

News of Science

Nobel Prizes

The Royal Swedish Academy of Science has announced that Nobel prizes of \$36,720 each will be awarded to the following research workers by King Gustaf Adolf on 10 Dec.:

Medicine. Hugo Theorell of the Nobel Medical Institute, Stockholm, Sweden, for discoveries on the nature and action of oxidation enzymes.

Chemistry. Vincent du Vigneaud of Cornell University, for his work with oxytocin and vasopressin [*Science* 118, 543 (6 Nov. 1953)]. His synthesis of oxytocin was the first synthesis of a pituitary hormone.

Physics. Willis E. Lamb of Stanford University and Polykarp Kusch of Columbia University, jointly, for their work in atomic measurements. The two men used different techniques to arrive at identical conclusions that amended calculations for the energy level of hydrogen atoms that had been made by the British Nobel prize winner, P. A. M. Dirac.

Science and the Humanities

I. I. Rabi of Columbia University called for a greater understanding between scientists and humanists to combat a growing mood of anti-intellectualism in an address delivered at Harvard University on 21 Oct. Excerpts from Rabi's address follow:

"An epoch in history, our own, which has produced one of the greatest achievements of the human race, may be passing into a twilight which does not precede the dawn. There is an incipient mood of rejection of the greatest and most characteristic achievement of the age. Science, the triumph of the intellect and the natural faculties, has resulted in the hydrogen bomb; the glib conclusion is that science and the intellect are false guides. We must seek elsewhere for hope and salvation, but, say the same people, while doing so we must keep ahead of the Russians. . . . Keep the fearsome fruits but neglect the spirit of science. . . . [This] mood of anti-intellectualism . . . can only hasten the destruction which . . . people fear. Anti-intellectualism has always been endemic in every society. . . .

"What people are really looking for is

wisdom. . . . Wisdom . . . is knowledge plus a quality which is within the human being. Without it knowledge is dry, almost unfit for human consumption, and dangerous in application. . . .

"Certainly the humanities preserve and create values; even more they express the symbolic, poetic, and prophetic qualities of the human spirit to the highest degree. Without the humanities we would not be conscious of our history; we would lose many of our aspirations and the graces of expression that move men's hearts.

"The humanities discern a part, a vital part of the life of man, but that is not all by any means. Man is made of dust and to dust returneth; he lives in a universe of which he is also a part. . . . To learn to understand himself he must learn to understand the universe. . . .

"To my mind the value content of science or literary scholarship lies not in the subject matter alone. . . . It lies chiefly in the spirit and living tradition in which these disciplines are pursued. The spirit is almost always conditioned by the subject. Science and the humanities are not the same thing; the subject matter is different and the spirit and tradition are different. Our problem in our search for wisdom . . . is to blend these two traditions in the minds of individual men and women. . . .

"Wisdom is by nature an interdisciplinary quality and not the product of a collection of specialists. . . . The greatest difficulty which stands in the way of a meeting of the minds of the scientist and nonscientist is the difficulty of communication, a difficulty which stems from some of the defects of education. The mature scientist . . . can listen with pleasure to the philosopher, the historian, the literary man or even to the art critic. . . . He reads the newspapers, magazines, books, listens to music, debates politics, and participates in the general activities of an educated citizen.

"Unfortunately this channel of communication is most often a one-way street. The nonscientist cannot listen to the scientist with pleasure and understanding. Despite its universal outlook and its unifying principle, its splendid tradition, science seems to be no longer communicable to the great majority of educated laymen. . . . To his colleagues

in the university the scientist tends to seem more and more as a man from another planet, a creature uttering profound but incomprehensible truths, or a creature scattering antibiotics with one hand and atomic bombs with the other.

"The problems are, of course, depressingly difficult. There are firstly the problems connected with the secondary schools—their overcrowding; their teachers, overworked and inadequately trained; the school boards; and not least the powerful clique of professional educators who form a society within our society. All that is unique and characteristic of science and mathematics is being crowded out of the curriculum and replaced by a fairy tale known as general science. The colleges and universities are in much better shape although the great wave of the rising waters of population increase is about to hit them, with the force of a New England hurricane, with masses of inadequately prepared students.

"Wisdom can achieve a hybrid vigor by crossing the scientist and the humanist through a more extensive and intensive interaction within the faculty. Why should not the professor of physics be expected to refresh himself every 7 years . . . by taking a course in esthetics, comparative literature, or the Greek drama? Why shouldn't the professor of medieval philosophy or the professor of ancient history take a course in modern physics and become acquainted with the profound thoughts underlying relativity and quantum mechanics? By taking in one another's wash, we might all become cleaner and more wholesome."

Pilot Project in Teacher Education

Arlington, Va., has offered itself as a model for a pilot study under which science and mathematics teachers will have access to supplementary training through a program initiated by the National Academy of Sciences-National Research Council. In addition, other school systems in the Washington, D.C., area have been invited to participate.

In Arlington, the school board, the Parent-Teachers Association, and civic groups will cooperate to raise a scholarship fund that will enable teachers to take graduate-level courses both in fundamentals and in recent developments in science and mathematics. Local universities, including George Washington University, the University of Virginia, American University, Georgetown University, Catholic University, Howard University, and the District of Columbia Teachers College, are cooperating to develop new courses in mathematics, physics, chemistry, and biology that will be offered jointly in the summer of 1956.

Further, the program will provide teachers with opportunities for summer