gan, Minnesota, Pennsylvania, and Virginia; Wayne State University; Wellesley College; Wesleyan University; Williams College; and Yale University.

While 26 institutions reported grades of C in the Average-Compensation Scale last year, the number increased to 59 in 1959–60, or more than double that of the previous year. Machlup commented that it is important to note the presence of several junior colleges in the ranks of the institutions with higher salary scales. Similar increases were reported for the other grades.

Development of the Grading System

The self-grading salary survey of the AAUP was first conducted in 1957 as part of the general effort to call attention to the low salary levels prevailing in most institutions of higher education and to point out the need for salary increases if college teaching is to become attractive as a permanent career for well-qualified individuals. In 1959–60 the average compensation in 323 institutions, with 63,152 full-time faculty members, was calculated at $7960. The "weighted" average for professors was $10,789; for associate professors, $8124; for assistant professors, $6804, for instructors, $5542.

Machlup explained that the foregoing figures include specified fringe benefits, in particular the contributions of the institutions toward pension funds. However, only those contributions are included which become the property of the faculty member within 5 years. A few institutions have retirement funds which do not become the property of the faculty member unless he remains with the institution for many years. Such schemes, in Machlup's words, "are not part of the compensation for services rendered but rather for submission to a captivity."

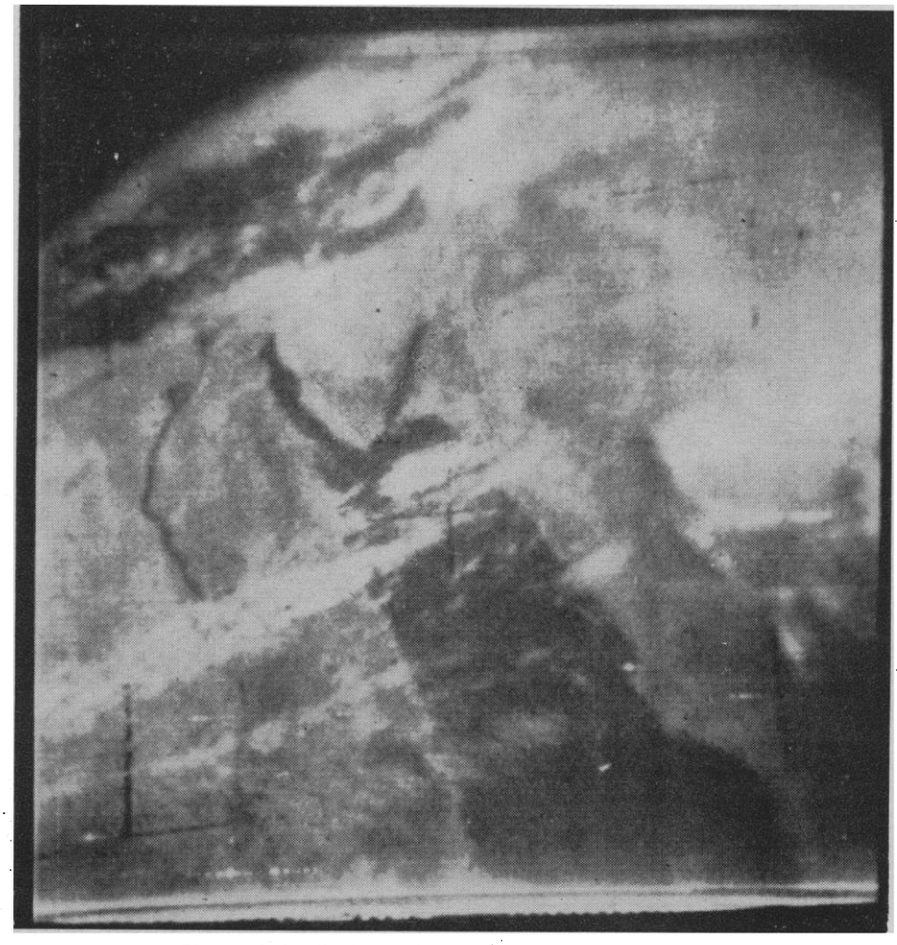
Of 330 institutions which supplied sufficient data to be included in this analysis, 140 report average compensation for full-time faculty members of less than $7000.

Although the salary survey reveals an encouraging upward trend in a large number of institutions of higher education, compensation for college and university faculty members remains poor. The AAUP emphasizes that institutions will have to make every possible effort to raise salaries annually if they are not to fall behind in the movement to attain levels of compensation commensurate with professional attainment.

Red Sea Viewed by Weather Satellite

The accompanying picture of the Red Sea was taken by the wide-angle camera in Tiros I, the U.S. weather satellite, at 6 A.M., EST, 4 April 1960, during the 43rd orbit. When the picture was taken the satellite was over the Red Sea and directed toward the northwest. The dark band to the left is the Nile. The Gulf of Suez and the Gulf of Aqaba can be seen fanning out from the Red Sea, and the Mediterranean Sea is visible at the upper left.

This is one of hundreds of photographs taken by the wide-angle camera during the satellite's first week aloft. At week's end both the wide-angle and narrow-angle cameras were functioning, but the clock timer that controls the photo-storage tape recorder for the narrow-angle camera had ceased to function. Consequently, the use of that camera is now limited to pictures that can be obtained by direct command from either the Fort Monmouth, N.J., or the Kaena Point, Hawaii, ground stations, without going into storage.



View of the Red Sea from an altitude of 450 miles.

$150,000 To Be Shared by Four Atoms for Peace Award Winners

Four American scientists have been named recipients of the Atoms for Peace Award. Leo Szilard and Eugene P. Wigner will share the 1959 award; Walter H. Zinn and Alvin M. Weinberg will share the 1960 award. All have been active in the development of nuclear reactors.

Each man will receive a gold medallion symbolizing the award, and the four will share equally in the combined honorarium of $150,000. The awards will be presented at a ceremony to be held at the National Academy of Sciences, Washington, D.C., on 18 May.

In making the announcement, James R. Killian, Jr., chairman of the Trustees of Atoms for Peace Awards, said:

"The Trustees believe the development of the nuclear reactor is one of the great advances in man's capability for using atomic energy for peaceful purposes. It gives the world a new source of energy with which to meet the growing requirements of modern

society for power to run its machines. As a source of radioisotopes, it is now providing science and industry with new possibilities in research and control, as well as with new products. The transformation of a highly complex, theoretical concept of 1939 to the multitude of reactors operating today in research and in commercial establishments is a major achievement of modern science and engineering. The men who are selected for recognition by this Award have been leaders in that transformation. . . ."

The award was established as a memorial to Henry Ford and his son, Edsel, in response to President Eisenhower's 1955 appeal at Geneva for international efforts to develop nuclear energy for peaceful purposes. It is to be granted "solely on the basis of the merit of contribution, wherever found in the world and without regard for nationality or politics." Nominations for the award have been received from individuals and learned societies in 24 countries.

Biographies of the Recipients

Leo Szilard, a native of Hungary, was educated in Budapest and Germany, earning his doctorate at the University of Berlin in 1928. After teaching and research in Germany and England, he came to the United States in 1937, joining the faculty of Columbia University. In 1942 he moved to the University of Chicago as chief physicist in the Metallurgical Laboratory, a special research group organized to develop the potential of nuclear reactions under government auspices. Since 1946 he has been professor of biophysics at Chicago. Among his contributions are development of the field of radiation chemistry and (with Aaron Novick) new methods of control of the culture of microorganisms, making possible significant discoveries in the science of genetics. With the late Enrico Fermi he was awarded the patent for the first nuclear reactor. He was recipient of the Albert Einstein Medal for 1960.

Eugene Paul Wigner, also born in Hungary and educated there and in Berlin, came to the United States in 1930. Except for periods at the Metallurgical Laboratory of the University of Chicago and as director of the Oak Ridge National Laboratory, he has been a member of the faculty of Princeton University, having been named Thomas B. Jones professor of mathematical physics in 1938. He is the coauthor of books on nuclear reactors and on nuclear structure. He is a member of the National Academy of Sciences and has received the Medal of Merit, the Franklin Medal, and the Fermi Award (in 1958).

Alvin M. Weinberg is a native of Chicago and a graduate of the University of Chicago, having earned his doctorate there in 1939. After teaching in that university, he joined the Metallurgical Laboratory in 1941. In 1945 he transferred to the staff of the Oak Ridge National Laboratory, where he has been director since 1955. He has been active in the design of reactors, notably the homogeneous reactor. With Wigner, he is the author of an authoritative text on nuclear reactors.

Walter H. Zinn, a native of Canada, earned his doctorate at Columbia University and served on the faculty of the City College of New York from 1932 to 1941. In that year he, too, joined the Metallurgical Laboratory at the University of Chicago, where he was a member of the team that constructed the first successful atomic pile. He designed and built the first heavy-water reactor. From 1946 to 1956 he was director of the Argonne National Laboratory at Lemont, Ill., where he was actively engaged in the development of the fast-breeder reactor and the boiling-water reactor. He is at present vice-president of Combustion Engineering, Inc. He is a member of the National Academy of Sciences.

Improvement of High-School Chemistry Courses To Be Studied under Science Foundation Grant

A far-reaching national program designed to aid in modernizing and improving the teaching of chemistry in American high schools has been undertaken jointly by the University of California, Berkeley, and Harvey Mudd College, Claremont, Calif., under a grant from the National Science Foundation. The project, which will maintain a continuous liaison with high-school teachers, has as its goal the preparation of text and experimental materials to be used in high-school chemistry classes.

Known as the Chemical Education Materials Study, or CHEM study, the program will be under the general chairmanship of Glenn T. Seaborg, Nobel laureate in chemistry and chancellor of the University of California at Berkeley. J. A. Campbell, head of the chemistry department at Harvey Mudd College, will serve as director of the study. George C. Pimentel, professor of chemistry at the University of California, will head up the group concerned with preparation of new text materials, while Lloyd E. Malm, professor of chemistry at the University of Utah, will maintain liaison with the high schools involved in the CHEM project.

The program will be a counterpart in chemistry of the extensive national program in high-school physics undertaken by the Physical Sciences Study Committee at Massachusetts Institute of Technology under the direction of Jerrold R. Zacharias.

Steering Committee To Meet

The steering committee of the CHEM project, in cooperation with a group of the country's leading chemists and chemical educators, will meet next month in Claremont to make specific plans for the study. During June and July between 20 and 30 teachers of chemistry at the university and high-school levels will assemble in Claremont for a 6-week intensive writing conference, in the course of which hundreds of pages of text and material for laboratory experiments and lecture demonstrations will be prepared in preliminary form.

This material will be presented, during a 4-week program in August, to some 30 high-school chemistry teachers. If it is deemed sufficiently complete to warrant an immediate tryout, the material will be released to a small number of selected high schools throughout the nation during the 1960–61 school year. The trial run will permit modification of the material in the light of actual teaching experience.

In addition to providing improved text and experimental materials for use in high-school chemistry classes, the study, as planned, will include the following.

1) Instruction on the behavior of atoms and molecules, through animated film.

2) Filmed experiments and lectures by outstanding scientists.

3) Evaluation of the incorporation of newly available teaching machines in the nation's educational system.

4) Opportunity to appraise the feasibility of making monographs writ-