

## Philosophy of science breaks out... Timelines

### Ernan McMullin

#### Feigl and Minnesota:

1930: The Rockefeller Foundation awards a fellowship to Herbert Feigl, a highly regarded younger member of the Vienna Circle, to enable him spend a year at Harvard where he interacts with Quine and Bridgman. At the end of the year, he decides to emigrate to the US and is appointed to the philosophy department at Iowa in 1931, making him the first member of the Vienna Circle to gain a faculty position at an American university.

1934: Feigl is one of those active in the founding of the journal *Philosophy of Science*. The first articles in its first issue are by Carnap and Feigl, making it clear that the new approach is already becoming an energizing influence in American philosophy of science. Feigl is insistent that it should be called logical empiricism, to differentiate it from the older logical positivism of Comte.

1940: Appointed professor of philosophy at the University of Minnesota

1946: Joined at Minnesota by Wilfrid Sellars whom Feigl had known at Iowa where Sellars had his first appointment.

1950: Feigl and Sellars found *Philosophical Studies*, the first journal in what was coming to be called “analytic philosophy”.

1953: Feigl and May Brodbeck publish their influential *Readings in the Philosophy of Science*

1953: Institute for Advanced Studies in Princeton sponsors a conference on the new agenda for the philosophy of science: explanation, reduction, physicalism, the relation of observation language to theoretical language... Attending: Feigl, Sellars, Carnap, Hempel, Nagel, Putnam, Scriven...

1953: Feigl, Sellars, chair of the Department of Philosophy, and Paul Meehl, chair of the Department of Psychology, serve as Executive Committee for the newly founded Minnesota Center for Philosophy of Science, with Feigl as Director.

1954-6: Major conferences at Princeton, Minnesota, Los Angeles, involving more or less the same participants as the Princeton conference in 1953, with others joining.

1956: Publication of the first volume of *Minnesota Studies in the Philosophy of Science*, entitled: *The Foundations of Science and the Concepts of Psychology and Psychoanalysis*, edited by Feigl and Scriven. The introduction explains: “The Center has so far been devoted largely, but not exclusively, to the philosophical, logical, and methodological problems of psychology.” All of the papers are said to have developed from the Center discussions since 1953. Notable papers: Feigl: “Issues and developments of the philosophy of science of logical empiricism”; Sellars: “Empiricism and the philosophy of mind”.

1956: Seven one-day conferences in Fall semester. Topics: geometry; variables, time, dispositions, identity. Grunbaum: visiting professor.

1957: Conference on the philosophical foundations of physics. Visitors in Fall semester: Putnam, Mehlberg, Feyerabend, Hempel, Nagel.

1958: Publication of *Minnesota Studies*, volume two: *Concepts, Theories, and the Mind-*

*Body Problem*. Notable articles: Hempel: “The theoretician’s dilemma”; Feigl: “The ‘mental’ and the ‘physical’” (128 pages!). Sellars leaves for Yale.

1959: Hanson, visiting professor, Spring. Visitors: Putnam, Yourgrau, Rozeboom. Conference on ethics, with Baier, Donagan, Feyerabend, Meehl, Sellars, Scriven, Feigl, Maxwell, and others.

1962: Publication of *Minnesota Studies* volume 3: *Scientific Explanation, Space, and Time*. Articles: Maxwell: “The ontological status of theoretical entities”; Feyerabend: “Explanation, reduction, and empiricism”; Hempel: “Deductive-nomological vs statistical explanation”; Scriven: “Explanation, prediction, and laws”; Sellars: “Time and the world order”; Grunbaum: Geometry, chronometry, and empiricism”; Putnam: “The analytic and the synthetic”.

1970: *Minnesota Studies*, volume 5: *Historical and Philosophical Perspectives of Science*, edited by Roger Stuewer. First appearance of history of science in the series.

1972: A separate Program in History of Science at Minnesota with Stuewer and Shapiro.

### Funding of Philosophy of Science at the NSF

1953: Philipp Frank lectures on the philosophy of physics at NSF invited by the Director, Alan Waterman and urges support for HPS.

1954: Report on the utility of the social sciences recommends modest support for four areas of the social sciences by 1956, History and Philosophy of Science being the only one mentioned by name.

1955: Major conference at NSF to discuss funding needs. Henry Margenau speaks for Philosophy of Science, I. B. Cohen for History of Science, and Bernard Barber (whose *Science and the Social Order* had just appeared) for Sociology of Science. Cohen notes that there are already five Programs in History of Science in the US (Brown, Cornell, Harvard, Johns Hopkins, Wisconsin), all needing research support. Margenau deplores the lack of support at the university level for philosophy of science. Herbert Dingle (London) dismisses the suggestion that HPS could be of value to policy makers.

1955: Advisory Panels established for two areas: Anthropology and Related Sciences, and History, Philosophy and Sociology of Science

1955-7: First research grants (‘fellowships’) to philosophers of science: Frank, Grunbaum, Margenau, Feigl; first postdoc. to McMullin.

1957: Establishment of Social Science Research Program, with a single Advisory Panel and four sub-divisions: anthropology, economics, sociology, history, philosophy and sociology of science. 1% of NSF budget to the Social Science Program.

1958: The National Science Board appoints a four-person committee, chaired by Fr. Theodore Hesburgh of the University of Notre Dame, to recommend on appropriate level of funding of the social sciences at NSF, as well as on the scope of the social sciences to be covered. Committee deadlocked; decision deferred to the full NSB. Announcement of fellowship programs; history and philosophy (but not sociology) of science included. 9% of the Social Science budget to HPS; anthropology by far the major recipient (53%).

1966: Funding of HPS at its height: \$1,023,000. Diminishes steadily after that as new areas of social science are added. Receives only 4% of Social Science funding in 1975.

1981: The White House proposes to eliminate HPS funding; Congress restores it

*Philosophy of Science at Section L of the annual AAAS meetings*

The annual week-long meeting of the American Association for the Advancement of Science is aimed at members of the public who are interested in science-related matters. It draws science journalists from all over the world. Section L of the meeting has been allotted to History and Philosophy of Science at least since 1924, when the History of Science Society was founded.

1956: Slender offerings in HPS: Two broad symposia: Science and ethics; Measurement.

1957: Again, slender: Science and ethics (Margenau, Leake, Rudner); small sessions for contributed papers in HS and PS. New Society added: General Systems Research.

1958: Vice-Pres. Address by Carl Boyer; three sessions in HS, none in PS.

1959: Minnesota takes over! AAAS allows Section L to feature a meticulously-planned large-scale conference in the philosophy of science, with twenty-one main speakers, a respondent to each, and a response by the speaker. The Vice-Presidential Address is delivered by Feigl: "Philosophical tangents of science". The proceedings appear in 1961 as: *Current Issues in the Philosophy of Science*, edited by Feigl and Maxwell. The Preface notes that the work that resulted in this collection of papers was in part carried out at the Minnesota Center for the Philosophy of Science... especially that of Feyerabend, Grunbaum, Hanson, Mehlberg, Rozeboom, Sellars, Yourgrau, Feigl, and Maxwell (12 of the 21 papers).

1960: Mainly devoted to HS, including the first Sarton Memorial Lecture (Rene Dubos). Only one PS session: Simplicity as a criterion of scientific theory (Bunge, Barker, Ackermann, Goodman). A further added Society: History of Technology.

1961: Following up on the success of the 1959 PS conference, a large-scale conference with the same format (speaker and multiple discussants) . Vice-Presidential address: Hanson: "Scientists and logicians: A confrontation". Among the 16 papers: Feyerabend: "How to be a good empiricist"; Scriven: "A workable concept of causation"; Woodruff: "Philosophical aspects of quantum field theory"; Putnam: "Brains and behavior"; Feigl: "Reduction of psychology to physiology?"; Rudner: "Problems in the logic of sociological theory"; Donagan: "The Popper-Hempel thesis"; Dray: "Causal judgment in history". An informal meeting of the philosophers of science attending in Denver discussed the merits of having a conference of this sort independently of the AAAS every two years under the auspices of the PSA.

1962: Vice-Presidential Address: Gerald Holton: "The three types of scientific hypothesis". No papers in PS.

1963: Once again, a full-scale PS conference: Vice-Presidential Address: Grunbaum: "The bearing of philosophy on the history of science". 16 papers plus discussants. Among them: Feyerabend: "Methods for progress" (discussants: Kuhn, Hanson, Cohen, Shapere); Maxwell: "Criteria of meaning and demarcation" (discussants: Buck, Feyerabend, McMullin, Shapere); Sellars: "Induction as vindication"; Kemeny: "Analyticity vs fuzziness".

1964: Extended HS conference. Presidential Address: Marshall Clagett. No PS papers.

1965: Sarton Lecture: Stillman Drake: "The Accademia dei Lincei". No sessions on PS.

*The "annus mirabilis" of 1960*

Three “Centers” erupt all at once: the Boston Center for Philosophy of Science, the Pittsburgh Center for Philosophy of Science, and the Indiana Center for the History and Philosophy of Science. Three new Programs in the History of Science added to the six already in existence. Philosophy and History of science has well and truly broken out!

*International Congresses for Logic, Methodology, and Philosophy of Science*

1928: first International Congress of the History of Science was held in Paris in 1928 and since then, ordinarily, every four years. The first World Congress of Philosophy was held in Paris in 1900 and since then, usually, every five years. One section of the latter Congress has been devoted to Philosophy of Science since the ‘fifties, at least. At the Boston Congress in 1999, (“the largest gathering of philosophers of the twentieth century”), only one of thirteen sections is devoted to PS. 260 papers published later in 12 volumes. It has a limited appeal for US philosophers of science generally.

1949: The first Congress of the International Union for the Philosophy of Science (IUPS) is held in Paris, the second in Zurich in 1954 (Feigl and Margenau attending). Some prominent logicians, including Tarski, Church, and Feys, see in the IUPS the possibility of an international forum for their own field, by linking logic with the philosophy of science. ICSU is insistent that the IUPS (now including logic) has to join with History of Science (already a member of ICSU). Logicians and the historians are unwilling but are eventually forced to concede, leading to the founding of an International Union of History and Philosophy of Science (IUHPS), with two divisions: the Division of Logic, Methodology, and Philosophy of Science (DLMPS) and the Division of History of Science (DHS).

1960: The first Congress of Logic, Methodology, and Philosophy of Science is held at the Stanford University, with Patrick Suppes (Stanford) and Alfred Tarski (Berkeley) as the main organizers. 11 sections, three of them in “mathematical logic”.

1961-1964: Sponsored DLMPS conferences at Wesleyan, Stanford, Warsaw, Zurich, Helsinki, Paris, Berkeley, Oxford, Bristol.

1967: Third Congress (Amsterdam). At the General Assembly of delegates from the different countries, there was a good deal of disagreement as to how close the association with the Division of HS should be (e.g. timing the two Congresses to be in the same year in reasonably nearby cities). The US delegation, appointed by and funded through, the National Academy of Sciences, consisted of four logicians and one philosopher of science. The logicians oppose such association, the philosopher of science backs it. The European delegations lean towards association and the vote went their way. The later Congresses have tended to divide into two more or less separate programs: Logic and Philosophy of the Sciences.

2011: The next (Fourteenth) Congress will be in Nancy, France in July 2011.

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