



Classes were held in this building.

A unique summer school for students of theoretical physics opened its doors for the first time last summer high in the French Alps. The author, one of the participants, is at present at the Tata Institute of Fundamental Research, Bombay.

THEORETICAL PHYSICS

On a mountainside overlooking the valley of Chamonix, in the heart of the French Alps, the initial phase of what promises to be an extremely successful experiment in international learning has just been brought to a close. Some twenty-five students, from eleven nations, have spent eight weeks together with a select group of professors in intensive study of basic topics in modern theoretical physics. The students and professors have been guests of the *Direction de l'Enseignement Supérieur Français* at a new school which is presently under the administration of the University of Grenoble.

From its inception over a year ago, the frankly expressed purpose of the school has been to fill an existing gap in the teaching of advanced physics in Europe. Its success in fulfilling this purpose can only be truly evaluated after a number of years have passed. The present plan is to have the school run every summer from about the middle of July to the middle of September. The advantages of the summer months are obvious. The student is free at that time to engage in serious study of "live" physics, recent developments, and specialized topics without being under the pressure of having to prepare for competitive examinations. The professor, likewise, is free from his academic duties, and is able to be coaxed away from the comforts of his home and be persuaded to spread his wisdom beyond the limits of whatever university community he comes from, whether from the United States, France, England, Italy, Switzerland, or wherever the annual vacation falls between June and October.

It was originally felt that the location of the summer school, in its magnificent setting on an alpine slope below Mont Blanc, would be an important factor in attracting professors. This, however, seems to have been an unnecessary (though useful) precaution. Experience

shows that, if given the choice between a roomful of top-notch students and an outing on a glacier, the professor will stick to his blackboard every time. The professors were, without exception, more than eager to talk physics and the school is greatly indebted to them for their generous help. Those who gave lectures while attending portions of the 1951 session are the following: L. Van Hove, Res Jost, B. Rossi, E. Segré, M. R. Schafroth, T. Kahan, Walter Kohn, V. F. Weisskopf, C. F. Powell, W. Pauli, S. Hayakawa, W. Heitler.

As may be inferred from this list, the topics discussed (whether briefly or in greater detail) covered a broad range of physics both theoretical and experimental. None of the lectures were compulsory, and any student who felt he was being fed too rich a dose of physics was quite at liberty to skip class. Lecture attendance remained high nonetheless.

Of the many lecture series, the three longest—Quantum Mechanics, Quantum Field Theory, and Nuclear Physics at Low Energies—were regarded as basic. It is the aim of the summer school to provide a *foundation* instruction in theoretical physics for young research students. It is intended at the same time that the lecture courses shall be intensive and shall proceed rapidly to a level advanced enough to enable these students to carry on truly independent research. The program is directed primarily at students who are unable to obtain equivalent instruction in their own countries, although no country is automatically excluded. During the past summer, if a student from a more favored country found one of the basic courses rather elementary, he was still able to profit from one of the shorter courses such as Quantum Statistics, Experimental Methods in Nuclear Physics, or Theory of the Solid State.

The response of the students more than matched that



The student body and part of the faculty of the summer school at les Houches.

S IN THE ALPS

By Bryce Seligman DeWitt

of the professors. Over two hundred applications were received last spring and the process of selection was heartbreakingly difficult. The nations represented in the final selection of students were France, Italy, Belgium, Holland, England, Ireland, Norway, Canada, The United States, Israel, and India. It is hoped that the national distribution can be broadened even further in future years, but present facilities unfortunately do not permit of an increase in the enrolment above thirty. Traveling expenses are, of course, difficult for foreign students from distant countries to meet, and it is hoped that greater funds will be available for them in future years.

The school is housed in a number of chalets and remodelled 18th century *greniers*, spread across the hillside. Life is comfortable, though a bit primitive. Meals are served in a neighboring chalet hotel—with breakfast at seven-thirty. Morning lectures are from nine-thirty to twelve-thirty, the official languages being French and English. The school takes great pride in its well equipped lecture room, and also in its library which owes its existence largely to the gifts and loans of various students and professors. (Donations of books and reprints are welcome at any time, incidentally.)

Afternoons are usually occupied with study groups or seminars by distinguished visitors. There was little free time this year, although a number of the students, during odd hours, undertook work-jobs provided by the school, in order to help meet some of their expenses. Fees are actually very low, but the present average financial status of European students prevents any increase. The school is run on nearly an eighty percent scholarship basis. France, aided to a small extent by Belgium, has made an extreme financial effort in helping the students, and it is hoped that other countries will make sizable contributions in future years.

Camaraderie was very high this summer, manifesting itself particularly on week ends when rucksacks, rope, piolets and crampons suddenly appeared and the whole school would take to the hills. The student body included several experienced mountain climbers.

Also included in the enrolment was a small contingent of married students, whose wives were particularly helpful in running errands, performing odd jobs, and otherwise contributing to the success of the school. One of the outstanding services performed by the women was the organisation of a number of very popular language study groups. Plans are under way for an expansion in housing facilities for both married and single students by next summer.

It is expected that the summer school will eventually come under the supervision of the European International Laboratory which is now being planned by Unesco. The Laboratory at present is still in the project stage, but it is hoped that its organisation will be completed in another year or so. When that time comes, the summer school will begin to serve an additional purpose: namely, that of training the Laboratory's young workers in the fundamentals of modern physics, and serving as a sort of theoretical Annex. It may then become neither possible nor feasible to run the school on a purely summer-time basis, and the resulting expansion will mark the successful completion of this year's noble experiment.

Further information concerning the summer school can be obtained by writing to Ecole d'Eté de Physique Théorique, 74, Rue Madame, Paris VIe. The summer-time address is: Ecole d'Eté de Physique Théorique, La Côte des Chavants (which one wag has already dubbed: "La Côte des Savants"), par les Houches, Haute-Savoie, France.