

# Tribute to Niels Bohr

by the Director-general

*on the occasion of the unveiling  
of a bust of Bohr in the  
Administration building of CERN  
on 19 June, 1963*



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Ladies and Gentlemen,

Science is the search for the absolute, for fundamental laws, for basic truth in nature. We try to express it in mathematical forms, in ways that are independent of the personal character of the individual scientist, in absolute terms beyond the frame of mind of the particular men who created it. This is the aim of science and we are proud of it. But this is also why we, physicists, are often not sufficiently aware of the role and influence of personalities in our life and in our activities. In all human enterprises, there are great personalities who give sense, direction and purpose to the work. If there is any personality who has given these essential ingredients to our institution here at CERN, it is Niels Bohr. It is therefore most fitting and natural for us to have Bohr's likeness here, at the very centre of this institution. All the things we are doing here — the ideas in CERN, the ideal of CERN — are expressions of his heritage.

What is Niels Bohr's heritage? It can be expressed in two complementary ways. We can speak of his scientific heritage: to-day's knowledge of the structure of matter; this knowledge, perhaps the greatest cultural achievement of our time, is an intellectual edifice that we owe to him. Bohr provided the foundations of this edifice in his theory of the atom. He designed the structure of this edifice when he formulated the concepts of quantum mechanics. He supervised its construction as the founder of the famous School of Theoretical Physics in Copenhagen, with its circle of students and pupils that spread all over the world. Here in CERN, we are so to speak on the top of this edifice. Our work tries to continue, in his spirit, to build to greater heights, to move towards deeper knowledge of matter.

We can also express Niels Bohr's heritage in terms of human relations; it is a complementary form of the same ideal. In the last centuries we witnessed a tremendous expansion of knowledge and power: knowledge of nature and power over nature. This great expansion, of which Niels Bohr's work is part, is a source of many conflicts of to-day. It uprooted established ways of living and thinking, and therefore created great problems for our life and for our world and future. Many people are overwhelmed by these dangers, they are discouraged and fear the worst for the world. But never Niels Bohr. For him, every difficulty, every conflict contains its solution. The greater the difficulty, the greater the step to surmount it, the greater is the reward which ensues. When simple solutions failed, in human and in scientific struggles alike, he saw the great advantage of being forced to attack a larger problem. In his mind, science not

only created problems, it also showed the way to overcome them. Science is, in his mind, a form of human collaboration, the most developed form. It therefore must lead the way to better human relations. And it is here that Niels Bohr's vision and CERN's purpose come together. In CERN the two complementary forms of Bohr's heritage are both essential:

1. CERN stands and works at the frontier of science, and
2. CERN shows a new way of human collaboration as a supernational and superpolitical enterprise.

I think this is why Bohr worked so hard to bring CERN into existence, why he spent so much of his efforts in the latter years of his life to get this idea going. We know very well that without Bohr's drive, without his energy, without his active work, there would have been no CERN. There is a word that I can only find in Danish: without Bohr's 'indsats', CERN would not exist.

How he would have appreciated it if he were here to-day, if he had seen that we, for the first time, were able to switch on our strong neutrino beam! How he would have appreciated the fact that the groups working on this great experiment, of which we are very proud these days, that these groups are made up of men of nineteen different nations, not only from our Member states but also from Russia, Japan, the United States, from India, from all over the world, all engaged together in the search for new fundamental knowledge. This is a symbol of what he wanted to do here!

When we look out and see the world outside this laboratory, we realize that the world is far behind us in this respect, even behind our imperfect attempts that we are trying out here in our scientific world. We are bound to lose heart, but there is no reason for it. We can and we must try to fulfil these ideals here; when we succeed here at CERN, when this great experiment for international work succeeds, then its influence will and must spread over the rest of human activities. How we would need his leadership in this task! We now must bear the load of his heritage alone, we can no longer count on him. Men like him come only once in a century. But let his image remind us of the right way. With him we have worked in the past, great was his influence and much of his spirit lives here still in our generation among us. Much of him, I hope, is still here, at CERN and will carry on his work in the days to come. May his likeness be a symbol of his spirit, not as a memory of the past but, as he would have wished, as a beacon that points the way to the future ●