Robert Briggs

For the past three decades, including his 26 years as a member of the Indiana University faculty, Professor Robert Briggs has been internationally regarded as one of the world's most important embryologists. In 1938 he began his career in biology at McGill University, after earning the Ph.D. degree from Harvard University. In 1942 he joined the Institute for Cancer Research in Philadelphia, formerly called the Lankenau Hospital Research Institute. There, he developed a nuclear transplantation method which provided a unique opportunity to test the issue which was central to the field of embryology: whether embryogenesis involves irreversible changes in the state of differentiation of nuclei. Together with a research associate, Thomas King, he pioneered the development of a technology which permitted the transfer of a nucleus from a differentiated cell into the cytoplasm of an enucleated (amphibian) egg. They tested nuclei from embryos which had developed to various extents. The earlier stage embryos yielded nuclei which were clearly totipotent. Nuclei from later stage embryos, however, displayed developmental restrictions such that the host eggs failed to develop normally through embryogenesis. The nature of those restrictions has not yet been resolved.

Recognizing the power of his technology, several laboratories modified the techniques Professor Briggs designed, and applied them to the embryos of insects, fish, and mammals. In fact, various research groups are today still actively engaged in nuclear transplantation experiments. It is universally accepted that the original studies of Briggs and his colleagues provided the stimulus for the major efforts since carried out by laboratories in several countries. Recently, widespread popular interest in cell cloning experiments has emerged, which several scientists predict will eventually be carried out with human embryos. Professor Briggs's classic nuclear transplantation experiments have again received acclaim. The principles he employed with frog embryos are being tested successfully by younger scientists on laboratory mammals, such as mice. His prominent position in the field together with his interest in the problems and issues involved have led to his important role in the discussion recently generated by a wide spectrum of scholars.

It was a major accomplishment for Indiana University to attract Professor Briggs in 1956 to the Zoology Department. He became active in training graduate students, and he served as a mentor for a new generation of embryologists. He encouraged his students to broaden their outlook in embryology and to integrate the more classical aspects of the field with the then newly emerging discipline of molecular biology. He himself made a major commitment to bring genetics to studies in experimental embryology. He attracted a research scholar, Dr. Rufus R. Humphrey, to Indiana University, where they merged the disciplines of embryology and genetics. Out of their joint endeavors came the most serious and still today the most important effort at establishing the area of "amphibian developmental genetics." Together with graduate students, postdoctoral fellows, and occasionally junior faculty, they successfully initiated a long-term research program designed to elucidate the manner in which specific genes act to control the morphological pattern of early embryogenesis.

Professor Briggs's studies have earned him substantial and wide-spread recognition from the scientific community. He was elected to the American Academy of Arts and Sciences and the National Academy of Sciences. In 1973 he received the Charles-Leopold Mayer Prize of the Academy of Sciences, Institute of France. During his career he has participated in many of the most significant symposia in the fields of embryology and developmental biology, and from time to time he has served on the editorial boards of many of the more important scientific journals in his field. At Indiana University he was awarded the title of Research Professor. His impact on the intellectual growth and development of Indiana University has been substantial. During his first thirteen years in the Department of Zoology, he focused his efforts on research and graduate training. Then, in 1969, he began a three-year term as Chairman of the Zoology Department and member of the Executive Committee of the Division of Biological Sciences. Throughout his years at Indiana University, both informally as a faculty member and directly as a chairperson, he has developed high standards for professional performance. He has constantly displayed critical judgement in research activities and resourcefulness when dealing with departmental matters.

As a colleague, Professor Briggs has always been characterized as both generous and unselfish. He has always possessed a keen ability to recognize excellence, and he has almost single-handedly recruited several promising junior members to the Indiana University biology faculty. Among the developmental biologists/embrologists on campus, he is clearly recognized as leader and unifying force.

In retirement Professor Briggs will continue his research program. It is well funded by the federal government and will continue to generate interesting and important insights into the nature of gene control during embryogenesis. He will no doubt continue to participate in seminars, and his opinion will continue to be sought after by his younger colleagues.

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