Erwin Brand: 1891-1953

Orr E. Reynolds and Jesse P. Greenstein

WITH the death of Erwin Brand on July 12, 1953, American biochemistry lost one of its most colorful and creative personalities. He was born in Berlin, Germany, on June 17, 1891, was graduated from the Realgymnasium in Berlin in 1909. He subsequently studied chemistry and medicine at the universities of Munich, Greifswald, and Berlin. Brand was among the last students of Emil Fischer, and after the latter's death, he continued his studies with Max Bergmann, and obtained his Ph.D. at Berlin in 1920, with his thesis on glyceride synthesis. When Bergmann was appointed director of the Kaiser-Wilhelm Institut für Lederforschung in Dresden in 1920, Brand accompanied him and assisted in the establishment of the new institute, which was housed in a converted mansion in the Schweizerviertel part of the Altstadt. Brand's skill in the organization and establishment of the new institute shortly after the close of a disastrous war and in the midst of near economic chaos revealed those constructive talents that he was to display much later, in a distant land, and in the last years of his life. He remained with Bergmann in Dresden for two years, until 1922. During this period he was associated with the brilliant initial studies on oxazolidines and the phenomena of acyl transfer from nitrogen to oxygen in amino alcohols.

The second phase of Brand's life began with his emigration to the United States in 1922. From 1923 to 1929 he was employed in the Laboratory Division of the Montefiore Hospital in New York City. This period of his life was primarily one of adjustment to a new country, but toward its close he began the study of cystinuria which, together with studies on creatine and glycine metabolism in muscular and neuromuscular diseases, was to engross much of his interest during the third phase of his career at the New York State Psychiatric Institute from 1929 to 1937, and at Columbia University from 1931 onward. With Cahill and Harris, Brand showed in 1935 that the ingestion by a cystinuric individual of cysteine or methionine leads to excretion in the urine of extra cystine, whereas administered cystine and glutathione are almost completely oxidized to inorganic sulfate. The conclusions drawn from this brilliant study anticipated much of the later developments in the intermediary metabolism of the sulfur-containing amino acids.

Since in the normal course of events the sulfur-containing amino acids metabolized by the body originate from dietary protein, Brand turned his attention to the study of proteins of different sulfur content. In part, this necessitated the development of accurate methods of analysis for methionine and cystine (or cysteine) in the hydrolyzed proteins, a project which was carried out with Miss Kassell's assistance, and which was further widened in scope to include methods of analysis of all other amino acids present in the protein hydrolysates. Thus, Brand was prepared for what might be termed the fourth stage in his career. When World War II broke out, he was associated with the characterization of the plasma proteins carried out by Edwin J. Cohn and his staff at Harvard University. Under a contract between OSRD and Columbia University, Brand embarked upon a program of complete amino acid analyses of plasma and other proteins, attaining in his extraordinary studies on β-lactoglobulin what might well be the first complete analysis of a protein in terms of its amino acid content.

During this stage (roughly from 1941 to 1946) a new aspect of Brand's career began to emerge—his interest in chemical societies by which most biochemists outside of his own specialized fields of interest were best to know him. He served as councillor of the American Chemical Society, representing the New York Section from 1943 to 1946, and from 1941 to 1946 he was Secretary of the Division of Biological Chemistry of the American Chemical Society. Thus as Brand entered the fifth stage of his career, he did so in two capacities, as a builder of an organization, and as an investigator of polypeptide chemistry. In the last ten years of his life, he threw all his energies into both activities with youthful vigor and enthusiasm. With the financial assistance of the Office of Naval Research and of the National Institutes of Health, he and his younger collaborators, Erlanger, Polatnick, Sachs, and others, turned their laboratory into a small polypeptide factory, building upon a well-conceived plan and with beautiful experimental technics what is probably the most unique collection of optically active polypeptides made since Emil Fischer's time. These were subjected to optical rotation studies, and demonstrated essentially the additive function of the asymmetric carbon atoms of the constituent amino acid residues, in much the same fashion as Claude Hudson had shown many years before to be true of sugars. The other phase of Brand's activities during this period was revealed in his galvanization of the Division of Biological Chemistry into one of the most active and respected units of the American Chemical Society. He served as chairman of the Division from 1946 to 1948 and as Councillor from 1948 onward. He organized the Younger Chemists International Project in 1951, to enable young chemists from nearly every nation in the free world to attend the World Chemical Conclave and to make conducted tours in the United States. For this project he labored unceasingly, obtaining generous support from several industries, ECA, the State Department, and the Ford

Foundation. He was active in the National Committee of Biochemistry, the International Committee for Biochemistry (of which he was one of the two American representatives), and the India Science Congress in Calcutta of 1952, to which he had been invited as a guest of the Indian government. It is not improbable that the burden of all these activities, both scientific and administrative, hastened his end.

It is impossible to conclude a survey of Brand's life without a few words about his complex and many-sided personality. To many he appeared to be cantankerous, blunt, and forbidding. That despite these impressions he should have accomplished so much of value is a tribute to the very patent sincerity and unselfishness with which he fought for his causes. He was a creative and constructive force, and such people are usually angular and driven by a remorseless energy. Yet he frequently exhibited unexpected acts of personal kindness and generosity, and he was loyal to the core. Brand was, quite simply, a man incapable of the petty arts of social duplicity, and his personality was completely transparent. One had to know him well to understand and appreciate the mixture of rigorous intellectual honesty and of personal kindness which were his characteristics. He died quietly and in his sleep, a peaceful ending to a vigorous and notable career. His wife, Florence Brand, whom he married in 1932, and who is also a biochemist by training, survives him.

News and Notes

Report on the Eighth Pacific Science Congress and Fourth Far-Eastern Prehistory Congress[1]

THE Eighth Pacific Science Congress, which met in Manila, November 16–28, 1953, was an outstanding success both in terms of attendance and in scientific accomplishments. The Congress, which was held under the auspices of the Republic of the Philippines and the National Research Council of the Philippines, met jointly with the Fourth Far-Eastern Prehistory Congress, on invitation of President Elpidio Quirino, at the University of the Philippines in Quezon City. Originally, the Seventh Congress had been scheduled in Manila in 1943 but the war interfered. The rebuilding of Manila, recently completed, made it possible to renew the invitation originally extended by the late President Manuel L. Quezon.

Over 700 delegates representing some 30 countries and 20 fields of specialized scientific knowledge gathered for the opening sessions, the largest group of scientists ever assembled in the Pacific region. For the first time, also, there were large numbers of Asian scientists, an indication that the newly independent countries of east and south Asia recognize the value of science in meeting their problems. There were large delegations from Australia, the Republic of China, Hawaii, Indonesia, Japan, New Zealand, Thailand, the Philippines, and the United States. The U.S. delegation, led by Knowles A. Ryerson, consisted of 25 delegates from the National Research Council, including the 10 official U.S. delegates, and some 70 additional participants from research institutions, universities, governmental agencies, the military services, and the Trust Territory. This large U.S. participation was made possible through the efforts of Harold J. Coolidge, with the cooperation of various private foundations and government departments and agencies.

The scientific accomplishments consist of the papers which were presented and discussed over the two-week period and the intangible influences of scientists on one another and on the community in which they met. The objectives of the Pacific Science Association, the parent body responsible for the congresses, are "to initiate and promote cooperation in the study of scientific problems relating to the Pacific region, more particularly those affecting the prosperity and well-being of Pacific peoples; and to strengthen the bonds of peace among Pacific peoples by promoting a feeling of brotherhood among the scientists of all the Pacific countries."

The Congress opened with a plenary session in which acting foreign secretary Felino Neri welcomed the delegates on behalf of the Philippine government, and Vidal A. Tan, president of the University of the Philippines and of the Eighth Pacific Science Congress, addressed the audience of over 6000 delegates and guests on "The Role of Man in Science." The heads of foreign delegations made brief remarks before the delegates met in some 20 groups for the discussion of scientific problems. The organizing committee had arranged a program stressing symposia which cut across various fields, as well as divisional discussions, and had interspersed public lectures by outstanding scientists and excursions to various points of interest. A major feature was the invitation of the National Power Corporation to hold a symposium on conservation planning at the site of the Ambuklao power dam project on the Agno River near Baguio.

Physical science papers were grouped under Geology and Geophysics, Meteorology, and Oceanography, under the respective chairmanships of Jose M. Feliciano, Casimiro del Rosario, and V. Villadollid.

In the sessions of Geology and Geophysics, papers were presented in 9 symposia that covered such Pacific

[1] The writer is indebted to K. O. Emery, Geology Department, University of Southern California, E. W. Gifford, Department of Anthropology, University of California, and H. O. Beyer, University of the Philippines, for information and notes on various activities included below.