

can also be fostered. Best results will, however, be obtained if free flow of staff between the Universities and the Central Biological Service is allowed. This will be of mutual advantage. The scientific workers in Universities will benefit by field experience, while the field workers of the Central Biological Service will maintain contact with problems of fundamental research, and recent advances in research in biological sciences.

PROTECTIVE LEGISLATION

In January 1935, the Government of India convened an All-India Conference for the Preservation of Wild Life at Delhi, with a view to reviewing the position of fauna and flora as it existed at the time and considering generally problem of protection of the animals peculiar to India. The Conference prepared two lists of species, first of animals that were to be protected as completely as possible, and second of those which could only be hunted, killed or captured under a licence, in some cases subject to a bag limit. The Conference further laid stress on the establishment of wild life sanctuaries. It was further recommended that the duty of preserving of fauna should be assigned to forest departments in the areas under their charge, and the necessity of co-operation of police and magistracy was also urged.

A comprehensive protective legislation was enacted in 1933, in the Punjab Wild Birds, and Wild Animals Protection Act.

PROTECTING PLANTS

There is need of protective legislation on the lines of the Punjab Act of 1933 in other provinces also. Moreover the Act should be made more comprehensive and cognizance should be taken of the plant world too. Plants which are rare or striking, beautiful or odd should be scheduled for pro-

tection in areas where this is necessary. Rare plants like species of *Lycopodium*, *Ophioglossum*, and *Osmunda*; and other beautiful plants like *Orchids*, *Rhododendrons* and *Meconopsis*, etc., which are liable to excessive collection by botanists and which are widely plundered and uprooted by 'pleasure' pickers should also be given protection. Their collection should be permitted only under proper control.

PLANT SANCTUARIES IN THE HIMALAYAS

Some of the Himalayan Valleys are in grave danger of losing their character on account of excessive grazing and growth of *Rumex*. Apart from other vegetation, the sheep and ponies which are taken to Alpine meadows above the tree line by graziers in the months of April and May, graze mainly on *Rumex*. A symbiotic relationship has developed between the sheep and *Rumex*. While the sheep feed on *Rumex* in their turn they manure the pasture land with their droppings, which in turn further encourages extensive growth of *Rumex*. The result has been that more attractive, but less edible alpine plants are driven out by *Rumex*, which now covers big areas in Himalayan alpine valleys like that of Pindari Glacier. In the interest of tourist industry, it is very necessary that some of the beautiful alpine Himalayan valleys should be declared as plant sanctuaries; and not only collection of beautiful and rare plants should be controlled, but at the same time, the grazing of sheep and cattle should also be prohibited. This is necessary in the interest of not only tourist industry, but also for checking of soil erosion as well as botanical studies.

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THE INDIAN CHEMICAL SOCIETY

ON the occasion of the celebration of the Silver Jubilee of the Indian Chemical Society in January 1949, Prof. P. Ray, M A., F.N I., the President of the Society, delivered a thought-provoking address in which he has raised a number of important issues like, the standard of under and post graduate training in science, pure *versus* applied science, the medium of instruction, and multiplication of scientific associations in our country. A Silver Jubilee brochure also was published on the occasion.

THE SILVER JUBILEE ADDRESS

In taking stock of the progress made, Prof. Ray has observed as follows:—

"Looking back upon the past twenty-five years of our existence and making a dispassionate analysis of our achievements and activities, we can discover little justification for complacency or gratification. The standard of our publications has failed to reach the level which we might have not unreasonably expected from the number of

workers in various universities and research institutions of our land."

Though it would prick one's self-pride to the quick, it would be self-deception if one would not agree at least partially with his observation that our activities "have not been of the order that might inspire confidence in a better or brighter future." Such a reckoning at this stage of India's development should urge us open our eyes and work on indefatigably till India would become the torch bearer of world's scientific knowledge. With the present professed sympathy of our Government to matters scientific, it should not be difficult for our leaders of science to instil courage and enthusiasm among the young workers on whose efficient and faithful performance alone will depend the growth and application of future science in India. Opportunities must be created and no pains should be spared to raise the standard of our research work if we consider our present achievements to be below par, so that the country does not lag very much behind advancing fronts of world chemistry.

Prof. Ray has truly said that the basic scientific training in our schools and colleges is far below the standard aimed at. One uniform high standard of teaching and study should be enforced in our universities so that a supply of uniformly qualified band of scientific workers may be assured for the service of the country.

Advocating the need for a harmonious and orderly development of pure and applied sciences, Prof. Ray has said that if India is to take her rightful position in the world of science and render useful service to humanity, she cannot afford to ignore the cultivation of pure science.

Adverting to the question of medium of instruction and expression for science in free India to-day, Prof. Ray has reminded us of the international character of science and its development through the co-operative efforts of all the workers of all the lands through all the ages, and has justly stressed the advantages in retaining the international scientific terminologies nomenclature unchanged and in continuing to use English as the medium for the publication of scientific researches, as well as for discussion in all-India scientific bodies.

One cannot agree totally with Prof. Ray

when he styles the starting of scientific organisations other than the Indian Chemical Society as an unwholesome tendency caused by fissiparous mentality. India is a vast country and can accommodate any number of societies. Perhaps a healthy scientific rivalry among the various organisations pursued on strictly scientific level may further the scientific activity in the country.

THE SILVER JUBILEE BROCHURE (1924-1948)

A perusal of the 35-page Silver Jubilee Brochure gives a bird's eye view of the pursuit of Chemistry in the 19th century as also of the origin and development of Chemical research in India. Although the beginning of the modern school of chemistry in the country is said to date back to 1873 when late Sir Alexander Pedler came to Presidency College, Calcutta, as Professor of Chemistry, the credit of developing the teaching and modern researches in all branches of chemistry would certainly go to late Sir Prafulla Chandra Ray who joined the same institution as a Lecturer in Chemistry in 1889. Sir Prafulla Chandra was undoubtedly the father of modern Chemistry in India. It was due to his efforts that the Indian Science Congress in 1914 and the Indian Chemical Society in 1924 were started. Sir P. C. Ray was the Founder President and Dr. J. N. Mukherjee, the first Secretary of the Indian Chemical Society. During the 25 years of its existence the Society has grown in strength and usefulness. In recognition of its activities, the Society is represented at a number of technical and educational committees. The Society is housed in the University College of Science and Technology, Calcutta. Sir P. C. Ray had made a generous gift of Rs. 10,350 for building a house of its own. Apart from receiving a substantial help from the University of Calcutta, the Society has also been supported by other Indian and State Universities, as also by many research organisations through annual or occasional grants.

The brochure contains short notes about research work carried out in India in the several branches of chemistry. It also contains photographs and life sketches of its Presidents as also the photographs of its Honorary Members.

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