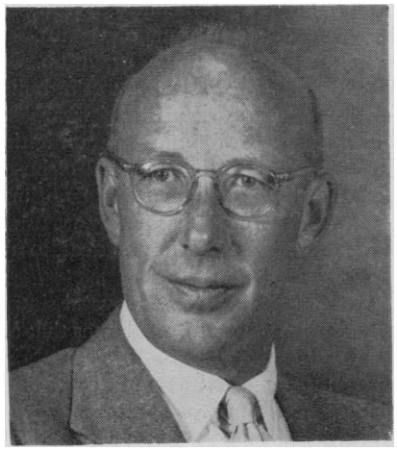
News of Science

Tatum Named to Editorial Board

It is a pleasure to announce that Edward L. Tatum was appointed to the editorial board of *Science* and *The Scientific Monthly* on 1 Apr. Tatum, now 47 years old, took his A.B. degree in chemistry, his master's degree in microbiology, and his Ph.D. degree in biochemistry at the University of Wisconsin, thus getting a strong background in several sciences.

Following a year as research assistant in biochemistry at Wisconsin (1934–35) and a year as a fellow of the General Education Board at Utrecht (1936–37), Tatum joined the Stanford University biology department, where he was a research associate (1937–41) and an assistant professor (1942–45). After having served on the Yale University faculty, first as associate professor of botany (1945–46) and then as professor of microbiology (1946–48), he returned to Stanford as professor of biology. He held this post until he became a member of the Rockefeller Institute for Medical Research in January of this year.

Tatum has served many national scientific bodies, and at present, in addition to being on the National Science Board, he is a member of the Committee on Virus Research and Epidemiology, National Foundation for Infantile Paralysis; the Biology Council, National Research Council; Biology Panel, National Science Foundation; and the Research Advisory Council, American Cancer Society. His honors include the American Chemical Society's Remsen award, selection as the Herter lecturer at New York University, and membership in the National Academy of Sciences.



Edward L. Tatum

His special interests have been the nutrition and metabolism of insects and microorganisms and the biochemistry and genetics of microorganisms. Some of his most significant research results are as follows: identification of thiamine as a growth factor for proprionic acid bacteria; isolation and identification of kynurenine as an eye-color hormone in *Drosophila* (with G. W. Beadle); discovery of biochemical mutants in *Drosophila* (with G. W. Beadle); biochemical mutations in bacteria; gene recombinations in *Escherichia coli* (with J. S. Lederberg); biosynthesis of tryptophan (with D. M. Bonner).

Tatum's wide-ranging scientific interests, outstanding research accomplishments, and diverse academic experience make him notably well qualified to serve as a member of the editorial board of *Science* and *The Scientific Monthly*. In addition, his experience since 1948 as a member of the editorial board of the *Journal of Biological Chemistry* and as assistant managing editor of the *Annual Reviews* (1948–53) should serve him well in his new post. We welcome Tatum as a distinguished new member of our editorial board.—G. DuS.

South Atlantic IGY Studies

The program to study the deep water masses of the South Atlantic Ocean during the International Geophysical Year got under way in February when the research vessel *Crawford,* which belongs to the Woods Hole Oceanographic Institution, left Woods Hole, Mass. The 125-foot vessel will have crossed the Atlantic four times and covered some 18,000 miles by the time it returns next June.

F. C. Fuglister, oceanographer and chief scientist on board the ship, has explained that the main objective of the cruise is to determine what changes may have taken place in the physical and chemical properties of the water masses of the South Atlantic Ocean since the classic survey made by the German oceanographic ship *Meteor* during the years 1925–27. The *Crawford* carries a scientific complement of six and 15 officers and crew members.

The horizontal and vertical movements of the ocean water masses influence the climate of the world. An understanding of this circulation, of which we are still largely ignorant, may lead to forecasts of climatic changes, similar to the many wild or severe fluctuations which have taken place since the last ice-age.

Many hundreds of temperature and salinity observations from the surface to near the bottom are being made by the *Crawford's* investigators, who work regular ships hours. Water samples are titrated for salinity and for oxygen content. Formerly water samples for salinity titration were brought back to Woods Hole for analysis. An electronic salinometer, designed by Karl E. Schleicher of the Woods Hole Oceanographic Institution, now makes it possible to obtain the desired data on board ship.

If the ocean is to be used as a disposal area of atomic waste products, it is necessary to know soon where and how such disposal can safely take place. We know that the ocean is slowly "turning over." How long does it take for the surface water to sink to the bottom? Estimates based on several methods and extensive research during the last few years differ widely from a time range of about 150 years to 1000 years and more. L. V. Worthington of the Woods Hole Oceanographic Institution has suggested that the cold bottom water of the North Atlantic Ocean formed during the little "ice-age" about 150 years ago. Pollution from atomic waste, unlike the familiar harbor pollution, is irremediable. It is therefore essential to learn more about the deep water movement of the ocean.

For the moment, fission products, deposited in the ocean by fall-out from nuclear weapons tests, are an aid to oceanographic studies. The introduced fall-out materials can be measured and form an excellent tracer to study the horizontal diffusion in the sea and the rate of mixing between different water layers. On board the *Crawford* a 55 gallon plastic water sampler designed by Vaughan T. Bowen, geochemist, is lowered to various depths to obtain large water samples. The samples are acidified on board the *Crawford*; the carbon dioxide is driven off and collected chemically for analysis of its content of radioactive carbon-14 and stable carbons 12 and 13. The carbon-14 dating techniques have been used before to determine the age of sea water, but more studies need to be made. This is the first time that such samples have been collected in conjunction with a hydrographic survey of temperatures and salinity and on complete transverse sections across the ocean.

After the carbon-dioxide has been re-