



DR. FRANZ DAVID BIELSCHOWSKY
1902-1965

Dr. Franz David Bielschowsky: 1902–1965

An Appreciation

On the 21st of April, 1965, Dr. Franz Bielschowsky died suddenly in New Zealand following a recent myocardial infarction. This unhappy event has shocked his many scientific friends in America and Europe, as well as in the British Commonwealth, as it was quite unexpected and has tragically cut short a steady flow of unusually sound and stimulating papers on the biology of cancer. Dr. Bielschowsky was born in Berlin on January 5, 1902, and graduated M.D. from the University of Berlin at the age of 25. In his early work he was concerned with biochemical pathology and metabolic diseases, and he is still remembered in Europe, especially, for his achievements with Professor S. J. Thannhauser on the enzymatic degradation of nucleic acids. By the age of 30 he was *Privatdozent* in Freiburg, but the Nazis were already persecuting academics and in the following year, 1933, he was compelled on racial grounds to leave Germany. He was given asylum in Holland by Professor I. Snapper and soon afterwards went to the Central University of Madrid to lecture on metabolic diseases. With Dr. S. Ochoa he organized the Institute for Experimental Medicine there in 1935, and he became the Director of the Biochemistry Department. His research program on intestinal physiology had hardly begun before the Spanish Civil War erupted. During this time he served as a captain in the Medical Services of the Spanish Republican Army, and after the fall of Madrid he was again a political refugee.

With his wife, Marianne, who had served in the Republican cause as a lieutenant, he took asylum in Britain and soon joined Professor H. N. Green at the Department of Pathology in Sheffield. There, he at first contributed to a series of studies in progress on the mode of action of sulfonamides and the occurrence of factors interfering with their bacteriostatic action. As soon as the carcinogenicity of 2-acetylaminofluorene was discovered in this country, he recognized its usefulness as an experimental tool, quickly confirmed its efficacy as a carcinogen as well as a growth inhibitor, and with the help of Professor Georgiana Bonser and others, made the transition to experimental pathology and cancer research. Thus, he was provided with an important stimulus that led him ultimately to create a solid body of results in oncology for which it seems safe to predict he will long be remembered. He held British constitutional and legal concepts in highest regard and felt most at home with the social equality and tranquillity of New Zealand. In 1948 he went to Dunedin, New Zealand, to become Director of Cancer Research. There he continued to develop his work on 2 main interweaving themes—aromatic amine carcinogenesis and the endocrinologic aspects of oncology, in which he had become deeply interested after being associated with the late Professor Eric S. Horning in Britain.

Bielschowsky established the carcinogenic pattern due to the aminofluorene group of compounds in detail, identified their first

hydroxylated metabolite, and performed many original and germinal experiments on the modification of the action of these drugs by strain and sex differences and by endocrine manipulations. With Mr. W. H. Hall he discovered the ablation of liver carcinogenesis by thyroidectomy, and this led to the concept of endocrine limitation of carcinogenesis, which he refused to speculate about but provided additional impressive evidence for in several other papers. This part of his research, which meshes closely with similar work done in America, has profound theoretical implications that have engaged the attention of his collaborators and several eminent oncologists in this country as well.

Bielschowsky always acknowledged his good fortune in having the scientific stimulation and collaboration of a small but effective group of endocrinologists in New Zealand, especially Mr. T. H. Kennedy, Drs. H. D. Purves, W. E. Griesbach, and D. D. Adams. Since the pioneering efforts of Sir Charles Hercus and others on goiter, this group had become internationally respected, especially for their work on thyroid and pituitary physiology. This provided the fundamental basis for much of the long series of distinguished experiments Bielschowsky developed on the nature of neoplasia in these endocrine organs and on endocrine-related mechanisms of carcinogenesis. He also acknowledged often his indebtedness to such well-known personalities of New Zealand science and medicine as Professor N. L. Edson, Professor E. F. D'Ath, the late Professor F. A. Denz, and the Deans of the Faculty, and also to several others at home and overseas, particularly R. A. Willis and H. Krebs.

If Bielschowsky could have written his own obituary, we know he would have wished to emphasize more fully his appreciation of the support of his colleagues, whose friendship he valued highly. What he could not have found words for was his devotion to his wife, Marianne, who collaborated in all aspects of his work, who supported him both at home and in the laboratory with loving attention to his every need, and who made his colleagues feel as if they were members of a family. We offer her our deepest sympathy.

In addition to her efficient support of the main work of the department, Mrs. Bielschowsky found time to breed several unique strains of mice, whose characteristics have been published in collaborative work with Franz and members of the anatomy, biochemistry, and pathology departments of the school. The strains exhibiting hyperglycemic obesity and megacolon have proven interesting for cancer research as well as for biochemistry and developmental pathology, but the most notable animals bred undoubtedly were the NZB mice, which regularly develop autoimmune hemolytic anemia and other lesions. The Bielschowskys established a firm genetic basis for these autoimmune lesions, and the mice are now the subject of widespread investigations in

several other countries as well as in New Zealand. During the last few years of his life Franz Bielschowsky had begun a whole new line of work based upon Marianne's development of these unique animals, and it is doubly disappointing to all of us that this program was interrupted in full flight by his untimely death.

Bielschowsky published more than 70 scientific papers in spite of having to contend with great political and social upheavals interrupting his career.¹ He showed extraordinary versatility in mastering widely differing scientific disciplines, and he brought to bear on the problems of experimental pathology a wide knowledge of the medical and scientific literature, being particularly successful in welding together classical pathologic and endocrinologic understanding to illuminate experimental carcinogenesis. To those of us working with him he was a bottomless well of encouragement and an utterly reliable rescuer from experimental dilemmas. His intuition for what was important and experimentally possible was uncanny. Almost without exception his experimental conceptions translated into solid reality and a durable result; in this respect his batting average was always high. Possibly his steady practice of devoting part of every evening to reading the literature, his insistence on fact drawn from meticulous observation and disparagement of long theoretical flights, his lively imagination and youthful humor, and his stubborn determination in the face of frustration all underpinned his success. He was cautious in interpretation, and bold in experiment. He was uncompromising in his demand for excellence, and inflexible in disapproval of work that failed to meet his own high standards. He was impatient with procedural obstructions strewn in the paths of those wishing only to work. He gave unstinting praise and support to those he considered competent, whether or not

they were sanctified by age or advanced academic degrees. He was a classless man who found merit in accomplishments that were strong enough to stand without the certification of established authorities. Even by his own hard measures, it is clear that he made invaluable contributions to the development of oncology internationally and to biologic science in New Zealand, and his memory is secure.

Dr. Bielschowsky was a member of many learned societies, including the Biochemical Society and the Pathological Society of Great Britain and Ireland, and he was a Fellow of the Royal Society of New Zealand. He was one of the first Corresponding Members of the American Association for Cancer Research. He became a citizen of New Zealand, and his adopted country benefited from the wide international recognition of the work done in his department. His father was the famous neuropathologist, Max Bielschowsky, and although Franz left no family of his own, we hope that his family tradition of scientific and personal excellence will survive to some extent in the endeavours of his friends and graduate students, who were profoundly influenced by their association with this generous man.

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¹ A complete bibliography is in preparation for the *Journal of Pathology and Bacteriology*.

Cancer Research

The Journal of Cancer Research (1916–1930) | The American Journal of Cancer (1931–1940)

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