Discussion

RUSSELL AS PHILOSOPHER OF EDUCATION: REPLY TO HAGER

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I. INTRODUCTION

Paul Hager's admirable article, "Why Russell Didn't Think He Was a Philosopher of Education",[1] contains much that is of worth. He takes seriously, for example, the claims of educational philosophers like William Hare and myself that there is a logical connection between Russell's philosophy and his educational thought even though he goes on to reject this perspective.[2] Then, in defence of his own view, Hager provides a clear and cogent account of Russell's philosophical method and indicates the implications of this method for

[1] *Russell*, n.s. 13 (1993): 150–67. For reasons of space I ignore Hager's interesting account of William Frankena's approach to philosophy of education and its relationship to Russell's educational thought. For my views on recent work in analytic philosophy of education, see H. Woodhouse, review of Richard Pratte's *Philosophy of Education: Two Traditions*, *Teachers College Record*, 19 (1994): 426–9. For a comprehensive account of the relationship between Russell's educational thought and analytic philosophy of education, see Brian Hendley, *Dewey, Russell, Whitehead: Philosophers as Educators* (Carbondale and Edwardsville: Southern Illinois U. P., 1986).

[2] W. Hare, "Russell's Contribution to Philosophy of Education", *Russell*, n.s. 7 (1987): 25–41; Hare, "What Can Philosophy Say to Teachers?", in Hare, ed., *Reason in Teaching and Education* (Halifax, N.S.: School of Education, Dalhousie U., 1989), p. 44; H. Woodhouse, "Science as Method: the Conceptual Link between Russell's Philosophy and His Educational Thought", *Russell*, n.s. 5 (1985): 150–61; Woodhouse, "More than Mere Musings: Russell's Reflections on Education as Philosophy", *Russell*, n.s. 7 (1987): 176–8; Woodhouse, "Russell and Whitehead on the Process of Growth in Education", *Russell*, n.s. 12 (1992): 135–59.

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enlarging the scope of the mathematical and natural sciences. On this basis, he concludes that there is no evidence that Russell thought the same method could be applied to education, thereby putting an end to the "evidently mistaken" (p. 165) idea that any conceptual connection exists between his philosophy and educational thought.

While Hager's argument is plausible enough, there is a rich irony in it to which I wish to draw attention: his own analysis of Russell's philosophical method can in fact be used to show that Russell applied it quite consistently in his educational philosophy. In establishing this claim, I shall provide an analysis of Hager's own account of Russell's method, its implications for knowledge in general, and the reasons that he advances for thinking that Russell did not apply it to the study of education. In each case, I shall argue that Russell did apply his philosophical method to the study of that discipline in the hope of making education more exact and scientific. To the charge that Russell denied that this was his intent, I shall draw attention to at least one occasion where Russell *did* assert there to be a logical connection between his social, political, and educational thought and his philosophy (*UE*, pp. 25, 27–8). Even if he hadn't made this connection, Russell's reluctance to draw such a conceptual link may well have been the result of the lack of precision that could be attained in education, as compared to the *a priori* sciences of logic and mathematics and the empirical science of physics (*ML*, pp. 12, 18).[3]

My argument suggests the need for open-mindedness about different interpretations of this question, regarding each as a hypothesis worthy of further investigation, and thereby emulating Russell's own attitude towards beliefs for which the evidence is inconclusive (*SE*, pp. 198–200). While the truth about the connection between Russell's philosophy and his educational thought may remain elusive, the questions raised in this article are still worthy of discussion. Indeed, Russell himself once suggested that the value of philosophy lay more in its ability to raise questions than in the answers that it provided (*PP*, p. 241).[4]

[3] Woodhouse, "Science as Method", pp. 155–7; Joe Park, *Bertrand Russell on Education* (London: Allen and Unwin, 1964), p. 129.

[4] In passing, it is interesting to note that Hager quite overlooks the central point of my recent article in which the differences between Russell and Whitehead's views on education are analyzed ("Russell and Whitehead on the Process of Growth in Education"). I argued that Russell, having first adopted an organic view of education similar to Whitehead's, became a behaviourist because the methodology of behaviourism complied with his own conception of the scientific method. This insight enables one to make the following kind of connection: that Russell's use of the techniques of classical conditioning with his own children (*OE*, pp. 77, 88–9) are examples of the application of his philosophical method to education whose theory and practice he was trying to make more scientific (*AMi*, pp. 32–9, *MPD*, p. 133). Hager wants none of this, claiming that I exaggerate the differences between an organic philosophy of education like Whitehead's and the mechanistic philosophy of education to which Russell became attracted by stating that:

> ... there may not be as much conflict here as Woodhouse claims.... In principle, there seems to be no reason why a general aim of growth might not be served by some use of conditioning at the level of practice. (Hager, "Why Russell Didn't Think", p. 158n.)

As a matter of empirical fact, this may be true. Some educators probably do practise conditioning when implementing a theory of personal growth in schools today. But this is irrelevant to the point at issue, namely whether or not an organic theory of growth is *logically consistent* with the kind of classical conditioning that Russell practised on his children.

2. RUSSELL'S PHILOSOPHICAL METHOD AND ITS RELEVANCE TO EDUCATION

Hager does a first rate job of articulating the twin aspects of Russell's philosophical method, namely its analytic and synthetic dimensions:

> According to Russell, philosophical analysis has two parts in that it, firstly, proceeds backwards from a body of knowledge, and, secondly, proceeds forward from the premisses to a reconstruction of the original body of knowledge. (P. 158)

When applied to mathematics, Russell's paradigm case for the use of his philosophical method, analysis first breaks down existing mathematical knowledge into its component parts, namely the premisses upon which it rests. In making clear what these premisses are, analysis enables one to examine their adequacy and coherence. In doing so, the analytical phase of Russell's method passes "from the complex to the simple, from the demonstrable to its indemonstrable premisses" (*PoM*, p. 3). In other words, the method enables philosophers such as Russell to reduce complex mathematical theorems to logically simple axioms by articulating the underlying premisses supporting them. Whatever may be lost in the

process, namely the clear demonstrable truth of such propositions, is more than regained by the abstract nature of their logical simplicity of the propositions replacing them. In Russell's own words, the method of analysis leads "to greater and greater abstractness and logical simplicity" (*IMP*, p. 1). Abstraction and logical simplicity of this kind are desirable because they remove both mathematical and philosophical inquiry from the realm of contingent fact to one where "statements ... can be made concerning everything without mentioning any one thing or predicate or relation" (*ML*, p. 112).[5]

While the articulation of logical principles underlying the science of mathematics is a great step forward, it does not complete the work of Russell's philosophical method. The second prong, synthesis, moves in the opposite direction, taking the abstract logical principles revealed by analysis as simple premisses from which can be deduced both previous data and further consequences whose worth may now be evaluated. In Russell's own words, synthesis yields "fresh insight, new powers, and the means of reaching whole new mathematical subjects by adopting fresh lines of advance ..." (*IMP*, p. 2). Thus the synthetic mode advances mathematical knowledge by providing an inclusive understanding made possible by careful consideration of the implications revealed by the application of the method. Both well established and new forms of mathematical knowledge can now be brought forward for sustained

[5] By way of contrast, Alfred North Whitehead came to recognize the limitations of the pursuit of abstract, logical principles as the bedrock of knowledge. He argued that logic itself requires the context of concrete, everyday experience:

> In fact, there is not a sentence or a word, with a meaning which is independent of the circumstances under which it is offered.... Logic, conceived as an adequate analysis of the advance of thought, is a fake. It is a superb instrument, but it requires a background of common sense. (*The Interpretation of Science*, ed. A. H. Johnson [Indianapolis: Bobbs Merrill, 1961], p. 267)

Similarly, in his educational philosophy Whitehead emphasizes romance or the joy of learning as the foundation of education, while precision, though important in acquiring the grammar of thought, comprises the second cycle of growth. The third cycle of generalization is where students learn to apply abstract principles to concrete facts, and it too moves towards a second cycle of romance where knowledge is infused with a still greater sense of freedom (*The Aims of Education* [New York: Macmillan, 1957; 1st ed., 1929], Chaps. 2 and 3). For a comparison of Russell and Whitehead's concepts of growth, see Woodhouse, "The Concept of Growth in Bertrand Russell's Educational Thought", *The Journal of Educational Thought*, 17 (1983): 18–19.

inquiry on the part of mathematicians and philosophers intent on pushing forward the frontiers of the discipline.

Hager is correct to point out that Russell maintained this view of the analytic/synthetic method throughout his career, applying it to disciplines other than mathematics (e.g. physics and psychology) in the hope of advancing knowledge in each of them and of showing the relevance of the philosophical method to science in general (*MPD*, p. 230).[6] Why, one wonders, would he not have used the same method in his work on education? Any claim that Russell did not apply the analytic method to the basic normative aims or principles of education (the current premisses) by arriving at "a new set of premisses from which these current premisses can be deduced as results"[7] requires further evidence in support of it. Other than a veiled reference to Russell's own statements to this effect, Hager fails to provide any. Indeed, his account of Russell's philosophical method provides further support for the argument that he did apply it to education, as I shall now show.

There are three distinguishing features to Russell's analytic/synthetic method, according to Hager. First, analysis is unlikely to be final; and this in at least two ways. There is always the possibility that present premisses can themselves be derived from other premisses as yet undiscovered, while the results of which we are currently aware may themselves be derived from more than one set of premisses. In each case, the philosophical method enables those engaged in inquiry to regard both present premisses and results as contingencies awaiting revision by further application of that method. Or, as Russell himself puts it:

> Philosophy should be comprehensive, and should be bold in suggesting hypotheses as to the universe which science is not yet in a position to confirm or confute. But these should always presented *as* hypotheses, not (as is too often done) as immutable certainties like the dogmas of religion.[8]

Here, Russell counsels precisely the same open-mindedness and hypo-

[6] Hager, "Why Russell Didn't Think", p. 161; Woodhouse, "Science as Method", pp. 155–6.

[7] Hager, "Why Russell Didn't Think", p. 165. He is correct in pointing out (p. 166) that I underestimated the importance of the synthetic aspect of Russell's philosophical method in my earlier article.

[8] Russell, "Logical Atomism" (1924), *Papers* 9: 176; quoted by Hager, p. 162.

thetical understanding to philosophers as he advocates in his educational thought.

One clear example of the importance of open-mindedness to education can be found in teaching. Indeed, Dora and Bertrand Russell write:

> The best teachers are not impartial; they are men of strong enthusiasms, to which they wish to give expression in their teaching. The impartiality of the learner is best secured by exposing him to teachers with opposite prejudices.... If the result is scepticism as to all violent opinions, so much the better; that is the very attitude of mind that the modern world most needs in the mass of mankind. (*PIC*, p. 248)

Here, the Russells express the view that teachers should be encouraged to express their own strongly held views, while children should have access to teachers with a variety of viewpoints. The aim is for children to learn the ability to weigh conflicting evidence and arrive at conclusions in a sceptical, hypothetical manner. The Russells propose that teachers take precisely the same stand as philosophers engaged in the pursuit of mathematical Knowledge.[9] Just as the philosopher should be "bold in suggesting hypotheses", so the teacher should be a man "of strong enthusiasms", deeply concerned about knowledge and learning, rather in the manner of the philosopher who articulates a "comprehensive" vision. Just as the teacher should present "opposite prejudices" to his own, thereby enabling his pupils to weigh the evidence in favour of different beliefs, so the philosopher should present his wide-ranging hypotheses "*as* hypotheses" rather than as "dogmas of religion".

Indeed, the similarity between Russell's philosophical method and his account of the pedagogical relationship runs even deeper. On the one hand, the analytic/synthetic method in philosophy enables philosophers to search for different premisses from those that are currently accepted as

[9] In a later article, "The Functions of a Teacher", where he argues for greater autonomy for teachers, Russell directly compares their work with that of philosophers: "*The teacher, like the artist, the philosopher, and the man of letters*, can only perform his work adequately if he feels himself to be an individual directed by an inner creative impulse, not dominated and fettered by an outside authority" (*UE*, p. 159; my italics).

For a recent expression of a conception of teaching open-mindedness that is very similar to the Russells', see W. Hare and T. H. McLaughlin, "Open-mindedness, Commitment, and Peter Gardner", *Journal of Philosophy of Education*, 28 (1994): 239–44.

axiomatic while also seeking results that can be derived from different premisses. On the other hand, the same method in education enables students exposed to a variety of strong opinions to look for different premisses from those accepted as axiomatic by any one teacher, while also looking for, and weighing the evidence entailed by, the conflicting viewpoints articulated by their teachers in general. Not only does Russell's account of teaching and learning mirror that of his philosophical method, it captures each step precisely. First, the analytic aspect of the educational process enables children to look for and tolerate different premisses from those that are dominant in "the modern world". Second, the synthetic part of the educational process enables them to look for results that can be derived from different premisses from those accepted in that world. In each case Russell's aim is to develop in children both an impartiality in weighing evidence and the courage to express their own views in a forceful manner. Only then can a generation of children "educated in fearless freedom" (*OE*, p. 248) grow up to be responsible and critical citizens in the manner that Russell recommends.

The second feature of Russell's philosophical method to which Hager draws attention is its ability to enlarge the domains of such disciplines as mathematics and the natural sciences. The place of philosophy is located "at the frontier of the particular exact sciences" where, by means of the application of the analytic/synthetic method, the frontier advances when "philosophy becomes exact enough to be incorporated into science" (Hager, p. 162). In this way, philosophy and science merge, enabling the former to become precise and the latter to gain the philosophical insight afforded by the incorporation of the analytic/synthetic method. As Russell puts it: "Science is what you know, philosophy is what you don't know" and "Philosophy ... is something intermediate between theology and science."[10]

Why, then, should Russell not have thought that the same method can be applied to education by expanding the scope of the discipline, making it precise and, eventually, conjoining it with philosophy? One reason might have been that education is far from being an exact science in the manner of logic, mathematics or physics. On the other hand, Russell does apply the philosophical method to psychology in the hope

[10] See Alan Wood, "Russell's Philosophy: a Study of its Development", *MPD*, p. 276.

that it will eventually merge with physics and become one of the natural sciences (*AMi*, pp. 301–5). Since education overlaps with the discipline of psychology, why should it too not change status and move from the "No Man's Land" (*HWP*$_3$, p. 13), to which it is currently consigned, to the elevated plateau of an exact science?[11] At this point a second reason suggests itself for Russell's reluctance to apply the philosophical method to the discipline of education; namely, that its premisses are normative in nature, and Russell is sceptical about the relationship between normative propositions and knowledge. Yet, this point tends to be exaggerated by those who wish to deny the very question which is at issue here, namely whether or not there is a conceptual relationship between Russell's philosophy and his educational thought.[12]

After all, Russell advocates normative positions with considerable ardour on the basis of as scientific an understanding of human affairs as is currently possible. For example, in the Preface to *Principles of Social Reconstruction* he makes the claim that impulse has a greater effect "in moulding men's lives" than "conscious purpose". Clearly drawing upon advances in psychoanalytic approaches to psychology, a discipline whose scientific status was still very much in question, Russell recognizes the implications for education of the need to enhance "creative" rather than "possessive" impulses, even going so far as to state that: "Liberation of creativeness ought to be the principle of reform" (*PSR*, p. 6). In order for such creativeness to flourish, Russell proposes a principle that applies not only to education but to all human relationships, namely that of "reverence". In the context of education, the adult teacher must approach the child with an "unaccountable humility" towards what is

[11] Woodhouse, "Science as Method", pp. 156–7. Russell's conception of the philosophical method differs quite drastically from that of Whitehead, who, following the new physics, emphasizes indeterminacy, relationship, and the process of becoming that typifies the universe as a whole; see Woodhouse, "Russell and Whitehead on the Process of Growth in Education", pp. 140–2.

[12] Woodhouse, "Science as Method", pp. 159–60. Among those who deny the relationship between Russell's philosophy and his social, political, and educational thought is J. G. Slater, "The Philosophy of Bertrand Russell", in J. E. Thomas and K. Blackwell, eds., *Russell in Review* (Toronto: Samuel Stevens, Hakkert, 1976), pp. 138, 140–2. However, Slater does concede that, while "ethics and politics ... fall outside the pale", Russell applied the philosophical method with some success both to "empirical knowledge" and to "many metaphysical questions", including philosophical psychology (Slater, "Russell's Conception of Philosophy", *Russell*, n.s. 8 [1988]: 171, 173).

"sacred, indefinable, unlimited ... individual and strangely precious". For only then can she or he enhance "the growing principle of life" (*PSR*, p. 147) from which all the child's creative impulses grow.

In other words, Russell does not hold back from making normative judgments on the basis of available evidence about the healthy growth and development of human beings even when it comes from a discipline like psychology that has yet to attain the status of a science. In doing so, he is not abdicating rationality but simply making judgments on the basis of the available evidence. By giving expression to "strong enthusiasms", Russell tries to persuade those of us who will listen that certain values should be realized and are worth struggling for. These include freedom of expression, tolerance, the growth of creative impulses, peaceful relations among nations, and the enhancement of open-mindedness. While his general philosophical position may have been sceptical of the ultimate justification of ethical propositions, Russell nevertheless thought it reasonable to express those values which he thought would improve the lives of humankind.[13] If this is a paradox, it is one which Russell embraced throughout most of his life.

The third characteristic of Russell's philosophical method emphasized by Hager is that analysis leads to premisses that are less self-evident than their logical consequences. This, as was pointed out, is the price to be paid for the fact that they are composed solely of logically simple propositions that are precise but highly abstract. The simplicity, elegance, and generality of such propositions (e.g. Maxwell's equations in electrodynamics) makes them difficult to comprehend. Fortunately, their consequences are revealed by means of the synthetic mode of Russell's method, which gives rise to the more familiar findings of everyday life (e.g. that electricity makes possible the lighting of a house). The use of Russell's philosophical method thereby yields a deductive system of knowledge comprising logically simple, "abstract, precise, dubitable premisses" from which can be derived "more complex, relatively concrete, common, indubitable results" (Hager, p. 164). Potentially, this method gives rise to a deductive system of knowledge in any discipline

[13] See B. Mattai, "Education and the Emotions: the Relevance of the Russellian Perspective", *Russell*, n.s. 10 (1990): 141–57. On the importance of tolerance and open-mindedness, see W. Hare, *In Defence of Open-Mindedness* (Kingston and Montreal: McGill–Queen's U.P., 1985).

in search of exactitude.

Why, then, should the philosophical method not be applied to education? After all, here, too, an abstract set of premisses (such as the causal laws of behaviour underlying the methodological behaviourism espoused by Russell in *The Analysis of Mind*) are far more difficult to comprehend than the logical consequences of those laws (e.g. the classical conditioning which Russell used in acquainting his son John with the sea, as described in *On Education*). On the one hand, these psychological causal laws are far less precise than the laws of physics, but in time may be reducible to physical laws given that the same "neutral stuff" (sensations) underlies both mind and matter (*AMi*, pp. 139, 301–5). On the other hand, the results of such laws can be comprehended quite readily in terms of the techniques of classical conditioning that Russell used upon John (*OE*, pp. 77, 88–9), and which other parents reading the book may wish to emulate.[14] They are best understood, however, as derived from logically simple principles about human behaviour which Russell arrived at by using his philosophical method upon the "data" provided by the disciplines of both psychology and education (*AMi*, pp. 32–9; *MPD*, p. 133).

These arguments in favour of Russell's philosophical method as the basis of both his philosophy and educational thought cast serious doubts on Hager's own case. For example, he asserts that if Russell had used his philosophical method in his educational writings, "the focus should be on the 'results' as the raw material for philosophical analysis" (Hager, p. 165). As I have pointed out, this is precisely what Russell was doing when he analyzed the role of the teacher, and when he later advocated the use of classical conditioning in the education of children. Second, Hager claims that had Russell employed the same method in both sets of writings, progress in philosophy of education would comprise "taking the

[14] The purpose of *On Education* was to "give common sense" advice "to parents as ignorant as I when I first became a parent" (Russell to John Dewey, 15 June 1926, copy in RA REC. ACQ. 217). Russell wrote to Dewey, agreeing with his review of the book published as "A Key to the New World", *New Republic*, 19 May 1926, pp. 410–11. Katharine Tait suggests that Russell moved away from common sense in both his theory and practice of education at this time because he became "... mesmerized by the authorities ... of that early behaviourism whose clockwork efficiency embittered the infancy of so many of my generation" (*My Father, Bertrand Russell* [New York: Harcourt Brace Jovanovich, 1975], pp. 61, 59).

fundamental aims and principles for education (the current premisses), and by analysis, arriving at a new set of premisses from which these current premisses can be deduced as results." Once again, I have suggested that Russell's theory of impulse in *Principles of Social Reconstruction* was just such an attempt to reach a new set of premisses about the foundations of human action from which the current set of premisses about war and education could be derived. These new premisses enabled Russell to show more precisely how conventional theories about both the causes of war and the pedagogical relationship went wrong (*PSR*, Chaps. 3 and 5).

The third reason given by Hager for disputing the claim that the philosophical method constitutes a link between philosophy and educational thought is that Russell "believed, I think rightly, that he never attempted" to arrive at such premisses by means of the philosophical method (p. 165). In order to make this claim, Hager overlooks those passages in the essay "Philosophy and Politics" where Russell did argue for the philosophical method being shared by both his own approach to philosophy (empiricism) and liberal democratic thought. Russell states quite clearly that: "The only philosophy that affords a theoretical justification of democracy, and that accords with democracy in its temper of mind, is empiricism" (*UE*, p. 25). By this he means that the link between empiricism and democracy is both "theoretical," or conceptual, and psychological ("accords with democracy in its temper of mind"). The democratic frame of mind is not only compatible with empiricist philosophy, but actually employs the same method. Russell makes this point quite clear when emphasizing the same link between liberalism and science:

> The essence of the Liberal outlook lies not in *what* opinions are held, but in *how* they are held: instead of being held dogmatically, they are held tentatively, and with a consciousness that new evidence may at any moment lead to their abandonment.
>
> This is the way in which they are held in science, as opposed to the way in which they are held in theology. (*UE*, p. 27)

Here, the same method of arriving at opinions is shared by liberalism and science. Both of them reach conclusions in a tentative manner, thereby allowing for new evidence that may require a change in opinion. This method of requiring open-mindedness towards new evidence dif-

ferentiates both liberalism and science from theology, which is more dogmatic in its approach. Lest there be any doubt about the significance of these claims, Russell concludes that:

> Science is empirical, tentative, and undogmatic; all immutable dogma is unscientific. The scientific outlook, accordingly, is the intellectual counterpart of what is, in the practical sphere, the outlook of Liberalism. (*UE*, p. 28)

For Russell, the empirical, tentative, and undogmatic method of science is the counterpart in the intellectual sphere of liberalism's undogmatic approach to political issues in the practical sphere. The connection between empiricism, liberalism, and democracy lies in their ability to weigh evidence in an impartial manner and in the tolerance for different opinions which the scientific method promotes.[15] There is far more than just a psychological connection involved here. Rather, the "theoretical" connection is a method for dealing with problems in an open-minded manner which empiricist philosophy, science, democracy, and liberalism all promote.

These interpretations support the claim that the link between Russell's philosophy and his educational thought lies in the analytic/synthetic method used in both. And this for three reasons. First, the open-mindedness, impartiality, and scepticism enhanced by using the scientific method are the very characteristics Russell wishes to develop in education (*PIC*, pp. 242–8).[16] Second, these same abilities are also developed by means of the philosophical method in searching for alternative premisses to those that are currently accepted, whether in mathematics, physics, psychology, politics or education. Third, Russell's philosophical method encourages scepticism in the synthetic phase when those using it proceed from the alternative premisses already enunciated to further implications awaiting fresh insight. While Russell's philosophical

[15] This is consistent with Russell's view that the philosophical method enables one to take into account advances made in empirical science (*MPD*, p. 230). However, for alternative accounts emphasizing the *a priori* nature of Russell's reasoning with regard to the foundations of political thought, see H. Parris, "The Political Thought of Bertrand Russell", *Durham University Review*, 28 (1965–66): 89, and L. Greenspan, *The Incompatible Prophecies: an Essay on Science and Liberty in the Political Writings of Bertrand Russell* (Oakville, Ont.: Mosaic P., 1975), p. 14.

[16] K. Tait, "Portrait of the Philosopher as Father", *Russell*, n.s. 2 (1982): 22.

method was far more advanced in the exact discipline of mathematics, he nevertheless used it in education in an attempt to make it more precise.

3. CONCLUSION

If one reads Russell's educational thought with a relatively open mind, it becomes clear that he is attempting to gain a fuller understanding of the theory and practice of education by using the same philosophical method as he used to great effect with regard to the *a priori* sciences of logic and mathematics, the empirical science of physics, and the potential science of psychology. In order to appreciate this fact, however, the reader must move beyond those statements of Russell's where he denies such a possibility, and engage in a close, careful, and exact reading of both the premisses and consequences of his philosophy of education. While this interpretation may itself be tentative and hypothetical, it certainly raises questions that otherwise remain hidden in the "No Man's Land" of Russell's educational thought. The fact that Russell may not have succeeded in transforming education into a science may be less a matter of his not having tried than of the indeterminate nature of its problems, the inexactitude of its methods, and the normative nature of its premisses: characteristics which continue to puzzle educational researchers today.[17]

[17] J. Keeves, "The Unity of Educational Research", *Interchange*, 19, no. 2 (1988): 14–30.