



SOCIETY FOR
SCIENCE & THE PUBLIC

Inform. Educate. Inspire.

Prof. Bohr Opposes Einstein in Quantum Theory Controversy

Source: *The Science News-Letter*, Vol. 28, No. 747 (Aug. 3, 1935), p. 69

Published by: [Society for Science & the Public](#)

Stable URL: <http://www.jstor.org/stable/3911082>

Accessed: 28/10/2010 12:13

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=sciserv>.

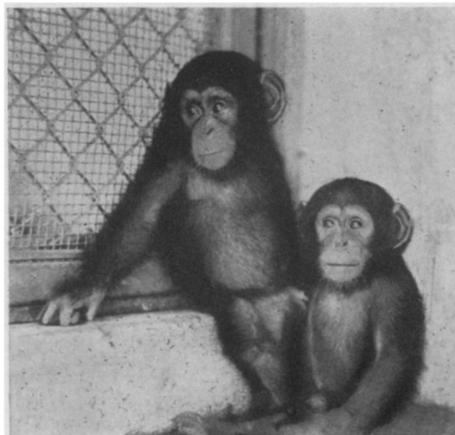
Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Society for Science & the Public is collaborating with JSTOR to digitize, preserve and extend access to *The Science News-Letter*.

<http://www.jstor.org>



The Twins: Tom and Helene



Chow



Forty Winks

When Mona was tired of the clinging babies, or wished them to fend for themselves, she would sometimes resort to discipline. She might brush one aside, shake it, strike it or bite its hands—always gently.

"Sometimes as the mother thus roughly treated her young she would scream as if in impatience or anger," the scientists said. "To us the behavior suggested impotent rage, for the infants usually complained so bitterly that they compelled their mother to relent."

Like a human bad child, when the chimpanzee infants failed to get what they wanted, they would throw themselves on the floor and scream.

"Mona seldom could long resist this infantile appeal. Manifestly struggling against conflict, she would go to the infant, take it up and for a time indulge it. Then self-interest having gained dominance, she would once more antagonize the twin and the scene would be repeated.

"Usually the infant won eventually and peace was restored."

Even modern-minded Mona would rock her babies to quiet them, however. When the little one was restless or complaining, the mother would hold her hand or arm under the baby and then move her arm rhythmically back and forth until the child was soothed to rest. The mother was so large and the babies so tiny that both twins could thus rest on one arm of the mother.

Science News Letter, August 3, 1935

Eastern brook trout cannot withstand competition with other species of fish, but they thrive if protected in high mountain lakes, in pools and quiet streams.

Milk that is over 50 hours old cannot be sold in the city of Chicago, according to a new ruling.

PHYSICS

Prof. Bohr Opposes Einstein In Quantum Theory Controversy

Leading Exponent of Theory Points to "Ambiguity" In Einstein's Test As Applied to Quantum Mechanics

CONTROVERSY reigns in the world of mathematical physics.

Following Prof. Albert Einstein's attack on quantum theory (*See SNL*, May 11, 1935) on the grounds that it does not give a complete description of physical reality, the battle is now joined by Prof. N. Bohr, the famous scientist of the Institute of Theoretical Physics at Copenhagen.

Prof. Bohr is one of the leading exponents of quantum theory, for certain developments of which he was largely responsible. The theory was initiated by Prof. Max Planck, and other names associated with it are those of de Broglie, Dirac, Eddington, Heisenberg, Jeans and Schroedinger.

Prof. Bohr's initial rejoinder is in the form of a letter to the editor of *Nature* (July 13). He is shortly to publish a longer communication in the *Physical Review*, where the paper by Prof. Einstein, Dr. Boris Podolsky and Dr. N. Rosen was also published.

Prof. Bohr's criticism of the deductions of Einstein and his co-authors is based on disagreement with their criterion, or standard of test, of physical reality. He does not think that their definition of this reality can be appropriately applied to problems of quantum mechanics.

Said Prof. Bohr:

"Since, as the authors show, it is always possible in quantum theory, just

as in classical theory, to predict the value of any variable involved in the description of a mechanical system from measurements performed on other systems, which have only temporarily been in interaction with the system under investigation; and since in contrast to classical mechanics it is never possible in quantum mechanics to assign definite values to both of two conjugate variables, the authors conclude from their criterion that quantum mechanical description of physical reality is incomplete.

"I should like to point out, however, that the named criterion contains an essential ambiguity when it is applied to problems of quantum mechanics." *Science News Letter, August 3, 1935*

CHEMISTRY-ANIMAL HUSBANDRY

Spectroscope Detects Traces Of Selenium in Soil

WHAT may be a new aid in combating cattle poisoning caused by the animals eating plants grown in selenium-poisoned soil was reported to the Third International Conference on Spectroscopy, meeting at Massachusetts Institute of Technology.

Dr. George R. Harrison, professor at M. I. T., has been able to detect spectroscopically traces of selenium as low as one part in a million.

Science News Letter, August 3, 1935