Frank W. Putnam

Frank W. Putnam was born on August 3, 1917, in New Britain, Connecticut. He received the B.A. (with high distinction, 1939) and the M.A. (1940) degrees in chemistry from Wesleyan University. Frank became interested in biological aspects of molecular structure and obtained his Ph.D. in biochemistry from the University of Minnesota in 1942. I once remarked to him on the rapidity with which he completed his doctorate. Frank was surprised when I mentioned this. "There was a war on," he said. "We didn't have time to fool around!" And indeed, Frank didn't fool around, then or ever since, as his present CV attests, with its bibliography of 274 research papers and book chapters, and an overwhelming list of honors and outside scientific activities.

After finishing his Ph.D., Frank went to Duke University, where he carried out research for the Office of Scientific Research and Development for the duration of the war. But as Frank notes wryly, he also managed to find a little time at Duke for his own research. Following the war Frank spent a year with the U.S. Chemical Corps at Camp Dietrick, Maryland. In 1947 he moved to the University of Chicago, where he was assistant professor in the Department of Biochemistry from 1947 to 1953, and associate professor in the Department of Biochemistry and the Argonne Cancer Research Hospital from 1953 to 1955. In 1955 he moved to the University of Florida as professor and head of biochemistry. He came to Bloomington in 1965 as professor of biology and director of the newly organized Division of Biological Sciences at Indiana University. He served as professor of molecular biology and zoology from 1969 to 1974, and since 1971 has also held an appointment as professor of biochemistry in the IU School of Medicine. In 1974 Indiana University formally recognized Frank Putnam's scientific accomplishments as well as his service and teaching at IU, by his appointment as distinguished professor of molecular biology and of biochemistry.

Over the years many graduate students, postdoctoral research fellows, and visiting scientists from all over the world have worked in Frank's laboratory at IU. In turn, Frank has been asked to give lectures in virtually every country in the world. (I asked him recently if there was anywhere he hadn't been in the past few years; he came up with a very short list.) One long-term association to which Frank ascribes considerable importance is that with research groups in Cambridge, England. He has spent several periods as a visiting scientist in Cambridge, including one in 1953 as a Lasdon Research Fellow, and one in 1970 as a Guggenheim Fellow. Churchill College of the University of Cambridge named him an Overseas Fellow in 1972, and awarded him an honorary M.A. in 1973.

During his career Frank Putnam has received numerous honors, awards, and fellowships. The event that most clearly speaks of the regard in which he is held by the scientific world is his 1976 election to the National Academy of Sciences, an honor achieved by very few. Moreover, most academic scientists count their career a success if they have made just one contribution of lasting scientific importance. Frank Putnam has been at the center of pioneering research in three different areas. In his early work he developed methods for the physical characterization of proteins. In his days at Chicago he was a member of the early phage group, whose studies of the biology and chemistry of bacterial viruses was of crucial importance in the development of modern molecular biology. Finally, Frank was the first to recognize that the Bence-Jones proteins held the key to antibody structure.

His work in the early fifties on the Bence-Jones proteins began the investigations that served as the basis for the rest of Frank's research career. Frank recalls that many scientists were skeptical about his then radical theory that the proteins found in the serum and urine of multiple myeloma patients were related to normal antibodies. He was finally able to devote his research full time to the characterization of antibody proteins after he went to the University of Florida as head of the biochemistry department in 1955. ("As long as you're doing a good job running the department, everybody's happy with your research, no matter how controversial," he jokes.) From that day to the present, his laboratory has been responsible for making many of the crucial determinations of the primary structure of antibodies, and more recently of other human serum proteins. Frank's group was just completing the structure of IgM, the largest and most complex antibody type, when I joined his laboratory in the early seventies for my own postdoctoral research. Those were indeed exciting days to be a member of the Putnam research group! It is clear that the atmosphere in his laboratory has continued to be equally exciting in the years since.

Basic research into the primary structure of human serum proteins, and into the relation of the structure of these important proteins to their biological function in human health and disease, has been Frank's primary focus and the source of his distinguished international scientific reputation. Yet Frank counts his service to the scientific community outside the University as one of the personally most satisfying aspects of his career, along with his research. For example, Frank has been and continues to be involved in numerous activities of the National Academy of Sciences. These activities include the academy's reports on specific aspects of scientific data that pertain directly to current problems in human health and the environment, as well as the academy's advisory role to the federal government in determining the directions of current science. One example of such activity is the period from 1977 to 1981, when Frank served as chairman of the Assembly of Life Sciences, an advisory arm of the National Research Council. In this capacity he was responsible for directing the efforts of eighty different committees under the auspices of the National Academy of Sciences, the Institute of Medicine, and the National Academy of Engineering; and for overseeing a budget of seventeen million dollars.

Frank Putnam is being honored on the occasion of his formal retirement from the Indiana University faculty, but Frank has by no means left active participation either in the international scientific community or in research. Frank is currently a member of several boards and committees, including the Board of Governors for the Argonne National Laboratory. In addition, the Putnam research group is still going strong. Last week, when I went to consult Frank on a few details for this write-up, he delightedly showed me the most recent results from the laboratory that day. Thus, retirement clearly does not mean an end to Frank's considerable contributions to his colleagues at IU or to his scientific profession.

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