

Bernard GREGORY

Directorate Member for Research



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One of the decisions taken at the 26th Session of the Council, held last December, was to appoint Professor Bernard Gregory Directorate Member for Research. He takes over this post for the next two years and succeeds Professor Gianpietro Puppi, who had held it since September 1962.

Bernard Gregory was born in 1919 at Bergerac, in the west of the French 'Massif Central'. He soon left this sub-prefecture of the Dordogne, however, to 'go up' to Paris, where, after taking his 'baccalauréat', he prepared for the entrance examinations of the higher scientific Institutes of France.

In 1938 he sat the entrance examinations for the science sections of both the 'École Polytechnique' and the 'École Normale Supérieure'. Passing first in both examinations, he chose the 'École Polytechnique', which he entered at the end of 1938 — for barely a year.

The war which broke out in Western Europe in 1939 opened up a gap in his student career which was not closed until July 1945. These unproductive years saw Bernard Gregory first in the fighting forces and then within the confines of military prison camps. However, his efforts to profit from these long years were so successful that, on his return to France in July 1945, he was able to pass his final examination at the 'École Polytechnique'.

He then entered the 'Corps des Mines', which allows some of its staff to devote themselves to research.

By this time he had decided that his future lay in the direction of physics. Five years of captivity had given him ample time for meditation and study and helped him to crystallize his plans for the future. Physics seemed to suit the career he wished to follow in the related fields of education and research. Today it is amusing to hear the sardonic statement of a professor named Gregory, to the effect that 'physics leads straight to administration!'

Such a thought may seem to smack of disillusionment. But in fact it probably reflects not only the state of mind of the 'chief', on whom falls the burden of making vital decisions concerning the future as much as the present, but also that of the contemporary research scientist. In experimental

nuclear physics, the era of great discoveries made by a single person using primitive equipment is well and truly over. Since the War the emphasis has been on 'large-scale physics', using enormous machines costing millions to run. There are few of these machines, and it is all the more necessary to ensure their intensive exploitation with a minimum of lost time. For the physicist who is somewhat of an idealist by nature this means a sudden transfer to the planned atmosphere of the big laboratories where the relatively rigid organization may seem synonymous with administration carried to extremes... But we are forgetting Bernard Gregory. In September 1947 he obtained his engineering diploma and set off, under the auspices of the 'Corps des Mines', for the U.S.A. and high-energy physics.

He spent three years at the Massachusetts Institute of Technology. At that time, M.I.T. was passing through a period of transition: from a technical institution producing engineers it was to become a vast research establishment where scientists were to delve perpetually into the secrets of nature. Among the high priests of that scientific inquisition was Bruno Rossi, who was to be Bernard Gregory's mentor. In the absence of large particle accelerators, great hopes were at that time placed on cosmic rays and, in 1947, the most advanced detector of nuclear events was still the Wilson cloud chamber. Gregory co-operated in the running of this type of apparatus and then in the analysis of the thousands of photographs of nuclear events that were obtained.

He submitted a thesis to M.I.T. on the interactions of cosmic-ray protons in lead and aluminium screens in a cloud chamber, based on this work, and obtained his Ph.D. degree in 1950.

Back in France, Bernard Gregory entered the physics laboratory under Professor Louis Leprince-Ringuet at the 'École Polytechnique', and joined a team of high-energy physicists that included Charles Peyrou, André Lagarrigue and, later, Francis Muller. The detector constructed by the team was one of the most up to date at that time — a large cloud chamber with a capacity of twice 200 litres, composed of two

parts one on top of the other. It was installed near the Observatory at the summit of the Pic du Midi de Bigorre. There at the same time was an experimental team from the University of Manchester, including Raphaël Armenteros, who soon joined the French group, all of whose members, we may mention in passing, now work at CERN.

Bernard Gregory continued working with cloud chambers until 1957, when he took his sabbatical leave at the American laboratory of Brookhaven.

Back again, he took part, with a team from the French Centre for Nuclear Studies at Saclay, in the construction of the 81-cm liquid-hydrogen bubble chamber. This instrument was moved in January 1961 to CERN, where it has since proved of great value to European physics.

Ever faithful to his ideals, Bernard Gregory succeeded in combining with his research career the duties of a teacher. From 1953 to 1958 he was Professor of Physics at the School of Mines in Paris, and he has since been teaching at the 'École Polytechnique', from where he has been given leave of absence for the academic year 1964-1965.

Since 1961 Professor Gregory has participated in experiments at CERN, particularly as chairman of the committee of European physicists responsible for the track-chamber experiments carried out at CERN. In this capacity he has been a member, since 1960, of the Scientific Policy Committee, which advises CERN on its overall scientific policy. Thus Professor Gregory has had a marked influence on the experimental programmes for the bubble chambers at CERN. He will be a part-time member of the CERN Directorate until summer 1964 and then full time until the end of 1965.

As a physicist specializing in sub-nuclear particles and in the construction of machines for detecting their interactions, as an eloquent teacher blessed with a strong voice to balance his otherwise calm and relaxed appearance, Professor Gregory has only one hobby to occupy the brief moments of leisure allowed him by his professional activities: looking after his few acres of land not far from Paris ●