Book Reviews

Pioneer

Dr. Kinsey and the Institute for Sex Research. WARDELL B. POMEROY. Harper and Row, New York, 1972. xiv, 480 pp. + plates. $10.

This is a book about Alfred Charles Kinsey the man and about the monumental research effort which led to the publication of two of the most controversial books to appear since Darwin's first volume on the origin of species. Wardell Pomeroy was closely associated with Kinsey and directly involved in development of the Institute for Sex Research during the early years of its history. For 13 years, beginning in 1943, Kinsey and Pomeroy worked closely together devising and perfecting the interviewing technique which eventually yielded 18,000 individual sex histories. Pomeroy is, therefore, uniquely qualified to write the book here reviewed, and he has done an excellent job with the assistance of a professional writer, John Tebbel, who also knew Kinsey well and was familiar with the operations of the Institute.

Of Quaker stock, Kinsey was deeply religious as a boy. He showed no interest in feminine companionship or sexual matters, and until he completed his university education he had never had a date. But in the course of his education he began to find religion incompatible with his devotion to science, and his "conversion," when it occurred, left him with a strong antireligious bias which was later to reveal itself in his condemnation of what he considered the malevolent influence of the Judeo-Christian ethic upon sexual attitudes. He took a bachelor's degree at Bowdoin College with a double major in zoology and psychology, followed in 1920 by a doctorate from Harvard in zoology and botany. From Harvard he went to the University of Indiana as assistant professor of zoology, and after his first year at Indiana he never again attended church. In 1921 he married the first girl he had ever dated, like himself a student of science and an enthusiastic naturalist.

Having been reared in the belief that idleness is sinful, Kinsey devoted himself prodigiously to research and teaching. Toward the end of his life when illness attacked him (he died at 62), he once said to Pomeroy, "If I can't work I'd rather die." As a young man Kinsey enjoyed hiking and camping, but he always combined these activities with hunting specimens for his botanical and entomological collections. During his brief periods of relaxation his prime interests were classical music and gardening, both of which he approached with the same singleness of purpose and devotion to detail that characterized his activities as a scientist. Sunday evening musicales at the Kinsey house were marked by the careful selection of records from a very large collection and by Kinsey's knowledgeable analysis of each piece and of the life of its composer.

Professional and social relationships between Kinsey and his associates in research were always those of a superior and subordinates. Staff members were never granted more than a very limited degree of autonomy, and that only after they had served an apprenticeship of several years. Public disagreement concerning the research was never tolerated and, although private arguments often occurred, Kinsey practically always won his own way in the end. He often attempted to dominate aspects of his staff's private lives and to impose upon them his own working and living habits. On field trips, for example, his co-workers were required to follow his example and take their daily showers upon arising rather than at any other time of day. When Clyde Martin, the first young man Kinsey hired, announced his impending marriage, Kinsey insisted that the ceremony take place in Kinsey's garden and that the date be changed from August to June to coincide with the time that his lilies would be in bloom.

Reactions of the staff to Kinsey's idiosyncrasies were often tinged with incipient rebellion, but the overriding attitude was one of cooperation and admiration. Pomeroy writes, "We were working for a genius who maddened us, delighted us, drove us to the point of exhaustion, but most of all inspired us to share something of his total dedication." Dedication undoubtedly is a key concept in analyzing Kinsey's complex personality.

Kinsey's habit of working as much as 18 hours a day even while traveling about the country for weeks at a time eventually took its toll, and as early as 1950 Kinsey's friends became concerned about his health. Despite warnings from medical advisers he refused to curtail his work schedule. After the publication in 1953 of his second book, which dealt with sexual behavior in women, Kinsey and his work came under severe attack from several quarters, and it is Pomeroy's interpretation that the avalanche of criticism may have "precipitated the physical decline which led to his death." In any event, toward the middle of 1956 Kinsey suffered a series of minor heart attacks and on 8 August died of an embolism.

Pomeroy's portrayal of Kinsey the man is an intensely personal account, sometimes almost sentimental and nostalgic, sometimes clinically analytic and even sharply critical. To judge the verisimilitude of this portrait one would have to have known Kinsey intimately, and few people did. On the basis of an acquaintance lasting for approximately 15 years this reviewer can testify to the accuracy of many of Pomeroy's statements regarding Kinsey's personality, although intimate details such as those dealing with his relations to subordinates are of course available only to those who worked closely with him.

The history of Kinsey's involvement in sex research is fairly simple and straightforward. In 1938 the University of Indiana instituted a course dealing with various aspects of marriage. Kinsey was assigned the dual task of coordinating the course, which was taught by several professors from different departments, and of personally delivering several lectures on the biological aspects of the marriage relationship. This was an entirely new field to him, and as a scientist Kinsey was distressed to dis-

cover that relatively little reliable information was available on the subject. In characteristic fashion he approached his teaching by combining it with personal research designed to fill the most obvious gaps in current knowledge concerning human sexuality.

Before this Kinsey's scientific work had been concentrated on systematic study of gall wasps, and eventually he became the world authority on the taxonomy of this group of insects. From his earliest years as a research worker Kinsey showed a veritable passion for collecting. His sample of gall wasps numbered in the thousands of specimens, and when he formulated the grand plan for his research on sex the ultimate goal was collection of 100,000 individual histories. In studying gall wasps he was not content to make comparisons and base conclusions on generalized descriptions of his material but instead patiently recorded 28 different physical measurements on every specimen. Similarly, in the sex research he not only emphasized the need for an exceedingly large sample but at the same time insisted upon an objective and quantifiable description of each individual history.

During the first year of the marriage course at Indiana Kinsey collected 350 sexual histories, chiefly from students at the university. This activity evoked protests from a few of his colleagues and from representatives of the community at large, chiefly individuals or groups with strong religious orientation. Eventually the university president, Herman Wells, who was sympathetic with Kinsey's objectives, advised him to discontinue the interviewing of students or to sever his connections with the course on marriage. Predictably Kinsey chose the second alternative and thereafter devoted all his energies to prosecution of the research on human sexual behavior. At first he attempted to combine this with counseling students having sexual problems, but that was soon discontinued, and in taking personal histories Kinsey scrupulously avoided making value judgments or giving advice regarding sexual conduct. His militant insistence upon a nonevaluative approach is reflected in his statement, "Biologically there is no form of outlet which I will admit as abnormal. There is no right or wrong biologically."

From the university campus at Bloomington Kinsey went to nearby cities such as Chicago and Indianapolis to collect histories from prostitutes and professional homosexuals, as well as more ordinary groups of both sexes and all social classes. He became fluent in the use of the special vocabularies and jargon of the various groups with whom his research dealt and was able to identify and establish two-way communication with such disparate types as convicted felons, drug addicts, and college professors. Pomeroy states, and the reviewer can attest, that Kinsey was a superb interviewer. He communicated an attitude of sympathy, impartiality, and nonjudgmentalism and, above all, an intense desire to learn the truth. It was, as one interviewee observed, difficult if not impossible to lie to him.

In the collection of sex histories Kinsey relied on interviewing as nearly as possible 100 percent of selected groups—all men in a given fraternity, all inhabitants of a small town, the entire staff of a particular scientific or medical institution, or all individuals belonging to a particular group of prisoners in a given prison. Subsequent criticism of his books often centered on the procedure for selecting his subjects, but he steadfastly opposed the use of stratified sampling, insisting that it was more meaningful to concentrate on intensive study of pre-chosen groups representing diverse populations.

At first Kinsey worked alone, but gradually as financial support became available he built up a research staff which included individuals capable of helping with statistical analysis of the data, preparing illustrations for publication, or serving in a curatorial capacity for a growing library on sexual behavior plus a collection of erotic art and archeological objects. The greatest recruitment problem arose in the enlistment of men who could participate in the taking of sex histories. The most successful candidate was Pomeroy. Between them he and Kinsey took about 85 percent of the 18,000 histories that eventually were amassed. The requirements for an interviewer were multiple, strict, and somewhat paradoxical. Candidates must be happily married males but be able to travel about half the time; should have an M.D. or Ph.D. degree; should like and be able to get along with people from lower social levels; should have been born and raised in America and exposed to the national mores and customs but never evaluate what others did sexually.

During the first years of his sex research Kinsey paid all expenses from his own pocket. Outside support began with a small grant from the National Research Council's Committee for Research on Problems of Sex. Eventually Alan Gregg, of the Rockefeller Foundation, became interested in Kinsey's project, and for a number of years that foundation made an annual allotment of $40,000 to the NRC's committee, specifically earmarked for Kinsey. Royalties from the first volume, *Sexual Behavior in the Human Male*, by Kinsey, Pomeroy, and Martin, were paid to the then incorporated Institute for Sex Research and helped defray the cost of the growing operation. By 1950 the annual budget was approximately $100,000, the staff numbered 11, and the library of scientific volumes and nonscientific erotica was valued conservatively at $150,000.

Publication of the first volume met with some adverse criticism, but in the main the response was overwhelmingly favorable. Public opinion changed after the appearance of *Sexual Behavior in the Human Female*. Kinsey's figures relating to frequency of premarital intercourse and other sensitive topics were interpreted by many religious and lay readers as an attack on American womanhood. Questions were again raised regarding the representativeness of his sample and the adequacy of the statistical analysis. Criticism by influential religious and lay leaders such as Harry Emerson Fosdick and Harold Dodds, and by a few members of the medical profession, combined with a sharp attack by a small number of academicians, inspired a United States Congressman, Carroll Reece, to form a committee with the stated aim of investigating the expenditure of funds by philanthropic foundations but with the actual objective of attacking the Rockefeller Foundation's support of Kinsey's research. The president of the foundation, Dean Rusk, and several members of his board feared that such an attack might jeopardize the foundation's entire program of research support, and accordingly the next request for support of Kinsey by the Committee for Research on Problems of Sex was denied.

The withdrawal of financial support combined with a flood of critical assessments of the research by some well-known psychoanalysts, sociologists, and representatives of other disciplines exerted an understandably depressing effect on Kinsey. Although he continued to work at a nearly superhuman pace,

he grew increasingly intolerant of any form of criticism. His relations with the public and with some of his scientific colleagues deteriorated markedly and his attitude became more and more defensive. Honest and dispassionate criticism was interpreted by Kinsey as having been "animated by deep emotional conflicts rather than by scientific evaluation of the material." In actuality more than 60 percent of the reviews of the female volume were favorable; but Kinsey paid attention to the adverse reactions, which he blamed variously on the sexual morality of the church or misguided motivation of fellow scientists who objected on "philosophic grounds."

It was tragic that Kinsey died during a period when the outlook for the Institute was so bleak, because better times lay ahead. At first the University of Indiana assumed as much of the financial burden as it could bear, at the same time reorganizing the Institute with Paul Gebhard as Executive Director and Pomeroy as Director of Field Research. Somewhat later the National Institutes of Health began a series of grants, which eventually reached a total of one-quarter to one-third of a million dollars a year.

Several of the volumes envisaged by Kinsey were published, incorporating data collected prior to his death, but the character and direction of the research program have undergone significant alterations. No longer does the entire staff concentrate upon a single objective for long periods; instead several projects are pursued simultaneously and different individuals are responsible for separate research problems or areas. For some projects professional interviewers are engaged to collect data, and polling or survey organizations are occasionally employed.

During Kinsey's lifetime the research program was an extension of his own ego and scientific aspirations. He dominated the entire operation, determined its objectives, and guided its destiny. He was a complex and in many ways admirable human being, but most of all he was a dedicated scientist who devoted his every effort to the achievement of his chosen goal, which was to increase our understanding of human sexual life. Pomeroy's book is a fitting tribute to him.

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Aspects of a Revolution

The Genesis of Quantum Theory (1899–1913). ARMIN HERMANN. Translated from the German edition (Mosbach/Baden) by Claude W. Nash. M.I.T. Press, Cambridge, Mass., 1971. x, 166 pp. $8.95.

The creation of quantum physics in the first three decades of this century is one of the great subjects for the historian of science. There are few periods that have seen such profound changes in the extent and the depth of our understanding of the natural world, accompanied by such searching debate on the meaning of the new approach to nature. This revolution in thought—brought about, as Niels Bohr always insisted, "through a singularly fruitful cooperation of a whole generation of physicists"—has a richness and complexity that demand the highest level of historical scholarship if it is to be treated adequately. The history of the quantum revolution will be a subject of study for years to come, and we can look forward to a variety of treatments and a diversity of interpretations. This is only to say that there is a wealth of material here to attract historians of science of many interests.

One of the historians already at work on this 20th-century material is Armin Hermann, professor of the history of science at the University of Stuttgart. Hermann has previously edited the correspondence between Albert Einstein and Arnold Sommerfeld, as well as a valuable series of reprints of early papers on quantum physics. The book under review here is a translation of his *Habilitationsschrift* which appeared originally in 1969 as *Frühgeschichte der Quantentheorie*. It consists of a series of eight short essays each of which concentrates on the contribution of one man to the quantum theory during the years from 1899 to 1913—from Max Planck's work on the spectrum of blackbody radiation to Bohr's first papers on the quantum theory of the atom. In addition to his two great boundary figures and Einstein, Hermann discusses H. A. Lorentz, Johannes Stark, Arthur Haas, Walther Nernst, and Sommerfeld, each of whom played a very particular role in this early period.

Hermann's book provides an interesting series of sketches of some major aspects of the early quantum theory. For a physicist who has read only the myths and distortions that are still widely repeated in physics textbooks, Hermann will offer a valuable corrective. But his book is too thin in every sense of the word even to suggest the full historical interest of his subject. In the essay on Planck, for example, Hermann gives no indication that Planck's research in the years 1895 to 1901 was originally directed toward an understanding of irreversibility and the second law of thermodynamics, that he tried to construct a fundamental theory of irreversibility based on electrodynamics without any statistical assumptions (in intentional opposition to Boltzmann's approach), that his attitudes were closely related to attempts to construct an electromagnetic world view that would replace the old mechanical world view, and that the "Boltzmann method" which Planck adopted in the fall of 1900 is itself a subject requiring further historical analysis. One could make an even longer list of omissions for the chapter on Bohr, where Hermann's dozen or so pages give an inadequate picture of Bohr's concerns, his methods, or even what it was about his ideas that made them so startling, not to say shocking, to his contemporaries.

I mention these gaps in some of Hermann's discussions, not because the ideas, facts, and relationships he leaves out are individually important (although many of them are), but because these omissions indicate a basic deficiency in his approach to history. The historian must strive, not to seize the essence of a phenomenon in the way the theoretical scientist does, but rather to recapture the past in all its relevant complexity. This means, as Herbert Butterfield put it, that "genuine historical study is bound to be intensive, taking us away from our abridgments, not upwards to vague speculation, but downwards to concrete detail." It is just the absence of the detail that establishes the texture of the past that bothers me about Hermann's book.

Hermann is at his best in dealing with some of the less central aspects of his story, where he uses his sources to greater effect. His discussion of the correspondence between Planck and Lorentz in 1908, and of Willy Wien's adverse comments on Lorentz's lecture in Rome that same year, gives a lively picture of some of the difficulties that even the best older physicists had with the new ideas. Hermann's discussion of Stark's views on quanta, culminating in his angry reaction when Sommerfeld corrected a basic error of his, gives a fresh view of that very difficult but very imaginative man. Since so many