

by Pope John Paul II. He reiterated his hope that dispelling of past misunderstandings and mistrust will lead to fruitful concord between Science and Faith. Scientists enjoyed great moral influence which should be used in the defence of man and his dignity. The task of scientists was gigantic and noble, and the world expected from them a service worthy of their intellectual capabilities and ethical responsibilities.

The sixth symposium, that on Galilean Science Today, rightly took place in the Barberini Palace in the very room where Galileo often visited his friend who later as Pope Urban VIII and Head of the Church perhaps unavoidably came into conflict with him. The full programme of lectures provided a wide panorama of modern science which true to Galileo's principles carries on the search for truth in intellectual humility. The range of topics extended to

the limits of perception and conception, from the utmost reaches of the Universe, its beginning and possible end, to the ultimate unification of Nature's forces revealed to us by successive revolutions in theory or perhaps in even larger accelerators. On a more human level, there was talk of the brain and the mind, of living cells and cancer, and of how to ensure the continuation of civilized life by the use of renewable fuels and nuclear fusion. That the threat to civilization and survival is even more imminent became clear in a Round Table discussion on Science, Religion and Peace. While nations in mutual fear are engaged in an irrational race to destruction, the action of scientists appears largely confined to speaking out against such insanity. By working with the leaders of nations who, in Rabi's words, were not wicked — "but why are they doing what they are do-

ing?" — and, above all, by making the public aware of the true, beneficial role of science, some hope for the future could be maintained.

In concluding the symposium, Nino Zichichi justified such optimism because, after all, the amount of human intellectual power is enormous. Our striving towards a fuller understanding of Nature should lead to a better life in peace and human dignity. More means are needed for research, instead of for arms of destruction because, as must be made known as widely as possible, the work of scientists inspired by Galileo and Nobel can be of the greatest value to mankind.

These stimulating days of talks and meetings with eminent scientists in the public eye furthered such positive aims and were a worthy memorial to two great men of science.

Histories of Science

A. Guinier and J. Laberrigie, Paris

All scientists, and in particular physicists, feel strongly that a knowledge of the evolution of the ideas of their predecessors may contribute to their own research. But while works on the history of science benefit everyone, serious research in this domain is restricted to a few specialist groups. We find, for example, that the American Institute of Physics has founded in New York a Center for the History of Physics; in Germany, there is a historical section of the Deutsches Museum in Munich. In France, the future Musée des Sciences et Techniques of La Villette (Paris) will host a group of historians of science.

One must distinguish two types of historical study: the ancient and the modern. The latter is especially interesting for the physicist, because his present work is mostly influenced by what has been done since, say, 1900. Documents from this period are very numerous, relatively easy to find and also to understand as they are written in a modern language.

Interest is undoubtedly growing among physicists in the history of their science over the last decades. Mixed groups of historians and physicists are now working in various places and we shall give examples here of two such activities that are typical. We are, nevertheless, still far from a systematic coverage of the field.

Even if a physicist is not personally engaged in any historical analysis, he should be conscious of the vital necessity of safeguarding what will be the source material for the work of future historians. Every scientist should feel a responsibility

for preserving any document or piece of apparatus which "may" be important. Of course, many, too modest, think that their contribution does not deserve to be treated with a religious care, but it is impossible to know on the spot the real value of an apparently small detail. In any case, it is much easier to eliminate afterwards useless documents than to search desperately for some lost piece of work which has proved to be essential. A very small amount of classification, a few moments of caution, may avoid long hours of tedious research some years after.

A necessary condition for success in compiling a history of science is perfect impartiality. But everyone is inclined naturally to give the greatest importance to the part of the story he knows best: so possible distortions in favour of one author's country should be compensated by contributions from other sources; that implies that the working teams must be international.

International Colloquium on the History of Particle Physics

In July of last year an International Colloquium was held in Paris on the History of Particle Physics with more than 200 participants coming from 26 countries.

During the period chosen: 1930—1960, particle physics emerged as an autonomous field, separate from nuclear physics and cosmic ray physics. However, development over the period was so rapid and so impressive and the advance in our knowledge so important, that, at the Colloquium, it was necessary to limit the subjects covered and try to put emphasis on

topics that had not been treated or much stressed before.

So the Colloquium was devoted to some of the main discoveries, the origin and evolution of the concepts (isospin, strangeness,...), fields (neutrino physics,...) theories (Q.E.D., weak interactions) and technical methods that appeared at that time, as well as the role played by institutions. Moreover, as the second world war was the most important historical feature of the relevant period, the position of elementary particle physicists in relation to the new weapons was also included.

One of the aims was to collect direct testimonies of eminent physicists, who made important contributions during the period. Another was to have the participation of young physicists and historians of science. A strong motivation was the feeling of many elementary particle physicists that the scale of experiments performed today is reaching a limit and they are looking at the near past in order to understand their roots.

Numerous eminent physicists participated with enthusiasm in the Colloquium. Reports were given on: Cosmic ray physics (B. Rossi, P. Peyrou); Early history of physics with accelerators (H. Anderson); Weak interactions (E. Amaldi); Neutrino physics (F. Reines); Isotopic spin (N. Kemmer); Strangeness (M. Gell-Mann), Q.E.D. (J. Schwinger). A report prepared by B. Pontecorvo on the Infancy and youth of neutrino physics was also distributed. Spencer R. Weart spoke on "The Road to Los Alamos". Round tables on elementary particles in cosmic ray physics, the role of institutions and evolution concepts were led by W. Fretter, V.F. Weisskoff and L. Michel with the participation of R. Armenteros, C. Butler, R. Dalitz, L. Leprince-Ringuet, C.O. Ceallaigh, O. Piccioni, G. Rochester, E. Amaldi, P. Auger,

E. Goldwasser, A. Messiah, Y. Yamaguchi, K. Nishijima, F. Perrin, J. Steinberg, E. Wigner and Chin N. Yang.

In the auditorium and during the breaks, the discussions and conversations were very animated and the atmosphere was the essence of cordiality. Physicists of different generations and historians had the opportunity to exchange their point of view.

During the Colloquium a small exhibition with original material was presented which afterwards was lent to the 21st Conference of High Energy Physics and to CERN.

The proceedings including all the reports and discussions have been published as "Colloque International sur l'Histoire de la Physique des Particules", *J. Physique Coll.* 43 (1982) 8. They constitute an important contribution to the history of physics.

International Project on the History of Solid State Physics

Solid state physics constitutes a relatively new domain: indeed, the name itself has been in use only since ca. 1940. Before that date, physicists as well as crystallographers, metallurgists and, since the thirties, metal physicists, studied such properties of solid bodies as elasticity, plasticity, magnetism, electrical properties, optics, etc., but their efforts and motivations were fragmented, with little institutional or intellectual cohesion. There were then only tenuous links between a theoretical conception of the constitution of a solid and the vast empirical knowledge concerning the behaviour of solid materials in practice. Against this background, an international project on the history of solid state physics has been set up to consider the period between the years 1920 and 1960. It covers the time over which a theory of solids was progressively and firmly established and it excludes too recent, and sometimes still uncertain, advances.

The choice of solid state physics for a historical study is justified by the number of questions of general interest which are involved, for example: the impact of quantum mechanics on the bases of the theory; the role of economical and social factors on the development and emergence of coherent solid state physics; relations between the needs of technology and the advances of fundamental science (especially in the domain of semiconductors); influence of political events which have so drastically changed the world and the scientific communities in different countries, etc.

The project is carried out by several teams located in various countries and working together: in the USA, a group led by L. Hoddeson (Urbana); in Great Britain, the group of E. Braun (Birmingham); in Germany, the group of T. Teichmann (Munich); in addition there are also participants in France, Holland, Japan... Funds have been generously provided by Foundations, the American Institute of Physics, and some American industries.

The final goal of the project is the production of a book, written by many authors, which will be published by Oxford University Press. This book will be based upon the analysis of all the documents collected, some of which are readily available, having been published in regular journals, but others are original. There are recorded interviews of most of the scientists still living who have played a prominent role in the advance of solid state physics during this period of 1920-60; personal letters exchanged between renowned physicists have also been collected. All these archival documents, and especially the magnetic tapes, are now kept in different places, but the important point is that an extensive

catalogue has been established in the Center for History of Physics of the American Institute of Physics (Dr. Spencer Weart, New York).

So the work will have results which go beyond the mere production of one book. The archives which have been assembled will be precious sources for future historians and physicists. This point deserves to be emphasized because, for many other scientific domains, the situation is less favourable. The material will also be of value for the teaching of science. Imagine the impact today on students hearing the voice of Einstein explaining how he was led to the ideas contained in one of his famous papers.

The Board of Governors of the Eindhoven University of Technology, Eindhoven, The Netherlands wishes to announce a vacancy for an

Ordinary Professor of Physics

in the Plasma, Atomic and Molecular Physics Group in the DEPARTMENT OF PHYSICS.

The successful candidate will have to supervise research in the above-mentioned domain, in particular on problems where collective as well as non-collective phenomena play a role. The study of the dynamics of two- or more-particle collisions in ionized media as well as beam experiments should be included. The research should be carried out in co-operation with the present staff and with the help of available equipment.

The appointed candidate should have a good theoretical insight in the field of atomic and molecular physics in addition to acknowledged experimental expertise. He is expected to have an open eye for application-oriented research such as optical diagnostics and processes in the plasma or gaseous state especially near and in interaction with solid surfaces. He is expected to be able to arrange for research contracts from public and industrial funds.

In addition to a fair share in teaching general physics courses to first and second year students, his task will involve lecturing on atomic and molecular physics to senior undergraduates, giving guidance to work of senior students finishing their courses, and to graduate students proceeding to a doctorate.

Involvement in administrative responsibilities of the department will also be expected.

Letters of application, together with a detailed curriculum vitae and list of publications should be addressed to:
the Chairman of the Appointment Committee:

Prof.dr.ir. H.L. Hagedoorn
Afdeling der Technische Natuurkunde
Postbus 513
5600 MB Eindhoven, The Netherlands,

from whom also information can be obtained by telephone (40) 47 40 48. Private: (40) 86 32 20.



Applications are invited before 15 September 1983, under number V5141.

Those wishing to draw the committee's attention to potential candidates are kindly requested to communicate with the Chairman of the Appointment Committee.