

# Niels Bohr Archive: Annual Report 1999

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## Staff:

Director	Finn Aaserud
Academic Assistant	Felicity Pors
Librarian/Secretary	Anne Lis Rasmussen
Temporary workers	Jørgen Oliver Jensen (until mid-August)
Scientific Associates	Aage Bohr Hilde Levi Abraham Pais (also at Rockefeller University, New York) Jørgen Kalckar Knud Max Møller

## Board of directors:

For the Vice-Chancellor of the University of Copenhagen	Henrik Jeppesen
For the Niels Bohr Institute	Andrew D. Jackson, chair
For the Royal Danish Academy of Sciences and Letters	David Favrholt
For the Minister of Research	Helge Kragh (until 6 October) Kirsti Andersen (from 7 October)
For the family of Niels Bohr	Anne Bohr Dawids

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## General remarks

The Niels Bohr Archive (NBA) is a repository of primary material for the history of modern physics, pertaining in particular to the early development of quantum mechanics and the life and career of Niels Bohr. Although the NBA has existed since shortly after Bohr's death in 1962, its future was only secured at the centennial of Bohr's birth in 1985, when a deed of gift from Bohr's wife, Margrethe, provided the opportunity to establish the NBA as an independent non-profit institution. Since 1985, the NBA has had its own board of directors and has received a fixed annual sum for running expenses from the Danish Ministry of Education (as of spring 1998, the Ministry of Research); it has also made ample use of its privilege to apply for project support from private sources.

The core of the collections comprises Bohr's scientific correspondence (6000 letters and drafts) and manuscripts (500 units). This material was catalogued and microfilmed in the early 1960s as part of the Archive for History of Quantum Physics (AHQP), a project sponsored by the American Philosophical Society and the American Physical Society. The outcome was 290 microfilms of various relevant historical material have been placed in several repositories world-wide, including the NBA.

In addition, the NBA houses several historical collections that cannot be consulted elsewhere. Thus, in 1985 the Bohr family donated the bulk of Bohr's private correspondence, which includes letters to and from central personalities in culture and politics inside and outside Denmark. The equally extensive "Bohr General Correspondence" documents Bohr's substantial administrative involvement.

Among papers of Bohr's closest colleagues deposited in the NBA, only the George Hevesy Scientific Correspondence has been organized and microfilmed, but the papers of among others H.A. Kramers, Christian Møller, Oskar Klein, and Léon Rosenfeld are also of great historical interest. Some papers of more recent origin - notably those of Niels Bohr's son, Aage Bohr, Niels Bohr's close collaborator, Stefan Rozental, and Danish solid state physicist

Allan Mackintosh - have also been deposited. The large collection of photographs relating to Bohr's career is an especially popular resource. Finally, there are reprint, film, sound tape and video tape collections, as well as a growing library.

The NBA continues the publication - through Elsevier - of the *Niels Bohr Collected Works*, the first volume of which appeared in 1972. After the publication in 1999 of volume 10 (see below), only volume 11 (edited by Finn Aaserud) remains. Volume 11 will cover Bohr's activities outside science and philosophy, prominently including some of Bohr's previously unpublished writings on his idea of an "open world," developed during and after World War II.

## **Activities in 1999**

A great effort has been put into furnishing our new library, as well as moving and unpacking our book collections and putting the books on shelves. Apart from setting up computer terminals for our researchers as well as some minor installations to be paid from the remainder of the generous grant provided by the Villum Kann Rasmussen Foundation, the library is now ready and has been put into use.

Beginning in January 1999, the Research Ministry has increased its annual support, on the understanding that the NBA organizes activities promoting natural science for gymnasium (high-school) students. In the autumn, the NBA was either the host or cohost of a number of lectures to this effect as well as part of the well-attended NBI arrangement at the annual "Kulturnatten" (Culture Night) in Copenhagen. Negotiations are presently taking place with teacher organizations about how best to continue such activities for gymnasium students.

Volume 10 of the *Niels Bohr Collected Works* was published in January (see "Publications," below).

The NBA has received support from Danish National Lottery (*Tips/Lottomidler*), as well as from the AIP Center for History of Physics and the Lounsbery Foundation, for the organization, conservation, and registration of the papers of Aage Bohr and Allan Mackintosh. This work is expected to begin in April 2000 and to go on for a year.

At the death of Hanna Kobylinski, widow of Niels Bohr's close collaborator Stefan Rozental, the NBA was given a substantial part of Rozental's rich book collection, which includes a number of classics in the history of modern physics.

The effort to make the NBA's photograph collection available on the Web, supported by the Lounsbery Foundation, approaches completion. Substantial work has also been done on the conversion to the NBI's new on-line library cataloguing system. Both the photograph collection and the library information will now be part of the NBA's new web site, which will include updated information on all the NBA's activities.

The dissertation of NBA's Ph.D. student Carsten Jensen, who died in 1991, is now (January 2000) in print at Birkhäuser Verlag in Basel as *Controversy and Consensus: Nuclear Beta Decay 1911-1934*. It has been edited and made ready for publication by Finn Aaserud, Helge Kragh, Erik Rüdinger, and Roger H. Stuewer.

Aaserud has participated in a conference in Oslo on "Bohr as Bridge Between Two Cultures" and has given talks in Århus and Horsens. He is also consultant for an ambitious project documenting post-war physics and astronomy in Sweden.

Among the NBA's History of Science seminars should be mentioned in particular: John Krige's talk on the relationship during the Cold War between CERN, NBI, and the Ford Foundation; the presentation of Lars Becker-Larsen's film on Holger Bech Nielsen (at which occasion both individuals took part); and a seminar in connection with the play "Copenhagen" by British playwright Michael Frayn. In addition to Frayn himself, Peter Langdal (director of the Betty Nansen Theatre) and Robert Marc Friedman (history of science professor and playwright), as well as Ben Mottelson (physics professor at NORDITA and Nobel Laureate), gave brief talks at

the latter seminar, which attracted record attendance. The NBA has been involved in other ways as well with the five productions of "Copenhagen" in Denmark, Sweden, and Norway.

The NBA continues to be visited by several researchers from all over the world. With our new library and web site, we expect a further increase in our service functions for researchers. In this connection, we now ask for reimbursement for certain services, such as providing photographs.

## **Publications**

The list below includes only publications by NBA staff. On our web site we will develop a more general list of publications based on any research carried out using the NBA's archival resources.

*Niels Bohr Collected Works*, Finn Aaserud (gen. ed.), Volume 10: *Complementarity Beyond Physics*, David Favrholt (ed.), Elsevier Science, Amsterdam, 1999.

Finn Aaserud:

"Mottelson, Ben" in *Den Store Danske Encyklopædi*, Volume 13, Gyldendal, Copenhagen, 1999.

Finn Aaserud:

"Nathan, Ove" in *Den Store Danske Encyklopædi*, Volume 14, Gyldendal, Copenhagen, 1999.

Abraham Pais:

"Robert Serber (1909--1997)" in *Physics in Perspective 1* (1, 1999), 105--109.

Abraham Pais:

"Theoretical Particle Physics," in *Reviews of Modern Physics 71* (2, 1999), 16--26.