

# THE NIELS BOHR ARCHIVE

## Annual Report 2006

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: [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.

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 NBA continues the publication - through Elsevier - of the *Niels Bohr Collected Works*, the first volume of which appeared in 1972. A list of the volumes published so far is posted on the NBA's website.

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 2006

The main priority at the NBA throughout the year has been the completion of Volume 12 - the last - of the *Niels Bohr Collected Works*. Entitled *Popularization and People (1911-1962)* and edited by Aaserud, it includes those of Bohr's articles on physics for a general audience - together with those of his large number of writings on scientific predecessors and colleagues, as well as friends and family members - not contained in earlier volumes.

The completion of the *Collected Works* constitutes a genuine milestone for the NBA, which will allow greater concentration on the development of the NBA's role as a major international archive for the history of science. Thus, while continuing its general effort to organise and catalogue its historical collections, which has traditionally been done by means of outside funds, the NBA will now be able to concentrate on a two-year effort to add more detailed information about its archival collections to its website and to digitise its film and sound collections with a special grant from the Danish Ministry of Science.

The number of visitors to the NBA website remains remarkably constant, in the order of 100 visitors a day, after a considerable increase in 2001. This increase was prompted by the NBA's release of Niels Bohr's unsent letters to Werner Heisenberg regarding Heisenberg's visit to Nazi-occupied Copenhagen in September 1941. The release caught unprecedented international media attention.

There has also been a great number of people visiting the premises in person, in spite of the NBA's reduced services owing to the priority of completing the *Collected Works*. As usual, the visitors have come from Denmark and abroad and range from specialised researchers to the generally interested public. Anja Skaar Jacobsen has pursued post-doctoral research on the biography of Bohr's close collaborator, Léon Rosenfeld. At the end of the year, she obtained a two-year grant from the Carlsberg Foundation to write a book about the scientific and personal relationship between Bohr and Rosenfeld. Skaar Jacobsen will be formally employed at the NBA during the project. Jan Hansen continues his Master's dissertation project on the connection between theory and experiment at the Niels Bohr Institute in the 1920s. Two Japanese historians of science have spent considerable time studying archival material concerning particle accelerators at Bohr's institute in the 1930s, and Russian television as well as the BBC have visited in connection with film projects.

In the series of NBA History of Science Seminars there have been lectures by Chris

Chilvers, Bruce Hevly, Paul Josephson, Ronald E. Doel, Peter Harper and Mark Walker.

The NBA has furthermore been involved in organising two lectures by Allan Chapman from the University of Oxford in connection with the Renaissance Year, "Tycho Brahe in China" at the National Museum of Denmark on 24 October, and "Tycho, Astronomy, and the *Northern Renaissance*" at the Niels Bohr Institute on 25 October.

In April Aaserud gave a lecture at a conference in Strasbourg, "Future Proof III", in which the main area of interest was how best to ensure that the activities of scientists today can be documented for future historians. The conference was sponsored by among others the organisation CASE (Cooperation on Archives of Science in Europe), of which the NBA is a member. In June Aaserud gave two lectures for, respectively, physicists and archivists in Stavanger, Norway. He also lectured at the second all-European conference in the history of science, held in Krakow in September. These conferences, the first of which was held in Maastricht in 2004, constitute an important expression of the recent rapid development of the field of history of science in a host of European countries.

The experimental physicist Torben Huus (1919-2006), who had the Niels Bohr Institute as his workplace since before the Second World War and during his later years had his office at the NBA, died in August. The family has deposited his few surviving books and papers at the NBA. The unique and substantial history of science photo collection left by the biochemist Knud Max Møller (1922-2004) has been transferred to the Steno Institute in Århus, where it will be catalogued and made available to researchers. Like Huus, Max Møller occupied an office at the NBA, where he organised the photo collection and helped prepare its deposit at the Steno Institute.

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

## **Publications**

Finn Aaserud and Henry Nielsen, "Niels Bohrs verdenscenter for teoretisk fysik", pp.41-66 in *Dansk Naturvidenskabs Historie, bind 4: Viden uden Grænser, 1920-1970*, (eds. Henry Nielsen and Kristian Hvidtfelt Nielsen), Aarhus Universitetsforlag 2006.

*Niels Bohr Collected Works*, Vol. 12: Popularization and People (1911-1962) (ed. F. Aaserud), Elsevier, Amsterdam 2006.