Contents

Preface	v
Acknowledgements	vi
Contents	vii
Part One: Niels Bohr	
Communications delivered to the Royal Danish Academy of Sciences and Lette October 3, 1985, edited by Erik Dal	ers,
Niels Bohr and the Royal Danish Academy of Sciences and Letters B. Strömgren	3
Epistemological Considerations H.B.G. Casimir	13
Part Two: The Lesson of Quantum Theory	
Proceedings of the Niels Bohr Centenary Symposium, October 4–7, 1985, edited Iorrit de Boer and Ole Ulfbeck	by
The Lesson of Quantum Theory	
Measurement in Quantum Theory and the Problem of Complex Systems P.W. Anderson	23
Quantum Mechanics at the Macroscopic Level A.J. Leggett	35
Strange Quantum Numbers in Condensed Matter and Field Theory	,,,
J.R. Schrieffer	59
The Study of the Nucleus as a Theme in Contemporary Physics B.R. Mottelson	79
"Complementarity" between Energy and Temperature J. Lindhard	99
Radiation by Uniformly Moving Sources V.L. Ginzburg	113
Does Elementary Particle Physics Have a Future? S.L. Glashow	143
Observability of Quarks J.D. Björken	155

viii Contents

The Transformation of Elementary Particle Physics into Many-Body Physics L. Van Hove	167
Physics in Terms of Difference Equations T.D. Lee	181
Some Lessons of Renormalization Theory A.S. Wightman	201
Particles, Fields, and now Strings S. Weinberg	227
Collective and Planetary Motion in Atoms R.S. Berry	241
Unity of Knowledge	
The Origin and Evolution of Large-Scale Structure in the Universe W.L.W. Sargent	263
Molecular Replication and the Origins of Life L.E. Orgel	283
Physics, Biological Computation and Complementarity J.J. Hopfield	295
Complementarity in Linguistic Observation, Description and Explanation W.U. Dressler	315
Niels Bohr	
Great Connections Come Alive: Bohr, Ehrenfest and Einstein M.J. Klein	325
Niels Bohr and Nuclear Weapons M. Gowing	343
Niels Bohr: The Man and His Legacy J.A. Wheeler	355
Mellem Spøg og Alvor: Personal Recollections about Niels Bohr H.B.G. Casimir	369
II.D.O. Casma	309
Part Three: Jest and Earnest	
Addresses presented at the evening gathering in Ny Carlsberg Glyptoteket, Octobe 1985, edited by Jorrit de Boer and Ole Ulfbeck	er 7,
Parentesen <i>A. Aaboe</i>	377
Truth and Clarity R. Peierls	379
Niels Bohr, the Quantum and the World V.F. Weisskopf	381