

particles in multiplate cloud chambers at the Institute's mountain Laboratory of Testa Grigia. Among their observation was the first example of an 'unstable fragment' a kind of nucleus which contains a lambda hyperon instead of a normal neutron.

Joining CERN in 1956, before either of the machines was in operation, he became a member of the Jungfraujoch Group, which was at that time also carrying out experiments on cosmic rays, using cloud chambers. The most important of the results obtained by this Group were the first examples ever observed of the neutral tau meson and of the neutral anti-K particle.

When the synchro-cyclotron came into full operation and this work was ended, he became a member of the (g-2) Group.

Although he is no longer at CERN, one other member of the team should be mentioned. **Richard C. GARWIN** is an expert in many fields. He was born at Cleveland, Ohio, U.S.A., and studied at the Case Institute of Technology and the University of Chicago, where he received his Ph. D. in 1949. In 1952 he joined the IBM Watson Laboratory at Columbia University, and since then has combined

low-temperature research with high-energy physics at the Columbia cyclotron, as well as being a consultant for thermo-nuclear research. In 1957 he participated in the discovery of the non-conservation of parity for muons. He was a member of the (g-2) team during a year's stay at CERN, as a Ford Foundation Fellow, in 1960, the year in which the first results were obtained. Since then he has paid a number of visits to Geneva and continued to take an active interest in the experiment.

Also playing a large part in the experiment were the technicians who often worked long hours in helping to construct the equipment.

Bruno NICOLAI comes from Italy, where he studied at the Istituto Industriale in Ferrara, and obtained his Diplom de Perito Industriale in electrical and mechanical subjects. Before coming to CERN at the end of 1958 he worked for the Istituto Nazionale di Fisica Nucleare in Milan.

Roger BOUCLIER, who is French, came to CERN early in 1960, having previously worked in Geneva for the Société des Compteurs. He is skilled in

electrical and mechanical work, after training at the École nationale professionnelle d'Horlogerie at Cluses.

Julien BERBIERS, who assisted with the later experiments, joined CERN in August 1961. He comes from Belgium, where he trained as an electronics technician at the Institut pour Industrie nucléaire in Brussels. Before coming to CERN he worked at the Institut inter-universitaire de Physique nucléaire of the École Militaire in Brussels.

What are the (g-2) physicists doing now? Three of them, Farley, Muller and Zichichi, with Th. Massam, have been using the special timing apparatus for new measurements on the muon lifetime at rest. With M. Conversi and L. Di Lella they are planning an experiment at the proton synchrotron, to detect electron pairs in the decay of antiprotons. Sens is preparing an experiment, with P. J. Duke and P. G. Murphy, both from Harwell, England, on the 'peripheral' capture of muons in nuclei; later they plan to measure correlations in the beta-decay of the lambda particle. Charpak has returned to the development of spark chambers, on which he has some promising new ideas ●

BOOKS

L'Homme dans l'espace, by A. Ducrocq
(René Julliard, Paris, 15.— NF)

Founder of a new concept in the field of automation, which he named 'intellectique', the science writer Albert Ducrocq is now directing his attention firmly towards space. After two previous volumes devoted to the cosmos, this book, published last May, deals with space machines of the 'second generation' — space ships, rather than the artificial satellites that represented the first generation.

The book is a review of astronautics on the threshold of a new stage in its development. The author explains the operational research that determines the programme of human ventures into space, and studies the vehicles now being made and used.

At a time when people in all parts of the world are becoming aware of the necessity for a space policy, this book will find a place on the shelves of all those who wish to have a clear and imaginative description of the problems involved in the conquest of space. R.A.

CPS User's Handbook (CERN, private distribution)

- What are the ranges of energy and intensity of the CERN proton synchrotron (CPS)?
- How are the experimental halls laid out?
- What is the procedure for obtaining machine time?
- How many antiprotons were found in the fast separated antiproton beam?
- What are the facilities available in the Counting Rooms?
- What are the characteristics of the CERN beam-transport

elements, and under what conditions may additional equipment be brought to CERN?

- How is experimental apparatus aligned?
- What kinds of shielding material are available at CERN?
- What are the main safety regulations and standards in CERN?
- How is hydrogen handled around the CPS?
- Which reports are available for ready information on these subjects?

These are just some of the many questions to which a newcomer to the CPS wants to find answers before he gets to the stage of actually starting his research work. And even after he knows his way around the accelerator, he likes to have on hand a collection of data, graphs and tables for improving the first experiment or designing a new one.

Most of this information is now available (though in English only) in the CPS User's Handbook. In about 200 pages this deals with:

- (i) generalities of the CPS,
- (ii) primary beam data,
- (iii) information on the CPS distributed to users during operation,
- (iv) secondary beams and their use,
- (v) general facilities in experimental areas, and
- (vi) security regulations and safety codes.

A loose-leaf binding enables the information to be kept always complete and up to date.

Besides distribution to physicists working at CERN, about thirty copies of the Handbook have been sent to the libraries of Universities and Research Institutes with whom CERN is in close contact, and more copies are about to go out. It is hoped that this will help to smooth the path of all those carrying out experiments in conjunction with the CPS, and especially of teams doing so for the first time. K.H.R. ●