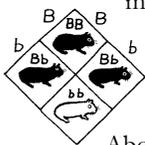




*"No doubt I am in some sense a citizen of the world - but I believe with Thomas Jefferson that one of the chief duties of a citizen is to be a nuisance to the government of his state."*

-J.B.S. Haldane

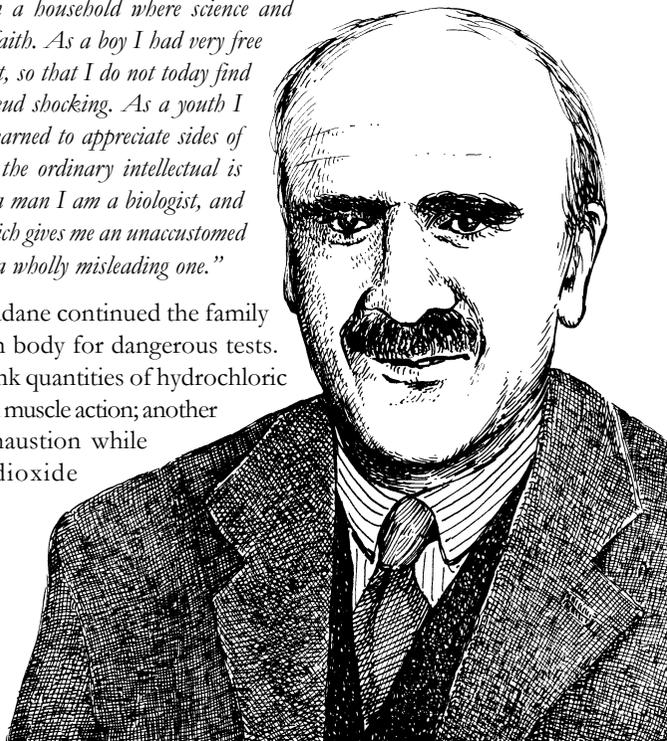
John Burdon Sanderson (J.B.S.) Haldane was one of the great eccentrics of modern science - independent, brilliant, funny and very unique.



Son of an Oxford professor of physiology, he began learning science as his father's assistant. He learned Mendelian genetics while still a boy by breeding guinea pigs.

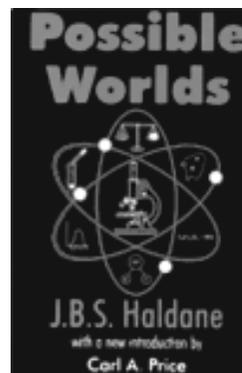
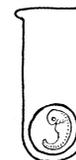
About his childhood Haldane wrote: *"As a child I was not brought up in tenets of any religion, but in a household where science and philosophy took the place of faith. As a boy I had very free access to contemporary thought, so that I do not today find Einstein unintelligible, or Freud shocking. As a youth I fought through the war and learned to appreciate sides of human character with which the ordinary intellectual is not brought into contact. As a man I am a biologist, and see the world from an angle which gives me an unaccustomed perspective, but not, I think, a wholly misleading one."*

A physically well built Haldane continued the family tradition of using his own body for dangerous tests. In one experiment, he drank quantities of hydrochloric acid to observe its effects on muscle action; another time he exercised to exhaustion while measuring carbon dioxide pressures in his lungs.



After completing his studies, Haldane taught genetics and biometry at University College, London. He was one of the three major founders of population genetics. He is usually regarded as the third of these in importance, after R. A. Fisher and Sewall Wright. Haldane's brilliance was in using the concepts of genetics to define natural selection in mathematical terms. This led to a new synthesis between Mendelian genetics and Darwinian evolution, which is the foundation of modern biology. In addition to his work in genetics, Haldane also made important research contributions to other areas of biology, chemistry, and mathematics, and also wrote extensively on history and politics.

In 1924, Haldane published a remarkable work of fiction, *Dadalus*. It was the first book about the scientific feasibility of *test-tube babies* brought to life without sexual intercourse or pregnancy. At the time, it was regarded as shocking science fiction. *Dadalus* was a popular and influential book, the original dose of *future-shock* for the 20th century. It inspired Aldous Huxley's novel *Brave New World* (1932), in which a society based on test-tube babies turns out to be not such a wonderful place after all.



Despite predicting its feasibility, Haldane later became an outspoken critic of eugenics. Genetic theory was being used for distorted political ends, he complained, by *"ferocious enemies of human liberty."*

In 1926, Haldane married Charlotte Burghes, a young reporter with the *Daily Express*.

He later divorced and married Helen Spurway - a biologist.

J.B.S. Haldane was very much concerned with human welfare. Being a liberal in his student days at Oxford, he veered towards the left and finally formally joined the Communist Party in 1942. Later he became the Chairman of the editorial board of the *Daily Worker* for which he wrote more than 300 articles on scientific themes often mixed with political comments.





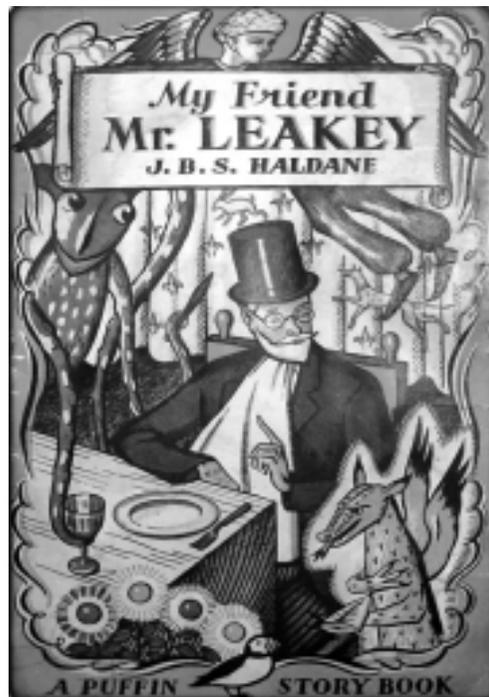
Haldane became a socialist because he believed that working people should also enjoy the advantages, which he himself enjoyed. Later events in the Soviet Union, such as the rise of Anti-Mendelian agronomist Lysenko and the crimes of Stalin, caused him to break with the Party, although he showed a partial support of Lysenko and Stalin.

Haldane's comments on the then existing educational system are still worth considering. He observed: "Our present educational system is unjust to children because the majority of them don't get a fair chance and practically none are taught the truth of science from a human point of view. Science teaching should begin, not with a mythical body in rest or uniform motion, but with the human body. Mine did so begin at the age of three."

In his essay, *On Being the Right Size*, Haldane conjectured that the sheer size very often defines what bodily equipment an animal must have: "Insects, being so small, do not have oxygen-carrying bloodstreams. What little oxygen their cells require can be absorbed by simple diffusion of air through their bodies. But being larger means an animal must take on complicated oxygen pumping and distributing systems to reach all the cells."

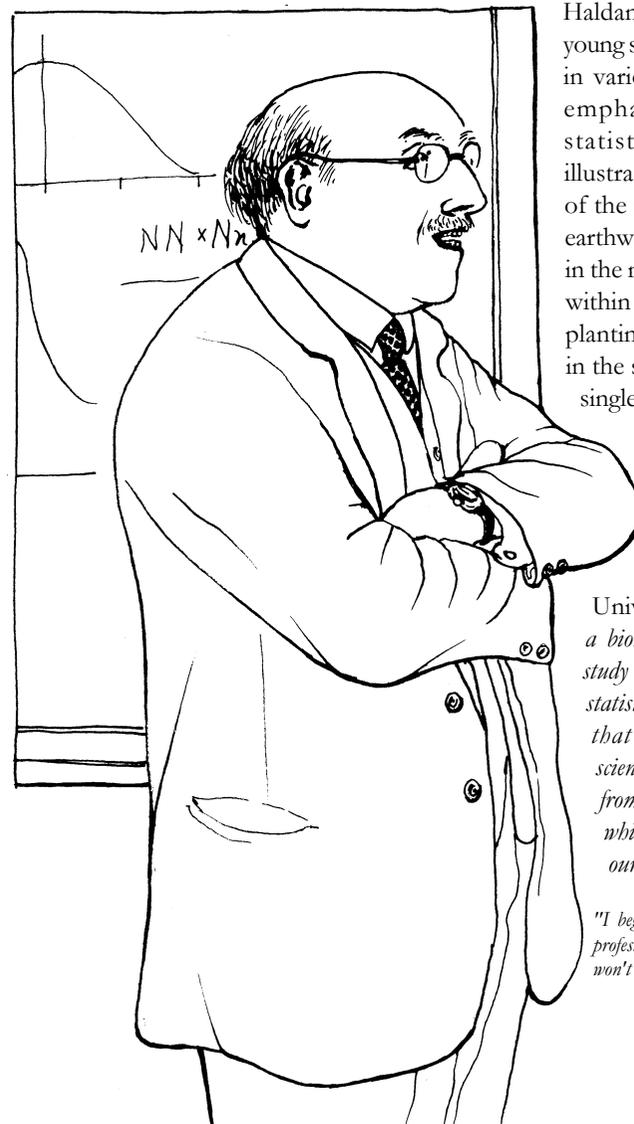
In 1937 he wrote *My Friend Mr. Leakey*. This is perhaps the only book he wrote for children. The enigmatic character of Mr. Leakey endeared him to children, and all his life he was thronged with letters from children.

Haldane was an outstanding science populariser. His writings were remarkably lucid. He had the ability to present complicated concepts of science in a simple way without distorting their meaning. His articles, lectures and broadcasts made him one of the best known science popularisers in the world. He trained and inspired coal miners in England to search for fossils. And whenever they found one he rewarded them with a prize of 10 Pounds.



In 1957 Haldane moved to India, ostensibly in protest against the Anglo-French invasion of Suez. His decision to move to India was also influenced by the country's facilities for research in genetics and biometry. He joined the Indian Statistical Institute (ISI), Calcutta, at the invitation of P.C. Mahalanobis.

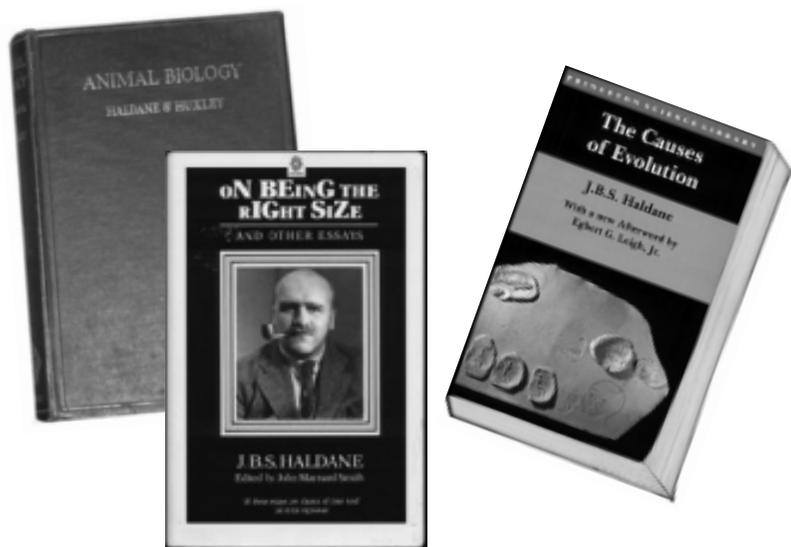
On his association with the Indian Statistical Institute Haldane observed: "I owe a great deal to this institute but I undoubtedly owe most is the opportunity it has given me of making some important discoveries, namely, the discoveries of a number of younger men than myself, who, I think are in the great tradition of scientific research." In 1962 he moved to Bhubaneswar to set-up the Genetics and Biometry Laboratory.



Haldane encouraged his team of young students to carry out research in various areas of biology, with emphasis on quantification, statistics and analysis. Some illustrative problems - estimation of the amount of earth moved by earthworms in a field; the variation in the number of petals on flowers within a single species; impact of planting different varieties of rice in the same plot as compared to a single species.

Haldane's role in improving biology teaching in India was phenomenal. He lamented that in Indian Universities "Students who choose a biological course must give up the study of mathematics, not to mention statistics, at an early age. This means that graduates in the biological sciences are automatically debarred from most of the types of research, which would be of value in developing our agriculture and husbandry."

"I began to realize that, even if the professors leave politics alone, politics won't leave the professors alone."



For his outstanding contributions Haldane received much recognition. He was elected a Fellow of the Royal Society in 1932. The Royal Society awarded him the Darwin Medal in 1953. The French Government gave him the Legion of Honour in 1937 and the Academia Nazionale dei Lincei gave him the Feltrinelli Prize (1961). He was President of the Genetical Society (1932-36).

Shortly before his death the irrepressible Haldane wrote an outrageous comic poem while in the hospital, mocking his own incurable disease:

*Cancer's a Funny Thing:  
I wish I had the voice of Homer  
To sing of rectal carcinoma,  
Which kills a lot more chaps, in fact,  
Than were bumped off when Troy was sacked...*

It was circulated among his friends, who savoured the consistently witty irreverence with which Haldane had lived his courageous and productive life.

He died on December 1, 1964. As per his will his body was sent to the Rangaraya Medical College, Kakinada. "My body has been used for both purposes during my lifetime", Haldane wrote in his will, "and after my death, whether I continue to exist or not, I shall have no further use for it, and desire that it shall be used by others. Its refrigeration, if this is possible, should be a first charge on my estate".