

ANNUAL REPORT.

The Council of the National Institute of Sciences of India have pleasure in submitting the following report on the general concerns of the Institute for the year 1936, as required by the provisions of rule 48 (f).

Membership.

The number of Fellows on the roll of the Institute at the beginning of the year was 145 Ordinary Fellows and 7 Honorary Fellows. Eleven Ordinary and four Honorary Fellows were elected during the year in accordance with the procedure laid down in the Regulations. The Institute lost 5 Fellows by death and 6 by resignation. One Ordinary Fellow who was elected in October, 1935, did not complete the formalities and was therefore not admitted. The total number of Fellows on the roll at the end of the year is 144 Ordinary and 11 Honorary Fellows.

Accommodation.

The need for more accommodation for the offices of the Institute is already being felt and it may be necessary in the near future to approach the Royal Asiatic Society of Bengal, who have very kindly accommodated the Institute in their premises, for an additional room.

Meetings.

The First Annual General Meeting was held at the Daly College, Indore, on the 4th January, 1936. An account of the meeting was published in the *Proceedings*, Vol. II, pp. 1-2.

Two Ordinary General Meetings were held during the year, one on the 19th July, 1936, at Simla and the other at Calcutta on the 29th and 30th August, 1936. Accounts of these meetings will be found in the *Proceedings*, Vol. II, pp. 101-102 and pp. 155-157. Some of the papers read at these meetings have been published in the *Proceedings*, one is in course of publication in the *Transactions*, while others are awaiting publication in due course.

At the Ordinary General Meeting on the 29th and 30th August, 1936, a Symposium on the 'Problem of Nitrogen Supply to the Indian Soil' was held. The papers submitted for this Symposium are being printed in the *Proceedings*.

The Council.

At the First Annual General Meeting held on the 4th January, 1936, the officers and members of Council were elected. Together with the representa-

tives of the co-operating Academies and the Indian Science Congress Association the Council was constituted as follows :—

<i>President</i>	Sir L. L. Fermor.
<i>Vice-Presidents</i>	Brigadier H. J. Couchman. Prof. B. Sahni.
<i>Treasurer</i>	Dr. S. L. Hora.
<i>Foreign Secretary</i>	Prof. M. N. Saha.
<i>Secretaries</i>	Prof. S. P. Agharkar. Dr. A. M. Heron.
<i>Members of Council</i>	Mr. T. P. Bhaskara Shastri. Prof. S. S. Bhatnagar. Sir Bryce Burt. Prof. J. C. Ghosh. Dr. F. H. Gravely. Khan Bahadur M. Afzal Husain. Lt.-Col. R. Knowles. Prof. K. S. Krishnan. Prof. S. K. Mitra. Prof. J. N. Mukherjee. Dr. C. W. B. Normand. Dr. Bains Prashad. Prof. N. R. Sen. Lt.-Col. J. A. Sinton. Lt.-Col. S. S. Sokhey. Mr. C. G. Trevor. Prof. B. Venkatesachar. Mr. F. Ware.

Representatives of the Royal Asiatic Society of Bengal :—

Additional Vice-President : Lt.-Col. R. N. Chopra.
Additional Member of Council : Mr. C. C. Calder.

Representatives of the National Academy of Sciences, India :—

Additional Vice-President : Prof. K. N. Bahl.
Additional Member of Council : Prof. A. C. Banerji.

Representatives of the Indian Academy of Sciences :—

Additional Vice-President : Prof. B. K. Singh.
Additional Member of Council : Dr. K. V. Krishnan.

Representatives of the Indian Science Congress Association :—

Additional Vice-President : Sir U. N. Brahmachari.
Additional Member of Council : Mr. W. D. West.

The following changes in the Council took place during the year :—

On his retirement from India Sir Lewis Fermor resigned the office of President from the 1st April, 1936. As per provisions of Rule 44 Brigadier H. J. Couchman was appointed by the Council to be the President for the remaining period. The Council also appointed Sir Lewis Fermor to the vacant office of Vice-President. These appointments were confirmed by the Ordinary General Meeting of the Institute held at Simla on the 19th July, 1936.

At the meeting of the Council held on the 29th August, 1936, the President nominated Dr. Bains Prashad, as per Rule 47, to act as Secretary during the absence on leave out of India of Dr. A. M. Heron.

The Council appointed Dr. R. B. Lal to be a member of Council in place of Lt.-Col. R. Knowles deceased. This appointment was confirmed by the Ordinary General Meeting held on the 29th August, 1936.

The Council held eleven meetings during the year. Two important items taken up by the Council and represented to the Government of India were :—

- (1) The appointment of the Assistant for India at the Kew Botanical Gardens.
- (2) The method of fixing the contribution paid by countries adhering to the International Scientific Unions affiliated to the International Research Council.

The Council resolved, at its meeting held on the 8th October, 1936, to add the following additional regulation (4A) to the Regulations for the election of Ordinary Fellows :—

‘The recommendations of the Sectional Committees shall be circulated to all members of Council at least 4 weeks before the date of the Ordinary General Meeting of the Institute to be held during the monsoon, and opinions invited from members so as to reach the Secretary at least 3 days before the date of the meeting of the Council.’

Sectional Committees.

The following changes were made in the personnel of the different Committees during the year :—

<i>Physics</i>	.. Prof. B. Venkatesachar in place of Sir C. V. Raman. (4-1-36.) Prof. D. M. Bose in place of Prof. S. K. Mitra as Secretary and Convener. (4-1-36.)
<i>Physiology</i>	.. Prof. N. N. Sengupta in place of Lt.-Col. O. Berkeley-Hill. (4-2-36.) Lt.-Col. R. N. Chopra as Secretary in place of Lt.-Col. R. Knowles deceased. (29-8-36.) Prof. W. Burridge in place of Lt.-Col. A. D. Stewart. (4-2-36.) Dr. R. B. Lal in place of Lt.-Col. R. Knowles deceased. (21-8-36.)
<i>Engineering</i>	.. Principal F. N. Mowdawalla as Secretary during the absence of Dr. E. Spencer on leave. (19-7-36.)
<i>Geology</i>	.. Mr. P. Evans in place of Prof. K. K. Mathur deceased. (29-8-36.)
<i>Botany</i>	.. Dr. W. Burns in place of Dr. F. J. F. Shaw deceased. (8-10-36.)

Additional Committees.

The following additional Committees were appointed during the year :—

A Publication Committee for 1936 consisting of the President, the Honorary Treasurer, the Honorary Secretaries and the Editor of Publications.

A sub-committee consisting of the Editor, Prof. J. N. Mukherjee and Prof. S. P. Agharkar to make concrete proposals for the distribution of the Institute's publications.

A Committee consisting of Dr. C. W. B. Normand, Prof. P. N. Ghosh and Prof. S. P. Agharkar to consider technical details in connection with the co-ordination of the investigations on Natural Illumination carried out by the various Universities in India, which the Institute had agreed to do at the request of the Government of India. Dr. S. K. Banerji was later appointed to this Committee during Dr. Normand's absence on leave.

Publications.

Four numbers of the *Proceedings* and three numbers of the *Transactions* have been published since the last annual report, and copies have been circulated to Fellows. The Council resolved at its meeting held on the 4th February, 1936, that a new volume of the *Proceedings* be started each year and that each volume of the *Transactions* should be closed when a sufficient number of pages had been printed.

The first number of *Indian Science Abstracts* for the year 1935 has also been published. It has been decided to include in this publication, abstracts of (1) all papers published in India and (2) all papers published abroad on work done in India or based on Indian material.

The completion of the first volume of this journal during 1937 will be followed by the publication of the *Annual Review of the Progress of Science in India* and thus complete the Institute's programme of publications.

Exchanges.

Seventy Societies and Institutions are now receiving the Institute's publications as presentations or in exchange. It is proposed to arrange for wider distribution of the publications of the Institute during the coming year.

Library.

Two hundred and fifty-eight books and periodicals were added to the library during the year, the greater number in exchange and a few as presentations.

Presents and Donations.

The following donations have been received during the year to the general funds of the Institute :—

- (1) Rs.2,000 from His Highness the Maharaja Holkar of Indore.
- (2) Rs.5,000 from Messrs. the Tata Iron and Steel Co., Ltd.
- (3) Rs.2,000 from Dr. S. C. Law.

Finance.

An audited statement of accounts of the National Institute for the period from the 1st of December, 1935 to 30th of November, 1936 is submitted. The total receipts for this period amount to Rs.50,326-13-3 and the payments including purchase price of securities Rs.43,653-10-4, leaving a balance of Rs.6,673-2-11.

The following Government Securities have been purchased for the Institute during the year :—

3½% G.P. Notes	Rs.10,000 (face value).
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Rules.

The revised rules of the Institute incorporating the changes adopted at the last Annual General Meeting together with the Regulations for the election of Ordinary and Honorary Fellows and Sectional Committees were printed and copies have been forwarded to Fellows.

APPENDIX I.

LIST OF FELLOWS.

ORDINARY FELLOWS.

- ABRAHAM, W. E. V., A.R.C.S. (I.), F.G.S., M.Inst.P.T., Senior Geologist, Burmah Oil Co., Ltd., Burma, Khodaung, Magwe, Burma. (1936).
- AGHARKAR, S. P., M.A., Ph.D., F.L.S., Ghose Professor of Botany, Calcutta University, Calcutta.
- AHMAD, NAZIR, M.Sc., Ph.D., Director, Indian Central Cotton Committee's Technological Laboratory, Matunga, Bombay.
- AJREKAR, S. L., B.A., I.E.S., Professor of Botany, Gujerat College, Ahmedabad.
- ANANDARAO, K., M.A., I.E.S., Professor of Mathematics, Presidency College, Madras.
- ASH, W. C., B.Sc., M.I.C.E., A.M.I.Mech.E., Bengal Club, Calcutta.
- AWATI, P. R., B.A., D.I.C., I.E.S., Professor of Zoology, Royal Institute of Science, Mayo Road, Bombay I.
- BAGCHEE, K. D., D.Sc., D.I.C., Mycologist, Imperial Forest Research Institute, Dehra Dun, U.P.
- BAHL, K. N., D.Sc., D.Phil., Professor of Zoology, Lucknow University, Lucknow.
- BANERJI, A. C., M.Sc., M.A., F.R.A.S., I.E.S., Professor of Mathematics, Allahabad University, Allahabad.
- BANERJI, S. K., D.Sc., Meteorologist, Meteorological Office, Poona 5.
- BEESON, C. F. C., D.Sc., Forest Entomologist, Imperial Institute of Forest Research, Dehra Dun, U.P.
- BHASKARA SHASTRI, T. P., M.A., F.R.A.S., Director, Nizamia Observatory, Hyderabad (Deccan).
- BHATNAGAR, S. S., O.B.E., D.Sc., University Professor of Chemistry, and Director, University Chemical Laboratories, Lahore.
- BHATTACHARYA, D. R., M.Sc., Ph.D., Dr. ès Sciences (Paris), Professor of Zoology, Allahabad University, 7, Malaviya Road, Allahabad.
- BOMFORD, Major Guy, R.E., Survey of India, Dehra Dun. (1935).
- BOSE, D. M., M.A., B.Sc., Ph.D., Palit Professor of Physics, Calcutta University, 92, Upper Circular Road, Calcutta.
- BOSE, G. S., D.Sc., M.B., Head of the Department of Experimental Psychology, Calcutta University, 92, Upper Circular Road, Calcutta.
- BOSE, Sir J. C., Kt., C.S.I., C.I.E., M.A., D.Sc., F.R.A.S.B., F.R.S., Director, Bose Research Institute, 93, Upper Circular Road, Calcutta.
- BOSE, S. N., M.Sc., Professor of Physics, Dacca University, Dacca.
- BOSE, S. R., M.A., Ph.D., F.R.S.E., Professor of Botany, Carmichael Medical College, Calcutta. (1935).
- BRAHMACHARI, Sir U. N., Kt., Rai Bahadur, M.A., M.D., Ph.D., F.R.A.S.B., K.I.H., Physician, Medical College Hospitals, Calcutta (Retired), 82-3, Cornwallis Street, Calcutta.
- BURNS, W., D.Sc., I.A.S., Offg. Agricultural Expert, Imperial Council of Agricultural Research, New Delhi. (1935).
- BURRIDGE, W., D.M., M.A. (Oxon), Professor of Physiology, Lucknow University, Lucknow.
- BURT, Sir B. C., Kt., C.I.E., M.B.E., B.Sc., I.A.S., Offg. Vice-Chairman, Imperial Council of Agricultural Research, New Delhi.
- CALDER, C. C., B.Sc. (Agr.), F.L.S., Director, Botanical Survey of India, and Superintendent, Royal Botanic Gardens, Sibpur, Howrah.
- CHAKRAVARTI, S. N., M.Sc., D.Phil., F.C.S., Chemical Examiner to the Government of U.P. and C.P., Agra. (1935).

- CHAMPION, H. G., M.A., Deputy Conservator of Forests, Haldwani Forest Division, Western Circle, United Provinces.
- CHATTERJEE, G., M.Sc., Meteorologist-in-Charge, Upper Air Observatory, Agra. (1935).
- CHAUDHURI, H., M.Sc., Ph.D., D.I.C., Reader and Head of the Botany Department, Punjab University, Lahore.
- CHOPRA, B. N., D.Sc., F.L.S., Assistant Superintendent, Zoological Survey of India, Indian Museum, Calcutta. (1935).
- CHOPRA, Brevet-Col. R. N., C.I.E., M.D., M.R.C.P., F.R.A.S.B., I.M.S., Director, School of Tropical Medicine, Calcutta.
- CHOWLA, S., M.A., Ph.D., Professor of Mathematics, Government College, Lahore.
- COUCHMAN, Brigadier H. J., D.S.O., M.C., Surveyor-General of India, Calcutta.
- COULSON, A. L., D.Sc., D.I.C., F.G.S., Superintendent, Geological Survey of India, Indian Museum, Calcutta. (1935).
- DASTUR, R. H., M.Sc., Cotton Physiologist, Agricultural College, Lyallpur, Punjab.
- DATTA, S., M.Sc., D.Sc., D.I.C., Professor of Physics, Presidency College, Calcutta. (1935).
- DEY, B. B., D.Sc., F.I.C., I.E.S., Professor of Chemistry, Presidency College, Madras.
- DHAR, N. R., D.Sc., F.I.C., I.E.S., University Professor of Chemistry, Allahabad University, Allahabad.
- DUNN, J. A., D.Sc., D.I.C., F.G.S., Assistant Superintendent, Geological Survey of India, Indian Museum, Calcutta. (1935).
- DUNNICLIFF, H. B., M.A., Sc.D., F.I.C., I.E.S., University Professor of Inorganic Chemistry, Government College, Lahore.
- DUTT, S. B., D.Sc., Reader in Organic Chemistry, Allahabad University, Allahabad. (1935).
- EVANS, P., B.A., F.G.S., Geologist, The Burmah Oil Company, Ltd., P.O. Digboi, Assam.
- FERMOR, Sir L. L., Kt., O.B.E., D.Sc., A.R.S.M., M.Inst.M.M., F.G.S., F.R.A.S.B., F.R.S., Late Director, Geological Survey of India. C/o Standard Bank of South Africa, Cape Town.
- FORSTER, Sir M. O., Kt., D.Sc., Ph.D., F.R.S., Old Banni Mantap, Mysore City.
- FOWLER, Gilbert J., D.Sc., F.I.C., Consulting Chemist, Central Hotel, Bangalore.
- FOX, C. S., D.Sc., M.I.Min.E., Superintendent, Geological Survey of India, Calcutta.
- GEE, E. R., M.A., F.G.S., Assistant Superintendent, Geological Survey of India, Indian Museum, Calcutta. (1935).
- GHOSE, S. L., M.Sc., Ph.D., Professor of Botany, Government College, Lahore.
- GHOSH, J., M.A., Ph.D., Professor of Mathematics, Presidency College, Calcutta. (1936).
- GHOSH, J. C., D.Sc., Professor and Head of the Department of Chemistry, Dacca University, Dacca.
- GHOSH, P. N., M.A., Ph.D., Sc.D. (Hon.), F.Inst.P., Ghose Professor of Applied Physics, Calcutta University, 92, Upper Circular Road, Calcutta.
- GLENNIE, Lt.-Col. E. A., D.S.O., R.E., Survey of India, Dehra Dun.
- GRAVELY, F. H., D.Sc., F.R.A.S.B., Superintendent, Government Museum, Museum House, Egmore, Madras.
- GUHA, B. S., M.A., Ph.D., Assistant Superintendent, Zoological Survey of India, Indian Museum, Calcutta.
- GUHA, P. C., D.Sc., Acting Professor of Organic Chemistry, Indian Institute of Science, Bangalore. (1935).
- HADDOW, J. R., B.Sc., M.R.C.V.S., D.V.S.M., Veterinary Research Officer-in-charge of Serology, Imperial Veterinary Research Institute, Muktesar-Kumaun, U.P.
- HERON, A. M., D.Sc., F.G.S., F.R.G.S., F.R.S.E., F.R.A.S.B., Director, Geological Survey of India, Indian Museum, Calcutta.
- HORA, S. L., D.Sc., F.R.S.E., F.L.S., F.Z.S., F.R.A.S.B., Asst. Superintendent, Zoological Survey of India, Indian Museum, Calcutta.
- HUSAIN, M. Afzal, Khan Bahadur, M.A., M.Sc., I.A.S., Principal, Punjab Agricultural College, Lyallpur, Punjab.
- HUTTON, J. H., C.I.E., M.A., D.Sc., F.R.A.S.B., I.C.S. (Retd.), University Museum of Archaeology and Ethnology, Cambridge.

- IYENGAR, M. O. P., M.A., Ph.D., F.L.S., University Professor of Botany, Madras University, Madras.
- IYER, L. K. Ananthakrishna, Dewan Bahadur, B.A., L.T., M.D. (Hon.) Bres., Officer-in-charge of Ethnographic Survey, Mysore, Lakshminarayanapuram, P.O. Kalpathi, Palghat, S.I.
- KAPUR, S. N., Ph.D., Imperial Forest Research Institute, Dehra Dun.
- KICHLU, P. K., D.Sc., Professor of Physics, Government College, Lahore. (1935).
- KOSHY, P. K., F.R.C.P., Professor of Anatomy, Medical College, Madras.
- KOTHARI, D. S., M.Sc., Ph.D., Reader and Head of the Physics Department, Delhi University. (1936).
- KRISHNA, S., Ph.D., D.Sc., F.I.C., Forest Biochemist, Imperial Forest Research Institute, Dehra Dun (U.P.).
- KRISHNAN, K. S., D.Sc., Mahendra Lal Sircar Professor of Physics, Indian Association for the Cultivation of Science, 210, Bow Bazar Street, Calcutta.
- KRISHNAN, K. V., M.B.B.S., L.R.C.P., D.B., D.Sc., Bacteriological Research Officer, School of Tropical Medicine, Calcutta.
- KRISHNAN, M. S., Ph.D., D.I.C., Assistant Superintendent, Geological Survey of India, Indian Museum, Calcutta. (1935).
- LAL, R. B., M.B.B.S., D.P.H., D.T.M. & H., D.B., Offg. Director, All-India Institute of Hygiene & Public Health, Calcutta. (1935).
- LAW, S. C., M.A., B.L., Ph.D., M.B.O.U., 50, Kailas Bose Street, Calcutta. (1936).
- MACMAHON, P. S., M.Sc., B.Sc. (Oxon), F.I.C., I.E.S., Professor of Chemistry, Lucknow University, Lucknow.
- MAHAJANI, G. S., M.A., Ph.D., Principal and Professor of Mathematics, Fergusson College, Poona 4.
- MAHALANOBIS, P. C., M.A., B.Sc., I.E.S., Professor of Physics, Presidency College, Calcutta.
- MAHESWARI, P., D.Sc., Associate Professor of Botany, Agra College, Agra. (1935).
- MATTHAI, George, M.A., Sc.D., F.L.S., F.Z.S., F.R.S.E., Professor of Zoology, Government College, Lahore.
- MEHRA, H. R., M.Sc., Ph.D., Reader in Zoology, Allahabad University, Allahabad.
- MEHTA, K. C., M.Sc., Ph.D., Professor of Botany, Agra College, Agra.
- MILLS, J. P., I.C.S., Deputy Commissioner, Naga Hills, Kohima, Assam. (1936).
- MITRA, S. K., D.Sc., Ghose Professor of Physics, Calcutta University, 92, Upper Circular Road, Calcutta.
- MITTER, P. C., M.A., Ph.D., Ghosh Professor of Chemistry, Calcutta University, 92, Upper Circular Road, Calcutta.
- MOHAMMAD, Wali, M.A., Ph.D., I.E.S., University Professor of Physics, Lucknow University, Lucknow.
- MOWDAWALLA, F. N., M.A., M.I.E.E., Mem.A.I.E.E., M.I.E., 301, Frere Road, Fort, Bombay.
- MUKHERJEE, J. N., D.Sc., F.C.S., Khaira Professor of Chemistry, Calcutta University, 92, Upper Circular Road, Calcutta.
- NAIK, K. G., D.Sc., F.I.C., Professor of Chemistry, Baroda College, Baroda.
- NARAYAN, A. L., M.A., D.Sc., Solar Physics Observatory, Kodaikanal.
- NEOGI, P., M.A., Ph.D., I.E.S., Senior Professor of Chemistry, Presidency College, Calcutta. (1936).
- NORMAND, C. W. B., M.A., D.Sc., Director-General of Observatories, Meteorological Office, Poona 5.
- OLVER, COL. A., C.B., C.M.G., F.R.C.V.S., Animal Husbandry Expert, Imperial Council of Agricultural Research, New Delhi.
- PARANJPEE, R. P., D.Sc., Vice-Chancellor, Lucknow University, Lucknow.
- PARIJA, P. K., M.A., B.Sc., I.E.S., Professor of Botany, Ravenshaw College, Cuttack.
- PARKINSON, C. E., Forest Botanist, Forest Research Institute, Dehra Dun. (1936).
- PERCIVAL, F. G., Ph.D., F.G.S., Superintendent of Mines and Quarries, Tata Iron & Steel Co., Ltd., Jamshedpur. (1936).

- PHILPOT, H. P., B.Sc. (Eng.), A.M.Inst.C.E., M.I.Mech.E., M.I.A.E., M.I.M., Principal and Jodhpur-Hardinge Professor of Technology, Engineering College, Hindu University, Benares.
- PINFOLD, E. S., M.A., F.G.S., Geologist, The Attock Oil Co., Ltd., Rawalpindi.
- PRASAD, B. N., M.Sc., D.Sc., Ph.D., Mathematics Department, Allahabad University, Allahabad. (1936).
- PRASAD, Mata, D.Sc., F.I.C., Professor of Inorganic & Physical Chemistry, Royal Institute of Science, Bombay. (1935).
- PRASHAD, Bainsi, D.Sc., F.R.S.E., F.L.S., F.Z.S., F.R.A.S.B., Director, Zoological Survey of India, Indian Museum, Calcutta.
- PRUTHI, H. S., M.Sc., Ph.D., Imperial Entomologist, Imperial Agricultural Research Institute, New Delhi.
- QURESHI, Muzafaruddin, Ph.D., Professor of Chemistry, Osmania University, Hyderabad (Deccan).
- RAJ, B. Sundara, M.A., Ph.D., Director of Fisheries, Chepauk, Madras. (1935).
- RAMANATHAN, K. R., M.A., D.Sc., Meteorologist, Weather Office, Poona 5.
- RAMDAS, L. A., M.A., Ph.D., Agricultural Meteorologist, Meteorological Office, Poona 5. (1935).
- RANGASWAMI AYYANGAR, G. N., Rao Bahadur, B.A., I.A.S., Millets Specialist, Agricultural Research Institute, P.O. Lawley Road, Coimbatore, S.I.
- RAO, B. Rama, M.A., D.I.C., F.G.S., Director, Geological Survey Department, Mysore State, Bangalore.
- RAO, C. V. Hanumantha, M.A., Professor of Mathematics, Punjab University, Lahore.
- RAY, B. B., D.Sc., Khaira Professor of Physics, Calcutta University, 92, Upper Circular Road, Calcutta. (1935).
- RAY, J. N., D.Sc., Ph.D., F.I.C., Professor of Organic Chemistry, University Chemical Laboratories, Lahore. (1935).
- RAY, Si P. C., Kt., M.A., Ph.D., D.Sc., F.R.A.S.B., Palit Professor of Chemistry, Calcutta University, 92, Upper Circular Road, Calcutta.
- RAY, P. R., M.A., Lecturer in Chemistry, Calcutta University, 92, Upper Circular Road, Calcutta.
- ROW, Lt.-Col. R., M.D., D.Sc., I.M.S. (Hon.), 27, New Marine Lines, Bombay 1.
- ROY, S. C., Rai Bahadur, M.A., B.L., Editor, 'Man in India', Ranchi.
- ROYDS, T., D.Sc., Director, Solar Physics Observatory, Kodaikanal.
- SAHA, M. N., D.Sc., F.R.S., F.R.A.S.B., University Professor of Physics, Allahabad University, Allahabad.
- SAHNI, B., M.A., Sc.D., D.Sc., F.G.S., F.R.S., F.R.A.S.B., University Professor of Botany, Lucknow University, Lucknow.
- SARKAR, P. B., Dr. ès Sc., A.I.C., Lecturer in Chemistry, Calcutta University, 92, Upper Circular Road, Calcutta. (1935).
- SEN, B. M., M.A., M.Sc., I.E.S., Principal, Presidency College, Calcutta.
- SEN, H. K., M.A., D.Sc., D.I.C., Director, Indian Lac Research Institute, Namkum, Ranchi.
- SEN, J. M., B.Sc., M.Ed., F.R.G.S., Assistant Director of Public Instruction, Bengal, Calcutta. (1935).
- SEN, N. R., D.Sc., Ph.D., Ghose Professor of Applied Mathematics, Calcutta University, 92, Upper Circular Road, Calcutta.
- SENGUPTA, N. N., Ph.D., Professor of Psychology, Lucknow University, Lucknow.
- SEYMOUR SEWELL, Lt.-Col. R. B., C.I.E., M.A., Sc.D., F.R.S., M.R.C.S., L.R.C.P., F.Z.S., F.L.S., I.M.S. (Retd.), Zoological Laboratory, Cambridge. (1936).
- SHORTT, Lt.-Col. H. E., I.M.S., Director, King Institute of Preventive Medicine, Guindy, Madras. (1936).
- SINGH, B. K., M.A., Sc.D., F.I.C., I.E.S., Professor of Chemistry, Science College, Bankipore, Patna.
- SINTON, Lt.-Col. J. A., V.C., O.B.E., M.D., D.Sc., D.P.H., D.T.M., I.M.S., c/o Lloyds Bank, 6 Pall Mall, London, S.W. 1.
- SOKHEY, Lt.-Col. S. S., M.A., M.D., D.T.M. & H., I.M.S., Director, Haffkine Institute, Parel, Bombay.

- SPENCER, E., D.Sc., Ph.D., F.I.C., A.R.S.M., M.I.M.M., F.G.S., Consulting Chemist, Bird & Co., Chartered Bank Buildings, Clive Street, Calcutta.
- SRIVASTAVA, P. L., M.A., D.Phil., Reader in Mathematics, Allahabad University, Allahabad. (1935).
- SUBRAHMANYAN, V., D.Sc., F.I.C., Professor of Biochemistry, Indian Institute of Science, Bangalore.
- TAYLOR, Col. J., D.S.O., M.D., D.P.H., I.M.S., Director, Central Research Institute, Kasauli (Simla Hills).
- TIRUMURTI, T. S., Rao Bahadur, B.A., M.B. & C.M., D.T.M. & H., Professor of Pathology, Medical College, Vizagapatam.
- TREVOR, Sir C. G., Kt., C.I.E., President, Imperial Forest Research Institute, Dehra Dun.
- UKIL, A. C., M.B., M.S.P.E., Tuberculosis Research Officer, All-India Institute of Hygiene and Public Health, Calcutta. (1935).
- VENKATARAMAN, T. S., Rao Bahadur, B.A., C.I.E., I.A.S., Imperial Sugar Cane Specialist, P.O. Lawley Road, Coimbatore.
- VENKATESACHAR, B., Rao Bahadur, M.A., F.Inst.P., Professor of Physics, Central College, Bangalore.
- VIJAYARAGHAVAN, T., Ph.D. (Oxon), Reader in Mathematics, Dacca University, Ramna, Dacca.
- VISWA NATH, B., Rao Bahadur, F.I.C., Offg. Director, Imperial Agricultural Research Institute, New Delhi.
- WADIA, D. N., M.A., B.Sc., F.G.S., F.R.G.S., F.R.A.S.B., Assistant Superintendent, Geological Survey of India, Indian Museum, Calcutta.
- WARE, F., F.R.C.V.S., I.V.S., Director, Imperial Veterinary Research Institute, Muktesar-Kumaun, U.P.
- WEST, W. D., M.A. (Cantab.), Assistant Superintendent, Geological Survey of India, Calcutta.
- WHEELER, T. S., Ph.D., F.R.C.Sc.I., F.I.C., F.Inst.P., M.I.Chem.E., Principal, Royal Institute of Science, Mayo Road, Fort, Bombay 1.
- WRAIGHT, E. A., C.I.E., A.R.S.M., M.I.M.M., F.I.C., Metallurgical Inspector, Jamshedpur.

HONORARY FELLOWS.

- PROF. NIELS BOHR, N.L., 15, Blegdamsvej, Copenhagen.
- PROF. F. G. DONNAN, F.R.S., Director, Sir William Ramsay Laboratory, University College, London.
- PROF. ALBERT EINSTEIN, N.L., Princeton University, New Jersey, U.S.A.
- PROF. ALBERT HEIM, D.Sc., Zürich, Switzerland.
- SIR THOMAS H. HOLLAND, K.C.S.I., K.C.I.E., D.Sc., F.R.S., Principal of the University of Edinburgh.
- SIR FREDERICK GOWLAND HOPKINS, Kt., M.A., D.Sc., N.L., F.R.S., Sir William Dunn Professor of Biochemistry in the University of Cambridge.
- SIR ARTHUR B. KEITH, M.D., F.R.C.S., LL.D., F.R.S., Farnborough, Kent.
- SIR GUY A. K. MARSHALL, Kt., C.M.G., F.R.S., Director, Imperial Institute of Entomology, London.
- LORD RUTHERFORD OF NELSON, O.M., N.L., F.R.S., Cavendish Professor of Physics, Cambridge University, Cambridge.
- SIR ALBERT C. SEWARD, D.Sc., Hon. LL.D., F.R.S., Formerly Master of Downing College and Emeritus Professor of Botany in the University of Cambridge, Cambridge, 209, Cromwell Road, London, S.W. 5.
- SIR CHARLES S. SHERRINGTON, O.M., G.B.E., N.L., F.R.S., Broomside, Valley Road, Ipswich, England.

APPENDIX II.

ABSTRACT PROCEEDINGS OF THE COUNCIL, 1936.

[NOTE.—These abstracts of the proceedings of the Council relate to questions dealt with which are likely to be of interest to Fellows. Routine matters and matters which are under consideration are not included.]

1. The Council addressed the Government of India regarding India's participation in the scheme of Oversea's scholarships established by the Commissioners for the 1851 Exhibition. (No. 5—13-12-35.)

(Note :—A reply was received from the Government of India to say that the Government have already apprised the Secretary of State of India's claim to participation in these scholarships. Both he and the Commissioners of the Exhibition are sympathetic and it is hoped that something may be done to satisfy Indian aspirations in the not distant future.

It has now been announced that one scholarship of the value of £250-300 p.a. has been sanctioned for India.)

2. The Council addressed the Government of India regarding the method of appointment of the Assistant for India at the Kew Botanical Gardens. (No. 2—4-1-1936.)

(Note :—A reply was received from the Government of India stating that it was decided, in order to give continuity of work in directions that call for long and undivided study, the Assistant for India at the Kew Botanical Gardens, should continue, as at present, to be a permanent officer with wide experience of India. At the same time they were of opinion that there was much to be said in favour of the deputation of young botanists to Kew to act as liaison officers for short periods and they had addressed local Governments in the matter.)

3. The Council addressed the Government of India regarding the method of fixing the contribution to be paid by countries adhering to the International Scientific Unions affiliated to the National Research Council. (No. 2—4-2-1936.)

(Note :—A reply was received stating that the Government of India had addressed the India Office on the subject.)

4. The Council approved the recommendation of the Finance Committee in regard to Rule 19 that relates to contributions to be paid from Fellow's subscriptions to co-operating Academies. (No. 4—24-4-1936.)

(Note :—This rule to be interpreted to mean that only when a Fellow has paid his annual subscription of Rs.36 to the National Institute, can he direct that Rs.12 from his subscription be paid to a co-operating Academy towards his annual subscription to that Academy.)

5. The Council considered a letter from the Government of India, enquiring whether the National Institute would be prepared to undertake the co-ordination of the investigations on natural illuminations carried out by various Universities in India and resolved to undertake the work, appointing a sub-committee consisting of Dr. C. W. B. Normand, Prof. P. N. Ghosh, and Prof. S. P. Agharkar to consider technical details in this connection. (No. 10—27-6-1936.)

(Note :—The letter of the Government of India refers to certain investigations on the measurements of natural illumination at various times of the day in different parts of India, which the Illumination Research Committee of the Department of Scientific and Industrial Research, London, are desirous of having carried out.)

6. The Council resolved to supply the *Indian Science Abstracts* free to Fellows and to allow 25% reduction off the published price to Fellows purchasing any of the publications of the Institute. (No. 2—29-8-1936.)

7. The annual subscriptions for the publications of the National Institute were fixed as follows :—

Proceedings—Rs.10 per volume.

Transactions—To be determined per part according to size and number of plates.

Indian Science Abstracts—Rs.25 per volume.

8. In accordance with the Regulations the Council appointed the Sectional Committees for the year 1937. (No. 2—8-12-1936.) (See Appendix IV.)

APPENDIX III.

COMMITTEES, 1936.

SECTIONAL COMMITTEES.

- (1) 'Mathematics' Committee for Mathematics, Astronomy and Geodesy :—
- | | | | | |
|-------------------------------|----|----|----|------------------------------------|
| Prof. A. C. Banerji .. | .. | .. | .. | Allahabad. |
| Mr. T. P. Bhaskara Shastri .. | .. | .. | .. | Hyderabad (Deccan). |
| Brigadier H. J. Couchman .. | .. | .. | .. | Calcutta. |
| Prof. C. V. Hanumantha Rao .. | .. | .. | .. | Lahore. |
| Principal G. S. Mahajani .. | .. | .. | .. | Poona. |
| Prof. N. R. Sen .. | .. | .. | .. | Calcutta (Secretary and Convener). |
- (2) 'Physics' Committee for Physics and Meteorology :—
- | | | | | |
|---------------------------|----|----|----|------------------------------------|
| Dr. Nazir Ahmed .. | .. | .. | .. | Bombay. |
| Dr. P. N. Ghosh .. | .. | .. | .. | Calcutta. |
| Dr. C. W. B. Normand .. | .. | .. | .. | Poona. |
| Prof. M. N. Saha .. | .. | .. | .. | Allahabad. |
| Prof. B. Venkatesachar .. | .. | .. | .. | Bangalore. |
| Prof. D. M. Bose .. | .. | .. | .. | Calcutta (Secretary and Convener). |
- (3) 'Chemistry' Committee for Pure and Applied Chemistry :—
- | | | | | |
|--------------------------|----|----|----|------------------------------------|
| Prof. S. S. Bhatnagar .. | .. | .. | .. | Lahore. |
| Sir B. C. Burt .. | .. | .. | .. | New Delhi. |
| Prof. N. R. Dhar .. | .. | .. | .. | Allahabad. |
| Sir M. O. Forster .. | .. | .. | .. | Mysore. |
| Prof. H. K. Sen .. | .. | .. | .. | Calcutta. |
| Prof. P. C. Mitter .. | .. | .. | .. | Calcutta (Secretary and Convener). |
- (4) 'Engineering Sciences' Committee for Engineering, Metallurgy, Electro-technics and kindred subjects :—
- | | | | | |
|-------------------------------|----|----|----|------------------------------------|
| Mr. W. C. Ash .. | .. | .. | .. | Calcutta. |
| Principal F. N. Mowdawalla .. | .. | .. | .. | Bangalore. |
| Dr. D. Penman .. | .. | .. | .. | Dhanbad. |
| Mr. H. P. Philpot .. | .. | .. | .. | Benares. |
| Mr. E. A. Wraight .. | .. | .. | .. | Jamshedpur. |
| Dr. E. Spencer .. | .. | .. | .. | Calcutta (Secretary and Convener). |
- (5) 'Geology' Committee for Geology, Palæontology, Mineralogy and Geography :—
- | | | | | |
|-----------------------|----|----|----|------------------------------------|
| Sir L. L. Fermor .. | .. | .. | .. | Calcutta. |
| Dr. C. S. Fox .. | .. | .. | .. | Calcutta. |
| Prof. K. K. Mathur .. | .. | .. | .. | Benares. |
| Mr. E. S. Pinfold .. | .. | .. | .. | Rawalpindi. |
| Mr. B. Rama Rao .. | .. | .. | .. | Bangalore. |
| Dr. A. M. Heron .. | .. | .. | .. | Calcutta (Secretary and Convener). |
- (6) 'Botany' Committee for Pure and Applied Botany, Forestry and Agronomy :—
- | | | | | |
|---------------------------|----|----|----|------------------------------------|
| Prof. S. L. Ajrekar .. | .. | .. | .. | Ahmedabad. |
| Mr. H. G. Champion .. | .. | .. | .. | Dehra Dun. |
| Prof. M. O. P. Iyengar .. | .. | .. | .. | Madras. |
| Prof. P. K. Parija .. | .. | .. | .. | Cuttack. |
| Dr. F. J. F. Shaw .. | .. | .. | .. | Delhi. |
| Mr. C. C. Calder .. | .. | .. | .. | Calcutta (Secretary and Convener). |

(7) 'Zoology' Committee for Pure and Applied Zoology and Anthropology including Ethnology :—

Prof. K. N. Bahl	..	..	..	Lucknow.
Dr. C. F. C. Beeson	..	..	..	Dehra Dun.
Dr. F. H. Gravely	..	..	..	Madras.
Principal M. Afzal Husain	..	..	..	Lyallpur (Punjab).
Dr. J. H. Hutton	..	..	..	Shillong.
Dr. B. Prashad	..	..	..	Calcutta (Secretary and Convener).

(8) 'Physiology' Committee for Animal Physiology and Medical subjects :—

Sir U. N. Brahmachari	..	..	..	Calcutta.
Prof. W. Burridge	..	..	..	Lucknow.
Brevet-Col. R. N. Chopra	..	..	..	Calcutta.
Prof. P. K. Koshy	..	..	..	Madras.
Lt.-Col. R. Row	..	..	..	Bombay.
Prof. N. N. Sengupta	..	..	..	Lucknow.
Lt.-Col. J. Taylor	..	..	..	Kasauli.
Mr. F. Ware	..	..	..	Muktesar.
Lt.-Col. R. Knowles	..	..	..	Calcutta (Secretary and Convener).

EDITORIAL COMMITTEE FOR THE 'INDIAN SCIENCE ABSTRACTS'.

Dr. B. Prashad	General Editor.
Prof. N. R. Sen	} Associate Editors.
Prof. M. N. Saha	..	..	..
Prof. J. C. Ghosh	..	..	..
Dr. E. Spencer	..	..	..
Dr. A. M. Heron	..	..	..
Prof. P. K. Parija	..	..	..
Lt.-Col. J. Taylor	..	..	..
Mr. F. Ware	

APPENDIX IV.

COMMITTEES, 1937.

SECTIONAL COMMITTEES.

(1) 'Mathematics' Committee for Mathematics, Astronomy and Geodesy :—

Prof. K. Ananda Rao	..	..	..	Madras.
Prof. A. C. Banerji	..	..	..	Allahabad.
Mr. T. P. Bhaskara Shastri	..	..	..	Hyderabad (Deccan).
Lt.-Col. E. A. Glennie	..	..	..	Dehra Dun.
Prof. C. V. H. Rao	..	..	..	Lahore.
Prof. N. R. Sen	..	..	..	Calcutta (Secretary and Convener).

(2) 'Physics' Committee for Physics and Meteorology :—

Dr. Nazir Ahmad	..	..	..	Bombay.
Prof. P. N. Ghosh	..	..	..	Calcutta.
Dr. C. W. B. Normand	..	..	..	Poona.
Prof. M. N. Saha	..	..	..	Allahabad.
Prof. B. Venkatesachar	..	..	..	Bangalore.
Prof. D. M. Bose	..	..	..	Calcutta (Secretary and Convener).

(3) 'Chemistry' Committee for Pure and Applied Chemistry :—

Prof. S. S. Bhatnagar	..	..	..	Lahore.
Sir Bryce Burt	..	..	..	New Delhi.
Prof. N. R. Dhar	..	..	..	Allahabad.
Prof. J. N. Mukherjee	..	..	..	Calcutta.
Prof. V. Subrahmanyan	..	..	..	Bangalore.
Prof. P. C. Mitter	..	..	..	Calcutta (Secretary and Convener).

(4) 'Engineering Sciences' Committee for Engineering, Metallurgy, Electro-technics and Kindred subjects :—

Mr. W. E. V. Abraham	..	..	..	Khodaung (Burma).
Mr. W. C. Ash	..	..	..	Calcutta.
Mr. H. P. Philpot	..	..	..	Benares.
Mr. E. S. Pinfold	..	..	..	Rawalpindi.
Mr. E. A. Wraight	..	..	..	Jamshedpur.
Mr. F. N. Mowdawalla	..	..	..	Bangalore (Secretary and Convener).

(5) 'Geology' Committee for Geology, Palaeontology, Mineralogy and Geography :—

Mr. P. Evans	..	..	..	Digboi.
Dr. C. S. Fox	..	..	..	Calcutta.
Mr. B. Rama Rao	..	..	..	Bangalore.
Mr. D. N. Wadia	..	..	..	Calcutta.
Mr. W. D. West	..	..	..	Calcutta.
Dr. A. M. Heron	..	..	..	Calcutta (Secretary and Convener).

(6) 'Botany' Committee for Pure and Applied Botany, Forestry and Agronomy :—

Dr. W. Burns	..	..	..	New Delhi.
Prof. M. O. P. Iyengar	..	..	..	Madras.
Prof. K. C. Mehta	..	..	..	Agra.
Prof. P. Parija	..	..	..	Cuttack.
Sir C. G. Trevor	..	..	..	Dehra Dun.
Mr. C. C. Calder	..	..	..	Calcutta (Secretary and Convener).

(7) 'Zoology' Committee for Pure and Applied Zoology and Anthropology including Ethnology :—

Prof. K. N. Bahl	..	..	..	Lucknow.
Dr. F. H. Gravely	..	..	..	Madras.
Dr. B. S. Guha	..	..	..	Calcutta.
Khan Bahadur M. Afzal Husain	..	..	..	Lyallpur.
Dr. H. S. Pruthi	..	..	..	New Delhi.
Dr. B. Prashad	..	..	..	Calcutta (Secretary and Convener).

(8) 'Physiology' Committee for Animal Physiology and Medical subjects :—

Sir U. N. Brahmachari	..	..	..	Calcutta.
Prof. W. Burridge	..	..	..	Lucknow.
Prof. P. K. Koshy	..	..	..	Madras.
Dr. R. B. Lal	..	..	..	Calcutta.
Lt.-Col. R. Row	..	..	..	Bombay.
Prof. N. N. Sengupta	..	..	..	Lucknow.
Col. J. Taylor	..	..	..	Kasauli.
Mr. F. Ware	..	..	..	Muktesar.
Brevet-Col. R. N. Chopra	..	..	..	Calcutta (Secretary and Convener)

APPENDIX V.

LIST OF PERIODICALS RECEIVED EITHER IN EXCHANGE OR AS PRESENTATION.

Indian.

Agriculture and Live Stock in India.
 Annual Report of the Imperial Institute of Veterinary Research.
 Biochemical and Applied Research in India.
 Bulletin of the Calcutta Mathematical Society.
 Bulletin of the Department of Agriculture, Mysore.
 Bulletin of the Indian Central Cotton Committee.
 Bulletin of the Institute of Plant Industry, Indore.
 Calcutta Medical Journal.
 Circulars of the Department of Agriculture, Mysore.
 Electrotechnics.
 General Report of the Survey of India.
 Geodetic Report of the Survey of India.
 Indian Forester.
 Indian Forest Records.
 Indian Journal of Agricultural Science.
 Indian Journal of Veterinary Science and Animal Husbandry.
 Indian Physico-Mathematical Journal.
 Indian Medical Gazette.
 Indian Zoological Memoirs.
 Journal of the Indian Chemical Society.
 Journal of the Indian Institute of Science.
 Journal of the Indian Mathematical Society.
 Journal of the Indian Medical Association.
 Journal of the University of Bombay.
 Madras Fisheries Department Report.
 Memoirs of the Geological Survey of India.
 Memoirs of the Indian Meteorological Department.
 Nagpur University Journal.
 Palæontologia Indica.
 Proceedings of the Indian Academy of Sciences.
 Proceedings of the Institute of Plant Industry, Indore.
 Proceedings of the National Academy of Sciences.
 Proceedings of the Physiological Society of India.
 Quarterly Journal of the Geological, Mining and Metallurgical Society of India.
 Records of the Botanical Survey of India.
 Records of the Geological Survey of India.
 Records of the Malaria Survey of India.
 Records of the Mysore Geological Department.
 Report of the Botanical Survey of India.
 Report of the Haffkine Institute.
 Report of the Indian Central Cotton Committee.
 Report of the King Institute of Preventive Medicine.
 Science and Culture.
 Scientific Notes of the Indian Meteorological Department.
 The Mathematical Student.
 Transactions of the Bose Research Institute.
 Transactions of the Mining and Geological Institute of India.

Foreign.

Biological Bulletin of the Marine Biological Laboratory, Woods Hole.
 Bulletin of the Canada Department of Mines.
 Bulletin of the Geological Survey of Uganda.
 Bulletin of the International Geological Congress, U.S.S.R.
 Collected Papers, Woods Hole Oceanographic Institute.
 Experiment Station Records, U.S. Department of Agriculture.
 Himalayan Journal.
 Memoirs of the Department of Mines, Canada.
 Memoirs of the Geological Survey of Uganda.

Occasional Papers of the Geological Survey of Uganda.
Papers in Physical Oceanography and Meteorology, Woods Hole Oceanographic Institute.
Report of the Department of Mines, Canada.
Report of the Geological Survey of Uganda.
Scripta Mathematica.
Transactions of the Institute of Economic Mineralogy, Moscow.

THE NATIONAL INSTITUTE OF SCIENCES OF INDIA.

Receipts and Payments Account for the year ended 30th November, 1936.

RECEIPTS.		Rs.	A.	P.	PAYMENTS.		Rs.	A.	P.
To Balance brought forward	..	32,168	3	0	By Salaries of Staff	..	2,069	4	3
" Members' Admission Fees	..	576	0	0	" Printing Circulars, Notices, etc.	..	182	0	0
" Subscriptions	..	5,125	0	0	" Publications, Report, etc.	..	4,700	10	0
" Donations	..	9,700	0	0	" 'Indian Science Abstracts'	..	1,568	12	6
" Contributions towards publication of 'Indian Science Abstracts'	..	1,250	0	0	" Contributions to other Science Academies under Rule 19	..	876	0	0
" Sale of Author's extra copies and publications	..	110	1	3	" Postage	..	560	13	9
" Sale of 'Indian Science Abstracts'	..	132	6	0	" Stationery	..	177	12	3
" Interest on Investments	..	1,072	13	0	" Purchase of Books	..	7	6	6
" Miscellaneous Receipts	..	192	6	0	" Audit Fees	..	50	0	0
	..				" Miscellaneous Expenses	..	416	0	3
	..				" Bank Charges	..	26	3	0
	..				" Cash and other balances—	..			
	..				Investments—	Rs.			
	..				3½% G.P. Notes	1842/43	5,000		
	..				3½% do.	1854/55	2,000		
	..				3½% do.	1865 ..	6,000		
	..				3½% do.	1879 ..	2,000		
	..				3½% do.	1900/01	8,000		
	..				4% Loan	1960/70	10,000		
	..						33,000		

At cost .. 33,018 11 10
With Imperial Bank of India—

Rs. A. P.

On Savings Bank Account	..	5,014	8	0
On Current Account	..	1,643	8	5
In hand ..	..	6,658	0	5
	..	15	2	6

39,691 14 9
TOTAL .. 50,326 13 3

TOTAL .. 50,326 13 3

Examined with the Books and Vouchers and found in accordance therewith.
PRICE, WATERHOUSE, PEAT & CO. } Auditors.
Chartered Accountants, }
Registered Accountants. }

APPENDIX VII.

BUDGET ESTIMATE FOR 1936-37.

	1935-36 Estimates.	1935-36 Actuals.	Budget Estimate for 1936-37.
	Rs.	Rs.	Rs.
<i>Ordinary Receipts.</i>			
Subscriptions	5,200	5,125	5,000
Interest	700	1,072	1,150
Contribution for the publication of ' Indian Science Abstracts ' ..	1,000	1,250	1,200
Sale of Publications	100	242	250
Miscellaneous .. ..	..	192	..
Contribution from General Fund ..	2,400	2,744	5,850
	<u>9,400</u>	<u>10,625</u>	<u>13,450</u>
<i>Extraordinary Receipts.</i>			
Admission Fee	320	576	320
Donation .. ..	..	9,700	..
	<u>320</u>	<u>10,276</u>	<u>320</u>
<i>Ordinary Payments.</i>			
Salaries and allowances	2,100	2,069	2,700
Publications	5,000	6,451	8,000
Contributions to Science Academies under Rule 19	1,000	876	1,000
Furniture	400	..	500
Postage	500	560	700
Stationery	200	177	200
Auditor's Fee	50	50	50
Miscellaneous	150	442	300
	<u>9,400</u>	<u>10,625</u>	<u>13,450</u>
<i>Extraordinary Payments.</i>			
Funding of Admission Fee and Donation	320	9,879	320