

## THE UNIVERSITY OF TEXAS AT AUSTIN AUSTIN, TEXAS 78712

Center for Theoretical Physics (512) 471-3751

February 6, 1984

Professor Franco Selleri Istituto di Fisica Universitá di Bari Bari, Italy

Dear Professor Selleri:

Professor Roman Sex1 did me the honor and gave me the great pleasure of presenting me with a copy of your Die Debatte um die Quantentheorie when I saw him at San Antonio on Feb. 1. Last night I finished reading it and want to thank you for the service you have done the whole community by this study of the leaders, their ideas and where the subject has gone since the golden days. Among points I found especially illuminating or interesting or both are Jordan's position on the existance of an external world (page 29); the positions of Christian Bohr and Niels Bohr on teleology (page 116); Einstein's view of positivism (page 114); the references to William James (whom Bohr loved to read) (page 121); the ideas of our wonderful colleague, Eugene Wigner, with whose position on consciousness, however, I do not always agree (page 123); Einstein's letter to Born, about what he called a spooky action at a distance (page 136); and what could perhaps be called "Dirac's defeatism" (pages 136-137).

Congratulations and warm good wishes.

Sincerely

John Archibald Wheeler Ashbel Smith Professor and Blumberg Professor of Physics

and Center Director

cc: R. Sex1

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	ban,23. February. 1984				
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	(da citare nella risposta)				

Prof. John Archibald Wheeler
Center for Theoretical Physics
The University of Texas at Austin
AUSTIN, Texas 78712

Dear Professor Wheeler,

It was for me a great surprise and pleasure to receive your letter of Feb. 6 with the kind words about my book <u>Die Debatte um die Quantentheorie</u>. I have been working hard for many years on this kind of problems starting essentially in 1971 when a year spent at the University of Nebraska gave me the opportunity to read the original papers on quantum theory. The idea to publish the book first in german came from contacts with Roman Sexl who has done so much to help me in this enterprise.

I am also grateful for your very interesting papers: some ideas I have used in my teaching of quantum mechanics here in Bari, like your example of the game of the twenty questions for understanding the Copenhagen relationship between quantum physics and reality: a really illuminating idea, thank you for letting me know about it!

I take the freedom to send you some of my recent papers: the sense of this research is that the difference between realism an other philosophical approaches such as positivism is <u>not</u> merely philosophical but physical.

Einstein's elements of reality, taken seriously, lead to empirical consequences which contradict some well established "truths" in domains in which no experiments are available yet: this is the case, for instance, of the KK-pairs produced in electron-positron collisions. Also the idea of "empty waves" shows that new empirical predictions follow from it, which



## UNIVERSITÀ DEGLI STUDI DI BARI FACOLTÀ DI SCIENZE Dipartimento di Fisica

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can prove this idea wrong if the experiments are carried out. If these experiments turned instead out to be compatible with the idea, this would mean that a space-time description of elementary phenomena would become possible, in spite of all which has been said againstit.

Of course there are difficult "sociological" problems in convincing experimentalists to devote their time to such problems, but optimistically something is starting to move.

Last point, I believe that the Orsay experiments do not settle the problem of nonlocality because of the incredible superficiality both of data handling and of conceptual analysis: one of the papers deals with this matter.

Please write me again if you feel like doing so: it is for me a great honor to exchange views with a physicist of your level and fame.

With best regards,

Yours sincerely,

(Franco Selleri)

cc: R. Sex1



## THE UNIVERSITY OF TEXAS AT AUSTIN AUSTIN, TEXAS 78712

Center for Theoretical Physics (512) 471-3751

July 30, 1985

Professor F. Selleri Dipartamento di Fisica Universita di Bari Via Amendola, 173 70126 Bari Italy

Dear Professor Selleri:

Many thanks for the beautiful Urbino book. I look forward very much to the meeting and to having with me my wife and 14-year-old science-minded grandson, Robert T. Wheeler. We have been at a loss to know where best to stay. The reason is simple. In some universities the dormitory rooms are terrible. In others they are wonderful. Nothing in the information received so far lets me know which to expect at Urbino. Therefore, by separate letter, I am sending money to the indicated place to reserve space in the dormitory for the three of us with the idea, however, that we can shift to a hotel if the university accommodations do not prove suitable. If you have any advice on this point, I would welcome it.

I am not sure I gave you a title for my talk. If not, "Information and the Quantum" is a possibility, if you approve.

We are renting a car at Milan, mid-day Monday, September 23 and stopping Monday night about half way to Urbino, arriving sometime Tuesday.

I have to leave the conference a little early sometime Tuesday, October 1, in order to be able to get to a meeting of the Danish Academy in Copenhagen.

Every good wish.

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John Archibald Wheeler

Ashbel Smith Professor and Blumberg Professor of Physics

and Center Director



## THE UNIVERSITY OF TEXAS AT AUSTIN AUSTIN, TEXAS 78712

Center for Theoretical Physics (512) 471-3751

December 12, 1985

Professor Franco Selleri Universita degli Studi di Bari Facolta di Scienze Dipartimento di Fisica Via G. Amendola 173-70126 Bari Italy

Dear Franco,

How can I thank you enough for that wonderful meeting! And how I appreciate your hospitality to me, my wife and my grandson! I hope we will have many chances for further discussions in time to come.

I cannot forego mentioning two wonderful new books. One, edited by J. Kalckar, Foundations of Quantum Physics, is volume six of North-Holland's Niels Bohr, Collected Works. It gives a "blow-by-blow" account of the discussions, letters and conferences that lead to our understanding of quantum theory. The other, published by Harvard University Press, and edited by A. P. French and P. J. Kennedy, is a perfectly beautiful Niels Bohr Centenary Volume. I have found both enjoyable and enormously instructive.

I admire your warm support for Professor Marshall and wish I could join you in it. Unhappily, I can't. I send you confidential copies of letters to him and his university.

If there is any chance that you will be at the January 21-24, New York meeting being arranged by Wigner and Greenberger, it will be a joy to see you again.

All good wishes for 1986!

Yours,

John Archibald Wheeler Ashbel Smith Professor

Mumberg Professor of Physics

and Center Director

Enclosures