
Report and Accounts
of
Bose Research Institute
1933

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PROGRESS REPORT 1932-1933

Sir J. C. Bose's Report on work of Bose Research Institute :—

The results of investigations on different branches of science carried out during the last year has just been published in Vol. VII of the Transactions of the Institute. The scope of the investigations has been greatly increased and extended in new directions, in Bio-Physics, in Bio-Chemistry, in Electro-Physics as also in Zoology and in Anthropology. Most of the papers in the new volume have been contributed by the Staff and the Scholars.

In the first paper is given account which offers satisfactory explanation of the capture of fish by so-called "poisoning" of water by extracts from different plants. The fishes thus captured can, however, be safely eaten by human beings. The problem has been satisfactorily solved by the automatic records obtained by means of the *Resonant Respirograph*, especially devised for the purpose. The physiological changes which are induced in the fish under the actions of the extracts are thus continuously recorded.

The remarkable phenomenon of *Motor Paralysis* of fish by local application of salt has been studied by two scholars in the department of animal physiology and the characteristic effects induced have been exactly determined.

Further investigations on the *Motile and Conducting* mechanism of plants are described in a series of papers, the methods employed being both mechanical and electrical. The impulses in a leaf are shown to travel along special conducting strands, either in a centripetal or in a centrifugal direction according as the stimulus is applied at the central or at the peripheral ends of the leaf. Very interesting results have been obtained on the additive and differential effects of the two impulses on the movement of the leaf.

The *growth of plant* is shown to be modified by different factors, the individual effect of which has been isolated. Remarkable results have been obtained in regard to the response of the plant under condition of sub-tonicity resulting in arrest of growth ; stimulus, in such cases, is shown to revive growth.

The characteristic effects of traces of indigenous plant extracts on the *Strength and on the condition of the animal* have been investigated and

In the department of Chemistry additional investigations have been carried out on *Proteolytic Enzymes*, and on the chemical composition of leguminous pulses.

An account of the investigations on the *Radio-Activity* of the hot springs in the ancient seat of pilgrimage at Rajgir was undertaken by the head of the department of Chemistry. The results obtained prove that the Rajgir waters are radio-active and the gas evolved is even more so.

The work of the newly founded department of *Anthropology* and *Racial Biology* is represented by an important paper on *Burmese Crania*, the results of which will prove of much interest. A unique field for the systematic study of the biological problems relating to man is offered by India, where the racial elements of diverse characters are living side by side in various degrees of admixture.

The present volume dealing with an extended range of subjects will make strong appeal to the wider public who are interested in the study of life in its diverse manifestations.

The scope of work in the Institute is not confined to any one branch of science but to all its cognate branches. We have for some time past been engaged in the application of physical methods to the study of living matter. The work on physiology of plants is now almost complete and new lines of investigation have been initiated which are likely to prove of much scientific importance. I have already selected two highly promising new scholars for determination of *Chemical Valency* by *Spectroscopic Method*, and have budgeted a considerable sum for the additional equipment and apparatus.

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BOSE INSTITUTE

Income and Expenditure Account

For the Year ended 31st March, 1933

INCOME

A INCOME ON GOVERNMENT GRANT ACCOUNT.

	Rs.	As.	P.	Rs.	As.	P.
Amount of Grant from the Government of India for 1932-33						
For Research work (including, Govt. pension of Sir J. C. Bose						
	50,000	0-0	0			
For Publication	3,000	0-0	0	53,000	0-0	0

B INCOME ON TRUST FUND ACCOUNT.

Income less income tax and Bank's Commission	42,957	10-3	
Dividend less income Tax and Bank's Commission	1,224	5-6	

EXPENDITURE

A EXPENDITURE ON GOVERNMENT GRANT ACCOUNT.

	Rs.	As.	P.
Scholarships, Allowances Sir J. C. Bose (including Govt. Pension of Rs. 6,600/-) Rs 18,000			
Staff	39,385	14	57,385-14-0
Wages of Mistries & Menials	3,505	0-3	
Provident Fund Contribution	1,666	0-0	
Laboratory Expenses	4,755	6-6	
Purchase of Apparatus	2,240	8-0	
Purchase of Books	994	12-3	
Purchase of Furniture	222	11-0	
General Charges	1,954	15-3	
Travelling Expenses	896	1-6	
Rents & Taxes	727	15-6	
Repairs to Buildings	3,590	14-0	
Publication Expenses	4,124	14-2	
	82,065	0-5	

BOSE INSTITUTE

Balance Sheet

As at 31st March, 1933

LIABILITIES

	Rs. As. P.	Rs. As. P.
Creditor on Capital Account as per last balance sheet		129-7-0
Investment Depreciation Fund as per last balance sheet	1,22,545-10-8	
Add Profit on conversion of Securities in 1932-33	<u>6, 558-10-11</u>	1,29,104-5-7

ASSETS

FIXED ASSETS

	Rs. As. P.
Land	
at Calcutta	1,50,000-0-0
at Darjeeling	<u>16,000-0-0</u>
	1,66,000-0-0
Buildings at cost less amounts written off	
at Calcutta	2,72,342-0-0
at Falta	47,522-0-0
at Darjeeling	<u>26,203-0-0</u>
	3,46,067-0-0
Furniture at Cost less amount written off	9,855-0-0
Apparatus at cost less amount written off	22,885-0-0

(There is a large number of
highly specialised Instruments
manufactured in the Institute,

	Rs. As. P.	Rs. As. P.
Repairs Fund trans-		
n Trust Fund		3,500-0-0
as per last Balance		

11,03,114-12-5

the value of which cannot now
be determined and therefore
not included in the above)

Books at cost less amount
written off

FLOATING ASSETS

Investments (Some at cost and
others at face value)

Rs. 1,08,800/- 3½% G.P. Notes
1,08,800-0-0

Rs. 7,75,400/- 3½% 5,39,549-6-4

Rs. 1,35,100 4% Loan 1,27,585-1-0

Rs. 70,000 4½% Loan 66,450-12-6

Rs. 1,28,800 5% Loan

& Bonds 1,28,587-8-5

Rs. 48,000/-

Treasury Bonds 49,165-13-4

Rs. 20,000/-

Pref Shares Birla

Jute Mfg Co Ltd 20,000-0-0

* 10,40,138-9-7

Rs. As. P.	Rs. As. P.
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2 035-0-0	5.46,842-0-0
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Proceeding of the meeting of the Governing Body of the Bose Institute
held on the 7th April 1933

PRESENT

Mr. J. N. Basu (in the chair)
Sir. J. C. Bose
Lady Abala Bose
Mr. S. C. Mukurjee
Dr. D. M. Bose
Mr. S. M. Bose
Prof. N. C. Nag
Mr. A. N. Mitter

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The Superintendent laid before the meeting the Audited Account and the
Balance Sheet for the year ending 31st March 1932-33

Resolved that the same be adopted.

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