News of Science

AIBS Protests Civil Service Action on Pay for Scientists

Approximately 28,000 biologists on the Federal payroll did not benefit from recent pay increases granted by the Civil Service Commission [*Science* **127**, 21 (3 Jan. 1957)]. On 10 December the Civil Service Commission announced pay increases for "scientists" employed by the Federal Government, but biologists, agriculturists, and bacteriologists were not included. The raises were granted to physicists, mathematicians, engineers, some chemists, and a number of technologists.

Hiden T. Cox, executive director of the American Institute of Biological Sciences has protested the action in a letter that was sent to President Eisenhower; his scientific adviser, James R. Killian; the Secretaries of Defense, Agriculture, Commerce, Health, Education and Welfare, and Interior; the chairman of the Civil Service Commission; and the chairman of the House and Senate Committees on Civil Service, Government Operations, and Agriculture.

The presidents and secretaries of all societies affiliated with the AIBS also received letters from Cox explaining the situation and pointing out the serious consequences, present and future, to biology. Many of the society officers have, in turn, written to the above officials, as well as to their individual state senators and congressmen. It is understood that the Civil Service Commission has begun a study of the availability of biologists and the salary scales paid by industry and academic institutions. Opposition to the Civil Service Commission action was taken on the grounds that:

1) While there may be no serious quantitative shortage of biologists at the present time, there are growing shortages in certain areas. Moreover, there are qualitative shortages in almost all fields of biology, and many are in areas critical to the national defense effort.

2) The Civil Service action is discriminatory and makes second-class scientists out of biologists. The financial discrimination is real enough but the discrimination against the prestige and importance of biological scientists is much more significant.

3) The lowering of morale among Federally employed biologists can already be seen.

4) The effect of this action upon future recruitment of superior students into the biological and agricultural sciences is serious. The fact that biologists appear to be considered second-rate by the Federal Government cannot fail to reflect itself in a reduction in the numbers of students attracted to biology.

5) Science must advance in all fields, not in just a few. Artificially stimulating certain areas, even for political expediency, is extremely shortsighted.

In a statement to the press, the American Institute of Biological Sciences emphasized that it does not intend simply to register protests. The statement said:

"The Institute was established in 1948 as the national organization for professional biological societies to speak for the science and to plan effective cooperative action that will advance the research and teaching efforts of all participating biologists.

"The Institute has, in recent weeks, been instrumental in having the first biological representative named to the IGY Space Satellite Panel. The United States alone among cooperating nations has no organized biological program in the International Geophysical Year. Since the ultimate purpose of a space satellite program is to put life—man—on a space platform, the role of biology seems obvious. An *ad hoc* AIBS Committee has been advising the Office of Naval Research on the design and development of a biological experiment to be included in an early U.S. satellite. A member of this Committee, Dr. Otto Schmitt (University of Minnesota) is the newly appointed member to the U.S. Space Satellite Panel. The AIBS, through this Committee is now planning a Symposium on 'Biology in the Space Age.' Tentatively the Symposium is planned for the 1958 annual AIBS meeting for biologists, to be held at Indiana University, Bloomington, August 24–28.

"Biological research results of the last fifty years are impressive. Improved world food production has virtually eradicated famine. This has been accomplished by the development of new hybrid crops, disease resistant grains, improved animal stocks, increased harvests from the sea, and the recent development of insecticides, fungicides and growth substances. The discovery and production of a spectrum of antibiotics, the almost complete conquest of communicable diseases, the application of plant taxonomy to jungle survival techniques are other notable advances.

"Many of the most important scientific problems that remain to be solved are biological—methods for protection against atomic radiation and fallout; solution to the mystery of how green plants provide man with the air he breathes and the food he eats, without which he could not survive; and the problem of the future—how to maintain human life for indefinite periods in submarines and manned space vehicles.

"The Institute represents nationally the men and women who will solve these problems in the next few years. It is for these reasons that the AIBS is concerned, at the moment, with the action of the Civil Service Commission, and continually with the need to develop and encourage a well-qualified corps of biological scientists in the United States."

Conquest

CBS Television's *Conquest* will present its second program at 5 P.M. on 19 January. The telecast will deal with the following subjects: the life and accomplishments of Gerard Kuiper, director of the University of Chicago's two observatories, the Yerkes Observatory in Wisconsin and the McDonald Observatory at Fort Davis, Tex.; the story of H. Julian Allen, an aerodynamicist who, by redesigning the shape of rockets and missiles, has solved the crucial "re-entry problem," enabling objects to return to earth from space without burning up through friction with the atmosphere; and a special round-up of the scientific work being done around the world in connection with the International Geophysical Year, including interviews with leading American scientists cooperating in the international scientific effort. *Conquest* is being presented in cooperation with the AAAS and the National Academy of Sciences and under the sponsorship of the Monsanto Chemical Company.

Soviet Science Overestimated

Amid a growing number of claims that science in the U.S.S.R. may more than match that in the United States, Donald J. Hughes, a physicist with the Brookhaven National Laboratory, reports that the Soviet achievement in basic research is being overestimated in this country. Writing in the December issue of *Physics Today,* Hughes bases

his opinion on a two-week visit last summer to the Soviet Union as a guest of the Soviet government. Accompanied by his wife, Hughes also spent two weeks in Poland as a guest of the Polish Government.

The purpose of the visits was to lecture and consult on individual matters, not to attend a particular conference. This circumstance, Hughes says, produced an informal atmosphere favorable to learning about a wide variety of physics research as well as an opportunity to talk at length to many individuals. Among his specific comments on the state of science and on science as a way of life in the Soviet Union are the following:

Basic research. ". . . the Soviets certainly do not lead in basic research and in fact in most of its branches lag behind us. They do excel in certain fields, largely development of large equipment, where they have decided to devote intense effort. . . . Such things as the Soviet atomic power plant, the 10-Bev accelerator, and the earth satellite are very good examples of this type of evidence. . . . These developments, however, are not basic science and are the type of things that can be pushed to rapid success if funds are not limited."

Standard of living. "At levels above beginning PhD's the salaries seem to remain at about half those in the U.S. in terms of real purchasing power. This information may come as a surprise when compared with the stories that have been current about Soviet scientists having cars, chauffeurs, and homes in the country. These stories certainly do not apply to the scientists with whom I talked, men usually at the level of PhD's plus 5 to 20 years of experience. The only way in which these stories do apply is to the very few men who are members of the Academy . . . very few of the men we met owned cars of their own, and they all lived in rather small flats."

Effects of government control. "With the dictatorial control that is expressed by the Academy it is obviously true that certain fields can be picked to be pushed with all effort. It is difficult to say just why certain things are selected for the push, but it seems that spectacular items often are, and when success is achieved, as with the recent satellites, the propaganda value is utilized to the utmost. This kind of pressure on selected topics does not work well at all, on the other hand, in basic research and it is here that the Soviets lag behind us. . . . It is hard to see how basic science can advance in a situation in which a few fields, usually those that will produce results of propaganda value, are the only ones that are pushed."

Separation of scientific work from political opinion. ". . . the day we arrived in Russia . . . there were two letters to the editor in an English-language Soviet newspaper. These letters, supposedly voluntarily submitted, were by Skobeltzyn, Director of the Nuclear Institute, and Mescheryakov, head of one large phase of research at the Dubno laboratory [Joint Institute of Nuclear Research at Dubno, about 60 miles north of Moscow]. . . . The letters expressed extreme hate for the West yet the day after reading these letters in the paper we were talking to Mescheryakov, who explained his experiments as a typical scientist, extremely friendly and vitally interested in our experiments as well as his own. The impression we gained from this and other experiences was that the scientists learned to separate their scientific work, which may be of high caliber, from propagandist political activities sponsored by the government."

Sardis Expedition

An archeological expedition to ancient Sardis in Turkey is planned next summer by Cornell University, the American Schools of Oriental Research, and the Fogg Museum of Art of Harvard University. Sardis was the city of King Croesus, who was renowned as the richest man in the world and was credited with having introduced coinage. The expedition plans were announced recently by A. Henry Detweiler, Cornell professor and president of the American Schools of Oriental Research, an organization that has research and archeological centers at Jerusalem and Baghdad that are supported by more than 100 American universities and seminaries.

AAAS Newcomb Cleveland Prize

M. Schwarzchild and J. B. Rogerson, Jr., both of Princeton University Observatory, and J. W. Evans, executive director of the Sacramento Peak Observatory, received the thirtieth AAAS Newcomb Cleveland Prize of $1000 during the Association's recent meeting in Indianapolis. The men were honored for having developed techniques for obtaining direct solar photographs with high definition undisturbed by the blurring effects of the earth's atmosphere. In a paper entitled "Solar Photographs from 80,000 feet," Rogerson presented the results of the prize-winning project.

Three unmanned balloon flights were carried out to secure the high-quality photographs of the sun. These photographs should enable scientists to gain a better understanding of the turbulence in the solar atmosphere. Several exposures of very high definition were obtained, both of the center of the solar disk and of the limb, or edge, of the solar disk. These exposures show that the solar granulation (boiling in the solar atmosphere) has a cellular, though highly irregular, structure. The bright cells appear separated from each other by dark, and often very sharp, lines. There seems to be a continuum of granule diameters from the smallest observable with the balloon telescope (250 km) up to the sizes previously observed (700 to 1400 km).

The techniques of photographing solar granulations from a balloon-supported platform will be applicable to many other astronomical problems which are at the present time limited by the blurring of the earth's atmosphere. The solar surfaces can be seen in much more detail; turbulence around sun spots and other magnetic areas can be studied. The techniques may be applicable to the study of turbulent motion on other stars; this motion appears to have significant effects on the evolution of many stars.

The project has been sponsored by the Office of Naval Research and by the geophysics Research Directorate of the Air Force. Lyman Spitzer, head of Princeton Observatory, has been closely connected with the project in an administrative capacity.

Laurence H. Snyder, president of the AAAS, presents the Newcomb Cleveland Prize to J. B. Rogerson, Jr., one of the three winners of the association's $1000 award.