Philip Hauge Abelson, New Editor of "Science"

Frank L. Campbell

The American Association for the Advancement of Science is fortunate to have persuaded Philip H. Abelson to serve as editor of *Science*. This biographical sketch is intended to give readers of *Science* some understanding of the man who will take over its direction from editor Graham DuShane when the latter becomes Dean of the Graduate Sciences at Vanderbilt University.

Although Dr. Abelson has had much editorial experience, he is primarily a scientist engaged in the personal pursuit of understanding through research, and he plans to continue his research as director of the Geophysical Laboratory, Carnegie Institution of Washington. He also intends to continue to serve as one of the two editors of the *Journal of Geophysical Research*, a highly technical journal of the American Geophysical Union. He has the temerity to undertake several full-time jobs at once because he knows that original and valuable ideas come frequently to him and that the time-consuming development and execution of his ideas can be delegated to his associates.

What about Abelson's motivation? He is a genuinely modest person, who has a passion for learning and a desire to help others to learn. He accepted the editorship of *Science* because he has ideas on how *Science* may be made still more timely and more informative to scientists than it has been; he wants to try them out and, in the process, to increase his own knowledge of current scientific trends and developments. He has an extraordinary desire to know and an extraordinary ability to understand and penetrate the frontiers of science. Thus, through *Science* Dr. Abelson should extend his own learning for the benefit of all scientists.

In the *Journal of the Washington Academy of Sciences* for January 1961 I described Abelson's career. I pointed out that when he was elected to membership in the National Academy of Sciences in 1959 and had to choose the section in which he wished to be enrolled, he became affiliated with the Section on Geology. However, in *Who's Who in America* he calls himself a physical chemist, and because of his distinguished contributions in several major fields of science he could have enrolled in any one of six other sections: Biochemistry, Chemistry, Engineering, Geophysics, Microbiology, or Physics. Not even the retiring president of the National Academy of Sciences, noted for his interdisciplinary research in physics, physiology, and engineering, has delved personally into so many disciplines.

Abelson was born in Tacoma, Washington, in 1913, the son of a civil engineer, under whose guidance he became a surveyor for the city of Tacoma at the age of 17. Thus he helped to pay for his education at Washington State University (then the State College of Washington). Graduating in chemistry at 20, he remained in Pullman for two years for a master's degree and served as an assistant in physics. He was attracted to the Radiation Laboratory of E. O. Lawrence at the University of California in Berkeley. In his doctor's dissertation (1939) he identified uranium fission products.

While at Berkeley, Abelson married Neva Martin, now an associate professor of medicine at the University of Pennsylvania. Perhaps she had something to do with his early interest in the application of radioactive isotopes as tracers in biological research. His first published paper (with S. F. Cook and K. G. Scott) was on the distribution of radioactive phosphorus in the growing chick; it appeared in the *Proceedings of the National Academy of Sciences* for September 1937.

In 1939 Abelson joined the staff of the Carnegie Institution's Department of Terrestrial Magnetism, in Washington, D.C., a research institution that is not at all restricted to the study of terrestrial magnetism. He later collaborated with Edwin M. McMillan of the Radiation Laboratory in the discovery of neptunium and in the determination of its chemical properties. These investigations suggested the early process used at Hanford for the manufacture of plutonium.

During World War II he was a key figure in the Manhattan Project. While attached to the Naval Research Laboratory he developed, with John I. Hoover, the liquid thermal diffusion method for the separation of uranium isotopes. Under his general supervision a plant employing that method was designed and constructed at Oak Ridge for the production of enriched uranium; it was incorporated into the overall facility used in the production of the first atomic bomb. He helped initiate the development of our first nuclear-powered submarine. For his war work he received the Navy's Distinguished Civilian Service Medal.

After World War II Dr. Abelson returned to the Department of Terrestrial Magnetism, as chairman of the Biophysics Section. Since that time all his research has had biological components and implications. With collaborators he published a series of papers on biosynthesis in microorganisms, using radio-

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active tracers to elucidate such processes as the utilization of carbon dioxide in the synthesis of proteins. During this period (1950) he received from the Washington Academy of Sciences its annual award in the physical sciences.

In 1953 Abelson was named director of the Carnegie Institution's Geophysical Laboratory, also in Washington, D.C., and he has since been exploring the organic matter in sedimentary rocks and in fossils. He could now be called a paleobiochemist, but "scientist" is better. If one should drop in unannounced to see Dr. Abelson at the Geophysical Laboratory, the chances are that the director would not be found behind a desk; he would be wearing a laboratory coat and talking or working in the laboratory with one of his associates.

Some of Abelson's unofficial activities cannot be explained in terms of his need to know. Much that he does is purely altruistic—a giving of his time, knowledge, and experience to help others. One must classify as altruistic his service on committees of the National Academy of Sciences–National Research Council (Division of Medical Sciences), the National Institutes of Health, the Atomic Energy Commission, and the National Aeronautics and Space Administration; his service to the AAAS as chairman of its Meetings Committee; and his service to the scientific community of the Washington metropolitan area in 1961 as president of the Washington Academy of Sciences. I shall long remember his leadership in bringing to selected science teachers of this area not only an authoritative short course on atomic radiation but laboratory experience in the detection and measurement of such radiations. Thus he hoped to reach the high school students and prepare them, through their teachers, to understand and guard against the perils of our atomic age. Recently he became president of the District of Columbia chapter of the Society of the Sigma Xi. This is neither a conspicuous nor a glamorous office, but a fraction of Abelson's time will be of more value to the society than hours of attention by an ordinary president.

If past performance is any guide, Abelson will make innovations in *Science* though preserving the many fine qualities of the present magazine. He will seek to attain rapid publication of the most important announcements of new research results. As editor, he will find means of utilizing to a greater degree the talents of the scientific community. *Science* will become an even more interesting and useful source of news of broad significance to all its readers.

News and Comment

Atomic Power: House Decides That "Sweetened" Proposal for Using Hanford Steam Is Still Unpalatable

The House last week again indulged itself in the political luxury of dumping some 800,000 kilowatts' worth of steam into the Columbia River. The decision represented a triumph for the coal states and private power interests, and provided a casebook example of the political encumberances that frequently envelop attempts to adapt new technology to national needs.

At issue was a newly drafted—and politically sweetened—proposal to produce electric power from the tremendous heat that will be available in a new plutonium reactor now under construction at Hanford, Washington. The primary purpose of the reactor is to join eight others now in operation at Hanford in the production of plutonium for weapons' use. The existing reactors were constructed without facilities for using their by-product, heat; when the new reactor was authorized by Congress in 1958, $25 million was included to adapt it for the useful production of steam. The project, however, has always been regarded with hostility and suspicion by the coal states and private power interests, which look upon Hanford as a wedge for the Atomic Energy Commission to move into the power business to the detriment of coal and private power.

Last year, an administration proposal to spend $95 million for power production facilities to use the steam at Hanford was beaten down by the House; the House stuck to its position even after the Senate, in an attempt at a compromise, voted a $58 million generating facility that would be restricted to providing power for use only at Hanford.

The proposal that came up for consideration in the House last week called for no federal money at all for generating electricity from Hanford. Rather, the proposal sought permission for the AEC to enter into a contract under which the Washington Public Power Supply System (WPPSS), comprising 16 public utility groups in Washington, would build and operate the generating facilities at its own expense. The steam, which would otherwise be wasted, would be sold to the WPPSS at a price to be approved by the Federal Power Commission, and would be resold for distribution through the Bonneville Power Administration. One-half of the power would be made available to private power firms, without price discrimination, an arrangement that would seem to dull the argument that the Hanford project is a scheme to fatten public power interests at the expense of private utilities and the general taxpayer. Estimates on just what sum the government would receive from the sale of the steam can justifiably be regarded with skepticism—they range up to a total of $125 million over 24 years—since few atomic power developments conform to expectations; but, in any event, the situation came down to a choice between throwing away the steam or creating the very good possibility that it will bring a considerable amount of money into the U.S. Treasury without any further expense to the government.

In terms of meeting the objections raised in debate last year, the new proposal would seem to have been all that could be desired, for it decisively undercut the principal arguments raised against its predecessor. For guardians of the public treasury, it held out the very good prospect of income from a facility that would otherwise bring the government nothing, and for private utilities it offered one-half of the power