

## Preface

The year 2013 was the centennial for Niels Bohr's quantum atom, which was to constitute a crucial basis for much that was to come in physics, an exceptionally wide range of applications and indeed our world view. Bohr and his achievement have been duly celebrated in many ways, particularly in Denmark, with arrangements sponsored notably by the Niels Bohr Institute. My own institution, the Niels Bohr Archive (NBA), has been part of many of these events. NBA has also organized celebrations on its own, the largest and most successful one by far being the conference of which this book is the outcome.

Niels Bohr has been celebrated many times before, starting in his lifetime, and many publications have come out of it.<sup>1</sup> Remembrances in general, and remembrances of scientists and their achievements in particular, are often viewed with suspicion by professional historians as occasions for myth-making and hero worship.<sup>2</sup> Publications from earlier celebrations of Bohr and his contri-

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1. It must suffice here to mention only a few examples. After several celebrations of Bohr, not least on his round birthdays, the 50<sup>th</sup> anniversary of his atomic model occurred the year after Bohr's death and was celebrated by his colleagues at the institute. The talks of reminiscences by Léon Rosenfeld, James Franck, Richard Courant, Oskar Klein, H.B.G. Casimir, Victor F. Weisskopf and Max Delbrück were printed for internal consumption only and can be read at NBA. A memorial volume, containing 13 reminiscences in Danish written by some of Bohr's closest colleagues, was published the same year: *Niels Bohr: Et Mindeskriфт, Fysisk Tidsskrift* 60 (1963). *Niels Bohr: His Life and Work as Seen by his Friends and Colleagues*, Stefan Rozental, ed. (Amsterdam: North-Holland, 1967), with 21 reminiscences in addition to Bohr's "Open Letter to the United Nations", was originally published in Danish in 1964. The 100<sup>th</sup> anniversary of Bohr's birth in 1985 produced many publications, of which *Niels Bohr: A Centenary Volume*, A.P. French and P.J. Kennedy, eds. (Cambridge, Mass.: Harvard University Press, 1985) comes closest to these Proceedings, as it includes contributions by historians as well as colleagues on a variety of aspects of Bohr's career.

2. See, in particular, the volume of the (U.S) History of Science Society's thematic journal that is devoted especially to this issue, *Osiris* 14 (1999). The volume includes a critical examination of fellow physicists' jocular celebration of Niels Bohr: Mara Beller, "Jocular commemorations: The Copenhagen spirit," pp. 252-273.

butions consisted indeed mostly of reminiscences written by people who had known or worked with Bohr, and more often than not venerated him. Now, after a hundred years, events have come at a distance, and there is nobody alive who took part in them. In the process, the earlier reminiscences have transformed from being the main reading for anybody interested in the history, into being sources for historians writing about the same events from a greater distance. We hope that readers will agree with the editors that the articles in this volume, although being part of a celebration, do not contribute to myth-making and hagiography, but rather allow for a greater understanding of the events in question and their place in history.

The idea to organize a history of science conference as part of the 2013 celebrations arose early, and a call for papers was sent out to colleagues, relevant institutions, journals and websites. Potential speakers were instructed to propose a broad range of papers relevant to Bohr's career, not limiting themselves to his 1913 contribution. The response was impressive and included not only historians of science, but also philosophers and physicists. It was clear early on that we had the basis for a conference of broad range and high quality.

I am grateful to the Royal Danish Academy of Sciences and Letters for providing as venue for the conference the room in which the Academy has held their meetings since 1899, and in which Niels Bohr in particular took an active part from his election into the Academy in 1917, and then served as President for the unprecedentedly long period from 1939 until his death in 1962. I am particularly grateful to the current President of the Academy, the anthropologist Kirsten Hastrup, for opening the conference with her "Prelude" reproduced at the beginning of this volume. As for practical matters, I thank Eva Bang-Hansen and Mette Danielsen of the Academy for organizing everything from hotel accommodation for the speakers to lunches for all participants served in the large hall on the top floor of the Academy's beautiful building, as well as the conference dinner in nearby Tivoli Gardens. It was a great pleasure working with you, and your efforts were indispensable for the smooth running of events and the well-being of the participants. The lunches,

the hotel accommodations and the conference dinner would not have been possible without a generous grant to the conference from the Carlsberg Foundation, for which I am also deeply grateful.

Special thanks are due to my esteemed colleague<sup>3</sup> and valued friend, John L. Heilbron, for agreeing to give a public lecture the evening before the start of the conference and for taking active part in the discussions during the entire event. Apart from setting a high standard in its own right, his lecture, given in the large lecture hall on the top floor, attracted general interest in the conference, which was subsequently attended by a full house.

The possibility of publishing a Proceedings was discussed at an evening meeting during the conference, attended by all speakers as well as by Marita Akhøj Nielsen, who represented the publishing division of the Academy. There was unanimous agreement that a publication should be produced, and almost all the speakers agreed to prepare manuscripts for it. It was also agreed that the Proceedings would constitute the first volume in the the Academy's new series *Scientia Danica series M, Mathematica et Physica*. Working with Marita toward the completion of this book has been a singular pleasure.

Upon their receipt, the submitted papers have been distributed among, evaluated and commented upon by three anonymous referees. In addition to the commissioned contributions by Hastrup and Heilbron, this volume comprises as a result as many as 23 of the 28 talks given at the conference proper. An additional paper subsequently submitted by a conference participant, Guido Bacciagaluppi, who did not give a talk, has since been added. The editors have decided to present the papers in a somewhat different order than that in which the corresponding talks were given at the conference.

The contributions were submitted in several formats, both regarding the presentation of footnotes and bibliography and regarding the use of word processing systems (notably LaTeX and Word).

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3. Heilbron and I have recently collaborated on the book, *Love, Literature and the Quantum Atom: Niels Bohr's 1913 Trilogy Revisited* (Oxford: Oxford University Press, 2013), which constituted the basis both for Heilbron's talk and for my contribution to the conference proper.

The editors have made an effort to unify the footnote and bibliography styles, while the printers have standardized the typography. We are grateful to Marita Akhøj Nielsen for allowing word processing formats according to the authors' preferences and to the printer for the patience shown in forming them into one standard for the book.

I value most of all the collaboration of my co-editor and long-time friend and colleague, Helge Kragh, whom I was able to involve early in the process by seeking his help in developing the program for the conference. Working with him has provided inspiration and has been a singular pleasure. Both of us thank the speakers for their contributions to the conference and to this volume, as well as for their ability, almost without exception, to stick to the deadlines we gave them. I would also like to thank the audience at the conference for their participation and for their questions and comments which have unquestionably contributed to the quality of the contributions in this volume. Last but not least, I thank the permanent staff at NBA, Felicity Pors and Anne Lis Rasmussen, for their enthusiastic help at all times in preparing both the conference and the Proceedings from it, and Kira Moss for her practical assistance during the conference itself. We editors dedicate the volume to the memory of my recently deceased wife, Gro Synnøve Næs, who was my greatest inspiration. Gro was able to attend the conference before cancer took her away at a too early age.

Finn Aaserud  
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