Review

How the Cold War Transformed Philosophy of Science - To the Icy Slopes of Logic. By G. Reisch. Cambridge University Press, 2005. Pp. xiv+418

Review Author: Steve Meyer, New York (smeyer@tdl.com)

This book is mis-titled. A much better title would be *Don't Expect Philosophers of Science to be Good Administrators.* George Reisch presents the following argument:

1. Vienna Circle logical empiricism moved to the US in the form of the the unity of science movement. 'The discipline of philosophy of science they [Vienna Circle emigrants] helped to cultivate in North America no longer holds the unity of science among it core issues and concerns' (p. 8, also p. 3).

2. The unity of science movement died out in the United States because of Cold War anti-communism and McCarthyism and [American philosophy of science] has evolved into 'a very different form it takes today' (p. 2).

The argument is incorrect to the point of being nonsense. Doctor Reisch seems to view philosophy of science as being too difficult for American philosophers ('The Icy Slope of Logic' in the book's subtitle). Since Reisch is unable to understand critical rationalism, he advocates turning philosophy of science into a postmodern communal social process based on 'unity' and devoid of objective knowledge. This review uses the rhetorical style arguments of Vienna Circle successor and mid 20th Century philosopher Paul Feyerabend.[1]

After an introductory chapter, Reisch begins the development of his argument in chapter 2 by introducing philosophers of science whom Reisch classifies as political. The title of chapter 2 is: "Otto Neurath, Charles Morris, Rudolf Carnap, and Philipp Frank: Political Philosophers of Science". To Reisch, political seems to mean left wing in the sense that there existed a McCarthy

1. For an example of Feyerabend's style see his reply to Gellners's Review of *Against Method* in *British Journal for the Philosophy of Science*, Vol. 27, No. 4 (Dec. 1976), 381-391.

era FBI file. As I read the second chapter, Reisch is implying that Herbert Feigl, who was probably the most important US Vienna Circle emigrant, was not part of the Vienna Circle and not an advocate of the unity of science movement because he was mostly apolitical. Rudolf Carnap is political because he was a target of an FBI investigation. Since Carnap was liberal but mostly apolitical in the US, the reason for the FBI file is probably that Carnap taught at UCLA which is near Hollywood and its McCarthy era FBI targets. Reisch makes a logical mistake by confusing co-temporal occurrence with causation. This book is filled with exactly this type of mistake.

The next fourteen chapters (3-16) document the interaction of American philosophers with the Vienna Circle emigrants. The chapters are organized using the FBI classification of different hues of left wing politics. For example, the title of chapter five is: "Red Philosophy of Science: Blumberg, Malisoff, Somerville, and Early Philosophy of Science". Reisch seems to accept the FBI definitions (from some 1950s FBI briefing documents?) and their associated color charts defining hues of redness.

Chapter 12 titled "A Very Fertile Field for Investigation - Anticollectivism and Anticommunism in Popular and Academic Culture" discusses academics who were not classified as left wing by the FBI. Reisch seems unable to comprehend that human beings can discuss technical issues in the philosophy of science (and science) while also participating in politics as concerned intellectuals and citizens. Reisch's discussion of Friedrich Hayek is particularly weak because Hayek would be classified as left wing and indistinguishable from a communist by current Neo-con dogma (pp. 235-240). In the philosophical area, Hayek eloquently criticized the possibility of economic central planning (and Reisch's philosophy of science as a social process), but advocated state provided health care, welfare and the rule of law. Although, Neo-cons would agree with Hayek's, in my view, irrational opposition to labor unions. [2]

Chapters 13-17 use the language of failure (’decline’, ’marginalization’, ’disunity’, ’out of step’, etc.) to describe the aging of Vienna Circle emigrant philosophers of science. Chapter 17 begins with Reisch’s imagined horrible death of the unity of science movement and discusses well known Cold War academic developments such as the rise of the Rand Corporation (pp. 349-353). None of the Cold War discussion is new, and it is not specific to the philosophy of science.

Reisch has not grasped that a new generation of philosophers emerged after World War II. The Vienna Circle successors in the US and also in Great Britain continued to focus on the exact same philosophical questions asked by the Vienna Circle but discovered new theories and arguments that, if anything, unified science to a degree not imagined by the original Vienna Circle. Criticism and defense of logic and method particularly flowered in the work of the Vienna Circle successors: Imre Lakatos, Paul Feyerabend and Thomas Kuhn.[3]

One way to understand the problem with Reisch’s argument is to view the argument as falling into a trap anticipated by Lakatos in his famous paraphrase of Kant: ’Philosophy of science without history of science is blind; history of science without philosophy of science is empty.’[4] Reisch’s argument is blind because he does not discuss the varied Vienna Circle viewpoints and logical arguments but instead conflates Vienna Circle logical empiricism with the unity of science institutional activity. Reisch’s historical imagined disappearance of Vienna Circle influence in the US is empty because Reisch defends an external political explanation of

---

2. See Doherty, B. *Radicals for Capitalism*, Perseus Books, 2007, p. 107. See chapter 2 especially, pp. 98-108 for a good discussion of the Vienna social science critics of logical empiricism. Also see Hayek’s discussion of his connection to the Vienna Circle in Hayek, F. (Kresge, S. and Wenar, L. eds.) *Hayek on Hayek.* University of Chicago Press, 1994, pp. 49-51.

3. It is possible to argue that Lakatos, Feyerabend and Kuhn were consciously cooperating to defend rationalism as modern successors to the Vienna Circle. Following Neurath’s analogy, the three philosophers different philosophical positions can be understood as three carpenters constructing the same building. A reference is: Meyer, S. *Proposal to Teach Lakatos-Feyerabend-Kuhn Philosophy of Science.*, unpublished, 2004 (url www.tdl.com/~smeyer/docs/lfk-essay-dec22.pdf). Also cas-lfk-talk.pdf at the same URL for the visual slides.

4. Lakatos, I. *Philosophical Papers Vol. 1*, p. 102.

history instead of studying the internal Vienna Circle logical empiricism research programme.

A simple example of Reisch's mistake is shown by the evolution of the Vienna Circle's *Erkenntnis* journal as it and the Vienna Circle members emigrated from Austria and Germany. By 1940, *Erkenntnis* was published by the University of Chicago Press in English. It is indistinguishable in appearance and editorial content from any post World War II English language philosophy journal, but the themes are the same as those that appeared in the previous editions printed in 1930s Germany.

To save the reader's time, one can skip chapters 3-16 unless one is interested in reading 300 pages that document in excruciating detail that philosophers are not good administrators and that emeritus professors become less skillful as they age. I do not understand why Reisch did not compare the normal funding problems, scholarly article and book title change disagreements and academic migrations that occurred in philosophy of science with similar problems that continually occur in other academic disciplines.

In fact, philosophy of science was one of the academic areas least effected by the Cold War. For example, many physicists were barred from academic departments (most notably Feyerabend's Bristol colleague David Bohm) and those who were not barred were employed as physicists working for weapons labs. After high energy physicist Pierre Noyes was able to move from the Lawrence Livermore weapons laboratory to Stanford, he was able to work on philosophy of science and eventually published a book calling for a Kuhnian revolution in physics.[5]

Chapter 17 "Values, Axioms and the Icy Slope of Logic" continues Reisch's argument by discussing apolitical Herbert Feigl's and Hans Reichenbach's inability, in Reisch's view, to save the unity of science movement. I think Reisch is claiming that Vienna Circle logical empiricism

5. Noyes, P. and van den Berg, J. (ed.) *Bit-String Physics: A Finite and Discrete Approach to Natural Philosophy.* World Scientific, 2001.

was replaced by an 'icy' debate over hard, cold and objective logic.[6] In reality, the Vienna Circle advocated and discovered hard cold logical theories. Kurt Goedel's logic may be the most important contribution to critical rationality of all time. Neurath's criticism of Popper, based on defending the Vienna Circle criticism of metaphysics, is hard cold logic at its best.[7] Although, Popper's falsificationism has proven to be an equally important contribution to hard cold logic.

The problem with some modern American philosophy of science is that it rejects objective knowledge and attempts to replace it with pluralism.[8] Chapter 14 is titled "Competing Programs for Postwar Philosophy of Science". Reisch completely misunderstands the "unity of science" idea. Vienna and especially the Vienna Circle members were under extreme political pressure that culminated in the murder of Moritz Schlick in June 1936. The unity of science movement and the related conferences and envisaged encyclopedia were the Vienna Circle's response by means of the creation of the institution of the unity of science movement. Neurath was the institutional leader, but the effort was cooperative. For example, the unity of science conferences were held in anti-fascist countries from 1935 to 1938. World famous philosophers and scientists such as Bertrand Russell and Niels Bohr attended. This allowed contacts to be made so that Austrian academics (not just Vienna Circle members) could find jobs outside of Austria and Germany. It acted as a source of monetary support for oppressed academics and could legitimately pay for travel.

If the threat of fascism had not existed, *Erkenntnis* could have continued as the primary journal of the Vienna Circle. It was popular because of good editing and inclusive refereeing.

---

6. To Reisch's credit, he correctly uses the Vienna Circle's preferred term 'logical empiricism' instead of 'logical positivism'.

7. The word 'Metaphysik' is better translated into English as dogma instead of metaphysics. Dogma was used more often in the Neurath correspondence (Reisch's ONN Otto Neurath Nachlass reference). The English word metaphysics has come to mean something closer to: untestable background knowledge and assumptions.

8. Kellert, S. et. al. (Ed.). *Scientific Pluralism*, Minnesota Studies in the Philosophy of Science, XIX, 2006. Amazingly, not one of its eight contributions defends critical rationalism.

Vienna Circle members published in other journals, but the quality of *Erkenntnis* was higher. Reisch's claim that there was no organizing journal for the unity of science movement after World War II (p. 284) can be explained by the proliferation of many high quality journals for debating the Vienna Circle problems. The International *British Journal for the Philosophy of Science* was (and is) probably the closest in content and style to *Erkenntnis*.[9]

I am particularly upset with Reisch's total mis-characterization of Otto Neurath. Reisch calls Neurath a bully and a dupe who lacked clarity of expression. A few more examples of Reisch's incorrect criticism are: Neurath as a dupe of New York (left wing) intellectuals (pp. 58-59) and Neurath as frustrated in his 'exchange with Horace Kallen' (p. 17). Finally, Reisch has the temerity to claim Neurath's philosophical reputation suffered because Neurath had an aggressive personality and expressed his views with 'less than crystal clarity' (p. 28).

It appears Reisch did not bother reading his own references particularly the Vienna Circle Archive that contains nearly complete Otto Neurath and Moritz Schlick correspondence (see footnote 7 above). Reisch forgets to discuss Karl Popper who was the bridge between the Vienna Circle and its successors in the US (Popper is only mentioned on p. 4). The correspondence and relation between Neurath and Popper shows that Reisch's characterization is incorrect.

The Otto Neurath Nachlass contains 15 letters between Neurath and Karl Popper between July 1934 and August 1936 when Popper leaves Austria for New Zealand. Neurath had already moved to Holland. Popper's book *Logic der Forschung* and its naive falsificationism was encouraged by first Rudolf Carnap and then Otto Neurath.[10] Vienna Circle members encouraged Popper because he was working on exactly their problems, but they disagreed with Popper's

---

9. Even in 1977, John Watkins in a review article attempts to improve Moritz Schlick's solution to the mind body problem by reviewing Schlick's *General Theory of Knowledge*. *British Journal for the Philosophy of Science*, Vol. 28, pp. 369-382, 1977.

9. The ONN archive is organized by folder and letter date. The Popper and Neurath correspondence is in folder 285. In the US, the University of Pittsburgh has a microfiche copy.

theory. Although, each member of the Vienna Circle disagreed for different reasons. Neurath writes to Popper as an older scholar giving encouraging advice to a younger colleague. The tone of the letters is that the unity of science movement is a tent with room for all.

In the first letter Neurath to Popper (dated 27.07.1934), Neurath invites Popper to the 1935 Unity of Science Conference and also to the pre-conference in Prague. This is followed by letters discussing Popper's topic for the conference. Neurath clearly wants Popper to discuss falsificationism from his recent book, but Popper wants to talk on quantum physics. Through the 1935 correspondence as Popper's contribution does not arrive and as Neurath is working on a paper criticizing falsificationism, the letters become a mixture of encouraging Popper to complete his written contribution and criticism of Popper's logic of scientific discovery. There are no battles here, only encouraging criticism and suggestions. In Neurath's 22.1.1935 letter he suggests that he is in agreement with Popper's argument against behavioralism, but it does not apply to other types of psychology. In his 5.7.1935 letter, Neurath asks if Popper disagrees that the sentence 'After 10 January 1933 it will definitely rain' is not falsifiable but still empirical. Neurath even objects to Popper's labeling of Vienna Circle as positivist stating that they avoid the term and are worried that there will be an appearance problem of connecting the Vienna Circle to "metaphysics" (positivism).

After the 1935 Paris Unity of Science Conference starting in December 1935, Neurath becomes concerned with the next unity of science conference in Copenhagen and sends an official invitation (10.6.1936 Neurath to Popper). Neurath's letter of 4.2.1936 introduces the modern criticism of Popper. Namely, Neurath says that Popper lacks any conception of research programmes. Neurath states that Einstein and Planck believed in schools. I read this letter as

---

10. There are conflicting characterizations of Popper's relationship with the Vienna Circle. See Stadler, Friedrich (Ed.) *The Vienna Circle - Studies in the Origin, Development and influence of Logical Empiricism*, Springer Verlag, 1997. Reisch totally mis-characterizes Vienna Circle personalities. Popper states in the section of oral history interviews 'It was Neurath's decency that enabled me to get invited to these [unity of science] conferences' (*Ibid.* p. 489).

Neurath relaying Vienna Circle discussions to Popper.

After the 1936 Unity of Science Conference in Copenhagen and after Schlick's murder, Neurath's starts expressing concern about Popper's finances and career (10.6.1936 letter). Neurath offers some funding for assistance in bibliography preparation. He also suggests to Popper (Neurath as editor of the Unity of Science proceedings) that by not yet sending the written manuscript of his Copenhagen contribution, Popper is giving up the opportunity for publicity. The last letter from Popper (3.8.1936) asks Neurath for contacts in America because he only knows Feigl and Carnap in America.

In the book's final chapter "Professionalism, Power and What Might Have Been", Reisch describes his frightening postmodern vision of what the academic discipline of the philosophy of science should have become. In Reisch's false utopia, academic theories never change - the unity of science movement should have stopped progressing in 1935. The original 1930's Vienna Circle institution should not have been replaced by the modern and improved Vienna Circle successor institutions such as the Minnesota Center for the Philosophy of Science or the Boston Center and it's studies. According to Reisch, American philosophy of science would have been better off if those institutions had not been established.

Reisch seems to think that the end of a movement called "The Unity of Science" means that no rational comparison of scientific research programmes is possible or (see discussion of 'disunity' of science, p. 373) or desirable. He mistakenly assumes correlation implies causation again by assuming if the unity of science movement is wrong, then logic can not be used to study science possibly because the 'icy slope of logic' led to the Cold War's white collar lawlessness. Reisch also uses the term 'logic chopping intellects' (p. 373).

In Chapter 18, Reisch defends and praises irrationality by using the propagandistic language of postmodern irrationality and subjectivism: 'dialectic of political progress' (p. 373),

'metaphysical ontological versions' (p. 374), 'modes of philosophical life' (p. 375), and 'phenomenological subjectivity' (p. 385). Reisch's post modern choice is to replace philosophy of science with 'social philosophy' (also called 'radical pluralism', p. 374). Reisch advocates exactly the metaphysics the Vienna Circle so strongly opposed and disproved. The current attack on philosophy by the religious right and advocates of the dogma of intelligent design have no better friend than Doctor Reisch.[11]

Possibly the most disturbing aspect of Reisch's book is that it advocates exactly the subjectivism that will alienate scientists from philosophy of science. The European scientists who created modern physical sciences were classically trained scholars. Physicists studied in departments of natural philosophy such as Max Planck's department at Humboldt University in Berlin. Vienna Circle philosophers were educated and encouraged by early 20th century scientists. Neurath taught in Berlin at the beginning of the 20th century. Moritz Schlick received his doctorate as a student of Planck, and Philipp Frank was a student of Einstein.

Modern scientists and mathematicians are facing methodological problems that require the prescriptive assistance of philosophers, but if philosophy of science becomes politics, scientists will not receive the methodological help they need. Reisch's view that scientists have lost interest in philosophy of science is incorrect. For example, Nobel Prize winning physicist Steven Weinberg was the keynote speaker at the 2004 PSA meeting. Reisch's claim that the funding for Frank's unity of science institute was terminated because 'there were real concerns that the movement was not making contact with scientists engaged in real, borderland research in areas such as biophysics and biochemistry' (p. 318) is wrong. Nothing could be further from the truth. Frank was a very popular teacher of thermodynamics at Harvard and together with another Rockefeller financed emigrant physicist at Stanford, Felix Bloch, brought American solid state

11. Neurath actually foresaw Reisch's argument. In a letter to Phillip Frank (ONN 28.04.1943) Neurath writes (in English) 'I am astonished to see, that now Phenomenologism enters the USA and other movements, too. What a pity. The world war is metaphyoizing USA ... [Neurath's ellipses]'.

physics up to pre World War II European standards.

Mathematics is in a period of serious crisis and most in need of cooperation with Vienna Circle style logic based philosophy of science because of the need to adjust to digital computers. The most widely used post World War II advanced text book in the philosophy of mathematics edited by Benacerraf and Putnam contained reprints of classical papers. The papers are no more than reprints and continuations of the the Vienna Circle debates using the same problem shifts and language. Rudolf Carnap's 1931 *Erkenntnis* essay was selected to give the argument for "The Logicist Foundations of Mathematics."[12]

Meta-mathematics has become purely philosophical and mathematicians routinely publish in philosophical journals. For example, the philosophical continuum hypothesis problem is one of the most important modern problems. Goedel's Benacerraf book contribution "What is Cantor's Continuum Problem" (*Ibid.* pp. 258-273) discusses the current central question in meta-mathematics. A recent Clay Institute lecture on computational complexity was based on a 1950's Goedel letter to Von Neuman.

I find Reisch's book particularly disturbing because it is being used to remove discussions of objective knowledge and the unity of science from academic discourse. It's advocacy of metaphysical social processes in the guise of offering a defense (really a straw man defense) of the Vienna circle provides justification for the prevention of publication of philosophical arguments that are not accepted by the current academic establishment.

---

12. Benacerraf, P. and Putnam, H. *Philosophy of Mathematics - Selected Reading*, Prentice Hall, 1964 (revised edition 1984). The Carnap *Erkenntnis* essay appeared in vol. 2(1931), pp. 31-41.