Several discussions took place recently on possible future changes in the CERN structure. Our present structure is intended to meet CERN's requirements during the construction period of both our accelerators and buildings.

Though it is realised that some change would certainly be necessary at the end of the construction stage, no final conclusion has yet been reached.

In the meantime our cyclotron has successfully come into operation and fundamental research with that machine is in progress.

It is now essential to make a concerted effort for the preparation of the PS experimental programme, as this machine is due to come into operation in 1960, and we should be ready to take full advantage of it from the outset.

Some organizational measures have to be taken in order to proceed with the preparation of this experimental programme, and obviously full advantage must be taken of all the experience and resources available in CERN.

That attached paper (CERN/SPC/71) puts forward a scheme which is by no means intended to be final but would enable us to start on a sound footing.
PHOTOGRAPHIC EMULSION TEAM

Each team will need to consider in addition to the specific apparatus for its experiments the appropriate beam transport system and shielding requirements.

It was considered advisable to attempt to make the best use of the knowledge available in CERN as a result of the work already performed in connection with the two machines.

In the SC Division experimental teams have gained valuable experience with counter experiments with the SC, and it was now possible to form from the SC staff experimental teams for counter experiments with the PS. The experience of the PS Division in carrying out big-scale projects would be valuable in the bubble chamber teams.

It seemed best therefore to ask the SC Division to accept the responsibility for the Counter Teams, the Cloud Chamber Team (such a team already exists in the SC Division) and the Photographic Emulsion Team (also existing in the SC Division). The FS Division would be asked to accept the responsibility for the Propane and Hydrogen Bubble Chamber Teams.

It was clear that it would be essential that the two Divisions concerned collaborated very closely indeed, and to this end it was considered necessary to set up an Executive Committee for the PS Experimental Programme as soon as possible. The
membership of this Committee can at present be suggested as follows:

- Gentner
- Bernardini
- Adams
- Hine
- Schmelzer
- Ilamm
- Peyrou
- von Dardel

(Plus the leaders of the other Counter Teams, to be formed in the SC Division, for the PS experimental programme)

- Grütter, PS Electrical Engineering
- Zilverschoorn, PS General Engineering
- Pizer, SC Electronic Engineering
- Kowarski, (or Goldschmidt-Clormont as substitute) STS
- Preiswerk, (or Webb as substitute) SB

The Executive Committee will be under the chairmanship of the Director-General who will, whenever he deems it necessary, ask another Director to take the chair. The Committee would meet every two weeks to discuss the problems arising from the implementation of the PS Experimental Programme. It will not be necessary that all above-mentioned members of the Executive Committee attend all meetings. The attendance can follow the development of the work. The broader policies on the CERN scientific programmes would be discussed in another interdivisional body set up by the Director-General.

Each of the experimental teams mentioned above were discussed in some detail with the following results:

a) Counter Teams for the PS experiments

It was seen that the continuous co-operation between the SC and PS Divisions could best be arranged if the steps in preparing the counter experiments were carried out in the following sequence:

1) The general planning of the experiment and subsequent calculations involving the PS machine facilities, beam transport and shielding could best be carried out by the teams in the PS Area.
2) The construction of the apparatus could take place either in the SC Area or the PS Area, depending on the laboratory and office space available. However, the space available in the PS Area is limited and priority for it should be given to the Counter Teams carrying out step 1).

3) Some of the apparatus for the counter experiments can be tested using the SC machine, and the maximum use should be made at this stage of the facilities provided in the SC Area.

The SC Division, in accepting the general responsibility of the Counter Teams, will undertake the preparation of the PS counter rooms, cabling and general instrumentation needed for these experiments. Pizer will set up in the PS Area an electronic workshop for this purpose in collaboration with the existing PS Electronic Laboratory.

The budget and staff required for the Counter Teams will be estimated by the SC Division and appear in the SC Budget following the general ideas mentioned above, namely that each Counter Team will have its own budget and appropriate staff. The staff required will be recruited by the SC Division.

Since the budget for 1959 and the estimate for 1960 have to be prepared in the next few weeks, some of the Senior staff of the SC Division should be given the task of estimating the staff and budget for the PS Counter Teams right away.

b) Propane Bubble Chamber Team

The group leader for this team will be Ramm, assisted by Resegotti, de Raad and C. Germain. Designs for the chamber and the beam transport system have already been started. In order to form a complete team for this work, the PS Division will recruit nuclear physics (following part 4 of this paper) and other staff in the normal way and due attention will be given to internal candidates for the vacant posts.

The budget and staff requirements will be prepared by the PS Division and be included in the budget of that Division.

c) Hydrogen Bubble Chamber Team

The present task of the bubble chamber group under Peyrou is the 30 cm. chamber, which is in an advanced stage of construction. The PS Division will see with Peyrou how best to make an immediate start with the 2 m. chamber and provide such assistance with the 30 cm. chamber as may become advisable.

Some estimates of the budget and staff requirements for the Hydrogen Bubble Chamber Team have already been made;
they will be prepared in a final form by the PS Division and appear in the budget of that Division. The necessary staff, including nuclear physicists (following part 4 of this paper), will be recruited by the PS Division in the normal way with due attention being paid to internal candidates.

d) Photographic Emulsion Team

A team for this work already exists in the SC Division under Gibson, and there seems no reason to set up any further team. Initially this team will be most valuable in helping to analyse the particle beams from the PS. The budget and staff for this team should remain the responsibility of the SC Division. Gibson should begin to study the problem of analysing the beams from the PS machine in collaboration with the PS Division. Later on it may be that experiments using photographic emulsion techniques can be profitably carried out with the PS machine, and if this is the case, then the Photographic Emulsion Team would follow the same series of steps in its work as has been suggested above for the Counter Teams.

e) Cloud Chamber Team

During the initial operating period of the SC machine the cloud chamber previously constructed for cosmic ray experiments had been found very useful for particle beam measurements, and it was thought likely that the same use could be made of this chamber when the PS machine gives its first beams. Unfortunately, this chamber does not have a magnetic field and so cannot be used for momentum analysis. Bernardini suggested that another cloud chamber with magnetic field should be considered by the SC Division as a potentially useful tool for the PS Experimental Programme. If this suggestion becomes a project, the responsibility for such a Cloud Chamber Team would rest with the SC Division. In the meantime the existing Cloud Chamber Team under Ballario should prepare the cosmic ray cloud chamber for beam measurements with the PS and collaborate with the PS Division to this end.

3. Although the above description of the PS Experimental Teams is fairly complete, it is worth emphasizing some common aspects of their work that can perhaps best be executed by the present PS Division. All the teams will need targets, beam transport systems, shielding blocks, as well as electrical, cooling water and other services. It has already been said that each team must work out the requirements of its experiment with respect to the above apparatus, but the design and ordering of the actual apparatus could probably best be done by the PS Engineers. The Executive
Committee should collect all the requirements of the PS Experimental Teams as soon as possible, so that the design work can be started. The Propane Bubble Chamber Team has started the design of its beam transport system, and the same or similar analysing and focusing magnets can be used for the Hydrogen Bubble Chamber and perhaps by the Counter Teams.

The space available for the Experimental teams using the PS Area was discussed in some detail. When the third wing of the PS Laboratory Building was deferred to the future, it was decided to build a barrack, and this accommodation will be available shortly. Another barrack will be started soon. The PS Conference Room is being transferred to the first barrack and so a large laboratory and several offices are now available, which may be used by the Hydrogen Bubble Chamber Team for its new work (the older work on the 30 cm. chamber could go on on its present premises). The Propane Bubble Chamber Team will gradually occupy the present Magnet Group wing. Five laboratories and offices will be freed in the PS Laboratory wing for the Counter Teams. The PS Electronic Laboratory can move to the second barrack when its present accommodation is needed as a Counting Room.

4. The problem of selecting nuclear physicists for the PS Experimental Teams seems to present no serious difficulties. Appointments to the higher grades will be discussed and agreed by the Group of Directors (grades 12 and 13), following the new CERN procedure. For the other grades it was thought best to proceed as follows:

1) A list of vacancies would be drawn up by the PS and SC Divisions and discussed by the Executive Committee. The Personnel Office would then be asked to announce the posts internally and externally in the usual way.

2) Candidates for the posts would be interviewed by a Recruitment Board consisting of appropriate members of the Executive Committee. The chairman of the Recruitment Board would be either a senior SC or a senior PS staff member, depending whether the vacancy was for the SC teams or the PS teams.

3) The remaining steps in the recruitment would then follow the normal CERN procedure, i.e. the Division concerned decides on the appointment and the Director-General is asked for approval.