

GENERAL SCIENCE

Super-University for Super-Scholars

Relief From Economic Care and Routine Promised Geniuses As Aid to "Severe, Prolonged and Fundamental Thinking"

By WATSON DAVIS

AN INTELLECTUAL heaven for the Einsteins of the world of learning where they may engage in creative research without financial cares or routine duties is being created.

Prof. Albert Einstein is the head "for life" of the first school of this new "super-university." Its directive force and instigator is Dr. Abraham Flexner, for years one of the heads of Rockefeller's General Education Board and severest critic of the vocational trend in American universities. The necessary financial support is an endowment of \$5,000,000, money made in the marts of New Jersey, donated by Louis Bamberger and his sister, Mrs. Felix Fuld. Princeton University is at present a friendly host to this independent educational agency.

Modest and unassuming is the title of this newest and most advanced of the world's educational and research institutions. It is "The Institute for Advanced Study."

Around such great scholars as Einstein there will be gathered groups of assistants and students. And this will be done without haste, with the atmosphere of Oxford, Cambridge and the other venerable European centers of learning.

Every incoming student of the Institute for Advanced Study will be capable of holding a professorship at an ordinary college. Few if any students will be invited who have not received the highest of ordinary graduate degrees, the Ph.D. But Dr. Flexner has carefully left his academic door open for the exceptional scholar who has not received the routine academic approval conferred by degrees. An occasional unusual genius qualified intellectually may enter his portals of higher learning without the formal blessing of other institutions.

The details of education, so standardized in lower levels, will be left to the great intellects about whom the Institute will operate. If Prof. Einstein does not wish to give lectures to the half-dozen students that may be working with him, he will not do so. He will meet his

colleagues when and where and how he chooses.

Not more than ten students will work with any one professor of the Institute and some of the faculty will desire to have only two or three associated with them. The formal term of study and research will extend for only six months of the year. The other half of the year the staff will be technically on vacation but Dr. Flexner has found that those engaged in research often do their best work while "on vacation." So informal is the work planned at the Institute that it is hoped that the same creative spirit will infuse the working period as often controls the so-called vacations and makes them so productive.

"This is Heaven"

When a great scholar enters the Institute for Advanced Study he will leave practical cares of life behind him. The entire staff of professors and assistants will be employed full time on such a scale that they need not worry about life's routines but can devote all their energies to "severe, prolonged and fundamental thinking." In addition to ample salaries, there will be retiring allowances, pensions and aid in the education of children.

Prof. Einstein when he was told of the financial arrangements, is said to have exclaimed: "This is heaven!"

Some of the philosophy behind the Institute for Advanced Study was expressed by Dr. Flexner in the following words:

"Institutions of learning are made up of men and women. In this complex modern civilization with its steadily rising standard of living it is of the first importance that education and research should attract gifted and vigorous talent.

"During the last twenty-five years the world has undergone great and important changes. Institutions of learning, once situated in quiet villages, now find themselves in the heart of busy and noisy cities. Men and women who a generation ago might have devoted themselves to academic life are swept into the vortex of practical life.

"Professor Seligman of Columbia

University has recently said that the 'outlook for brains in American universities is an ominous one.' The sacrifices required of an American professor and his family are to a high degree deterrent. The conditions provided are rarely favorable to severe, prolonged, and fundamental thinking. Poor salaries frighten off the abler and more vigorous and compel the university instructor to eke out his inadequate income by writing unnecessary textbooks or engaging in other forms of hack work. I do not need to argue that, despite individual exceptions, American scholarship cannot be promoted upon an unsound and unsatisfactory economic basis.

"It is therefore of the utmost importance that we should set a new standard. We do not need a large faculty. We should endeavor to attract into the Institute a small number of scholars and scientists who will be free from financial worry and concern, who will live and work amidst conditions favorable to intellectual activity. A professorship can of course never be as remunerative as the practice of law or medicine or a successful career in business. It need not be, for it has much to offer that neither law nor medicine nor business can offer.

"But, on the other hand, the German universities long ago proved that adequate remuneration with sufficient leisure amidst attractive and congenial living conditions and associations are absolutely necessary to the upbuilding of an academic group."

For the Queen of Sciences

To mathematics, the queen of sciences, the first school of the Institute for Advanced Study will be devoted. Associated with Prof. Einstein will be Dr. Oswald Veblen, one of the world's leading mathematicians, who has been connected with Princeton University for twenty-seven years. Dr. Veblen has just resigned as Henry Burchard Fine Professor of Mathematics at Princeton University to accept a professorship in the Institute's School of Mathematics. Prof. Einstein will have his faithful associate, Dr. Walter Mayer of Berlin, as his colleague in his work at Princeton, while Dr. J. L. Vanderslice has been appointed assistant to Prof. Veblen.

To join Prof. Einstein and Dr. Veblen in the school of mathematics of the new institute two other eminent mathemati-

cians were appointed to professorships this year. Both have been connected with Princeton in the past. Dr. Hermann Weyl, now professor of mathematics at the University of Göttingen and a world leader in the new mathematical physics, was research professor at Princeton in 1926 and 1928. Dr. James Waddell Alexander, now professor of mathematics at Princeton, is the other appointee.

Magnificent Home

One of Princeton University's newest and most magnificent buildings will provide a congenial home for the Institute's School of Mathematics for the next few years at least. When Prof. Einstein arrives in the fall of 1933 to take up his work in this building, he will be able to read over a fireplace in one of its rooms a quotation from his own scientific philosophy: "Raffiniert ist der Herr Gott, aber boshaft ist Er nicht." This has been translated: "God is clever, but not dishonest." It makes a good epigram that way; but like much of the Einsteinian mathematics, the German phrase is also open to other interpretations. It translates a little more correctly as, "God is clever, but not malicious." If Prof. Einstein while formulating his thoughts, gazes through

a certain window of Fine Hall upon the pleasant landscape surrounding it, he will see fashioned into an ornamental device upon its leaded windowpane one of his famous relativity formulae.

Eventually, when this new departure in education has proved itself special buildings for it may be erected but for the present the accent will be upon the few exceptional scholars and students who are being selected.

Quarters for the Institute's School of Mathematics in the year-old mathematics hall memorializing Prof. Henry Burchard Fine, organizer of Princeton's Department of Mathematics, will bring the Institute group into close touch with Princeton's strong department of mathematics. This is headed by Prof. Luther Pfahler Eisenhart, Dean of the Faculty of Princeton as well as chairman of the department of mathematics.

Never will the Institute for Advanced Study be surrounded by the conventional atmosphere of the ordinary university. It will have no student activities, no fraternities, no football team or other athletic endeavors. Toward the trimmings of American Academic life the director of the new Institute, Dr. Abraham Flexner, has been highly critical. Many of the ideas that he expressed in his 1930 book "Universities, American, English and German" are finding expression in the organization of the new Institute. Hammering repeatedly at the "vocational" courses of American universities, and influencing deeply the course of medical education through his activities with the General Education Board, Dr. Flexner has already made a deep imprint on American education.

Two Specially Cited

Two institutions "which have proved important factors in the intellectual life of this country" are specifically cited by Dr. Flexner in his discussions of the aims and plans for his new Institute. These are the Johns Hopkins Medical School, organized by Dr. William H. Welch, and the Rockefeller Institute for Medical Research, which was established under the leadership of Dr. Simon Flexner, a pupil of Dr. Welch and a brother of Dr. Abraham Flexner.

Another great agency for higher education has been the National Research Fellowship plan of the National Research Council. This is an unorganized super-university which sends exceptional and young doctors of philosophy to work for a year or more in the great research laboratories of this country and abroad. A notable institution of higher learning in the sciences is the California

Institute of Technology, at Pasadena, under the direction of Dr. R. A. Milliken, where advanced research, advanced training, and undergraduate work are carried on hand in hand.

Race, creed or sex will have no influence in the conduct of the Institute for Advanced Study for the founders, Mr. Bamberger and Mrs. Fuld, laid down the principle that "in the appointment of the staff and faculty as well as the admission of workers and students no account shall be taken, directly or indirectly, of race, religion or sex." And in the appointment of Prof. Einstein, who is a Swiss citizen in spite of his long residence in Germany, there is evidence that political boundaries of nations will have no influence.

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GENETICS

New Barley Variety Awaits Return of Beer

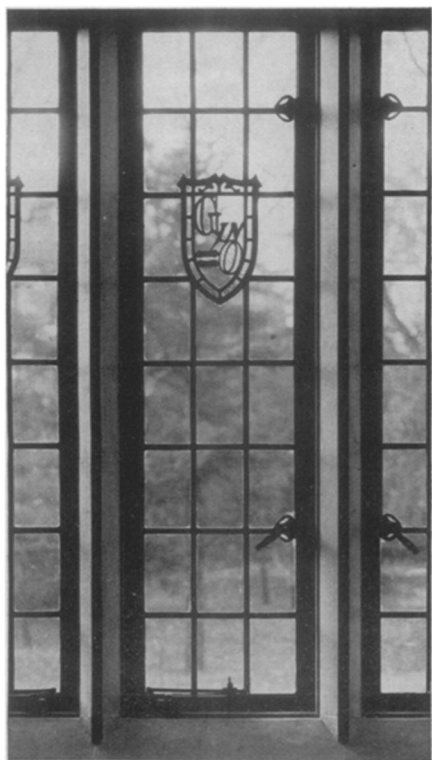
A NEW TYPE of barley that is more disease resistant, that will yield more, and that incidentally will make a finer and more potent brew for beer, has been perfected at the University of Wisconsin by Prof. B. D. Leith, and was one of the five crops that was awarded a place in the "hall of fame" of the International Livestock Exposition at Chicago.

Back in 1918 Wisconsin annually raised 38 million bushels of barley, most of which went into the huge beer vats of the state. It was famous as a good "beer barley" but it had one serious drawback. On its stalk were hundreds of little inpointing barbs. These stalks would get into the harvesters' clothes and would creep up and up, despite frenzied efforts to get rid of them. Things got so bad that the farmers' helpers refused to harvest barley crops, and there was a general appeal to the university for help.

Prof. Leith was set at work to discover a new barbless type of barley, and it was only a month or so ago that he announced the completion of his work. The new barley has been given the official name of Wisconsin Barbless Barley, Pedigree 38. It is almost entirely resistant to striped disease, the scourge of barley. An increase of from ten to twenty bushels to the acre has been made in its yield.

Gustave W. Pabst, well-known Milwaukee brewer, has tested over 5,000 bushels of it and has found that for brewing purposes it is a vast improvement even over the old barley.

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SYMBOLICAL

Einstein formula on window in Fine Hall, Princeton University, where Einstein will teach in the Institute for Advanced Study.