They touched the nerve of the Universe

V.F. Weisskopf

The Early Years: The Niels Bohr Institute 1921-1930. By Peter Robertson. (Akademisk Forlag, Denmark, 1979.) £6.

At the Institute early in 1931, Lev Landau, George Gamow and Edward Teller with two of Bohr's sons, Aage and Ernest.

THIS book is a short account of the first ten years of Niels Bohr's famous Institute for Theoretical Physics. This institute was the scene of one of the most revolutionary and far-reaching developments in natural science, the birth of quantum mechanics. In some ways it was also the first international scientific institution, not in the sense of being internationally managed, but by having assembled, for shorter or longer periods, groups of young and productive physicists from many countries. Their names include most of the great leaders in physics such as F. Bloch, H. Casimir, P.A.M. Dirac, P. Ehrenfest, G. Gamow, W. Heisenberg, L. Landau, W. Pauli and many others. It was at that time, and with those people, that the foundations of the quantum concepts were created. In lively discussions the deepest problems of the structure of matter were

George Gamow and Wolfgang Pauli on a lake steamer in Switzerland.

brought to light. N. Bohr was the acknowledged leader; he created a style of thinking, the "Kopenhageuer Geist". The greatest among his colleagues, he was acting, talking and living as an equal among a group of young, optimistic, jocular, enthusiastic people, approaching the deepest riddles of nature with a spirit of attack, a spirit of freedom from conventional bonds, and a spirit of joy that can hardly be described by anyone who was not there at that time. In this great period of physics Bohr and his collaborators touched the nerve of the Universe. They were able to penetrate into the inner workings of nature that had been a secret up to this point. In the course of a few years only, the basis was laid for a science of atomic phenomena that grew into the vast body of knowledge known to us today.

The book by Robertson tries to recount the events that led to the foundation of that institution and the happenings during its first decisive and creative decade. It is the result of a painstaking research into the history of this unique institution. The author gives a lively and easily readable account in a little more than 150 pages, but one notices that he was not there at the time. We read about the early attempts to create a centre of international physics after the ravages of the First World War had interrupted scientific collaboration; we read about the bureaucratic and financial difficulties that were overcome only with support by the Rockefeller Foundation; we read about the different scientists who came to the institute and about their work and their conversations with Bohr. One of the most attractive features are the many photographs of the institute, of the physicists, singly and in discussions, and of conferences and meetings that had taken place in Copenhagen and elsewhere during that period.

Reading this book and looking at the pictures is a nostalgic experience for those who had the privilege of being in contact with Bohr's institute in one way or another. I am not sure how much of the spirit and of the intellectual achievements of the institute is transmitted to a reader who has not had that great privilege. □

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Ape language, cognition and culture

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The Ape's Reflexion. By Adrian Desmond. Pp. 288. (Blond and Briggs: London; Dial Press/James Wade (Dell): New York, 1979.) £7.95, $10.95.

THE APE'S REFLEXION is man; the possibility of the ape reflecting has created recent controversy. Is the ape capable of some primitive language; how extensive are his cognitive abilities; does the ape murder; does he have a sense of self and of death? Adrian Desmond deals with these momentous concerns in what I presume is intended to be a semi-popular book. His writing style is often fluid and he frequently achieves a sense of immediacy, seeming to give an eye-witness account of the research. One can easily nestle down with his book for a few evenings' light reading. The sense of an eye-witness account is apparently not based on any visits by the author to research in progress. This is unfortunate, for an objective, careful and critical reporting of anecdotal information would be a useful addition to the literature on the ape language projects. The scientific literature suffers from a lack of such information while the popular literature abounds with dramatic and careless reports.

Briefly, Desmond's book concerns itself primarily with the ape language research projects, the neuroanatomical comparison of man and chimpanzee, tool use and proto-cultural activities of chimpanzee and early man, and some of Jane Goodall's investigations at the Gombe River Stream Preserve. There are numerous direct quotations from researchers' studies, an index and footnotes. The footnotes,