

# THE NIELS BOHR ARCHIVE

## Annual Report 2007

The Niels Bohr Archive is an independent institution under the Danish Ministry of Science, Technology and Innovation

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### Staff:

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For the family of Niels Bohr	Hanne Bohr

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### General remarks

The Niels Bohr Archive (NBA) - website: [www.nba.nbi.dk](http://www.nba.nbi.dk) - 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, after a deed of gift from Bohr's wife, Margrethe, provided the opportunity to establish the NBA as an independent not-for-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 (1985-1998 and 2000-2001), the Ministry of Research (1998-2000) and the Ministry of Science, Technology and Innovation (from 2001); it has also made ample use of its privilege to apply for project support from private sources. In 1985 the NBA had only a couple of offices, its archival collections were scattered in various rooms and the unique book collection was stored in boxes. Since then, the Niels Bohr Institute has gradually provided the NBA with adequate office space, an adjacent library room and storage space for the archival collections. This has made it possible for the NBA's staff to place archival documents in an acid-free environment in fire-proof safes, to register the collections

and to service the many guest researchers.

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, which 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 the "Bohr 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, whereas the "Bohr Political Papers" shed light on his considerable effort, beginning during the Second World War, for an "open world" between nations.

Among papers of Bohr's closest colleagues deposited in the NBA, only the George Hevesy Scientific Correspondence has been 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, thumbnails of which can be seen on the website, is an especially popular resource. Finally, there are reprint, film, sound tape and video tape collections, as well as a growing library.

The main priority of the NBA practically since Bohr's death has been the publication of the *Niels Bohr Collected Works*, the first volume of which was published in 1972 and the last (Vol. 12) in 2006. A list of the volumes is posted on the NBA website. Elsevier Publishers has agreed to publish both a paper and an electronic version of the *Niels Bohr Collected Works* by mid-2008.

In early 1999, upon consultation with the Ministry of Research, the NBA increased its special activities disseminating natural science for the public, particularly gymnasium (high-school) students (for details, see the website).

## **Activities in 2007**

The year has been a transition period between the concentrated effort to complete the *Niels Bohr Collected Works* and a fully-fledged start of a new era in the NBA's work.

The year has been marked by the death of Aaserud's predecessor, Erik Rüdinger, who died on 29 July after a long illness. Almost until the end

Erik was a constant support for the NBA, especially in connection with the *Niels Bohr Collected Works*. Erik will be deeply missed. So will professor Ge Ge of China, who died on 29 December. Ge Ge has spent much of the later years of his life translating the *Collected Works* into Chinese and was able to complete his translation of Vol. 12, the last, before he died. Obituaries for Erik Rüdinger and Ge Ge can be read on the NBA's website.

Niels Bohr's correspondence with his wife Margrethe is being transcribed and annotated in order to prepare for its release in 2012. In connection with the move of NORDITA from the premises of the Niels Bohr Institute to Stockholm, the NBA has received some archival material, notably letters and books originally belonging to Christian Møller and outgoing correspondence of Léon Rosenfeld (1969-1974). The archival material will be incorporated in the already existing Møller and Rosenfeld collections, while the books will be added to the library. The experimental physicist N.O. Lassen has donated a number of books and some archival material to the NBA. More material will follow. Documentation of the early work on the institute's cyclotron starting in the late 1930s is of special historical interest. The periodicals in the NBA's library have been registered, and information about all the NBA's books (which, incidentally, can only be read on the premises) has been made available on the national database [www.bibliotek.dk](http://www.bibliotek.dk).

The project, which has received special support from the Danish Ministry of Science, to add more detailed information on the NBA's website about the archival collections and to digitise its film and sound collections, as well as a paper collection, is well under way, after several delays caused by the high priority of completing the *Collected Works*. The archival software system Archon is presently being installed in this connection.

There have been about 90 visits to the NBA during the year, from Denmark and abroad. The visits range from specialised researchers to the generally interested public, and from individuals through small groups to high school classes of up to 30 persons. Anja Skaar Jacobsen has worked on a historical project on Bohr's close collaborator Léon Rosenfeld funded by the Carlsberg Foundation from 1 February. Jan Hansen continues work on his master's dissertation on the relationship between theory and experiment at the Niels Bohr Institute up to the latter half of the 1920s. Other subjects of research have been the life and times of the physicist Lev Landau in connection with the hundredth anniversary of Landau's death, Danish science and scientists during the German occupation of Denmark and the connection between Lise Meitner and the Swedish physicist Eva von Bahr.

In 2007 there have been eight lectures in the NBA's series of history of science seminars. The speakers were (in chronological order) John L. Heilbron, Spencer R. Weart, Karl Hall, Graham Farmelo, Naomi Oreskes, Yury Gaponov, Matthias Heymann and Steven Shapin. More information on the seminars can be found on the NBA's website.

As part of its dissemination programme, the NBA has hosted several lectures and guided tours as well as contributed to the well-attended arrangement at the Niels Bohr Institute on the annual *Kulturnatten* (Culture Night) in Copenhagen.

### **Publications**

Finn Aaserud, Illustrated articles on highlights of Niels Bohr's [career](#) and the early [history](#) of his institute written for the website of the Niels Bohr Institute. The articles are also accessible from the NBA website.

Finn Aaserud, "Russell McCormmach as a teacher", *Historical Studies in the Physical and Biological Sciences* 37, Part 2 (2007), 453-461.

Finn Aaserud, "The theatre of quantum physics" [review of Gino Segrè, *Faust in Copenhagen: A Struggle for the Soul of Physics*], *Nature* 448 (23 August 2007), 869-870.