

Obituary

Dimitri Konstantinovitch Belyaev, 1917–1985

The science of genetics has sustained a great loss with the death on 14th November, 1985 of D. K. Belyaev, Vice-President of the Siberian Department of the Academy of Sciences of the U.S.S.R. and Director of the Institute of Cytology and Genetics at Novosibirsk. Belyaev had led this Institute since 1959, through a period of great difficulty for Soviet biology, and was responsible for a number of great achievements in the fields of evolutionary and physiological genetics.

He was born in 1917 in the Kostroma region, north east of Moscow and graduated in 1939 from the Ivanovo College of Agriculture. He commenced his career on the genetics of fur-bearing mammals but this was soon interrupted by World War II. Belyaev was commissioned in the Soviet Army and was twice wounded. On demobilisation he took up his work again in the All Union Laboratory of Fur Breeding in Moscow. He began there to develop his ideas on the manner in which the process of domestication in animals operates. He moved to Novosibirsk in 1958 and for a substantial part of his early period in Siberia, Belyaev's Institute was the only large laboratory in the Soviet Union where effective genetic research was kept going. He attracted a large and active staff and under his leadership a wide range of applied and fundamental genetics flourished.

Belyaev himself carried out some important applied studies on the role of daylength on the fecundity of pigs. Yet his main interest remained with his foxes and he built a large breeding unit near the Institute. He began a programme of selection for domesticity in these wild animals and obtained a rapid response with behavioural

changes going hand in hand with changes in morphology and physiology. He could eliminate the possibility of inbreeding and these results led to his formulating the concept of destabilising selection, with changes to neuroendocrine function affecting the ontogenetic control of many characters and physiological systems hence generating a large range of variation. This concept helps to explain the remarkable phenomenon that homologous variations appear during the domestication of diverse animals belonging to different taxa. Destabilising selection is seen as an essential factor which considerably accelerates the rate of evolution. In evaluating its role during domestication and under natural conditions, Belyaev came to understand the importance of stress with its concomitant effects on the neuroendocrine system, as a factor in evolution.

Belyaev was always trying to improve international contacts between scientists. He travelled widely and was a frequent delegate to international conferences. He was a foreign member of the scientific Academies of several countries and from 1978–83, the President of the International Genetics Federation.

Beyond the main work of his Institute, Belyaev was much concerned with social questions. He wrote and lectured on the relationships between genetics, the human personality and society—choosing this topic for his plenary lecture to the XV International Congress of Genetics in Delhi. He was a kind and influential person whose good sense and warm friendship will be greatly missed.