high energy range. The 300 GeV design has been optimized for its technical feasibility and its overall reliability. It is a sound basis for going ahead. Professor Puppi also reported for the Scientific Policy Committee on the desirability of selecting the 300 GeV project leader and the top staff of the construction team as soon as possible. This has been done for the 200 GeV project in the USA, which has still not received final approval, and has helped a great deal in raising enthusiasm for the project. It has also made possible the recruitment of accelerator physicists from America and from Europe. If selection of the 300 GeV team is not initiated soon, Europe may well lose some of its best people to the American project.

The President was authorized by the Council to work out methods of setting up the 300 GeV project team.

Site selection procedure

Mr. J. H. Bannier presented an interim report of the Site Evaluation Panel (J. H. Bannier, Netherlands; A. Chavanne, Switzerland; J. K. Boggild, Denmark, each representing countries who have not offered sites for the 300 GeV Laboratory). The panel has the task of establishing criteria and procedures for the selection of a site and, on this basis, of making a first evaluation of each of the nine remaining site proposals. The preliminary work was presented to Council to ensure general agreement with the lines being followed.

On the question of criteria the panel have drawn up a list of factors in three categories.

The first concerns the construction and development of the Laboratory, including such factors as the size and shape of the site, the possibilities for extension, etc.

The second concerns the operation of the Laboratory, with consideration of the availability and quality of cooling water, availability and price of electricity, etc.

The last category concerns features directly affecting the personnel. These include housing, education, etc.

Information on these factors for the respective sites is contained in the site reports presented to the Council in June 1967 (CERN/644/Rev.), and in the replies given to a questionnaire concerning social matters. Dr. Bjerrum, the consultant geologist, continues his work clarifying data in the site reports. Mr. Bannier remarked that some selection on the basis of the technical aspects, particularly the first category, has effectively already been applied in narrowing the number of site proposals down to nine. They could all be expected to be acceptable and fairly close as regards these factors. This increases the relative importance of the other two categories. For all three categories, the selected site should be well above the acceptable minimum.

Social and personnel aspects will have a great influence on the success of the 300 GeV Laboratory. Whereas technical faults can usually be cured by greater expenditure, failure to attract the right personnel to the site could be a very damaging fault and most difficult to cure. Whereas the research physicist will undoubtedly be lured to the big machine no matter where it is situated, the laboratory will be in competition with other attractive projects for its vital engineers.

The Site Evaluation Panel is working towards having its report ready for the December Council meeting, giving their first evaluation of the sites and suggesting the procedure for the final selection.

Serpukhov: Bubble Chamber

The meeting concluded with two brief reports from the Director General, Professor B. P. Gregory, on the progress of the collaboration with Serpukhov and of the construction of the very large hydrogen bubble chamber.

Design of the fast ejection system and of the radio-frequency separators, to be provided by CERN for the 70 GeV proton synchrotron at Serpukhov in the USSR, are well advanced and will be presented for discussion at Serpukhov very soon. Agreement is near on the first electronics experiment to be carried out by a joint CERN-Serpukhov team as soon as the experimental programme starts at the machine.

The Steering Committee for the hydrogen bubble chamber project has met and has taken all the necessary decisions to start construction of the chamber.

With the death of Sir John Cockcroft at Churchill College, Cambridge, on September 18, CERN has lost a father figure in more senses than one. The technique of investigating the make-up of the nucleus by bombardment with other nuclei or nuclear components of high energy, goes back to the very early days of the discovery of radioactivity. In the beginning, this technique was limited to the use of natural radioactive decay products of significant energy but low intensity. Only when physics insight could be allied with the advancing technology of electrical engineering did the technique assume a new power. Cockcroft and Walton's proton accelerator of 1932, which for the first time demonstrated the transmutation of an element by artificial means, not only opened the way to our present world of particle physics but was a major milestone along the road of the 'atomic age'.

John Cockcroft was born in 1897 at Todmorden in Yorkshire, England, and soon showed his intellectual qualities. He gained a scholarship to Manchester University, but war interrupted his academic career and after serving in the Signals he returned to Manchester to become a student apprentice at Metropolitan-Vickers the well-known electrical engineering company, now AEI, and to study at Manchester College of Technology. He was encouraged to move to Cambridge where having gained high mathematical honours from St. John's College he became one of the fortunate young men to come under the influence of the fabulous Rutherford. There his engineering training and mathematical ability were a major asset to the team.

Particle physics research did not however hold him and during the latter part of the thirties he was engaged upon research into the secrets of radar which was to assume such military significance. It was here no doubt that he was able to gain experience in the complex world of military science which was to assume such importance with the development of nuclear weapons and was to bring the scientist down for ever from his ivory tower to the very forefront of public life.

For his pioneering work in particle physics he received an FRS and in 1951 the Nobel Prize, but it was as founder of
the UK atomic energy effort and then head of the Atomic Energy Research Establishment, Harwell, and Member of the AEA for Research that his name became a household word the world over. He was knighted in 1948, made KCB in 1953 and awarded the O.M. in 1957.

From being head of the joint team in Canada, he was called to London in 1946 to start the planning of the UK programme and he was the first to see that the hopes of a return to a pre-war academic approach to the new physics could no longer be entertained. To the establishment of Harwell and to its subsequent running he brought his own individual flair which still left a sense of University life even when the exigencies of military and commercial interests had made the exchange of information even internally difficult.

To his colleagues and staff his reticence at times could be disconcerting but it was a characteristic that was respected by the non-technical political authorities, who in the post-war era were so much out of their depth. Coupled with a strong personal decisiveness and a not inconsiderable political acumen he was a valued counsellor of governments and he was an outstanding example of the post-war scientific man of influence. At the same time, he had an understanding of the importance of information media and a natural skill at handling the press or presenting new ideas to the public.

The early structure of NIRNS, the National Institute for Research in Nuclear Science, who initiated the two national high-energy physics Laboratories in the UK, as well as the pattern of University reactor development owed a great deal to the personal intervention of Sir John. During the formative days of CERN, the UK retained the status of observer, but this did not prevent his playing a major part in the preparation of the Organization and it will be remembered that the UK was the first to ratify the Convention. He continued for some years to participate fully in the work of the Scientific Policy Committee and his interest in the work of CERN intensified when he became, in 1958, the first Master of Churchill College.

The news of his death will have shocked and surprised the many who have come under his influence. At the 21st birthday party at Harwell in January of this year, where the illusion of time inversion was almost complete, the passing years had seemed to touch him least of all.

In the words of Dr. Funke, President of the CERN Council "We shall remember him as one of the great men who made it possible — first by his pioneer work in particle physics and later by helping to create CERN — for us to be at CERN, where new generations of scientists continue the search not only for a better knowledge of nature but also a better understanding of man".

Sir John Cockcroft examining bubble chamber photographs at CERN during his visit in 1962.