of epistemology, and then apply the findings to Russell and Carnap.

2. THE DOCTRINAL QUESTION

It could be argued that Descartes issued in the doctrinal phase in epistemology. In his rejection of the past and his establishment of a new method, he made the search for certainty fundamental to philosophy. Using doubt as a tool to find the indubitable, he discovered the foundation of knowledge in indubitable clear and distinct ideas. The rest of our knowledge is justified by deducing it from the secure foundation.

This position is standardly labelled "foundationalist", and it has two necessary conditions. The first is that knowledge is organized hierarchically. There are higher-level beliefs which are justified by relating them to other more fundamental beliefs. The second is that the fundamental beliefs are not justified by relation to other beliefs, on pain of infinite regress. William Alston summarizes this by saying: "We can put the thesis of foundationalism by saying that all mediately justified beliefs owe their justification ultimately to immediately justified beliefs."⁵ The

⁵ "Foundationalism", in Jonathan Dancy and Ernest Sosa, eds., *A Companion to*

task of the foundationalist epistemologist is to articulate the nature of the basic immediately justified beliefs, to say how they are so justified, and to articulate the nature of the connection to the higher level, mediately justified beliefs.

There are various strategies in performing this task. Descartes picked innate ideas which are immediately known to introspection as his foundation and strict deduction as the connection to mediate beliefs. Empiricists rejected this approach and turned to the immediate input of the senses as the basis. However, what was common to both the rationalist and empiricist approaches was the demand that the basis be certain; otherwise, it would have to rely on something else to provide the essential certainty of the base. To be certain it had to be incapable of revision (incorrigible), unsusceptible to doubt (indubitable) and immune from error (infallible). If one was to deny this of the basis, then the entire point of the doctrinal analysis of knowledge would be lost. There would be either an infinite regress of beliefs, or else a coherentist house of cards, devoid of security.

Naturalized epistemology differs from this in accepting that our knowledge is dubitable, fallible and corrigible. There is no certain foundation for our knowledge. Quine cites Neurath's metaphor of the boat—we are like sailors at sea on a ship who must repair the ship without going into dry dock. We cannot repair it all at once, as we require it to continue our journey. Thus every part is repairable, but not all at once. What keeps each bit in place is that it fits into the whole and contributes to the journey. Thus there is no Archimedean point outside of our knowledge which can be used as a foundation for that knowledge. No piece of knowledge is immune from suspension, but neither is it possible for all knowledge to be suspended at the same time. Rather we hold firm to parts of our knowledge structures in order to examine and improve other parts. The test of such pieces of knowledge is that they do the jobs we want them to. To continue Neurath's figure—incorrect knowledge builds a leaky ship.

A result of this construal of knowledge is that while we have no knowledge which is absolutely certain, neither is our knowledge potentially all false. The position of naturalism rejects both global scepticism

and metaphysical realism as two sides of the same counterfeit coin. They rest on a mistaken "spectator model" of knowledge—that we are attempting to get a clearer and clearer picture, from without, of an antecedently structured reality. Nevertheless naturalized epistemology does present a theory of evidence, and whatever evidence there is for knowledge derives from the senses.

Hence naturalized epistemology holds that there are no foundations to our knowledge in the old sense. The task of epistemology is to show how science builds up from sensory experience—it is a theory of evidence. It uses the methods of empirical science to do this. It disallows the possibility of scepticism. How does this then relate to the apparently more traditional approach of Russell and Carnap?

3. RUSSELL ON THE DOCTRINAL QUESTION

There is a clear sense in which Russell is a foundationalist epistemologist—he searches for a level of certainty on which other beliefs can be based. This is evident in *The Problems of Philosophy* (1912), where the opening chapter deals with the problem of certainty and rehearses traditional sceptical problems about the senses. However, Russell introduces sense-data to explain the workings of sensory input. Sense-data are the objects of our immediate experience and as such are certain. They do not rest on any other beliefs for their veracity. Thus they fulfil the role of the foundationalist basis. They are known by acquaintance, which is the mode of knowledge which is immediate. Physical objects such as tables, other people, books, are not known immediately. Rather they are inferred from the sense-data. The inference to physical objects is the best explanation for the fact that we have the experiences we have and that these experiences are not caused by acts of our will. It is the best explanation for the surprises we encounter. We have knowledge by description of these inferred entities.

Much of the manuscript devoted to theory of knowledge in 1913 deals with acquaintance as the certain basis of knowledge, and in *Our Knowledge of the External World* (1914) Russell again presents this view of knowledge with a secure basis and a superstructure. However, he changes from the notion of inference to the notion of construction. Physical objects are not inferred realities, but rather constructed logical fictions. However, the epistemological picture remains firm—a hierarchy

of knowledge with a certain basis.

However, there is an ambivalence in Russell's position which is curiously at odds with the foundationalist stance. In the *Problems* he had discounted the possibility of scepticism, on the grounds of best explanation. There is no conclusive logical argument against scepticism, but rather we could make nothing of such a position.

There is no logical impossibility in the supposition that the whole of life is a dream, in which we ourselves create all the objects that come before us. But although this is not logically impossible, there is no reason whatever to suppose that it is true; and it is, in fact, a less simple hypothesis, viewed as a means of accounting for the facts of our own life, than the common-sense hypothesis that there really are objects independent of us, whose action on us causes our sensations. (*PP*₂, p. 10)

Hence there is no firm conclusive foundationalist rejection of scepticism; rather there is a pragmatist dissolution of the problem. In *Our Knowledge* Russell pushes this view further. He says:

There is not any superfine brand of knowledge, obtainable by the philosopher, which can give us a standpoint from which to criticize the whole of the knowledge of daily life.... Philosophy cannot boast of having achieved such a degree of certainty that it can have authority to condemn the facts of experience and the laws of science. The philosophic scrutiny, therefore, though sceptical in regard to every detail, is not sceptical as regards the whole.... Universal scepticism, though logically irrefutable, is practically barren; it can only therefore, give a certain flavour of hesitancy to our beliefs, and cannot be used to substitute other beliefs for them. (*OKEW*, p. 66f.)

We cannot doubt the entire superstructure of our knowledge all at once, but only piece by piece. Global scepticism cannot be countenanced. With this vision of the realm of human knowledge standing equal to philosophy in the authority of its knowledge, exactly what type of certainty do the senses confer? Russell talks about degrees of certainty and distinguishes between "hard" and "soft" data. The hard have resisted critical scrutiny, while the soft become more or less doubtful. However, this distinction is provisional because

... the distinction of hard and soft data is psychological and subjective, so that, if there are other minds than our own—which at our present stage must be held

doubtful—the catalogue of hard data may be different for them from what it is for us. (*OKEW*, p. 72)

Hence the certainty of the hard data is revisable, and it doesn't stand outside of our common store of knowledge—it isn't a special philosophical mode of knowing.

Thus in Russell's work one can detect the two tendencies side by side. There is the firm foundationalist project announced and attempted, while simultaneously there is the withdrawal from certainty, the acceptance of the role of science and the limitation of philosophical knowledge. This latter tendency is further evident in the work which claimed to be the detailed working out of Russell's epistemological project, namely Carnap's *Aufbau*.

4. CARNAP ON THE DOCTRINAL QUESTION

Carnap published the *Aufbau* in 1928. It was his first major book and reflects the preoccupations which spurred him in writing his dissertation, *Der Raum*, which dealt with the interrelationship of philosophy and physics. One can detect two types of philosophical influence which exist in tension in the book, the first associated with Russell, the second with Frege.

Russell's influence is more readily emphasized in discussions of the *Aufbau* and is understood as epistemological. By using the advances made in symbolic logic at the turn of the century, Russell's foundationalist project can be carried out in a clear, precise and technical manner. Carnap was attracted to this ideal and to the precision and scientific exactness which it imported into philosophy. Just as Descartes, Hume and Kant all had lamented the unhappy state of philosophy in their respective days, so too did Carnap find much to be unhappy about in contemporary thought. The fundamental insight which guided Carnap in all his philosophical activity was that a problem should have a clearly delineated method of resolution in order to be a genuine problem. When this is not the case there is a flurry of futile speculation which is inconclusive and a waste of effort, since no conclusion will be clearly recognizable as such. Thus his job as a philosopher was to develop methods which allowed such resolutions—and this was precisely what motivated the *Aufbau*. Under the influence of Russell, Carnap saw the

key to this resolution as being a clear articulation of the scope and nature of our knowledge. Hence the *Aufbau* is sometimes read as a work of foundationalist epistemology. He presents a system which is organized hierarchically and whose basis is the inputs of immediate experience, which are immediate and hence certain.

The second tendency in the *Aufbau* is the formal, language-centred approach associated with Frege and Wittgenstein, which eschews traditional epistemology. Recent interpretations of the *Aufbau* emphasize the influence of neo-Kantian considerations on Carnap in the 1920s and claim that the central concern of the book is the logically prior matter of the constitution of meaning rather than the epistemology.⁶ Carnap gives an account of how our concepts can be mapped out relative to each other. He organizes them in systematic fashion and shows how such a system can have empirical content. What he presents is a constructional system, which is a logical account of the constitution of meaning.

Part of the ambiguity about the point of the book derives from Carnap himself. He tends to emphasize the epistemological aspect in later discussions.⁷ However, the text itself doesn't support this reading and in fact strongly suggests the formal, or semantic reading. Traditional epistemological preoccupations are missing. It is assumed that scepticism isn't a problem. He doesn't speak of justification as a separate issue from "rational reconstruction". The question of the reality of the external world cannot even be formulated. He explicitly allows that the basis for the system depends on findings from the empirical sciences and so it can't justify those findings in a foundationalist sense.

The content depends upon the material findings of the empirical sciences; for the lower levels in particular, upon the findings of the phenomenology of perception, and psychology. The results of these sciences are themselves subject to debate; since a constructional system is merely the translation of such findings, its complete material correctness cannot be guaranteed.⁸

⁶ See Michael Friedman, "Epistemology in the *Aufbau*", *Synthese*, 93 (1992): 15–57, and Alan Richardson, "Logical Idealism and Carnap's Construction of the World", *Synthese*, 93 (1992): 59–92.

⁷ "Autobiography", p. 18.

⁸ Rudolf Carnap, *The Logical Structure of the World* (1st ed., 1928; Los Angeles and Berkeley: U. of California P., 1967), §106.

Hence the key to the correct interpretation of the *Aufbau* lies not in reading it as foundationalist epistemology, but in grasping the logical notion of constructional system and the associated concept of rational reconstruction. Briefly, the constructional system, which is the core of the *Aufbau*, is a formal meaning-constituting structure, which can be put to a variety of uses, in this case an epistemological one. However, this epistemological purpose is to present the evidence for belief, not to establish certainty on an infallible basis.

Carnap describes a constructional system as an epistemic-logical system of concepts. It provides a genealogy of concepts, showing how all the concepts we use can be generated from a specific limited base of fundamental concepts. The key example of such a system and the inspiration for Carnap's is *Principia Mathematica*. In this work, mathematical concepts are derived from a limited basis of logical concepts. They show how higher-level and complex formulations, laws, functions, etc., can be traced in a clear methodical way back to the initial axioms and fundamental postulates. Carnap's aim is to use precisely such an approach to display the structure of our empirical knowledge. Using the logic of relations he can show how all our empirical concepts can be traced back to elementary empirical concepts.

This approach to epistemology therefore rejects the search for absolute certainty associated with foundationalism. It allows for the input of the empirical sciences in the account of knowledge. It shows how our scientific theories can be connected up with sensory input, which is the only form of evidence possible for empirical science. Given that the detailed account of how sensory inputs are marshalled for evidential purposes differs in Carnap's *Aufbau* and Quine's naturalized epistemology, there is not so great a difference as one might imagine.

5. CONCLUSION

The ambiguity which leads to the possible ways of construing the Russell, Carnap, Quine progression, rests on how one understands the epistemological project. If one equates epistemology with a certain type of foundationalist project, then by definition once one leaves that behind, one has ceased doing epistemology. However, if one accepts that giving an account of knowledge is the task of epistemology—and leaving open the issue as to whether there must be a certain foundation to that

knowledge, then all three writers in question can be seen as epistemologists.

If Rorty sees traditional philosophy as having two parts, namely saying how the world is and justifying that account, then all three perform the second task. Russell, at least in theory, wants to present a picture where philosophy performs this task for the sciences. However, he is forced to accept that philosophy cannot present a more secure account than that of empirical science. Carnap allows for this more obviously—and sees the primary task of the philosopher as clarifying the logic of science. Quine states his position more recently as,

I am of that large minority or small majority who repudiate the Cartesian dream of a foundation for scientific certainty firmer than scientific method itself. But I remain occupied, we see, with what has been central to traditional epistemology, namely the relation of science to its sensory data.⁹

Hence he places himself here firmly within the philosophical tradition in dealing with knowledge and goes on to say,

The most notable norm of naturalized epistemology actually coincides with that of traditional epistemology. It is simply the watchword of empiricism; *nihil in mente quod non prius in sensu*. (*Ibid.*)

The three figures differ more significantly on the first project of traditional philosophy. Russell still attempted to say what there is in some ultimate sense, to describe the true nature of reality. Both Carnap and Quine hold to varying forms of ontological relativity—that what there is varies according to how it is theoretically construed. In this sense they have abandoned the traditional task (but then so did Protagoras, Sextus Empiricus, William James, C. I. Lewis, Nietzsche and Ricoeur, to name a representative sample of similar “non-traditional” philosophers).

While Rorty cites Quine as a figure in the dissolution of the traditional philosophical picture, Quine in his work seems to play a game which Russell might not find so very dissimilar to his own.

⁹ *The Pursuit of Truth* (Cambridge, Mass.: Harvard U.P., 1990), p. 19.