



POPULARIZATION OF HIGH ENERGY PHYSICS AND UNESCO'S PROGRAMME "PROMOTION OF PUBLIC UNDERSTANDING OF SCIENCE"

Yuri Novozhilov

► To cite this version:

Yuri Novozhilov. POPULARIZATION OF HIGH ENERGY PHYSICS AND UNESCO'S PROGRAMME "PROMOTION OF PUBLIC UNDERSTANDING OF SCIENCE". Journal de Physique Colloques, 1973, 34 (C1), pp.C1-458-C1-459. 10.1051/jphyscol:1973166 . jpa-00215246

HAL Id: jpa-00215246

<https://hal.science/jpa-00215246>

Submitted on 4 Feb 2008

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

POPULARIZATION OF HIGH ENERGY PHYSICS AND
UNESCO'S PROGRAMME "PROMOTION OF PUBLIC UNDERSTANDING OF SCIENCE"

Yuri NOVOZHILOV

Department of Scientific Policy & Information, Unesco

Popularization of science is only a small part of what we in Unesco call the "Promotion of public understanding of science". However, at this Conference we speak not only about popularization of science in the strict sense of the word, but also about the rôle of high energy physics (HEP) in the contemporary society. If we accept this more general view of popularization of HEP, then one can find many links with different parts of the Unesco programme "Promotion of public understanding of science". The most important part of the programme - which is presently being discussed - concerns the human implications of scientific advance. I will try to describe to you some aspects of the Unesco's programme as well as its possible relevance to HEP.

The starting point of this programme is the statement that science is a part of the integrated efforts of humanity to improve the quality of the world. Certainly, science and technology are driving forces in raising the standard of human welfare. As we say in physics, it is the consequence of the main interaction of science with society. This interaction is very strong and when taking it into account, we cannot dissociate science from society. When taking it into account we sometimes, however, forget those implications of scientific advances which arise from the corresponding social and psychological changes. In short, we sometimes forget about other weaker science-society interactions, a fact which justifies the necessity of studying the human implications of scientific advance.

The problems relevant to such implications come within a very wide scope. For instance, the need for basic sciences for humanity is not recognized by everyone and large groups in the society - though accustomed to headlines that we are living in the century of science - do not understand properly the rôle of basic sciences and their necessity for mankind. Some people even doubt the benefi-

cial character of scientific advance : pollution and the increasing technological aspect of the society are their main arguments. On the other hand, there are some people who believe in science maybe more than necessary. They are inclined to put the accent on scientific knowledge rather than on conscience or other humanitarian aspects. This poses additional problems - namely those of ethics in science and of the influence of science on ethics. All these problems are clearly related to the well-known question of the responsibility of scientists themselves for the proper use of science and for the promotion of the better understanding of science and its relationship with society. It is a pleasure for me to see that our popularization session demonstrates in fact the high sense of responsibility which high energy physicists feel they bear towards society. This start is certainly quite encouraging and I agree with the organizers of this session when they say that one should, first of all, explain to the "people-in-the-street" what HEP means for science and humanity.

At the present time, Unesco has quite a good experience in the "promotion of public understanding", the aim of which is to overcome those obstacles which are put in our way by our insufficient knowledge of the science-society interaction and the phenomena of mistrust of science. Unesco's main experience concerns the popularization of science. As you know, Unesco's rôle is that of a "catalyser" ; thus it organizes activities in this field by helping regional sessions of science writers, by launching new journals on the popularization of science in the developing countries, by awarding the international Kalinga Prize for the popularization of science. In order to encourage international discussions, Unesco is publishing a quarterly journal "Impact of Science on Society". Next year, a Unesco book "Science in the 70's" will appear. This book will contain not only a part describing the

current trends in scientific research, but also parts on "Science and Man's Needs", and "Science and Society". Unesco is also convening meetings on "Science and Ethics" where a panel of scientists formulates the problem with regard to Unesco activities. One of the outcomes of Unesco's activities in the field of "Science and Ethical Norms" is the draft of the status of scientific research workers. This draft describes the responsibilities and rights of research workers, who now constitute a new strata in society. Our attitude is that they initially have responsibilities, but also have rights connected with the responsibilities. This draft status is now being dispatched to all Member States for their comments and it will be discussed at the 18th session of the Unesco General Conference. If adopted, it will be considered as a recommendation to all Member States on the subject.

The problems of youth are given a special attention at Unesco. There are a considerable number of youth problems in connection with science. The involvement of young scientists in our programme is essential in order to give a dynamic impact to the science-society interaction connected with the development of society. Those who are young now will determine the face of science to-morrow. Unesco is therefore planning to convene meetings which will provide an opportunity to exchange the views of young scientists in the development of their countries, especially in the developing ones.

I have just tried to give you a sketch of Unesco's programme. Now, what is the rôle of HEP in this programme? I am sure that -though not explicitly written - this rôle is very essential and, to some extent, unique. It is due initially to the fact that HEP is the field of science where many new laws of Nature have been discovered and where one can expect many new breakthroughs. It is the indispensable instrument for our understanding of Nature.

On the other hand, the growth of nuclear physics has clearly demonstrated the tremendous contribution which basic sciences can make to the development of technology and to the harnessing of new sources of energy. In this respect, one has also to mention all the possible technical applications which research in HEP can initiate, as well as a strong influence of HEP on other branches of technology. The general public is certainly aware of this aspect of nuclear and HEP but nevertheless it seems quite essential that new books and articles are published discussing these topics extensively, in particular : (a) the rôle of HEP and of elementary particles in the scientific and technological advance ; (b) an explanation of how new laws discovered by HEP are linked to former knowledge ; and (c) whether the new methods of HEP are useful to other fields of science and technology. As you know, an extensive international scientific collaboration is a specific feature of modern science. HEP is one of those fields where such a collaboration has been organized at an early stage and in a large scale. CERN and JINR give us examples of new kind of international institutions. I think that the popularization of this aspect of HEP is also desirable.

At the end of my speech, I would like to tell about the participation of HE physicists in elaborating the new Unesco programme on human implications of scientific advance. They form, in fact, a substantial part of the small working group established by Unesco for this task. We thus rely very much on the advices of Professors Weisskopf, Salam, Markov and Low, and I do hope that a realistic and imaginative HEP approach will help us to elaborate a good programme. I presume that the discussion of the popularization of HEP will set a precedent for subsequent conferences, and I do hope that next time we shall be able to discuss in detail the new popularization projects which Unesco has carried out.