

Historiography of Modern Psychology

Aims · Resources · Approaches

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Toward a Critical Historiography of Psychology

with an Appendix on Resources for Funding

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Toward a Critical Historiography

Historiography refers to the writing of history, to methods of gathering evidence and arranging it into an objective and meaningful pattern. Traditionally, historiography has taken one of three forms. To the beginning student, historiography has involved practical methods for the pursuit of historical evidence and the recasting of it into narrative form. To the advanced undergraduate or graduate student, historiography has meant the historian's craft by examples drawn from antiquity to the present. To the philosopher of science and psychohistorian, historiography has comprised a reconstruction of how the events might have unfolded according to one or another idealized view of progress or development.

A revised definition of historiography will be offered here.¹ Although this definition contains aspects of the traditional three forms, it has more to do with thinking than writing, with process than content, with the quest for what really happened than with what ought to have happened. Historiography, as defined here, places emphasis on the growth of critical thinking, both in the disciplines and in the student of them. For instance, critical history as a discipline is found to be a relatively recent innovation dating from the Enlightenment; though containing many antecedents such as biography, prosopography, travelogue, genealogy, and literary narrative. Critical history has been reformulated by historians of science

in this century on the basis of potential sources of bias to be overcome. Most recently, critical history has taken on the social role of clarifying the objectives and values of science in a society newly cognizant of women, minorities, the environment, technology, and ethics.

Since critical history already exists within the history of science, the chief burden of this essay is to extend it to the history of psychology. More than this, the goal is to demonstrate the growth of critical thinking in a manner useful to the individual approaching the field for the first time. Critical historiography of psychology on this individual level involves both art and science.² The art is the craft of research and writing, a disciplined endeavour which has all too often been left to chance. It is the developed ability to define one's own interests in relation to an actual historical episode. The art includes specific skills in using reference sources, combining secondary literature with primary data, and finding the appropriate outlet for scholarship in the journals. The science of critical historiography begins with the pedagogy which underlies the teaching-learning process, a synthesis of cognitive and moral developmental, group dynamic, and human potential psychology. The science is further the methods, involving eclectic means of gathering evidence, making allowances for bias in one's hypotheses, and drawing conclusions from both quantitative and qualitative data. The science is finally the subject matter itself, experimental and clinical psychology, which the historian must command to an extent adequate to his historical topic. Seen as a judicious combination of art and science, the critical history of psychology has a significant role to play in bridging the gulf between history and psychology and between past and present in our culture.

The Recent Evolution of Historical Thinking

Historical thinking is not very different from any other form of intellectual work. In principle, it breaks down into two parts or phases: historical method, or analysis of sources, and historiography, or synthesis and writing. Data collection, in other words, leads to presentation of results and conclusions. In practice, the term "historiography" has come to be applied to both parts, analysis and synthesis. The major difference in comparison with other modes of scholarship, such as literary criticism or experimental science, is the chronological factor. Whereas *ars* (art) and *scientia* (science) have come to be employed for imaginative and systematic accounts of natural phenomena in non-chronological sequence, *historia*

(history) has retained the meaning of "story" of human events in chronological order.³

The evolution of historical thinking, like psychology, is reputed to have a long past and a short history. Thucydides, the Greek historian in the fifth century B. C., told how he attempted to achieve verisimilitude by putting speeches into the mouths of personages in the Peloponnesian Wars. Ibn Khaldun, the Islamic historian in the fourteenth century, related how he journeyed through the Middle East collecting documents. Yet historical thinking has come of age as a critical process, a process of self-conscious application of method and creative imagination, only in the past three hundred years.

In the eighteenth century, philosopher-historians such as Hume, Leibniz, Voltaire, and Condorcet gave voice to a common Enlightenment theme: the discovery of the unity in civilization and the formulation of rules governing the great events of the past. One purpose, of course, was to defend or justify the "enlightened" civilizations over against their primitive or decadent forbears, e. g., Gibbon's *The Decline and Fall of the Roman Empire*. A more universal purpose is embodied in the very conception of a science of history: "It springs from an outlook that is very new in human experience: the assumption that the study of history is a natural, inevitable kind of human activity."⁴

The deficiencies in the universal approach to history were recognized by historians of the next generation, the Romantic era of the early nineteenth century. The reasoned approach, they argued, is inevitably subservient to a point of view. In this light, the various nationalist historians clearly adopted more or less explicit points of view in defense of their own particular cultural heritage: namely, the Prussian, the Whig, and the French positivist historical traditions.⁵ Several disciplinary byproducts of this development in historical thinking may be noted: the acceptance of history as a subject in the schools, the recognition of history as a cumulative professional activity, the proliferation of kinds of documents and methods, and eventually a tolerance of governments for diverse and even controversial viewpoints, e. g., socialistic, in the case of European Marxism, or progressive, in the case of French nineteenth century and American twentieth century philosophies of history.

⁴ The distinctive feature of historical studies in the twentieth century is the confident pursuit of delimited goals, such as history of women, history of war, history of science, economic history, social history, and so forth.

During a period of popular retrenchment in science at the expense of history, the historical profession has quietly assimilated the methods of the social sciences. Yet the formidable historiographic literature which has appeared continues to acknowledge the singular role of the historian's craft. Professional historians have reflected on technique and style.⁶ College teachers have prepared handy surveys; one such survey emphasizes historical analysis through intellectual, psychosociological, and quantitative history.⁷ Another survey favors historical synthesis by discussing how to use primary and secondary sources, how to read a history book, research techniques, shaping an historical essay, and the qualities of style.⁸ In a book which presents a variety of contemporary methodologies, the editor corrects the popular assumption that historical studies are on the decline: "Is it possible, then, that professional historians are excited by their research, fully confident of its intrinsic worth, and not at all inclined to disparage it, while society as a whole gives less heed to their findings? This, in fact, is precisely the situation of the moment."⁹

History of Science and the Sources of Bias

The application of method in history is hampered by two disadvantages: the incompleteness of the data and the fallibility of the human interpretation of it. While historians are for the most part ready to admit these disadvantages, they have not by and large found it useful to dwell on them. However, the history of science as a discipline has been self-conscious about its methods almost from the start. A distinctive feature of this methodological concern is the explicit identification of six sources of bias – presentist, historicist, internalist, externalist, quantitative and qualitative. Each will be treated below. This preoccupation with the error factor should not be held against historians of science; to the contrary, it should be heighten our confidence that they are centrally interested in achieving objectivity by minimizing subjectivity – a familiar goal to psychologists, and one which has been met in analogous ways by recognition of "experimenter bias" and use of the "double blind experiment".

"Presentism" is the tendency of historians to identify with the winning side, e. g., the liberal reform movements in the Protestant Whig tradition in England, the socialist tradition in Western Europe, and the progressive movement in the American experience – as already noted in the case of the nationalist historians of the nineteenth century.¹⁰ Applied to the history of science, presentism is the assumption that scientific findings approximate

closer and closer to the world which they are intended to describe or explain. The founding fathers in the history of many of the special sciences have inadvertently subscribed to a credo of presentism: George Sarton, *Introduction to the History of Science*, Erik Nordenskiöld *The History of Biology*, John L. Dreyer, *History of Astronomy*, and James R. Partington, *History of Chemistry*. The shortcoming of these classics, from the point of view of scholarship in the past fifty years, is their focus upon "heroes" and "discoveries". The assumption that science progresses should not blind the historian to regressive influences within his subject. Science, we now know, is born of human preconceptions and theoretical systems held over centuries despite evidence to the contrary: witness the Galenic foundation of Harvey's discovery of the circulation of the blood, the mysticism which animated Kepler's description of planetary motion, or the Romantic *Naturphilosophie* of the unity of nature inspiring the discovery of the conservation of energy.

"Historicism" has come to be applied to the opposite of presentism.¹¹ Technically speaking, historicism is the focus on the past to the exclusion of the present. Antiquarian history characterized by irrelevant anecdotes and exhaustive detail illustrates it best. As used by historians of science, historicism has come to denote a praiseworthy goal – the placing of events in a credible context of the times. In a book which influenced several generations of scholars, Herbert Butterfield portrayed the culmination of medieval methods of induction and deduction in the work of Bacon and Descartes. This historicist background set the stage for the account of the seventeenth-century scientific revolution, consisting in a subtle but vastly important shift in the way questions were put to nature through experimental observation and mathematical theory. But even more is involved in an historically authentic account than scientific activity *per se*. I. Bernhard Cohen showed in *Franklin and Newton* that the study of electricity was part of a widespread layman's interest in science. And Thomas Kuhn called attention in *The Structure of Scientific Revolutions* to the way in which institutional settings, world views, and methods combine to produce "paradigms" typical of a certain time and place in the history of a science.

Concurrent with the presentism-historicism dichotomy is another set of biases which seems to run orthogonal to it. "Internalism" refers to the study of the internal development of science – its theories, methods, and data.¹² This more or less exclusive attention to the subject matter of the science itself is not without its merits, and some would argue that it is

propagandistic to any other scientific history. Indeed it is undeniable that the history of science has come of age with a number of internalist histories: e. g., Marshall Clagett, *The Science of Mechanics in the Middle Ages*, E. J. Dijksterhuis, *The Mechanization of the World Picture*, Thomas Kuhn, *The Copernican Revolution*, William Coleman, *Biology in the Nineteenth Century*, Garland Allen, *Life Science in the Twentieth Century*, and Robert Multhauf, *Origins of Chemistry*. Scientists themselves, by virtue of their professional training, are best equipped to do internalist history. Yet the typical historical introductions to science textbooks usually fall short in that they offer only idealized theories, methods, and data rather than actual cases. Scientific review articles, too, miss the essence of internal history in part because they are oblivious to the chronological dimension of the development of a subfield.

If "internal" refers to the ingredients of science, "external" designates the forces which create it – the men, institutions, and social climate.¹³ In most cases, persons with historical training are best equipped to do external history. A breadth of sensitivity to the delicate web of culture, politics, art, and literature is very valuable in this regard. The skill of synthesis of diverse modes of evidence is especially useful here. Classically external is Roger Hahn, *The Anatomy of a Scientific Institution: The Paris Academy of Sciences, 1666–1803*, which adopts a sociological framework to trace the vicissitudes of the leading world center for science for over a century. Another example of external history is Charles Gillispie, *Genesis and Geology*, depicting the procrustean religious forces underlying the reception of evolutionary ideas in geology during the century before Darwin. Not only institutions and social climates but also men's lives lend themselves to external approaches, e. g., Martin Klein, *Paul Ehrenfest*.

Another approach to the history of science is "quantitative". Numbers are one way of reconstructing the past which appears to speak with great cogency. Used judiciously and properly interpreted, a variety of measurement tools can be applied. Exponential growth curves were pioneered by Derek Price in *Science since Babylon* and *Little Science, Big Science*. Subsequently an entire field of the "science of science" has measured publications per individual over time, the number of research articles versus textbook or review article in a subdiscipline, the longevity of scientific ideas, the age at which scientists are most productive, and many other aspects of scientific productivity. This genre has merged on one front with the sociology of science. Diana Crane's book, *Invisible Colleges: Diffusion of Knowledge in Scientific Communities*, exemplifies

the quantitative growth patterns of science in contradistinction to the arts and humanities. Joseph Ben-David compares the number of salaried chairs, the number and kind of scientific academies, types of career, and amount of expenditure on research and development per country in order to determine *The Scientist's Role in Society*.

Eschewing quantitative measurement per se but emulating its scientific rigor are various approaches which we lump together as "qualitative". Qualitative does not mean merely descriptive; rather, as shown by Marshall Clagett, the label "qualitative" may be employed to indicate attention to *Critical Problems in the History of Science*. At one extreme, Frederick L. Holmes' *Claude Bernard and Animal Chemistry* elucidates the working methods of scientists based on laboratory notebooks. At another extreme of qualitative history, Larry Laudan's *Progress and its Problems* brings together the efforts toward "rational reconstruction" of scientific methodology by exponents of the Kuhn and Popper schools. Yet another qualitative approach is psychohistorical: Erik Erikson's *Young Man Luther* spawned a NeoFreudian genre in intellectual biography of which Frank Manual's *A Portrait of Isaac Newton* is a prominent example.

The corrective for bias in historical scholarship is a judicious combination of the above-mentioned approaches: presentism, historicism, internalism, externalism, quantitative, and qualitative. In psychology, the classics were dominated by a presentist viewpoint, e. g., George Sidney Brett, *A History of Psychology* and Edwin G. Boring, *A History of Experimental Psychology*. The internal scope of the history of psychology has been enormously broadened by Leo Postman's *The Making of Psychology*, a collection of reviews of research areas. The external social climate of racism is documented in Robert Guthrie, *Even the Rat was White*. Robert I. Watson has promoted his version of quantitative multidimensional scaling of psychological theories in the fourth edition of *The Great Psychologists*. Qualitative approaches include Robert M. Young's *Mind, Brain, and Adaptation* on methods and theories of cerebral localization, Brian Mackenzie's *The Limits of Behaviourism* on the program of behaviorism and its methodological failure, and Howard Gruber and Paul Barrett, *Darwin on Man*, for a Piagetian psychohistorical approach. The need in the discipline now is for more cross-fertilization between the six approaches. Perhaps the main lesson to remember is that history will never be free of bias, nor should it expect to be; rather than to wait for the ideal "rational" *magnum opus*, historians in general prefer to maintain a pluralistic methodology in which they critically expose the biases of their

predecessors and use this as grist for their own personal reinterpretations of the past.

Some Goals for the History of Psychology

"Should the history of science be rated 'X'?" was the title of an article in *Science* in 1974.¹⁴ The author was Stephen Brush, a physicist-turned-historian whose collected articles on *The Kind of Motion We Call Heat* earned the Pfizer award for the best book published in the history of science in 1976. Brush's historical research on nineteenth century kinetic theory revealed that scientists give more weight to the confirmation of their theories than to "direct experimental tests of hypotheses".¹⁵ He was suggesting therefore, albeit tongue in cheek, that history of science should be banned from college classrooms. As another physicist-historian put it, the student "might discover other ways of regarding the . . . problems, concepts, and standards of solution that his future profession has long since discarded and replaced."¹⁶ History, in other words, would be at best a distraction, at worst a subversive activity.

At the other extreme, one hears it said that the history of science offers "perspective". This view is particularly prevalent among scientists; no less frequent is the remark that historians of science "only do history". The ambivalence contained in this lukewarm acceptance and inadvertent rebuff is symptomatic of the position of the historian among scientists. He is accepted insofar as he serves to advance scientific progress, yet he definitely lacks the credentials to "do science". History is an avocation for senior colleagues, failed scientists, and others who drop out of the research mill for one reason or another. However, prominent historians of psychology, have achieved eminence as scientists before turning to historical writing; among the cases in point are Robert I. Watson, Ernest R. Hilgard, Josef Brožek, and the late Edwin G. Boring.

The recommendation here is neither that history of science be used to undermine science, nor that it be used to support science. A very sensible alternative remains viable. Pursue the history of science for its own merits, as a unifier of diverse disciplines, as a discipline in its own right, as a subspecialty within an established discipline. All three of these proposals are already in operation somewhere. The attractiveness of the interdisciplinary option is indicated by the numerous programs in history and philosophy of science, history and technology, science and humanities, history of science and medicine, and so forth.¹⁷ Graduate

programs in many cases have spawned separate departments for the training of doctoral students in these hybrid disciplines. A direct spin-off for undergraduate instruction are the courses and curriculum opportunities, including minors and majors, in such departments.¹⁸ Many departments have introduced historical or "conceptual foundations" courses of their own – in medicine, the natural sciences, sociology, anthropology, psychology, engineering, history and literature.

The courses now exist. Their goals are worthy of scrutiny and extension to the history of psychology.¹⁹ One goal is to inform students of the impact of science upon society. Science may unquestionably be seen as a social force in its applied fields of technology, education, medicine, and jurisprudence. A second goal is to facilitate student awareness of alternative attitudes toward the application of scientific results, e. g., testtube babies, abortion, recombinant DNA research, and nuclear power and disarmament. A third goal, the mobilization of the public into political activity, may draw upon the knowledge of developments in science, e. g., in reference to the protection of species nearing extinction, animal vivisection, the rights of human subjects, and the cost-benefit of nuclear power. A fourth goal is the foundation of the preceding three: understanding the nature of science (including psychology) for its own sake. Science is an expression of human culture, and the sciences of man in particular are the result of the reflection of man upon himself as an object of nature. Certainly all four goals, application, evaluation, political mobilization, and knowledge, are important to consider in the history of psychology.

Admittedly no one program, much less a single department or individual, can encompass all these goals for the history of science in the university curriculum. The point is precisely this, though. Departmental parochialism must be overcome if the student is to become aware of the seriousness of the historical enterprise for scientists and non-scientists. History of science belongs to the quest for knowledge; its exact disciplinary location depends upon particular institutional resources. Let the student choose, but by all means let us offer a judicious selection of courses or programs integrating science, medicine, history, and the humanities.

Scholarship in the History of Psychology

Robert M. Young surveyed the history of the behavioral sciences in 1966 and found it wanting in standards of scholarship.²⁰ Those textbooks which

he singled out for review were Robert I. Watson, *The Great Psychologists*, L. S. Hearnshaw, *A Short History of British Psychology*, Leo Postman, editor of *The Making of Psychology*, and E. G. Boring, *A History of Experimental Psychology*. The problem with these books, according to Young, was symptomatic of the field at large. They were narrowly focussed on biography (who is buried in whose grave?), on reviews of the literature (what did so and so report about the topic?), and on the origins of "scientific psychology" presented uncritically (chronicling, expositing, story telling). The missing ingredient was an adequate standard of scholarship:

If the history of psychology is to advance beyond being an avocation with very uneven standards, those professional psychologists who would contribute to scholarship must grasp the fact that the standards of historical scholarship are not less rigorous than those of experimental science. In fact, since historians are usually dealing with 'softer' data, the standards must in many ways be higher. They can make significant contributions only if they are prepared to conduct research which thoroughly covers its chosen topic. What are needed are monographs, articles of definite scope and pieces which are concerned with important figures, the historical development of concepts ... and other limited subjects. There should be no more general surveys for some time to come: we have reached the stage where we know enough to know not to write them until we know a great deal more.²¹

Fifteen years after this harsh judgment was made, the time has come to reexamine scholarship in the history of psychology. Is the case against textbooks still valid? Have the requisite detailed studies appeared, so that new general surveys are justified?

Before attempting to assess the state of scholarship, a working definition of terms is in order. Scholarship may be defined very roughly as critical thinking and writing based on the primary sources and informed about the secondary sources and tertiary sources. A primary source is many things: a scientific article or book, an unpublished manuscript or correspondence, an interview with a participant, or even a scientific instrument. A secondary source is an article, monograph, or book with the limited goal of understanding all there is to know about a certain scientific endeavor, historical episode, person's life and thought, institution, or the like.

Often, a new secondary source will reinterpret the primary evidence in a more convincing manner. A tertiary source is a textbook or general reference work; usually these are consulted early, in order to acquire a rapid overview of previous knowledge and a working bibliography. The recent progress in the history of psychology may now be briefly sketched in terms of the growth of each aspect of scholarship – primary, secondary, and tertiary sources.

The difficulty of obtaining primary sources has been ameliorated by several recent developments. Journals have become more accessible through microfilm in cases where libraries do not own a continuous series, e.g., *Science*, *Psychological Review*, *American Journal of Psychology*, *Journal of Abnormal and Social Psychology*, *L'Année psychologique*, *Journal de psychologie*, *Philosophische Studien*, *Zeitschrift für Psychologie*, *Mind*, and the *British Journal of Psychology*. Unpublished materials are increasingly available through university and national archives around the world. In Germany, the *Zentralarchiv der Autografen* in Berlin offers a locating service for scholars seeking information about any archival collection in West Germany.²² For a wealth of information, one may consult *Libraries and Archives in Germany*, *Libraries and Archives in France*, and *Libraries and Archives in Italy*.²³ In Great Britain, one may write to the British Museum or to any of the universities; in France, one should consult the authoritative *Répertoire des bibliothèques et organismes de documentation* (Paris, Bibliothèque nationale, 1971), where the location of collections on certain subjects and individuals is given. For the United States, *A Guide to Manuscript Collections in the History of Psychology* now provides a listing of collections taken from the *National Union Catalogue of Manuscript Collections*, published annually by the Library of Congress since 1959.²⁴ Primary materials also include scientific instruments, catalogues, and other artefacts; these are held both by the Smithsonian Institution and by the Archives for the History of Psychology.²⁵ In the latter archive, located at the University of Akron in Ohio, may be found a carefully catalogued collection of unpublished letters as well as equipment donated by American psychologists. Reprints and collected papers with scholarly introductions have been published for the following contributors to psychology, among others: Franz Brentano, Charles Darwin, Hippolyte Bernheim, William James, Hermann Helmholtz, Wolfgang Köhler, Edwin B. Titchener, Carl Yerkes, Wilhelm Griesinger, Theodor Meynert, Jean Piaget, Carl Jung, Sigmund Freud, and Alfred Adler.²⁶ Finally,

autobiographical essays by contemporary psychologists have appeared in several recent volumes, in addition to the six volume Appleton-Century-Crofts series.²⁷

The secondary literature has also become more accessible as well as more abundant. The most comprehensive approach to this literature is the *Isis Critical Bibliography*, published annually by the History of Science Society and included in a subscription to *Isis*. Under the category "sciences of man" are found articles, books, reprint editions, reference works, and dissertations. For the history of medicine, one may consult *Index Medicus*, and for books in general, the annual supplement to the *National Union Catalogue*. Newsletters with listings of recent publications and work-in-progress are sent to members of the Cheiron Society and of Division 26, History of Psychology, in the American Psychological Association.²⁸ Scholarly journals relevant to history of psychology have proliferated; among the important newer ones are the following (with year of first publication): *Journal of the History of the Behavioral Sciences* (1965), *Studies in the History and Philosophy of Science* (1970) *Journal of the History of Biology* (1968), *Science Studies* (1971) which became *Social Studies of Science* (1975), *Studies in the History of Biology* (1976), *The Journal of Medicine and Philosophy* (1976), *Philosophy of the Social Sciences* (1971), and *Journal of Phenomenological Psychology* (1970). The established journals in this interdisciplinary field are: *Iris* (1913), *British Journal for the History of Science* (1962), *Philosophy of Science* (1934), *Journal of the History of Ideas* (1940), *Journal of the History of Philosophy* (1963), *Philosophy and Phenomenological Research* (1940), *Journal of the History of Medicine and Allied Sciences* (1946), *Medical History* (1957), *Bulletin of the History of Medicine* (1933), *Clio Medica* (1966), and *Sudhoff's Archiv für die Geschichte der Medizin* (1908). In psychology, a number of journals have continued to offer serious historical outlets: *American Psychologist* (1946), *Genetic Psychology Monographs* (1926), *Journal of General Psychology* (1928), *Behaviorism* (1972), *Psychological Bulletin* (1904), *History of Childhood Quarterly* (1973), *Contemporary Psychology* (1956), *Psychoanalytic Quarterly* (1932), and *Psychological Research/ Psychobiologische Forschung* (1921).

The tertiary literature has swelled to the point where history of psychology is probably as well-equipped as any field of history of science or medicine. Textbooks will be discussed along with readers in a separate section on the teaching of history of psychology. Most useful are reference

guides to primary and secondary sources arranged by author and subject, respectively: Robert I. Watson, Sr. *Eminent Contributors to the History of Psychology*, 2 vols, and Wayne Viney, et al. *History of Psychology: A Guide to Information Sources*.²⁹ The older primary literature is registered in the *Psychological Index* (1894-1935), superseded by the cumbersome *Psychological Abstracts* (1927- --). Two valuable sources are James Mark Baldwin, *Dictionary of Philosophy and Psychology* for the nineteenth century and James Hasting, *Encyclopedia of Religion and Ethics* for classical topics, both arranged by topic. In Germany a multivolume encyclopedia of philosophy is appearing: Joachim Ritter, ed. *Historisches Wörterbuch der Philosophie*. Three outstanding general reference sources are the *Encyclopedia of Philosophy*, the *International Encyclopedia of Social Science*, and the *Dictionary of Scientific Biography*. The biographical reference works are: *Dictionary of National Biography*, *Who's Who in Science*, *Allgemeine deutsche Biographie*, *La biographie contemporaine française*, and *Biographisches Lexikon der hervorragenden Ärzte*. Dictionaries of psychology include English and English, *Dictionary of Psychology*, and for the older period, Howard Warren, *Dictionary of Psychology*. To be used with caution because of its very catholicity is Benjamin B. Wolman, ed. *International Encyclopedia of Psychology, Psychiatry, Psychoanalysis, and Neurology*, 12 vols.

One may conclude that the groundwork for a modest flourishing of this field has been laid in the past two decades; primary, secondary and tertiary sources are more available and on the increase. A final indicator may be mentioned: dissertations. A dissertation in the history of science is neither a set of articles nor a book. It is, rather, a rough-hewn piece of scholarship, extremely useful as it stands, but holding the potential for future development into a scholarly book. Usually condensation, archival research, and interpolation of further secondary literature are required for this purpose. The record of dissertations is indeed hopeful; they come from a variety of departments and institutions, and about 25% have already been rewritten into books. Some representative dissertations are listed below by author, subject, department, university, year of degree, and a footnote for completed books: Frank Albrecht, Jr. on the New Psychology (History of Science, Johns Hopkins, 1961), Mitchell Ash on the Berlin Gestalt psychologists (History, Harvard, in preparation), John T. Blackmore on Ernest Mach (Philosophy, Southern California, 1970)³⁰, James Blight on Jonathan Edwards (Psychology, New Hampshire, 1974),

Kerry Buckeley on John B. Watson and the professionalization of psychology (History, Massachusetts, 1980), John Burnham on the reception of psychoanalysis in America (History, Stanford, 1958)³¹, Thomas Camfield on the professionalization of psychology (University of Texas at Austin, 1969), Hamilton Cravens on the social background of psychology (History, Iowa, 1969)³² Norman Dain on psychiatry in America (History, Columbia, 1961)³³, Mary Flesher on British psychology and religion (History, Lehigh, in preparation), P. E. Franks on American social psychology (Psychology, State Univ. New York at Stony Brook, 1975), Elizabeth Goodman on the history of marriage counseling (Psychology, New Hampshire, 1972), Robert Guthrie on the social bias of American psychology (Sociology, New School for Social Research, 1964)³⁴, Nathan G. Hale, Jr. on psychoanalysis in America (History, Univ. of California at Berkeley, 1965)³⁵, Richard High on Shadworth Hodgson and William James (Psychology, New Hampshire, 1978), Deborah Johnson on Victorian psychology (Psychology, New Hampshire, in preparation), Geraldine Joncich on Edward L. Thorndike (Education, Columbia, 1961)³⁶, Bruce R. Kuklick on philosophy at Harvard (Philosophy, Harvard)³⁷, David Kuna on advertising psychology (Psychology, New Hampshire, 1976), Larry Laudan on Descartes' philosophy of science (Philosophy, Princeton, 1966), David Leary on post-Kantian psychologies (History, Chicago, 1977), Kenneth Levin on Freud's theory of neurosis (History of Science, Princeton, 1974)³⁸, David Lindenfeld on Meinong (History, Chicago, 1973), Pamela Loy on American social psychology (Sociology, New Hampshire, 1976), Brian Mackenzie on the limits of behaviorism (Psychology, Edinburgh, 1974)³⁹, Joseph Mirabito on the Chinese framework for psychology (Psychology, New Hampshire, 1979), Ronald Mueller on James Mark Baldwin (Psychology, New Hampshire, 1974), Jill Morawski on the utopias of psychologists (Psychology, Carleton, 1980), Daniel Pietrzak on Italian psychology (Psychology, Fordham, in preparation), Lewis Rambo on William James' thought (History, Chicago, 1975), Robert Richards on evolutionary thought and British instinct theories (History, Chicago, 1978), Barbara Ross on the Royal Society (Psychology, New Hampshire, 1970), Dorothy Ross on Stanley Hall (History, Columbia, 1965)⁴⁰, Laurence Smith on behaviorism and logical positivism (Psychology, New Hampshire, in preparation), Michael Sokal on James McKeen Cattell (History of Science, Case Western Reserve, 1972)⁴¹, Frank Sulloway on Freud (Social Relations, Harvard)⁴², Frank M. Turner on Victorian science and religion (History, Yale, 1971)⁴³, R. Steven Turner on Prussian

universities and scientific research (History of Science, Princeton, 1973), Willem van Florn on theories of visual perception (Psychology, Leyden, 1972)⁴⁴, Anthony Walsh on phrenology (Psychology, New Hampshire, 1974), William Woodward on Hermann Lotze (History of Science and Medicine, Yale, 1975), and Robert Young on physiological psychology and evolutionary theory (History of Science, Cambridge).⁴⁵

An Approach to Scholarship: Some Personal Remarks on Research and Writing

Early in my graduate training in the history of science I was asked to prepare a brief report on seventeenth century science. For general background I went to H. G. Wells, *An Outline of History*, and was subsequently given a stiff rebuke by my teacher. From this experience came the realization that historical scholarship deals only with "reputable" secondary sources, while certain more popular tertiary accounts are considered unreliable. In retrospect, I feel that I have learned to recognize a quality of scholarship based on extensive command of the primary and secondary literature, as opposed to a more journalistic approach.

Methods in historical research and writing are taught chiefly by the following the example of scholars rather than by the explicit precept of a methods course. Above all, one learns a tolerance for diversity in approach. The works of historians of science are the best place to begin acquiring a concrete sense of one's vocation.

For the newcomer to the field, I recommend to begin by taking a look at *Isis*, the official journal of the History of Science Society. Then proceed to *History of Science*, a journal of review articles covering relations of science with culture. Finally, browse in several of the special fields of history such as are represented in the *Journal of the History of Ideas*, the *Journal of the History of Medicine and Allied Sciences*, the *Journal of the History of Biology*, *Centaurus* (for the history of mathematics and astronomy), *Ambix* (for the history of chemistry and pseudosciences), the *American Scientist*, the book review section of *Science*, and of course, the *Journal of the History of the Behavioral Sciences (JHBS)*. Come away with an appreciation of the structure of a scholarly article, the way it is organized, the proportion of footnotes to the text, and above all, the balance between the use of primary, secondary, and tertiary sources.

Once one has gained an overall sense of the nature of a scholarly article, one is ready to proceed to the scholarship in one's chosen field – in this case, the history of psychology. Ready access is provided by books of readings such as those by Watson, Misiak and Sexton, or Henle, Jaynes and Sullivan, which are cited in the next section. A second approach is to read *JHBS* again, for content as well as approach, and to go on to other outlets such as *American Psychologist*, *Behaviorism*, *Studies in the History and Philosophy of Science*, and *Social Studies of Science*, and the *American Scientist*. A third avenue to the field is through its teachers, their textbooks, examples of their scholarship, and their advice on the teaching-learning process.

Taking advice, particularly on a subject as personal as scholarly approach, is not easy. The next section of this essay on the teaching of psychology will make it possible to choose for oneself which guides to follow. In this section I simply refer the reader to an issue of the journal *Teaching of Psychology* devoted to history of psychology. This issue featured the following: a controversial claim that historians should study "what is timeless" and "the arguments" behind it;⁴⁶ the recommendation that history can be taken outside the classroom through oral interviews, slides and field trips to the childhood homes of eminent psychologists⁴⁷; a plea for variety in history teaching, including displays of photographs, letters supportive of and critical of a person's work, newspaper clippings, and other documents⁴⁸; and suggestions for paper assignments on an American Psychological Association division, a master's degree program in clinical psychology, or a contemporary ethical issue, with the goal to provide students with "the opportunity to consider seriously the question of what job skills are necessary for their future careers".⁴⁹ From another respected teacher and scholar comes this astute summary comment: "It may be that we repeat the errors of our predecessors because we have not examined them in the context of that earlier thinking."⁵⁰

Common to all approaches to scholarship is the task of research and writing. Yet seldom is the student offered explicit instruction in how to go about this. Composing a paper requires an arduous process of preliminary spadework which has been described in several "library self-teaching exercises" at the University of New Hampshire.⁵¹ Scholarship begins with a dialogue with oneself or someone else, such as a friend or teacher, about possible topics. When the student has a general direction, he is directed to let his mind play freely with some possible approaches, narrowing and redefining them in various ways. Next he is told to divide the topic in

logical, geographical, chronological, or any other ways relevant to the subject. Then he is asked to choose the approach which seems most appropriate to him. Now he is ready to write a paragraph on the topic as if it were the opening of the paper. Finally, in preparation for going to the library, he is told to make a list of words and phrases likely to lead to useful material in the card catalog. It may be useful to think of anything in the assigned reading which refers to the subject, both for key words and for initial bibliographic items.

The actual process of historical research is largely conducted in the library. To use the library, successfully, familiarity with three basic tools is required. The library exercise can enable the student to learn these tools and the skills appropriate to each on his own time.⁵² First, reference books introduce the subject and lead to further information: The student is required to examine six out of nine listed reference works for information on one of his key words or phrases, and then he is to answer for each work how it was arranged, whether it had indexes and cross-referencing tools, what special features it offered, and how useful it was to him. Second, the card catalogue points the way to books. The library exercise gives the student a sample card from the card catalogue, explains the information on it, and then offers a simple true-false, multiple choice, and short-answer quiz (with answers available in the exercise) to check his understanding. The third kind of tool is any index which leads to periodicals. In addition to those reference books listed as tertiary sources in the section above on "Scholarship in the History of Psychology", one may wish the student to consult such general indexes as the *Isis Critical Bibliography*, *Poole's Index*, *The Reader's Guide to Periodical Literature*, *Historical Abstracts*, *Humanities Index*, *Social Science Index*, *Science Citation Index*, *Social Science Citation Index*, and the *Art and Humanities Citation Index*. The student has to locate one article related to his subject from two out of a list of potentially useful indexes. When the student has completed the library exercise, he takes it to a reference librarian or work-study assistant for checking so that he can receive immediate help with any difficulties which arise.

Once the student's topic has been approved and his library skills verified, he may proceed on his own to develop the paper. The objective at this stage is to gather information and record it systematically, as background notes, revised outlines, and bibliographic cards. The student should be advised to carefully record all the information which will be needed for future references or bibliographies: author, title, city, publisher, date,

lume, and inclusive pages as well as exact pages of quotations. The initial draft is written quickly by some authors and revised several times, the paper is constructed slowly, paragraph by paragraph, by others. Rewriting is the essence of paper writing, since almost anyone's ideas are less than focussed on the first try. Polishing is an important skill also. When the article may be circulated to others for comment. Certainly the final product should be cast in a form appropriate to a particular journal or editorial style. The basic choice is between MLA or University of Chicago style for the humanities and the American Psychological Association style for social scientists.⁵³

Teaching and Learning the History of Psychology: Sources

Diversity is the byword of teaching materials in the history of psychology. It is phenomenal how popular this field has been and continues to be in the lecture hall, the graduate student seminar, the laboratory, the clinic, and behind the scenes of professional psychology. The textbook, source book, and book of readings, and reprint book markets have responded in kind. Each market is represented, albeit selectively, below. Notice the range of publishers interested in the field.

The classic textbooks date from the period around 1930: Edwin G. Boring, *A History of Experimental Psychology* (2nd ed., N. Y.: Prentice Hall, 1950 [1929]), Gardner Murphy and Joseph K. Kovach, *An Historical Introduction to Psychology* (3rd ed., N. Y.: Harcourt, Brace Jovanovitch, 1972 [1929]), and Edna Heidebreder, *Seven Psychologies* (N. Y.: Prentice Hall [1933]). Complementing these are shorter books, Michael Wertheimer, *A Brief History of Psychology* (rev. ed., N. Y.: Holt, Rinehart, and Winston, 1979 [1970]) and Patrick Capretta, *A History of Psychology in Outline* (N. Y.: Delta, 1967). The current market is dominated by Robert I. Watson, *The Great Psychologists* (4th ed., Philadelphia: J. B. Lippincott, 1978 [1962]) and J. P. Chaplin and T. S. Krawiec, *Systems and Theories of Psychology* (4th ed., N. Y.: Holt, Rinehart and Winston, 1979 [1960]). In the clinical field there are a number of authoritative newcomers: Henri Ellenburger, *The Discovery of the Unconscious* (N. Y.: Basic Books, 1970), D. B. Klein, *The Unconscious: Invention or Discovery?* (Salt Lake City: Goodyear Publ. Co., 1977); Dieter Wyss, *Psychoanalytic Schools from the Beginning to the Present* (N. Y.: Aronson Jason, 1973); and J. H. Reisman, *A History of Clinical Psychology* (rev. ed., N. Y.: Halsted, 1976). For the humanistic

tradition, two thoughtful propaedeutic books may be recommended: Amadeo Giorgi, *Psychology as a Human Science* (N. Y.: Harper & Row, 1970) and Ernest Keen, *A Primer on Phenomenological Psychology* (N. Y.: Holt, Rinehart and Winston, 1975). The most scholarly books available are Herbert Spiegelberg, *The Phenomenological Movement*, 2 vols. (Hingham, Mass.: Kluwer, Boston, 1976) and Herbert Spiegelberg, *Phenomenology in Psychology and Psychiatry* (Evanston, Illinois: Northwestern University, 1972). Invaluable for philosophical background are John Theodore Merz, *A History of European Thought in the Nineteenth Century*, 4 vols. (Magnolia, Mass.: Peter Smith [1904-1911]) and John Passmore, *A Hundred Years of Philosophy* (N. Y.: Penguin, 1978 [1960]). Competent surveys of medical history and the historical sociology of mental illness are, respectively, Erwin K. Ackerknecht, *A Short History of Medicine*, (N. Y.: Wiley, 1968) and George Rosen, *Madness and Society* (Chicago: Univ. of Chicago, 1968). The standard guides to modern history of physiology are Karl E. Rothschuh, *A History of Physiology*, trans. Guenter Risse (N. Y.: Krieger, 1973 [1953]), and Paul Cranfield, *The Way In and the Way Out* (Mt. Kisco, N. Y.: Futura, 1973). In a class by itself is Daniel Robinson, *An Intellectual History of Psychology* (N. Y.: Wiley, 1977).

Sourcebooks are suitable for various types of courses. For the history of experimental psychology, a book arranged into fifteen problem areas is Richard J. Herrnstein and Edwin G. Boring, *Source Book in the History of Psychology* (Cambridge, Mass.: Harvard, 1965). Of a wider scope including medical, clinical, and humanistic psychologies is Solomon Diamond, *Roots of Psychology* (N. Y.: Basic Books, 1973). A blend of the two traditions, experimental and clinical, is provided by Robert I. Watson, Sr., *Basic Writings in the History of Psychology* (N. Y.: Oxford, 1979). Several special selections have been assembled by William Sahakian: *History and Systems of Psychology* (Cambridge: Schenkman, 1975); *Introduction to the Psychology of Learning* (Chicago: Rand McNally, 1976); and *Social Psychology: Experimentation, Theory, Research* (N. Y.: Harper & Row, 1972).

Perhaps the most impressive sign of activity in the history of the behavioral sciences is the abundance of books of readings, bringing together the work of scholars under a common theme. Featuring the writings of Edna Heidebreder, with contributions by Kuhn and Young, is Mary Henle, Julian Jaynes, and John Sullivan, eds., *Historical Conceptions of Psychology* (N. Y.: Springer, 1973). Essays on the

philosopher-psychologists Kant, Brentano, and Ward are contained in Benjamin Wolman, ed., *Historical Roots of Contemporary Psychology* (New York: Harper & Row, 1968). The institutional founding of recent history of psychology is represented in Josef Brožek and Rand Evans, eds., *R. I. Watson's Selected Papers in the History of Psychology* (Hanover, N. H.: University Press of New England, 1978). The breadth of the field internationally is reflected in Henry Misiak and Virginia Sexton, eds., *History of Psychology: An Overview* (New York: Grune & Stratton, 1966). The theme of American psychology is prominent in Paul Buck, ed., *Social Sciences at Harvard, 1860-1920* (Cambridge, Mass.: Harvard, 1965), Josef Brožek, ed., *Explorations in the History of American Psychology* (Lewisburg, Pa.: Bucknell, 1980), and Robert Rieber and Kurt Salzinger, eds., *Psychology: Theoretical and Historical Perspectives* (New York: Academic Press, 1980).

Bibliographies are the key to rapid accumulation of literature on a subject. The most useful by far is the *Isis Critical Bibliography*, which has a section on "the sciences of man" in the eighteenth and nineteenth centuries. In addition, the Wellcome Institute for the History of Medicine has a bibliographical publication, as does the National Library of Medicine: *Bibliography of the History of Medicine*, obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. More cumbersome is *Index Medicus*, which includes much more than historical topics.

For university libraries and scholars who can afford them, listings of reprints of classical books and periodicals in psychology may be obtained from the following publishers: Arno Press, 3 Park Ave., New York, N. Y. 10016; Peter Smith Publ. Inc., 6 Lexington Ave., Magnolia, Mass. 01930; AMS Press Inc., 56 E. 13th St., New York, N. Y. 10003; Scholarly Press Inc., 19722 East Nine Mile Rd., Saint Clair Shores, MI 48080; Scholars' Facsimiles and Reprints, P. O. Box 344, Delmar, N. Y. 12054; Dover Publications, Inc., 180 Varick St., New York, N. Y. 10014; Microcard Editions, 901 Twenty-sixth Street, N. W., Washington, D. C. 20037; Johnson Reprint Corporation, 111 Fifth Avenue, New York, N. Y. 10003; Swets & Zeitlinger B. V., P.O. Box 517, Berwyn, Pennsylvania, 19312 (for periodicals); Wm. Dawson & Sons Ltd., Cannon House, Folkestone, Kent, England (for periodicals); Blackwell's, Broad St., Oxford, England, OX 1 3BQ, and University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

Teaching and Learning the History of Psychology: Courses

One of the best ways to find out what one knows, so goes the adage, is to teach it. And educators tell us that at least 80% of effective teaching is "process" while at most 20% is "content".⁵⁴ Process refers to the teacher's non-verbal attitude toward the subject matter, or content, as well as toward the learners themselves. My objective is to optimize the teaching-learning process by structuring the course around the relationship between the teacher, the learner, and the subject. Knowledge and methods of critically examining it are geared to the level of cognitive and personal maturity of the learner. The role of the teacher is to facilitate the passage of the learner through the amoral, fearful-dependent, opportunistic, conforming to persons, conforming to rule, and principled autonomous stages of adult development.⁵⁵

The overall means to my objective of stage-dependent critical thinking is "experiential learning". Experiential learning is "the learning that occurs when changes in judgments, feelings, knowledge or skills result for a particular person from living through an event or events."⁵⁶ The events of individual lives are the vehicle for teaching systematic positions in a lower-level undergraduate course called "The Great Psychologists". The readings include Edna Heidebreder, *Seven Psychologies*, selected primary sources, and autobiographical essays. Students are given guiding questions on the reading, to which they respond with a weekly essay. Through lecture, discussion, and research for their papers, students discover personal factors in the lives of psychologists which have contributed to the development of theories in psychology. Lectures use real-life historical examples to bring the schools of Structuralism, Gestalt, Behaviorism, Functionalism, and Psychoanalysis to relevance in their own time. From this historicist approach often come presentist insights about the current state of psychology's theoretical positions. The process of identifying with a great psychologist, of viewing the phenomena of psychology from his perspective, of critically defending and challenging his assumptions, provides the opening wedge for a development beyond the amoral, fearful-dependent mastery of content to conforming-to-persons style of critical thinking.

Whereas the first history course comes near the beginning of an undergraduate's study of psychology, the next history course comes at or near the end. Content in terms of previously-learned psychological material may be assumed, leaving much more room for the pursuit of two

aims: critical analysis of philosophical and methodological assumptions underlying research in psychology, and systematic integration of the subfields. In the upper-level course "Survey of Twentieth Century Psychology", parallel chapters are assigned in William James, *Principles of Psychology*, and J. P. Chaplin and T. S. Krawiec, *Systems and Theories of Psychology*. Students answer about twenty short essay questions in a workbook each week and take an eight-question quiz up to three times on this reading assignment.⁵⁷ Having thus shifted the responsibility for learning onto the student, the teacher may devote class time to discussions of questions which are difficult for the students. Films are interspersed throughout the course at two-week intervals to launch each two week unit with an issue of contemporary relevance. A term paper assignment is integral to the course in that it is due in stages (library exercise, outline plus preliminary bibliography, presentation, first draft, and final paper) and an entire class period is spent in hearing and offering constructive suggestions on each paper presentation. Since students invariably choose contrasting theoretical themes among their paper topics, the course evolves into a continuing dialogue between proponents of Behavioristic, Psychoanalytic, and Humanistic viewpoints. The teacher's role is to highlight through directed discussion and lecture the conceptual foundations of each contemporary problem area. The student's most difficult reading task is to come to terms with William James' conceptual foundation for psychology in 1890. The resulting interplay between present and past systems provides a much needed sense of unity for the psychology major and non-major alike. The group dynamic behind this learning experience has proven to be conducive to the shift from an opportunistic, conforming-to-persons style of learning to a more autonomous, conforming-to-rule approach - in that students are continually challenged through peer and teacher interaction to defend a systematic position and to incorporate criticisms and replies to them into their own thinking.

Graduate student seminars are likewise guided by the goal of learning to think critically. Since the student is already committed to the profession of psychology, the objective is to make use of this commitment in learning the historical approach. The seminar "Survey of the History of Psychology" requires directed reading of several historical articles each week. Students experience the historical craft of textual criticism and interpretation by reading scholarly articles, to which they respond by short essay answers to about ten questions which form the basis for class

discussion. The content areas of the seminar span the research traditions in psychology: method and theory, psychophysics, sensation, perception, developmental, cognition, learning, motivation, personality, therapy and social psychology. The emphasis is less on review of these content areas than on examination of crucial nodes in their theoretical development. A variety of cross-disciplinary perspectives facilitate this study: for example, the sociology of science offers the concepts of "invisible college", "priority disputes", and "the scientist's role in society"; philosophy of science points up the methodological alternatives of rational versus irrational reconstruction; history of science contributes "the structure of scientific revolutions" as a framework for spotlighting shifts in world views of scientific communities; and history of medicine reveals the close historical alliance between the medical and the psychological models of scientific research and clinical practice. The student term paper is developed in stages as described for previous courses; the choice of topic almost invariably reflects each student's most vital contemporary intellectual concern embedded in an historical context. Student paper topics have included the following: Alfred Adler on compensation for inferiority, Muzafer Sherif and conformity research, Lloyd Morgan on emergent evolution, Croom Robertson and the professionalization of psychology in Great Britain, Charles Osgood on language, Edwin B. Titchener on meaning, the spiritualism movement, psychosomatic medicine between the Wars, molar behaviorism, Egon Brunswik and representative design, the discrimination learning controversy, Clark Hull's hypnosis research as a prelude to his behavioral theory, B. F. Skinner's development of the operant concept, Karl Lashley and equipotentiality, ontogeny and phylogeny from Aristotle to Kierkegaard, G. F. Stratton and introspection, Francis Galton's imagery research, I. Q. testing and public policy, William James' cognitive theory of emotions, Hermann Helmholtz' philosophy of science, the great instinct controversy, E. B. Tolman and Neo Realism, and the new look in concept formation research. The teaching-learning process in this seminar is one of shared professional commitment to a deeper understanding of scientific discovery; consequently, the educational experience is a growth beyond conforming-to-rule, as in mastery of systems and theories, toward a principled-autonomous ability to formulate historical answers to theoretical questions. The resulting historical studies typically reveal a complex interaction over time of biographical, social, and intellectual factors; by analogy, the student comes away with a truer sense of the development of his own professional identity.

Graduate students and/or postdoctoral students enter the highest level of history of psychology course with a specific goal: to prepare a manuscript for publication. The seminar called "Problem Areas in the History of Psychology" provides a forum for presenting research and receiving criticism. Participants twice present their project orally, initially pitching it to a naive audience of peers, later elevating it to a more sophisticated audience of experts in the field. The project is usually carried over from a previous history seminar or conference presentation. Later the paper is reworked and circulated among peers for comments. Beyond participating in the above activities, the teacher's role is to organize the presentations, to invite experts to speak, and to lead discussions of library reference sources, use of archival materials, obtaining external funding, choosing a journal to which to submit a manuscript, and correct footnoting and bibliographic styles. The goal of the seminar is to facilitate the creative act of scholarly publication. By the end of this sequence of courses, each participant is prepared for principled-autonomous scholarship – that is, the professional activity of developing a project from start to finish within the wider "invisible college" of his own specialty area.

The Rewards of Critical Historiography

A more flexible definition of historiography was offered in the introductory section of this essay. Historiography is traditionally defined to include practical methods and theoretical reconstruction of the past. Both traditional approaches are valuable but limited; a wider view of the historical method is derived here from the disciplinary evolution of history and of history of science. This new definition entails a critical approach to knowledge – involving the pursuit of limited goals in keeping with modern historical scholarship, an awareness of and compensation for sources of bias in the history of science, and a sensitivity to the social function of this young crossdisciplinary field, the history of psychology.

Shifting focus from the discipline to the individual approaching it for the first time, scholarship is then defined in terms of primary, secondary, and tertiary sources. Recent dissertations and scholarly books provide examples of what to aim for and of the activity in the field. The students are encouraged to read journals for the structure of an article, and to acquire the requisite skills in the use of library reference works, taking notes, keeping a bibliography, writing and rewriting. The sources for both the teacher and the learner are reviewed here: these comprise textbooks,

sourcebooks, books of secondary reading and reprints or used books. Finally, a sequence of courses appropriate for lower and upper levels of undergraduate and graduate instruction is described.

In conclusion, let us consider the rewards of the emphasis on critical thinking, first for the teacher and then for the learner. The reward for the teacher is, at the very least, an expansion of his methodological horizon – from science to history, or from history to science. Coming from history or the humanities, the subject matter of scientific research may be foreign; coming from psychology, the subject matter will remain nominally the same, but the attitude toward it will shift radically, i. e., from research technology to the interpretation of data and theories in the context of a particular time and circumstance. Secondly, the teacher may gain a sense of community with his professional colleagues, both inside and outside his native discipline, from involvement in history of psychology as a critical discipline. He will find it advantageous to consult others from time to time on student paper topics when these range beyond his subspecialty. He may discover a desire to share ideas about the relations of the sciences to history, to society, and to one another. Possible avenues for such exchange are a faculty luncheon group, a colloquium open to the public, interdepartmental undergraduate minor or major program based upon existing courses, the hiring of faculty to teach this subject in existing history of psychology departments, or even the creation of a new department. Thirdly, the rewards for his own research may include an increased sophistication about the tradition he belongs to, an awareness of methodological criticism gleaned from out-of-date but still valuable research and theory, and even potential sources of funding for professional development, curriculum improvement, and scholarship across the disciplinary boundaries.

The reward of critical historical thinking for the learner will extend well beyond his course in the history of psychology. In the first place, critical thinking implies an awareness of potential sources of bias and an attempt to overcome them. Such an approach is not the prerogative of any single discipline. But any discipline is free to appropriate it; the embarrassment of higher education is that not all teachers have done so. Secondly, critical thinking is based on dialogue – among learners, between teacher and learner, and between the teacher-learner and the past. As dialogue, critical history ultimately builds relationships and a sense of intellectual community. This shared intellectual experience can be conducive to the search for unity among the fractured contemporary approaches to

knowledge. Such an integrative experience is surely a worthwhile goal for the student of any discipline, be it home economics or engineering, history or philosophy, psychology or physics. Finally, if the goal of education is cognitive *and* moral development, one may still ask to what ends. Here the end has been stated in terms of the development of principled-autonomous behavior. Implicit is commitment out of one's own free choice to a valuable course of study and action in the world.

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Notes

- ¹ This definition owes much to three colleagues at the University of New Hampshire whose interests in college teaching and curriculum development have converged on training students in critical thinking. Associate Professor Jeffrey M. Diefendorf introduced an introductory course in the History Department called "Historical Thinking" which had been developed and piloted at Stanford University. Associate Professor John Chaltas taught a course on "College Teaching" in which he suggested that I examine experiential learning and stages of adult development in terms of the courses I teach. Vice President Gordon A. Haaland stimulated me to broaden my thesis by his contention that "Thinking and Problem Solving are the Mission of the University's Curriculum", *University of New Hampshire Campus Journal* 17 (1979): No. 14.
- ² Cf. H. Stuart Hughes, *History as Art and as Science*. New York: Harper & Row, 1964.
- ³ Louis Gottschalk, *Understanding History: "A Primer of Historical Method"* (New York: Knopf, 1950), p. 41.
- ⁴ *Encyclopaedia Britannica* (1974), s. v. "Historiography and Historical Methodology." By Edmund B. Fryde. *Macropedia*, 8. 945.
- ⁵ Cf. Hajo Holborn, *History and the Humanities*. New York: Doubleday & Co., 1972. See also Herbert Butterfield, *Man on his Past: The Study of the History of Historical Scholarship*. Cambridge: University Press, 1955.
- ⁶ E. g., Marc Bloch, *The Historian's Craft*. New York: Knopf, 1953; Edward Hallett Carr, *What is History?* London: Macmillan, 1961.
- ⁷ Richard E. Beringer, *Historical Analysis: Contemporary Approaches to Clio's Craft*. New York: Wiley, 1978.

- ⁸ Norman F. Cantor and Richard I. Schneider, *How to Study History*. New York: Crowell, 1967.
- ⁹ Stephen Graubard, "Introduction", in Felix Gilbert and Stephen Graubard, eds. *Historical Studies Today* (New York: Norton, 1972), pp. VIII-IX.
- ¹⁰ Herbert Butterfield, *The Whig Interpretation of History*. London: Bell, 1931.
- ¹¹ George W. Stocking, Jr. "On the Limits of 'Presentism' and 'Historicism' in the Historiography of the Behavioral Sciences", *Journal of the History of the Behavioral Sciences* 1 (1965): 211-218.
- ¹² *International Encyclopedia of the Social Sciences* (1968), s. v. "History of Science". By Thomas S. Kuhn. Vol. 14: 74-83.
- ¹³ *Ibid.* On the trend toward external history among his graduate students in the 1970's, see Kuhn, "History of Science and its Relations to History", in Gilbert and Graubard, Note 9.
- ¹⁴ Stephen Brush, "Should the History of Science be Rated X?" *Science* 183 (1914): 1164-1172.
- ¹⁵ Brush, *ibid.*, p. 1170.
- ¹⁶ Thomas S. Kuhn, "Essential Tension: Tradition and Innovation in Scientific Research", in C. W. Taylor and F. Barron, Eds. *Scientific Creativity: Its Recognition and Development* (New York: Wiley, 1963), p. 344.
- ¹⁷ These programs are listed with contact addresses in the *Directory of the History of Science*, published by the editorial office of *Isis*, the official journal of the History of Science Society, in 1977.
- ¹⁸ Information on undergraduate programs, syllabus clearing house, short courses for faculty development, books in print and bibliography, relations with science and humanities and social science departments, graduate programs, and other related matters are available through the Committee on Undergraduate Education of the History of Science Society. The present chairperson is Professor Lois Magner, Department of History, Purdue University, West Lafayette, Indiana 47907. The past chairperson is Professor Stephen Brush, Department of Physics, University of Maryland, College Park, Maryland, 20742. See the *Report on Undergraduate Education in the History of Science*, submitted by the Committee on Undergraduate Education of the History of Science Society, December, 1975. Write to: History of Science Society, Publication and Editorial Office, Department of History and Sociology of Science, University of Pennsylvania, Philadelphia, Pa. 19104.
- ¹⁹ Two programs for graduate study in history of psychology through the doctoral degree are already in existence within psychology departments. Contact Marilyn Marshall and Brian Laver, Department of Psychology, Carleton University, Ottawa, Ontario K1S 5B6; or William Woodward and David Leary, Department of Psychology, University of New Hampshire, Durham, New Hampshire, 03824.
- ²⁰ Robert M. Young, "Scholarship and the History of the Behavioral Sciences", *History of Science* 2 (1966): 1-41.
- ²¹ *Ibid.*, p. 18.

- ²² The address is: *Zentralarchiv der Autographen*, Handschriftenabteilung der Staatsbibliothek Preussischer Kulturbesitz, Postfach 1407, 1000 Berlin 30, West Germany (BRD).
- ²³ All three volumes are published by The Council for European Studies, 1429 International Affairs Building, Columbia University, New York, N. Y. 10027. Tel. 212-280-4172. The address changes with the location of the Council.
- ²⁴ Michael M. Sokal, *A Guide to Manuscript Collections in the History of Psychology and Related Areas*. Wellesley, Mass.: Wellesley College Colloquium, 1977.
- ²⁵ Addresses are: Audrey Davis, Curator and Supervisor of the Division of Medical Sciences, MIT 500, Smithsonian Institution, Washington, D. C. 20560. Uta C. Merzbach, Curator, Section of Mathematics, The National Museum of History and Technology, Smithsonian Institution; and John Popplestone and Marion White McPherson, Archives of the History of American Psychology, The University of Akron, Akron, Ohio 44325.
- ²⁶ Franz Brentano, *Psychology from the Standpoint of an Empiricist*. N. Y.: Humanities, 1973 [1874]. Hippolyte Bernheim, *Hypnosis and Suggestion in Psychotherapy* with an introduction by Ernest R. Hilgard, N. Y.: Aronson Jason, 1974. Howard Gruber and Paul Barrett, *Darwin on Man*. N. Y.: Dutton, 1974. John McDermott, ed. *The Writings of William James*. Westminster, Md.: Modern Library, 1968. Russell Kahl, ed., *Selected Writings of Hermann von Helmholtz*. Middletown, Ct.: Wesleyan, 1971. Solomon Asch & Mary Henle, eds. *Selected Papers of Wolfgang Köhler*. N. Y.: Liveright, 1971. Rand Evans and Robert MacLeod, eds. *Titchener: Systematic Psychology: Prolegomena*. Ithaca, N. Y.: Cornell, 1972. Carl Yerkes: *The Mentality of Apes*. With an introduction by George Haslerud. Delmar, N. Y.: Scholar's Facsimiles, in press. Theodor Meynert *Psychiatry* with an introduction by Stanley Jackson, N. Y.: Hafner, 1968. Wilhelm Griesinger, *Mental Pathology and Therapeutics*, with an introduction by Erwin H. Ackerknecht. N. Y.: Hafner, 1965. Howard Gruber and Jacques Voneche, eds., *The Essential Piaget*. N. Y.: Basic Books, 1977. G. Adler et al., eds. *The Collected Works of Carl Jung*, 17 vols. Princeton, N. J.: Princeton, 1954 ff. James Strachey, ed., *Sigmund Freud. Complete Psychological Works*, 24 vols. N. Y.: Macmillan, 1964 ff. Heinz and Rowena Ansbacher, eds. *Alfred Adler: Superiority and Social Interest*. 2nd rev. ed., Evanston, Ill.: Northwestern, 1970.
- ²⁷ Carl Murchison, ed. *History of Psychology in Autobiography*, vols. 1-3. N. Y.: Russell, 1967 [1930]. Edwin G. Boring et al., eds. *History of Psychology in Autobiography*, vol. 4, 5. N. Y.: Russell, 1968 [1952]. Gardner Lindzey, ed. *A History of Psychology in Autobiography*, vol. 6. N. Y.: Prentice Hall, 1974. T. S. Krawiec, ed. *The Psychologists*, 2 vols. N. Y.: Oxford, 1972, 1974. In addition, Richard I. Evans has published books containing interviews with B. F. Skinner, Carl Rogers, Erik Erikson, Gordon Allport, Jean Piaget, Carl Jung, Konrad Lorenz, and R. D. Laing.
- ²⁸ Subscribe to the Cheiron Newsletter by writing to: Professor Elizabeth S. Goodman, Cheiron Secretary, Department of Psychology, Fredonia State College, Fredonia, New York 14063. Subscribe to the Division 26 Newsletter by writing: Professor Ludy T. Benjamin, Jr., Educational Affairs Office, American Psychological Association, 1200 Seventeenth Street, N. W. Washington, D. C. 20036. For further information on

- membership or submission of papers for conference presentation, contact Elizabeth Goodman for Cheiron and write directly to the American Psychological Association for Division 26.
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- ⁴⁷ Alfred C. Raphelson, "The Unique Role of the History of Psychology in Undergraduate Education", *Teaching of Psychology* 6 (1979): 12-14.
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- ⁴⁹ Ben Harris, "Professional Seminar in Clinical Psychology taught from a Historical Perspective", *Teaching of Psychology* 6 (1979): 17-18.
- ⁵⁰ Mary Henle, "Why Study the History of Psychology?" *Annals of the New York Academy of Sciences* 270 (1976): 14.
- ⁵¹ The approach to teaching the use of library reference works presented here owes much to Hugh Pritchard, Reference Librarian, Dimond Library, University of New Hampshire. Two outcomes of departmental collaboration with him were the "Psychology Self-Teaching Library Exercise" and the "History 500 Self-Teaching Exercise".
- ⁵² To facilitate use of the above library exercise, the following bibliographies of reference works by discipline have been produced: William R. Woodward and Hugh Pritchard, eds. *Library Guide for the Students in Psychology at the University of New Hampshire*, Durham, N. H.: UNH Printing Service, 1977; Jeffrey M. Diefendorf, *A Guide to Library Resources in History at the University of New Hampshire*. Durham, N. H.: UNH Printing Service, 1977.
- ⁵³ Kate Turabin, *A Manual for Writers of Term Papers, Theses, and Dissertations*. Chicago: The University of Chicago Press, 1973. *Publication Manual of the American Psychological Association*. 2nd edition. Washington: American Psychological Association, Inc., 1974. *Handbook for Writers of Research Papers, Theses and Dissertations*. N. Y.: Modern Language Association, 1977.
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Appendix

Resources for Funding

1. General sources for funding information

a. *The Annual Catalog of Federal Domestic Assistance*

The sponsoring organization is the Executive Office of the President, Office of Management and Budget, Washington, D. C. 20503. The distributor is the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

A comprehensive tabulation of domestic assistance programs funded by the United States government. Lists titles of grants awarded and code numbers of specific funding programs. Relatively inexpensive, about \$ 20.

b. *Annual Register of Grant Support*

The sponsoring organization is the Marquis Academic Media, 200 East Ohio Street, Chicago, IL 60611.

A reference source for many private foundations as well as some government funded programs. Arranged by topic area. Indexed by both name and subject area.

c. *The Foundation Directory*

The sponsoring organization is Marianna O. Lewis, editor, The Foundation Center, 888 Seventh Avenue, New York, N. Y. 10019. The distributor is the Columbia University Press, 562 West 113th Street, New York, N. Y. 10025.

Standard guide to private foundations in the United States. Alphabetical. Provides information about the foundations assets and general nature of work supported.

d. *The Guide to Federal Assistance for Education*

The sponsoring organization is the National Press Building, Room 1080, Washington, D. C. 20045. The distributor is Wellborn Associates, Inc., 5791 Beaumont Avenue, La Jolla, CA 92037.

A two volume book with monthly update by newsletter. Describes programs, including due dates, eligibility, and funding levels. Contains a deadline index. About \$ 255.

e. *The Foundation Grants Index*

The sponsoring organization is The Foundation Center, 888 Seventh Avenue, New York, N. Y. 10019. The distributor is the Columbia University Press, 562 West 113th Street, New York, N. Y. 10025.

Describes grants which are being funded. Lists individual grants. Indexed by subject area and state. For a fee, customized computer searches are offered. "Comsearches" on standard topics are \$ 11 and a list is available. Tollfree telephone number: 800-424-9836.

f. *International Foundations*, 2nd ed., 1974

The sponsoring and distributing organization is the Gale Research Company, Book Tower, Detroit, MI 48226.

Describes over 400 foundations, including activities and financial information. Arranged by country. Indexed by activities, under 18 major categories and numerous minor ones. About \$ 55.

g. *Study Abroad/Études à l'étranger/Estudios en el extranjero*

The sponsoring organization is International Scholarships/International Courses, United Nations Education, Science, and Cultural Organization, Paris, France.

Lists scholarships offered by international organizations in three categories: (1) United Nations system, (2) Intergovernmental programs, and (3) International nongovernmental organizations. Describes information services, language requirements, expenses, and available sources of scholarships by country. Lists courses under same three categories. This paperback book is especially useful in providing foreign addresses to facilitate further inquiry.

2. History and Philosophy of Science and Medicine

a. *Congressional Science Fellowship Program*

The sponsoring organization is the American Psychological Association, 1200 Seventeenth Street, N. W., Washington, D. C. 20036.

Fellows selected for one year. Stipend \$ 16,000 and moving expenses. Applicant works at an assignment he selects.

b. *James McKeen Cattell Fund*

The sponsoring organization is the American Psychological Association, 1200 Seventeenth Street, N. W., Washington, D. C. 20036.

Provides sabbatical awards to help spend a full year in research or training. Brings salary up to normal level for the year.

c. *Josiah Macy, Jr. Foundation*

The sponsoring organization is the Josiah Macy, Jr. Foundation, 1 Rockefeller Plaza, New York, N. Y. 10020.

The purpose of the foundation is to advance medical education and health in the United States and internationally. History of medicine is one area of funding. Conference programs are another. No travel grants to individuals.

d. *National Institute of Health*

The sponsor organization is *History of Life Science Program*, Division of Research Grants, National Institute of Health, Bethesda, MD 20205. Attn: Mrs. Stewart.

NIH supports biomedical sciences, public health, biotechnology, mental health. The *History of Life Science Program* fits under all of these. Request Information and Instructions for Application for Research Grant, Form NIH 398. The *NIH Guide* publishes specific "Requests for Proposals" in addition to general information, plus a cumulative index.

e. *National Science Foundation Guide to Programs*

The sponsoring organization is the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

NSF offers many different programs of research support, including History and Philosophy of Science. Programs include Doctoral Dissertation Research Grants, NATO Postdoctoral Fellowships in Science, College Faculty Short Courses, Science Faculty Professional Development, Women in Science, Science Resources Studies, Information Science and Technology. Cost of brochure, \$ 3.50.

f. *Smithsonian Fellowships*

The sponsoring organization is the Office of Fellowships and Grants, Smithsonian Institution, Room 3300, L'Enfant Plaza, Washington, D. C. 20560.

History of science and technology is one of six areas of Smithsonian support. Three kinds of fellowships available for: (1) postdoctoral scholars for further research training, six months to one year; (2) doctoral candidates to conduct dissertation research, six months to one year; and (3) graduate students to conduct individual research under staff supervision, ten weeks. Special opportunity to make use of a National Inventory of Historic Psychological Apparatus.

3. Humanities and Social Sciences

a. *American Council of Learned Societies*

The sponsoring organization is the Office of Fellowships and Grants, 800 Third Avenue, New York, N. Y. 10022.

Fields of specialization include history of science, philosophy of science, psychology, sociology, and cultural anthropology. For social and natural scientists who wish to study a humanistic discipline, and for others wishing to study in a field outside their specialization. Support in five categories: (1) Study Fellowships full-time six to twelve months, up to \$ 12,000; (2) Grants in Aid usually for personal and research expenses away from home, stipends not over \$ 3000; (3) Research Fellowships for Recent Recipients of the Ph. D. up to \$ 7000; (4) Travel Grants for Humanists to International Meetings Abroad for persons who will read papers or have an official role; (5) Area Programs for predoctoral, postdoctoral, untenured, and senior scholars, summer and academic year six to twelve months, co-sponsored with Mellon Fellowships for Chinese Studies, International Research and Exchanges Board for East European and Soviet Studies, and Social Science Research Council for Africa, Asia, Latin America, Middle East, and West Europe.

b. *American Philosophical Society*

American Philosophical Society, 104 South Fifth Street, Philadelphia, PA 19106.

Postdoctoral research in strictest sense, average \$ 800, seldom over \$ 2000. About 300 awarded annually. All fields, not limited to philosophy. May be used anywhere in the world. Open to persons with a doctoral degree or equivalent experience.

c. *Ethics and Values in Science and Technology*

The sponsoring organization is the National Science Foundation, Office of Science and Society, Washington, D. C. 20550.

Five categories include education and professional conduct of scientists and engineers, obligations and constraints of institutions, issues associated with new developments, effects of changing values upon scientific priorities, and decision-making processes involving science and technology. Projects may include historical studies provided they focus on value issues. Types of project are case studies, workshops, conferences, collaborative interdisciplinary efforts of national scope, colloquia relating to professional education of scientists and engineers, and compilation of archival materials and bibliographies. Preliminary proposal required. In addition, twenty "Interdisciplinary Incentive Awards" are offered for durations of six to twenty-four months at \$ 20,000 per annum. Five "Sustained Development Awards" are granted for twenty-four to forty-eight months at \$ 30,000 per annum. Both are jointly funded by NSF and NEH.

d. *Guggenheim Fellowships*

The sponsoring organization is the John Simon Guggenheim Memorial Foundation, 90 Park Avenue, New York, N. Y. 10016.

Fellowships for scholars and artists in any field. Goals to improve education, arts, professions, to foster research, to promote international understanding. Two categories: U. S. and Canadian citizens, and for citizens of other American states, of the Caribbean and Philippines, and of the French, Dutch, and British possessions in the Western Hemisphere. Approximately \$ 14,000 for a year, 3000 applicants, 300 awards (1977).

e. *W. K. Kellogg Foundation*

W. K. Kellogg Foundation, 400 North Avenue, Battle Creek, MI 49016.

To broaden professional horizons in the general areas of agriculture, health, and education. To develop innovations in human service, to discern shifts underway in various fields, to identify obstacles to utilization of knowledge. For three years, beginning 1980. To 50 individuals, up to \$ 30,000. Institution expected to provide at least 25% released time, Foundation will reimburse institution at 12 1/2% of base salary.

f. *National Endowment for the Humanities*

Division of Fellowships, Mail Stop 101, 806 Fifteenth Street, N. W., Washington, D. C. 20506.

Humanities are broadly defined by NEH to include history, philosophy, and aspects of the social sciences employing historical or philosophical approaches, e. g., subjects concerned with questions of value and not with quantitative matters. Support available for research materials, research collections and publications, conferences, fellowships, centers for advanced study, institutional grants, special projects, projects on science, technology, and human values. Request Program Announcement.

g. *Rockefeller Foundation Humanities Fellowships*

The sponsoring organization is The Rockefeller Foundation, 1133 Avenue of the Americas, New York, N. Y. 10036.

Supports humanistic scholarship to assess the values of contemporary civilization. One area of research includes science, technology, and society in the context of humanistic values. Awards to younger as well as maturer scholars. For one year, \$ 10,000 to \$ 15,000. Full-time commitment required. About 35 awards per year, highly competitive.

4. Education

a. *The National Institute of Education*

The sponsoring organization is the U. S. Department of Health, Education, and Welfare, Washington, D. C. 20208.

NIE was established by Congress in 1972. Its policy is to provide every person an equal opportunity to a high quality of education. Since 1978 NIE's three main programs have been Educational Policy and Organization, Teaching and Learning, Dissemination and Improvement of Practice. These will be discussed separately below in relation to the history of psychology. A brochure titled *Funding Opportunities at NIE* is available in the late fall of each year from the Publications Management Office, National Institute of Education, 1200 Nineteenth Street, N. W., Washington, D. C. 20208. Since unsolicited proposals make up only 3% of NIE funding, persons willing to submit

solicited proposals are advised to consult the "Requests for Proposals" (RFP) in *Commerce Business Daily*, which lists U. S. Government procurement invitations each day. Order from Rm. 1304, 433 West Van Buren Street, Chicago, IL 60637. Another periodical which gives current information on educational funding relevant to the University community is *Higher Education Daily*.

b. *NIE Program on Teaching and Learning*

The distributor is the Proposal Clearinghouse, Room 813, 1200 Nineteenth Street, N. W., National Institute of Education, Washington, D. C. 20208.

Proposals invited in five selected areas: literacy, mathematics learning, teaching in school settings, teaching in non-school settings, and methodology. Small grants up to twelve months and \$ 15,000; larger grants up to three years and averaging \$ 50,000 annually. The program encourages proposals from all the behavioral and social sciences. Methods may include psychological experiment, ethnographic description, computer analysis, and historical analysis. Encourages research in diverse settings and across the life span.

c. *NIE Program on Educational Policy and Organization*

The sponsoring organization is the School Management and Organization Study Team, National Institute of Education, 1200 Nineteenth Street, N. W., Washington, D. C. 20208.

Proposals invited in three major units: educational finance, law and public management, and educational organizations and local communities. Scholarly or scientific inquiries with implications for the practice of education are encouraged. Projects should be formulated in contrast to existing theory and knowledge, should promise to extend fundamental knowledge, and should identify the researcher's intellectual framework. Specifically directed to an understanding of elementary and secondary schools and school systems. Doctoral students seeking dissertation support are eligible. Small grants up to twelve months and \$ 10,000; large, multi-year grants up to \$ 100,000 per year require preliminary proposal. Examples of uses of a small grant include review or synthesis of research findings or methods. A history of psychology topic could fit this description.

d. *NIE Program on Dissemination and Improvement of Practice*

The sponsoring organization is the National Institute of Education, 1200 Nineteenth Street, N. W., Washington, D. C. 20208.

Solicited proposals include a multiple award RFP (Request for Proposals) to study and document ways organizations can cooperate and improve educational practice.

e. *The Spencer Foundation*

The Spencer Foundation, 875 North Michigan Avenue, Chicago, IL 60611.

This private foundation was established by a publisher of educational materials. Supports basic research on biological bases of learning, cognitive studies, affective studies, early childhood development, educative effects of electronic media, effects of schooling, organizational and administrative problems, and miscellaneous projects. Potential history of psychology opportunity seen in support for "meta analysis" integrating research of allied fields. Not limited to behavioral science methodologies. Encourages "the first cut at an area likely to be of interest to historians of education" and "doing it in a way likely to be especially helpful to the historian who, at a later date, may study the matter more intensively and perhaps in different contexts".

5. Women's Fellowships

a. *American Association of University Women Educational Foundation*

American Association of University Women Educational Foundation, 2401 Virginia Avenue, N. W., Washington, D. C. 20037.

For persons who plan to pursue professional careers in the U. S. Must be citizen or permanent resident. Dissertation and postdoctoral research fellowships.

b. *The Bunting Institute*

The sponsoring organization is Radcliffe College, 3 James Street, Cambridge, MA 02138.

For women to pursue independent study in academic or professional fields. Three categories: (1) Non-Tenured Women Faculty Fellowships for one full year or one semester per year for two years, stipend \$ 15,000, research expenses \$ 3000, travel allowance up to \$ 1000, for women at major research universities. To work on projects that promise to make a significant contribution to their fields and enhance opportunities for tenure; (2) The Bunting Fellowships, full-time for one year for women to complete a substantial project in her field and thereby to advance their careers, stipend \$ 12,000; and (3) Independent Educational Studies Project, a three month program for men or women currently teaching at a nonteaching university to carry out a study which reflects the perspectives of women and minorities on an educational issue, stipend \$ 5000, research expenses \$ 5000.

c. *Faculty Development Program*

The sponsoring organization is the Wellesley College Center for Research on Women, Wellesley, MA 02181, Tel.: 617-235 6360.

For men and women engaged in undergraduate liberal arts teaching at a New England university to begin, continue, or recast a project which increases the visibility of women in the subject matter of the core curriculum and stimulates new thinking about the methodology of the liberal arts disciplines. Encourage innovative curriculum design, preparation of materials useful to other individuals and institutions. Junior fellowships for one semester, up to \$ 8000, senior fellowships for one semester, up to \$ 11,000. Because goal is curriculum change, persons in last year of a terminal contract are not ordinarily eligible.

d. *Radcliffe Research Scholars Program*

The sponsoring organization is the Radcliffe Data Resource and Research Center, 77 Brattle Street, Cambridge, MA 02138, Tel.: 617-485-8140.

Interested in research projects contributing to a better understanding of women in American society. Encourage analysis of previously unused or underused materials. Also encourage use of materials at the Schlesinger Library on the History of Women in America and the Radcliffe Data Resource and Research Center. Full-time for one year, \$ 15,000, or one term plus a summer, \$ 10,500.

e. *Sigma Delta Epsilon, Graduate Women in Science Inc.*

Sigma Delta Epsilon, Graduate Women in Science Inc., 1346 Connecticut Avenue, N. W., Room 1102, Washington, D. C. 20036.

Fellowships to women with a degree in mathematical, physical or biological sciences. Two kinds of fellowship: (1) Grants-in-Aid, \$ 750, and (2) Floise Gerry Fellowship; \$ 1000-4000, not for use in a degree program. For research.

6. Advanced Study Centers

a. *Center for Advanced Study in the Behavioral Sciences*

The sponsoring organization is Gardner Lindzey, Director, Center for Advanced Study in the Behavioral Sciences, 202 Junipero Serra Boulevard, Stanford, CA 94305.

Nominations for consideration as a Fellow considered at any time from any member of the academic community. Fellowship arrangements normally completed 9-18 months in advance. Residential postdoctoral fellowship program for scholars in U.S. and abroad who show exceptional promise in their respective fields. Opportunities for study, writing, seminars, and company of scholars with overlapping substantive or methodological interests. Partial external support encouraged.

b. *Hastings Center*

The sponsoring organization is Daniel Callahan, Director, The Hastings Center: Institute of Society, Ethics, and the Life Sciences, 360 Broadway, Hastings-on-Hudson, N. Y. 10706.

The Center concentrates on support of ethical issues in the biomedical and behavioral sciences. Examples are death and dying, population and family planning programs, policy aspects of social science research, psychotherapeutic techniques. Founded in 1969 by an interdisciplinary group of biologists, physicians, philosophers, lawyers, theologians, and social scientists concerned with social, legal, and cultural implications of current research.

c. *Institute for Advanced Study*

Harry Woolf, Director, The Institute for Advanced Study, Princeton, N. J. 08540.

Postdoctoral Fellows are scholars with promise, especially younger people of accomplishment. They join a community of "members" who share privileges of Princeton University. Two schools: School of Historical Studies encourages philosophy, American intellectual history, history of science, and other subjects about 40 members invited each year; School of Social Science encourages social science with a historical and humanistic bent; about half of members chosen to make up a working group on some broadly defined field of study; about 12-15 members each year.

d. *National Endowment for the Humanities*

The sponsoring organization is the Fellowship Support to Centers for Advanced Study, Mail Stop 101, 806 Fifteenth Street, N. W., Washington, D. C. 20506.

Support for scholars, teachers, and others for independent study and research. Three categories: (A) for persons with broad interpretive interests, including non-academic persons; (B) for undergraduate teachers; and (C) for college teachers to participate in seminars and conduct study and research. Duration six to twelve months, \$ 10,000 to \$ 20,000. Includes fellowship support to Centers for Advanced Study.

7. Study Abroad

a. *American Council of Learned Societies*

The sponsoring organization is the Office of Fellowships and Grants, 800 Third Avenue, New York, N. Y. 10022.

Supports study in East Europe.

b. *Alexander von Humboldt Foundation*

Alexander von Humboldt Foundation, Jean-Paul-Strasse 12, D-5300 Bonn 2, West Germany (B.R.D.).

Fellowships for six to twelve months, may be extended to twenty-four months. Funding is from 1900 to 2600 DM per month. Scholars of all nations and disciplines may apply. About a third of those who apply are accepted, numbering about 450 per year. Awards are for specific projects, applicants arrange for German host institute and date of commencement. Age between 25 and 40. Doctorate required.

c. *Fellowships and Grants for International Research*

The sponsoring organization is the Social Science Research Council, 605 Third Avenue, New York, N. Y. 10016. Tel.: 212-557-9500.

Two kinds of fellowships: (1) International Doctoral Research, 9-18 consecutive months, for applicants enrolled full-time in U.S. or Canadian universities who have completed all requirements for the Ph.D. except dissertation at time of onset of fellowship; awards differ from country to country; applicants may request support for preparatory language, disciplinary, or methodological skills of up to six months; (2) International Research for scholars with demonstrated ability in the humanities and social sciences. Not for training. Usually three to twelve months, however financial support insufficient to cover full maintenance.

d. *Fulbright Awards for University Teaching and Advanced Research Abroad*

The sponsoring organization is the Council for International Exchange of Scholars, Eleven Dupont Circle, Suite 300, Washington, D. C. 20036, Tel.: 202-833-4950.

To promote understanding between people of the U.S. and Africa, the Near East, Europe, South Asia, East Asia, Latin America, Australia, New Zealand, and other Pacific area locations. Grants for any discipline. To advanced scholars to teach or do research. Applicants for research should know language of host country, applicants for teaching may or may not depending on the country. About 90-100 awards per year, 2,500-3000 applicants per year. Tenure either one or two semesters.

e. *Fulbright - Hays Doctoral Dissertation Research Abroad*

The sponsoring organization is the Institute of International Education, 809 United Nations Plaza, New York, N. Y. 10017.

Similar to Postdoctoral program in general description. (See 7 d. Fulbright Awards.)

f. *German Academic Exchange Service (DAAD)*

The sponsoring organization is the German Academic Exchange Service, 535 Fifth Avenue, New York, N. Y. 10017. The distributing organization is the Institute of International Education, 809 United Nations Plaza, New York, N. Y. 10017.

Undergraduate scholarships, dissertation research fellowships, postdoctoral grants for study at a German university. Provided by the Federal Republic of Germany.

g. *German Marshall Fund Fellowship Program*

German Marshall Fund Fellowship Program, 11 Dupont Circle, N. W., Washington, D. C. 20036.

Supports research on contemporary problems of industrial societies: employment, minority groups, technology, institutions, energy, community development, welfare, education, and youth and elderly. One to two semesters. Established by a gift from the Federal Republic of Germany to the U. S. in gratitude for postwar recovery assistance.

h. *International Research & Exchanges Board*

International Research & Exchanges Board, 110 East Fifty-ninth Street, New York, N. Y. 10022.

Established by the American Council of Learned Societies and the Social Science Research Council to administer support for study and research in East Europe and the USSR. U.S. Citizenship required. Advanced doctoral candidates and scholars not academically employed may be eligible in addition to faculty members at a North American university. Applicants must also apply for Fulbright-Hays grants, "Doctoral Dissertation Research Abroad" or "Faculty Research Abroad".

i. *National Science Foundation*

The sponsoring organization is the National Science Foundation, Guide to International Programs, Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

Supports study and research in East Europe, India, and Switzerland, among other places. See also International Cooperative Scientific Activities in the NSF Catalogue.