

## Basantidulal Nagchaudhuri (1917–2006)

Basantidulal Nagchaudhuri, popularly known as BD Nag or Dr Nag passed away in Kolkata in the early hours of 25 June 2006. He was eighty-nine. He is survived by his wife Dipali, son Dipankar. With his passing, a distinguished career in nuclear physics and science administration has come to an end. Basantidulal will be remembered for his invaluable role in the post-independence development of science and technology in our country.

Nagchaudhuri was born into a well-to-do family in Banaras on 6 September 1917. His father, late U. C. Nag Chaudhuri was a Professor at the Banaras Hindu University (BHU), Varanasi. At the age of 13, Nagchaudhuri appeared for Matriculation Examination (10th class) from Banaras High School in which he topped the merit list. He also came First Class First in the B Sc examination from BHU in 1935. After taking his M Sc in Physics in 1937 from Allahabad University where he had Meghnad Saha as a teacher, Nagchaudhuri proceeded to USA for his predoctoral work with E. O. Lawrence at the University of California, Berkeley. He obtained his Ph D degree in Physics there in 1940. About this time Saha appointed Nagchaudhuri as the Cyclotron Officer to help him procure from USA, parts for his dream child, the cyclotron, a machine the first of its kind in the country to be built in Kolkata, after the 38-in model at Berkeley.

On his return from the US, Nagchaudhuri joined the University of Calcutta initially as a Lecturer in Physics (1942–46) to become the Sur Reader in Nuclear Physics (1946–53) and finally to ascend to the Palit Chair in Physics (1953–59) just vacated by Saha. By 1949, the Institute of Nuclear Physics had evolved out of the Palit laboratory for teaching and cultivating nuclear physics, with Saha as the Director. After Saha's untimely demise in 1956, Nagchaudhuri, first as officiating (1956–59) and then as full Director (1959–67) steered the Institute (renamed in 1958 as the Saha Institute of Nuclear Physics) to its objective. He held this office until 3 October 1967, when he was called away to the Planning Commission. Later (October 1972), however, he accepted an Honorary Professorship of the Institute for two years. During 1941 to 1961, he held a couple of short-term vis-

iting positions at the University of Illinois at Urbana and University of California, Berkeley. He was appointed the Lincoln Lecturer in USA during 1966–67. Meanwhile, Nagchaudhuri was elected to the Fellowship of the National Institute of Science (now Indian National Science Academy, New Delhi) in 1964. Fellowship of the Indian Academy of Sciences, Bangalore came a little later, in 1974.



At the Institute of Nuclear Physics, which was also the seat of the Sur Reader for some time, Nagchaudhuri's interest lay in the fields of nuclear isomerism, artificial radioactivity, Cerenkov phenomena and low temperature plasma. He continued on these while in the Palit Chair and later on as the Director of the Institute, making several notable contributions. He also carried out biophysical research using radioisotopes as tracer elements. Nagchaudhuri had about 60 papers in national and international journals.

As a student in Banaras and Allahabad, Nagchaudhuri had been actively involved in politics (1931–37) even at the cost of serving small terms in jail. Saha turned Nagchaudhuri's inborn leadership to science and technology, a quality, which in later years caught the fancy of the Government of India. Placing him in different decision-making positions one after another, the Government utilized this to develop science and technology in the country. Apart from acting as a member of Planning Commission (Science, 1967–70), Nagchaudhuri served as Chairman of the Cabinet Committee of Science and Technology (1969–72), Scientific Advisor to the Ministry of Defence and the Director-General of the Defence Research Development and Organization (1972–74). In a few years he could put Defence Research in the international ambit, and ini-

tiate transformation of research and education in science and technology for the welfare of the society. Nagchaudhuri was accorded the second highest civilian award of Padma Vibhushan in 1975, in recognition of his service to the country.

Nagchaudhuri was one of the first few to realize the urgency of developing qualified human resource in India and was a natural choice for the second Vice-Chancellorship of the Jawaharlal Nehru University, New Delhi (1974–78). During his time the University became one of the best centres for the production of high-quality manpower in the country. He was also the Chairman of Science and Technology Manpower Committee, Government of India (1979–81). One of the pioneer scientists of our country to take environment from textbook to practice, he made several important observations as the Chairman of a National Committee on Environmental and Planning Co-ordination, Government of India (1975–77). His message on the environment reached the United Nations where he was drafted and retained as a member of Senior Scientific Advisory Committee in its environment programme (UNEP) for several years (1976–82). He put equal emphasis on the development of science and technology, quality of environment and people's welfare in other countries, where he worked in various capacities. Nagchaudhuri was a Visiting Professor at the University of Science and Technology, Kumasi, Ghana during the period 1978–79 and a Member of the Board of Trustees (1978–81) and Chairman (1976–82) of the Programme Committee of the International Foundation of Science, Stockholm. He also served as a Member of the Scientific Council of the International Centre for Theoretical Physics, Trieste, Italy (1976–84) and was a Member and Chairman of the International Advisory Panel, East-West Centre, Honolulu, Hawaii. Nagchaudhuri chaired the Extra-Mural Research Committee of the Council of Scientific and Industrial Research, Board of Research in Nuclear Sciences of the Department of Atomic Energy, India (1975–77) and the Research Advisory Council of the National Physical Laboratory, Delhi (1980–82). For some time he was a member of the University of Calcutta Senate and Syndicate as also of the

Syndicate of the Manipur University, Imphal.

Nagchaudhuri was a member of many learned societies like American Physical Society, New York; Indian Physical Society, Indian Biophysical Society (founder member) and Indian Association for the Cultivation of Science.

Nagchaudhuri wrote on various scientific and social issues. His semipopular scientific articles like low-energy nuclear physics, electrodynamics of Cerenkov radiation, radioisotopic tracer in biological experiment are as lucid as enlightening. His other articles like Impact of science and technology on international relations and monographs like *Science and Society* (Ankur Publishers, Delhi), *Technology and Society* (Institute of Advanced Study, Simla), *Environmental Management in Developing Society* (Interprint, Delhi) and *Law and Environment* (with S. Bhatt), etc. lend a view of the expanse of his expertise. This, and the spectrum

of positions he held amply show that his science was very different – it was to transcend the confines of a laboratory.

As a human being, Nagchaudhuri combined the grace of English aristocracy with the genre of a true teacher. Behind the outfit of a hard-core administrator attired in suit, boot and tie, often with a pipe dangling from his mouth – which gave rise to misgivings at some quarters – there lurked a simple man with plain living and high thinking. Anybody from his old Institute would recall his simple house, built in no posh locality but in the calm of the city's south suburb and the old black Austin he drove, in which he would eagerly offer any colleague on the way a free ride, occasionally at a small price of a push, should the car suddenly stop and refuse to take a start.

Be it in private or public he would always inspire and promote young entrepreneurs and, in the process, be associated

with numerous firms as advisor or consultant. His students and younger colleagues, to whom his doors, at work and home alike, were always open, will ever remember him for his tender affection which could only parallel the tradition of the old gurukul. And Dipali, if around, would invariably make it most natural with her wonderful hospitality.

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