

# THE NIELS BOHR ARCHIVE

## Annual Report 2010

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

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### General remarks

The Niels Bohr Archive (NBA) - website [here](#) - 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, covering part of the 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 supplemented its income by using 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 provided the NBA with office space, library rooms and storage space for the archival collections. This has given better possibilities for the NBA staff to place archival documents in an acid-free environment in fireproof safes, to register the collections and to service the many guest researchers.

The core of the collections comprises Bohr's scientific correspondence (6,000 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 - website [here](#). 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, of Niels Bohr's close collaborator, Stefan Rozental, and of Danish solid state physicist, Allan Mackintosh, - have also been deposited. Finally, the NBA houses photocopies of the papers of astrophysicist Bernard Peters and the papers of *Selskabet for Naturlærens Udbredelse* (SNU, the Danish Society for the Dissemination of Science, founded by H.C. Ørsted in 1824). 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, video tape and DVD collections, as well as a growing library.

Over the last several years there has been a pilot project - supported by the Danish Ministry of Science - to find the best means to make information about the NBA's collections and selected documents in them, available on the Internet. As part of this project, all the documents in the Bohr Political Papers as well as the majority of the NBA's films and sound recordings were digitized and placed on the Internet. Since then, digitization of archival documents has continued and the resulting files placed on the Internet, where they can be accessed by means of the Archon system developed at the University of Illinois. Webaddress [here](#)

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 new edition of the entire series was published in 2008 with an additional volume containing a cumulative subject index. A list of the volumes is posted on the NBA website [here](#).

After the completion of the *Collected Works* the NBA is able to provide greater service for the many researchers making use of its collections, as well as concentrate on its activities, instituted in early 1999 upon consultation with the Ministry of Research, to disseminate natural science for the public, particularly gymnasium (high-school) students (for details, see [here](#)).

## **Activities in 2010**

The NBA has received several boxes of archival material from the office and home of Aage Bohr, who died in 2009. Means will be sought to arrange and register the material.

The digitization of archival documents, for the purposes of both preservation and accessibility on the Internet, continues. In March, Christopher Prom from the University of Illinois, one of the

creators of Archon, visited to help streamline the system for the NBA's special purposes. A major part of the Bohr Private Correspondence has been digitized, and digitization of a supplement to the Bohr Scientific Correspondence has been started with a new two-year grant from the Danish Ministry of Science. A new computer has been purchased to hold and manipulate the substantial number of large files resulting from the digitization.

The NBA's digital catalogue of its library holdings, which was previously part of the library catalogue of the Niels Bohr Institute, will be made independent. The catalogue will be administered by the Royal Library.

The preparations for the 2013 celebrations of the centennial for Niels Bohr's atomic model continue. As for publications and arrangements directly under the auspices of the NBA, the Carlsberg Foundation has granted support for research to produce a publication on the basis of the early extensive correspondence (1910-1913) between Niels Bohr and his future wife Margrethe Nørlund. The trilogy of articles in which Bohr presented his atomic model will be published by Oxford University Press with a substantive historical introduction by the historian of science John L. Heilbron. The first call for papers has been announced for an international conference on the history of science, directed partly towards the specialized history of science community and partly towards the general public. The date for the conference, which is expected to take place over a period of three days, has yet to be decided. A book with selected contributions from the conference for later publication is planned. Another book, in Danish - on Niels Bohr as seen from a variety of perspectives by several authors and edited by Helge Kragh, Finn Aaserud and Lone Bruun - will be published in 2013.

The NBA will also be strongly involved in an international conference on contemporary international political issues taking Bohr's idea of an "open world" as its point of departure, as well as in several TV and radio programmes planned by Danish National Broadcasting (Danmarks Radio, DR).

As usual, there have been many visitors at the NBA in 2010. In particular, Anja Skaar Jacobsen continued her research on Bohr's close collaborator Léon Rosenfeld, the result of which will be submitted for publication to the publishing house World Scientific in 2011. Jens Gregersen continues his work on a biography of Bohr with special emphasis on his relationship with physics and politics in the Soviet Union. Jan Hansen and Sofie Lindskov Hansen have continued their work on a Master and Bachelor project respectively.

In 2010 there have been six contributions in the NBA series of history of science seminars. They were provided (in chronological order) by Christian Gram, Christopher Prom, Graham Farnelo, Arthur I. Miller, Gregory A. Good and Ronald E. Doel. More information on the seminars can be found on the NBA 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.