proofs at *73 and *94 show. Russell explains this matter at the beginning of *117.

On page 238, the author interprets Gödel's Second Theorem as implying that the consistency of a formal system "can only be proved in a *more* complex system, whose own consistency is in greater doubt." Gödel's Second Theorem implies only that the system in which consistency is proved deploy some methods not contained in the system to be proved consistent. The system in which consistency is proved may otherwise be much weaker, as Gentzen's proof of the consistency of formalized arithmetic shows.

Contrary to page 209, Russell did not begin *The Philosophy of Logical Atomism* in prison in 1918. The lectures were given for eight weeks in January, February and March of 1918, prior to Russell's imprisonment. *The Philosophy of Logical Atomism* is a set of verbatim reports of the lectures, taken at the time by a shorthand writer. (See *Collected Papers* 8: 157.)

Often quotations are footnoted only by the book or article in which they occur, not by page number. To take a limited sample, this is done on pages 61, 63, 64, 65, 66, 70 and 72.

constitute independent and self-subsistent knowledge. This is certainly a wonderfully ambitious and impressive plan for a young man in his early twenties. Our evaluation of it, though, must rest on its execution.

The part which came nearest to a completed form was that on geometry, which formed the subject of Russell's fellowship dissertation (now lost) and his first work of technical philosophy, the *Essay on the Foundations of Geometry*. The general framework here is neo-Kantian rather than neo-Hegelian. It is well known that non-Euclidean geometries pose a difficult problem to the Kantian philosophy of geometry. Modern defenders of Kant have three options, carefully distinguished by Griffin (p. 104). One is to maintain that Kant did not deny the possibility of non-Euclidean geometry. Although this is currently the most popular tack, Griffin in my opinion provides conclusive reasons against it, by showing that this attempted resolution of the Kantian difficulty depends on confusing two very different senses of "possibility" (p. 106). The second is to deny the conceivability or intelligibility of non-Euclidean geometries; this was the favoured approach of stubborn Kantian boneheads in the last century. The last and by far the most interesting idea is that of Russell, namely to modify Kant's doctrine in such a way as to preserve its key features, while bringing it in line with modern knowledge of geometry. Russell's ingenious idea was to replace Kant's Euclidean space by a geometry of constant curvature. That space is a three-dimensional space of constant curvature is taken to be synthetic *a priori*, while the actual value of the space constant is held to be empirical. Projective and general metric geometry are to be established by a transcendental deduction as the respective conditions for any form of externality and any quantitatively determinable form of externality (p. 153). How successful is Russell in carrying out this clever modification of Kant's approach? In fact, his attempted transcendental deduction is a dismal failure. In the case of projective geometry, it would be necessary first to provide an adequate set of postulates for three-dimensional space, and then show that these postulates are presupposed in the general concept of a form of externality. Russell fails on both counts, as Griffin makes clear on page 152. Russell's postulates for projective geometry are muddled and woefully inadequate. Griffin defends Russell on this point by referring correctly to the prevailing lax mathematical practice of the day (p. 141). But this hardly exonerates him. Russell, after all, was not practising mathematics, but attempting foundational work, in which Pasch, Peano, Pieri, Hilbert and others had already set standards of rigour which Russell did not even approach. Russell shows that his postulates are *sufficient* for a form of externality, but not that they are *necessary* (p. 152). But it is the latter which is required by a transcendental deduction. Thus the most fully worked out part of the "Tiergarten programme" is a plain failure.

It is only fair to add that it was by the very attempt at the detailed execution of such a large scale programme, ending in utter failure, that Russell made plain the bankruptcy of neo-Kantian and neo-Hegelian ideas in philosophy of science. It is noticeable that modern admirers of Kant such as Hilary Putnam confine themselves (unlike Russell) to woolly generalities and rhapsodic remarks about the "mysterious depth" of Kant's Transcendental Deduction, without deigning to go into detail.

The part of Russell's project relating to physics never got beyond the form of scrappy notes and incomplete sketches. Russell at first adhered to a point–atom theory similar to that of Boscovich, but later transferred his allegiance to a plenal theory. Russell's work on the foundations of physics has a very odd flavour, since his interest in the area was motivated by certain geometrical "antinomies" which the introduction of matter was supposed to resolve. Let us look at one of these. The antinomy of the point is this: "All points are alike, yet each is distinct" (p. 191). From the modern point of view this is simple muddle. Russell has confused identity with isomorphism. In Euclidean space, any two distinct points can be related by a Euclidean motion: thus they are "alike", but distinct. There is no antinomy, unless some further assumption is made. This assumption is the doctrine of internal relations, on which more below. Given such unpromising beginnings, it is hardly surprising Russell made little headway.

The chapter on pure mathematics makes depressing reading for admirers of Russell. Russell's thinking on measurement, quantity and continuity at this time was extremely muddled, and showed his mathematical ignorance in the starkest form. We are presented with "antinomies" of quantity (p. 260) which are no more convincing than the corresponding geometrical "antinomies". Worse yet, Russell's criticism of Cantor's theory of transfinite numbers rests on elementary howlers (p. 242).

The chapter on logic is devoted to the important manuscript of 1898 entitled "An Analysis of Mathematical Reasoning". This manuscript of a never-completed book on the foundations of mathematics already contains some of the basic philosophy of logic of *The Principles of Mathematics*. In it, propositions are held to be composed of terms, which are ultimate and not dependent on a knowing mind. This doctrine, which apparently originated in discussions with Moore, was developed by Russell into a detailed theory of judgment, which ultimately failed because of the difficulty of meshing the extensional point of view required in mathematics with the intensional viewpoint of philosophical logic (p. 290).

The final and decisive break with neo-Hegelianism, however, came with the rejection of the theory of internal relations. It was this doctrine which underlay the many "antinomies" which Russell claimed to find in the various sciences. Griffin provides a blow-by-blow account of the stages by which Russell abandoned this key doctrine of the British neo-Hegelian school. Surprisingly, it was the humble negative numbers that were the source of the break. They made plain that a correct analysis of asymmetrical, transitive

relations was inconsistent with the doctrine of internal relations. With this change, Russell's emancipation from the idealist web of ideas was complete.

As the reader will gather, my view of the writings of Russell's idealist period is closer to Russell's own estimate than to Griffin's. Nevertheless, Griffin quite rightly points out (p. 369) that it was exactly through the attempt at a large-scale project of a dialectical encyclopedia of the sciences that the fatal mistakes of idealism were revealed. That Russell's work was up to the standards of the best British philosophical work of the day may well be true, though that says more about those standards than about Russell's contributions.

Whatever the merits of Russell's early idealist philosophy, Griffin's book is first rate. The author carefully lays bare the source of Russell's mistakes and confusions and at no point attempts to conceal the difficulties. Although he provides pointers to the modern literature, he always tries to understand Russell's thought sympathetically on its own terms. His painstaking analysis of crucial assumptions in the theory of relations in his last chapter is particularly noteworthy. This book is an important landmark in Russell scholarship, and hence in the history of twentieth-century philosophy.

PSYCHOBIOGRAPHY AND REALITY

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Andrew Brink. *Bertrand Russell: the Psychobiography of a Moralist.* Atlantic Highlands, N.J.: Humanities Press International, 1989. Pp. vii, 174. US$39.95 (paper, $12.50).

In this work Professor Andrew Brink seeks to get beneath Russell's confident public persona as a champion of reason and the scientific method. Instead, he sets out to explore the private Russell, a far less confident, even desperate seeker after personal wholeness and self-realization. The public Russell, he maintains, is revealed in his characteristic literary form, the expository essay. But the private Russell is revealed in letters, diaries, unpublished essays and occasionally in a public work, notably "The Free Man's Worship". Brink is a Professor of English Literature, and one sometimes senses the shadow of the literary caricatures of Russell by D. H. Lawrence and T. S. Eliot that parody Russell as a disembodied mouthpiece of pure logic. But in calling attention to Russell's tormented struggle after wholeness, Brink shows himself to be far more interested in discovering the real man than in contributing to the caricatures. The thesis of the work is that Russell, *qua* philosopher and rationalist, sought an Olympian escape from his tormented struggle for self-knowledge. The record of this struggle is preserved in Russell's purely literary works, and Brink implies that the world might have been better off had Russell persisted in his literary quest than in his philosophical one.

Brink calls his work a psychobiography, a term that sets off many alarms, even though psychobiography is a type of enterprise that Russell would have accepted. The alarms go off when one thinks of psychobiography as a type of hatchet job in which the subject is seen as the plaything of various subterranean and usually infantile psychical conflicts. They also go off when writers try to discredit philosophical ideas by tracing their origins in psychic deformities. Freud and Bullitt's distorted study of Woodrow Wilson fits this description. But though Russell is perceived to be the strongest defender of pure reason, he was in fact, one of the most vehement critics of the adage that Man, or Woman, is a "rational animal". He thought of psychology as the new frontier of science, arguing that human beings must be understood with reference to pre-rational impulses. His own portraits of his contemporaries and figures from the past contain a good deal of psychobiography. Russell's celebrated *History of Western Philosophy* (1945) is in large part a study of the psychological origins of many philosophies—the traditional systems of metaphysics which he traces to a will to cosmic security, and the more contemporary philosophies that he traces to a will to power. Brink proceeds then with Russell's imprimatur.

Russell's *Autobiography* initiates the narrative structure of Russellian psychobiography. Volume I in particular is a "coming of age" story beginning with an account of the suffocating repression of Pembroke Lodge. There Russell endured the severity of his grandmother's regime until going up to Cambridge in 1890, where he was liberated intellectually. His moral liberation proceeded in 1901 through intense experience of the suffering of Mrs. Whitehead, while his instinctual liberation came about in the arms of Lady Ottoline Morrell. As his godfather, John Stuart Mill, had learned before him, the rigours of a repressive upbringing can lead to secular liberal superegos as ferocious as the Christian ones.

Brink's volume retraces this odyssey arguing that it is more complex than Russell, and scholars writing about Russell, had revealed. He maintains that Russell's emancipation was not fully realized. He describes Russell's psyche as a maelstrom, a meeting of contradictory currents, which can be characterized, according to Brink, as an immature instinctual liberation that mingled with another psychic process that Brink calls an incomplete process of mourning.