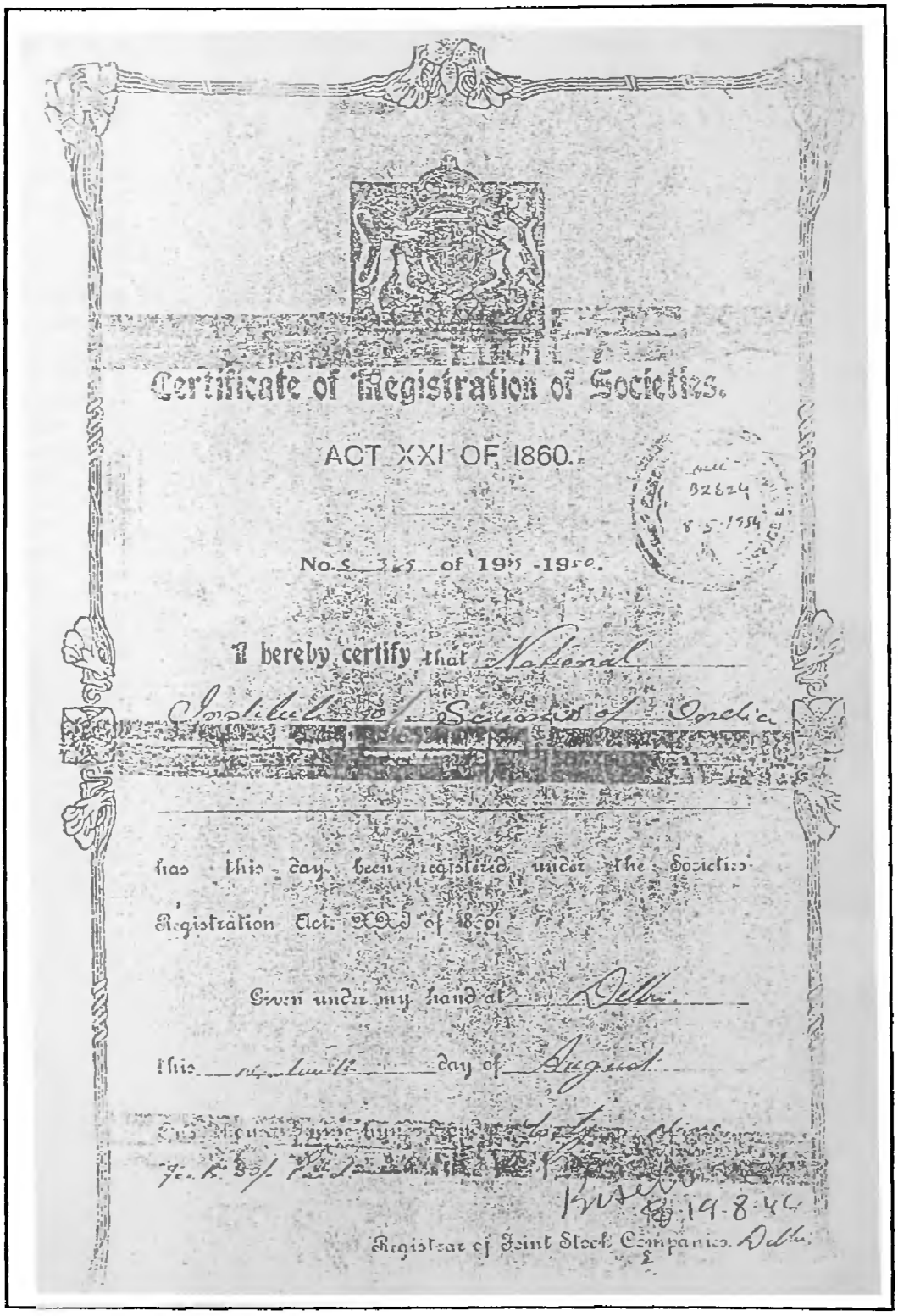
Indian National Science Academy, New Delhi

Registration Certificate



Certificate of Registration of Societies.

ACT XXI OF 1860.

No. S 125 of 1935-1936.

I hereby certify that National Institute of Sciences of India

has this day been registered under the Societies Registration Act XXI of 1860.

Given under my hand at Delhi

this twelfth day of August

1935

Registrar of Joint Stock Companies, Delhi.

दिल्ली में लागू संस्था पंजीकरण अधिनियम सन् 1860
(पंजाब संशोधन) अधिनियम 1957 के अधीन पंजीयन का
प्रमाण पत्र

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संख्या 3099 सन् 1969 - 1970

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को दिल्ली के संघ राज्य क्षेत्र में लागू संस्था पंजीकरण अधिनियम सन् 1860 (पंजाब संशोधन) अधिनियम 1957के अधीन आज की तारीख में पंजीकृत कर लिया गया है ।

यह मेरे हस्ताक्षर के अधीन आज दिनांक 20 January [illegible]
1970 ई.

दिल्ली (फै) पर जारी किया गया ।
[illegible] के संबंध में
250.00 रुपये का भुगतान पाया गया ।

संस्था पंजीयक,
दिल्ली

सोसाइटी के नवीकरण का प्रमाण-पत्र

नवीकरण संख्या 310 1992

फाइल संख्या I-929

एतद्द्वारा प्रमाणित किया जाता है कि दि नेशनल एकेडमी
ऑफ साइंसेज इण्डिया

को दिये गये रजिस्ट्रीकरण प्रमाण-पत्र संख्या 32/1930-31,
दिनांक 4-12-1930 को दिनांक 10.10.90 से पांच वर्ष
की अवधि के लिए नवीकृत किया गया है।

100/- रुपये की नवीकरण फीस सम्यक् रूप से प्राप्त हो गयी है।

दिनांक 5.2.92 19 92

सोसाइटी के रजिस्ट्रार,
उत्तर प्रदेश।

पी० एस० यू० पी०—ए० पी० 4 फार्म निरन्तर—8-8-85—(1537)—1986—1,00,000 (हिन्दी)।

Inaugural meeting

The Inaugural Meeting of the National Institute of Sciences of India was held in the Senate Hall of the University of Calcutta at 5.30 p.m. on Monday the 7 January, 1935. Dr. J. H. Hutton, President of the Indian Science Congress, was in the chair, supported by Dr L. L. Fermor, President of the National Institute of Sciences of India, and the meeting was honoured by His Excellency Sir John Anderson, Governor of Bengal, who was present for the purpose of inaugurating the National Institute.

At this meeting there was a large gathering of scientists from all parts of India, with many of the eminent public men of Calcutta including Judges of the High Court, Members of the Government of Bengal, the Mayor of Calcutta, the Vice-Chancellor of the Calcutta University, representatives of the educational and scientific institutions, the learned societies, and the Chambers of Commerce of Calcutta, University teachers and many others. Among those present mention may be made of:

Sir Harold Darbyshire; Hon. Mr. R. N. Reid; Hon Sir B. L. Mitter; Hon Nawab Bahadur Sir K. G. M. Faroqui; Hon. Khan Bahadur Abdul Aziz; Mr. Syama Prasad Mookerjee; Hon. Kunwar Jagadish Prasad; Mr. Nalini Ranjan Sarkar; and the following Foundation Fellows:

S. P. Agharkar
P. R. Awati
G. N. Rangaswami Ayyangar
K. D. Bagchi
K. N. Bahl
A. C. Banerji
S. K. Banerji
O. A R. Berkeley Hill
T. P. Bhaskara Shastri
S. S. Bhatnagar
D. M. Bose
G. S. Bose
U. N. Brahmachari
B. C. Burt
C. C. C. Calder
Haraprasad Chaudhuri
H. J. Couchman
Kedarnath Das
B. B. Dey
N. R. Dhar
H. B. Dunnicliff
P. Evans
L. L. Fermor
C. S. Fox
J. C. Ghosh
P. N. Ghosh
S. L. Hora
J. H. Hutton
M. O. P. Iyengar
R. B L. K. Ananthakrishna Iyer
R. Knowles
K. S. Krishnan
K. V. A. Krishnan
R. N. Chopra
K. C. Mehta
S. K. Mitra
P. C. Mitter
J. N. Mukaerji
A. Olver
Ganesh Prasad
Baini Prashad
H. S. Pruthi
Muzaffaruddin Qureshi
P. R. Roy
S. C. Roy
M. N. Saha
B. Sahni
P. C. Mahalanobis
B. M. Sen
H. K. Sen
N R. Sen
F. J. F. Shaw
B. K. Singh
E. Spencer
A. D. Stewart
T. S. Tirumurti
B. Venkatesachar
B. Vishwanath
D. N. Wadia
W. D. West

J. H. Hutton, President, Indian Science Congress, and Chairman of the meeting, in inviting His Excellency Sir John Anderson, Governor of Bengal, to inaugurate the Institute, said:

Your Excellency,

A year ago under the guidance of Professor Saha the Indian Science Congress appointed a committee to draft a constitution for and to take the necessary steps to bring into being, a national scientific body which should perform for India some of those functions which the Royal Society performs for Great Britain. That committee, not without meeting difficulties, has carried out the work for which it was appointed, and the constitution drafted has been accepted by the Indian Science Congress. It remains to call the body into existence, and I have the honour, as representing the Indian Science Congress in 1935, of asking Your Excellency to inaugurate the National Institute of Sciences of India.

His Excellency then inaugurated the National Institute. His address is printed on pages 6–9.

Thereafter, L. L. Fermor, President of the National Institute of Sciences of India, delivered his Inaugural Address, which is printed on pages 10–26.

On the termination of the President's address, Professor S. P. Agharkar, one of the Secretaries of the National Institute, read out the following list of names of the learned bodies that had sent representatives and messages of congratulation to the National Institute at its inaugural meeting:

Asiatic Society of Bengal
United Provinces Academy of Sciences
Indian Academy of Sciences
Indian Botanical Society
Indian Chemical Society
Calcutta Mathematical Society
Benares Mathematical Society
South Indian Science Association
Association of Engineers
Institute of Engineers (India)
The Geological, Mining and Metallurgical Society of India
Indian Psychological Association
Society of Biological Chemists, India
Indian Physical Society
Mining and Geological Institute

In addition, expressions of good wishes for the success of the National Institute had been received personally by the President from the following members of the Governor-General's Council: the Hon'ble Sir James Grigg, the Hon'ble Sir Fazl-i-Husain, and the Hon'ble Sir Frank Noyce; and also from three of the senior scientists of India, J. C. Bose, Martin O. Forster, and P. C. Ray.

S. P. Agharkar then proposed a hearty vote of thanks to His Excellency Sir John Anderson for having consented to inaugurate the National Institute of Sciences of India, which was carried with acclamation.

His Excellency's* speech at the inauguration of the first session of the National Institute of Sciences of India on 7th January, 1935

An occasion such as this reminds me how multifarious are the demands made upon the services of a Governor in India. In part they call for the bestowal of blessings or the payment of compliments and as regards this portion of one's activities inclination may not always march abreast with duty. The present occasion, however, is one on which inclination and duty coincide. I remember, and, to take you into my confidence, I remember sometimes with a tinge of regret, the days when my own preparation for life was based on the contemplation of a scientific rather than an administrative career. Although it finally came about that I elected to tread administrative paths, I have never regretted the scientific training which I received during some of the most impressionable years of my life, because that training afforded me an understanding of the best methods of approach to the solution of scientific problems which I trust years of the hurly-burly of administration have not entirely extinguished, even if to my misfortune it may have become somewhat dimmed. I have not regretted it because I think that the detached outlook of the scientist may often be an asset to an administrator. Conversely I think that a knowledge of practical administration must often be helpful to a man of science and this was forcibly brought home to me when listening to the admirable and most interesting address delivered by Dr. Hutton at the inauguration ceremony† in this Hall on Wednesday last, for Dr. Hutton is not only a distinguished scientist but is also a distinguished administrator, and his address was punctuated by repeated illustrations of the application of scientific researches to the practical problems of everyday life. The popular conception of a scientist is that of a man who pursues truth for its own sake and with no interest, or at any rate no selfish interest, in the practical application of his discoveries, and I can conceive no better way for scientists each pursuing his own special line of research to correlate their investigations and to turn them into practical channels than the formation of some central Institute by means of which their ideas can be pooled and brought into relation with each other. I can see no limit to the field of usefulness which this new Institute of Sciences can cultivate, for its purpose is to co-ordinate the work of such academic bodies as have already been created in various parts of India and as may be created in the future. Many members of this Institute are Chemists and will be aware of the remarkable progress made in synthetic chemistry during the present century. These members may wish to employ some form of synthetic action in building the structure of this academic body. Others who are Anthropologists or Psychologists will naturally apply the lessons of their sciences to the aspects of social life and human organisation presented by this new institution. Those who are Botanists or Agriculturists, understanding all the mysteries of seedtime and harvest, may be expected to be valued gardeners in, shall I say, this academic grove. If the creation of this new body has given rise to some birth pangs, the medical members will know that this is nothing strange and they may be able to prescribe a regime of life calculated to promote healthy growth and to inhibit the normal disorders of youth and adolescence. And as man is after all a member of the animal creation, it is probable that the Zoologists may find in their own science matter which may be of help to this new body. Even the Mathematicians should have some ideas on such aspects of structures and numbers as must be manifest in the life of an academic body. In short, all the sciences represented in your institution are capable of contributing to the wise guidance of your body corporate. Even the Geologists who at first sight might seem to be rather out of the picture should be able to help, for their study of fossil-bearing strata may enable them to detect and to avert any premature fossiliferous tendency should this begin to manifest itself. With considerable diffidence I suggest that this consideration may have been one of the reasons why you have chosen as your first President a distinguished representative of geological science whose special knowledge of ancient petrifaction makes him so fully aware of the necessity for mobility and vitality.

To turn from a consideration of the component parts of this new body and of the way in which they can function to the best possible advantage of the whole, I should like to attempt a very brief summary as I see it of the sequence of events which has led up to this evening's gathering. A philosopher has rightly characterised the great intellectual transition in the west, contrasting the mediaeval with the modern conception of life, as the transition from an attitude in which man interpreted nature by tradition to an attitude in which he corrected tradition by observation of nature. The first organized step in this direction in India may be said to date from the foundation of the Asiatic Society of Bengal in this very city in 1784. The second step dates from the middle of the last century. In 1857 the Calcutta University was founded, followed at short intervals by a number of other universities. In addition, there were a series of great scientific surveys during the 19th century. The third step was the meeting of the Indian Science Congress for the first time in 1914. Today as a fourth step in the progressive organisation of modern science in India we are met together to inaugurate the National Institute of Sciences in India. We have here the sequence as follows:

First, a society of a varied and comprehensive character,

Secondly, three quarters of a century later, Universities and specialist scientific services.

Thirdly, half a century later, the annual meeting of individual scientists.

Fourthly, after another quarter of a century, a central and all-India co-ordinating body, embracing all modern scientific research in this great country.

It seems to me that this gradual, and yet at the same time accelerated, progress is regular and natural and therefore highly

*Sir John Anderson, Governer of Bengal.

†The opening meeting of the 22nd Session of the Indian Science Congress on 2nd January, 1935.

satisfactory. The various steps forward indicate the gathering of sound fruit produced as the result of steady labour. There is in this evolution no putting of the cart before the horse.

That this Institute should be the result of steady and healthy growth augurs well for its future and for the quality of its work, because it will have to deal with gigantic problems. Science in the modern sense of the word has been implanted in India through the largely accidental external influences of colonization aided by free communications with other parts of the world which have themselves developed differently and at a different pace. This vast country which is inhabited by at least 350 million people is as regards the illiterate masses in much the same condition as Europe during the middle ages. To those who have the time and the inclination it may afford an interesting field of speculation to consider what will be the result of the interaction between this modernism of the few and the traditionalism of the many. In the various countries of Europe the two views have contended and striven side by side for centuries sometimes with extreme bitterness. As a result of this running fight the solution has taken different shapes among the different races and nations and in some places a satisfactory compromise has not yet been found. What the result will be in India cannot be foreseen and it is wise never to prophesy unless one is certain. There is a humorous if cynical cliche on this subject to the effect that 'He who bets on a certainty is a rogue: he was who does not is a fool'. This much, however, is sure that the eventual result will largely depend on the wisdom, insight and intellectual calibre of those representing the ideas and sciences which this Institute has been founded to promote. Dr. Hutton in the course of his inaugural address said that scientists should beware of valuing themselves and one another too highly and of supposing that because a man knows a great deal about one subject he is therefore the more fitted to express an opinion on others. This wise admonition has been put in another way by a witty though possibly somewhat jaundiced thinker who once said that it should never be forgotten that if a learned man is stupid, he can be so learnedly stupid as to be much more dangerous than the ordinary stupid man in the street. My good friend, Mr. van Manen, told me the other day of a striking epigram of eight words in which Confucius expressed the same idea when he said: 'learning without thinking: useless; thinking without learning: dangerous'.

I am sure from my personal observation that at its inception at any rate this Institute will be served by members blessed with wisdom as well as learning and that, in consequence, its future is bright. I would only add, if I may, one word of caution and of exhortation. I know from my own experience how, by reason of their training and of the nature of their work, men of science tend to become strongly individualistic in their outlook and impatient of any form of constraint or discipline. The success of this Institute will depend, I believe, very largely on the extent to which this very natural tendency can be held in check. No one, I am sure, need be apprehensive lest his work may suffer in freshness, originality or vigour from loyal adherence to the aims and objects of this Institute. On the contrary union is strength and inasmuch as the boundaries of science are constantly expanding and the interdependence of the individual sciences constantly increasing, I trust that this Institute will continue to be, as I am assured it is to-day, truly representative and that its members will all derive from it strength and inspiration and a greater capacity for service. In inaugurating this first session of the National Institute of Sciences of India I wish the Institute all possible success.

Inaugural Address to the National Institute of Sciences of India*

(The Organization of Scientific Research in India)

L. L. Fermor

Introduction

My first duty, a duty that is also a pleasure, is to thank the Fellows of the National Institute of Sciences of India for the great honour they have done me in electing me their first President In accepting this office I feel a heavy sense of responsibility; for in the first year of a new organization many points have to be decided and precedents to be created that must inevitably affect the future procedure and history of the society. But you may be assured that I shall do my best to justify the trust you have placed in me.

Normally the President at the Annual General Meeting will probably think it suitable to deliver an address, of which the major theme will bear upon his own science: probably taking account also of related sciences. This, however, is not an Annual General Meeting, but an Inaugural Meeting at which an address on my own subject, geology, would be unsuitable. Instead it is desirable to clarify our ideas about our National Institute: and this can best be done by sketching briefly the development of scientific research in India so as to show the position of our National Institute of Sciences with reference to other scientific organizations: followed by a discussion upon what our National Institute should do. On attempting to construct a continuous story, I found, however, that it would prove too long for one address; and as I am due to give a Presidential Address to the Asiatic Society of Bengal on February the 4th, and as the Asiatic Society has been the pioneer in scientific research in India, it appeared to me suitable to divide my subject into two sections and to give to the Asiatic Society the portion dealing with the development of science in India

*Delivered at Calcutta, 1935

up to the end of the 19th century, discussing on the present occasion the developments in the present century leading to the foundation of this National Institute of Sciences of India. Although this course is like putting the cart before the horse it is obviously suitable in view of the dates of founding of the Asiatic Society and the National Institute respectively.

Development of Science in Europe: In the second address I refer to the birth of science during the golden age of Greece in the period 450 to 400 B.C. in Athens, to the period of darkness that descended upon the world after the break up of the Roman Empire, until the Renaissance or rebirth of learning in Europe in the 13th to 16th centuries, leading to the foundation of the Royal Society of London in 1660 and of the *Académie royale des sciences* in France in 1666. I mention particularly that the French Academy of Sciences now forms with four other Academies for other branches of learning what is now called the Institute of France, but which, at an earlier stage of its existence, had a longer title, namely *L 'Institut nationale des sciences et des arts'* that is to say, 'The National Institute of Sciences and Arts'.

Hindu and Arab contributions: I mention also the part played by the Hindus and the Arabs in their contributions to science during the dark ages in Europe: that Hindu science appears to be partly indigenous and pre-Greek and partly based on Greek influence; and that Arab science was built upon Greek and Hindu science.

The Asiatick Society: I mention also that the introduction of western science and learning into India appears really to date from the arrival in Calcutta of Sir William Jones, a Puisne Judge of the Supreme Court at Fort William in Bengal in 1783, followed by the foundation in 1784 of the Asiatick Society, a society for the study of the antiquities, arts, sciences, and literature of Asia.

The Indian Museum: I allude to the various offshoots from the activities of what is now called the Asiatic Society of Bengal in the foundation of the Royal Asiatic Society of Great Britain and Ireland, with the establishment of branches at Bombay, Madras, Colombo and Singapore; of the foundation of the Indian Museum based on the collections of the Asiatic Society, and of the establishment of various scientific departments of the Government of India, some of which can be traced directly to the influence of the same Society.

Scientific Services: I mention also that the oldest scientific services in India appears to have been Trigonometrical Survey of the Peninsula in 1800, changed to the Great Trigonometrical Survey in 1818—now the Geodetic Branch of the Survey of India—, and the Geological Survey of India, founded in 1851. These two Departments, with the Medical Services, appear to have been the pre-mutiny, i.e. pre-Crown, scientific services of India. There were also Assay Masters at His Majesty's Mint, Calcutta, at least as early as 1792. I also mention that the oldest universities are those of Bombay, Calcutta, and Madras, all founded in 1857.

Societies: Although by the end of the 19th century several scientific services had been formed in India and had established their own journals, memoirs, and records, yet their officers still contributed freely to the publications of the Asiatic Society of Bengal, which continued to be a great depository of the results of research in all branches of science and letters. In fact, until the end of 19th century there were hardly any other scientific societies, not to mention scientific societies of note; but amongst them the Bombay Natural History Society, founded in 1883, held and still holds a notable place. Mention should also be made of the Indian Association for the Cultivation of Science established in Calcutta in 1876 and formerly engaged mainly in teaching, but now a research association.

The development of scientific research in India in the twentieth century

Specialist Organizations

Specialist Societies: In the present century we have entered on a new stage in the development of scientific research in India, a period characterized by the formation of numerous specialist scientific societies and numerous Government research institutes. In the matter of specialist scientific societies the geologists gave an early lead with the foundation of the Mining and Geological Institute of India in 1906. The Indian Mathematical Society was started in 1907 in Poona as the Indian Mathematical Club: at present the office thereof is in Nagpur, whilst the Society's Journal is published in Madras. This was followed by the Institution of Engineers (India), founded in 1921, with its head quarters in Calcutta, but with branches at several other important towns; the Indian Botanical Society, with a peripatetic headquarters, but with a journal published in Lucknow, was also founded in 1921; the Indian Chemical Society, with its headquarters in Calcutta, was founded in 1924, as also the Geological, Mining, and Metallurgical Society of India; whilst in the past year, three all-India societies have been founded in Calcutta, namely the Indian Physical Society, the Indian Society of Soil Science, and the Indian Physiological Society. There is also the Society of Biological Chemists founded at Bangalore and the Institution of Chemists (India) founded in Calcutta in 1927, and of societies of more restricted geographical scope, one may mention the Calcutta Mathematical Society founded in 1908.

Research Institutes: In addition to the Government scientific services supported by funds from Central Revenues, there are also in India several research institutions similarly supported. Of these we may enumerate in chronological order of foundation the Imperial Institute of Veterinary Research at Muktesar, which commenced life as the Imperial Bacteriological Laboratory at Poona in 1890, moved to Muktesar in 1893, and assumed its present title in 1925; the Imperial Agricultural Research Institute at Pusa (1903); the Central Research Institute at Kasauli (1906); the Imperial Forest Research Institute at Dehra Dun (1906); and the All-India Institute of Public Health and Hygiene in Calcutta (1934). There are also several other well-known research institutions principally medical, provincially administered, at which high-class research work is in progress, e.g. the School

of Tropical Medicine, Calcutta, and the Haffkine Institute, Bombay.

Further, there is the Indian Institute of Science at Bangalore founded in 1911 and supported mainly by private bequests supplemented by Government grants and directed to research and advanced scientific education.

Universities: Finally, we must mention the Universities, which, as their title indicate, may be concerned with all branches of knowledge. The oldest universities in India are those of Bombay, Calcutta and Madras, all of which were founded in 1857, followed by the University of Punjab in 1882 and University of Allahabad in 1887. In addition, during the present century a considerable number of additional universities have been founded. In these universities chairs of Mathematics, Chemistry, and Physics are almost universal and, in addition, most universities have chairs of Botany and Zoology, but only a small proportion of them have chairs of Geology. During the past decade much work of high quality has come from the universities, but happily the tendency is for our university friends to offer the results of their researches for publication by one of the existing scientific societies rather than for the universities to start their own journals.

Co-ordinating organizations

With this multitude of new bodies—services, societies, universities, research institutes—coming continuously into being, with a resultant tendency towards greater and greater specialization and consequent isolation of workers, there is an increasing need for organizations directed to counteracting fissiparous tendencies so as again to bring men of science and other branches of learning back to a common fold providing for a free exchange of views: a result that can be secured either on a comprehensive basis enabling the co-operation of all branches of learning, or at least of all branches of science, or upon a compartmental plan in which allied groups of sciences are brought together.

At the beginning of this century the only organization directed to this end in a really comprehensive manner was the Asiatic Society of Bengal, to which abundant reference has already been made.

The Board of Scientific Advice: In 1902, however, the Government of India made provision for the co-ordination of official scientific enquiry in a Board of Scientific Advice. This Board was formed in accordance with a Government of India Resolution dated 28th August, 1902, the Board consisting originally of the following officers:

The Surveyor-General of India.
The Meteorological Reporter to the Government of India and Director General of Observatories.
The Director, Geological Survey of India
The Director, Botanical Survey of India.
The Superintendent, Natural Historical Section, Indian Museum (now the Director, Zoological Survey of India).
The Inspector-General of Forests.
The Inspector-General of Agriculture.
The Inspector-General, Civil Veterinary Department.
The Reporter on Economic Products to the Government of India.

In addition, the Secretary to the Government of India in the Department of Revenue and Agriculture was *ex-officio* President, whilst the Director, Botanical Survey of India, was Secretary.

This Board met periodically, discussed problems of common interest, and published an Annual Report in which the progress of research in India by Government institutions during the year was summarized subject by subject. These Annual Reports though departmental and confined, as was natural, almost entirely to work done under official auspices, were of considerable value; but the activities of the Board were suspended in 1924; and have not since been resuscitated. The reports of the Board were communicated through the Secretary of State for India to the Royal Society, who appointed an Advisory Committee to consider them, and who from time to time furnished the Board and the Government of India with valuable suggestions and advice.

There is now no official Council of Scientific Research in India dealing with science as a whole, although there are two official councils dealing with important sections of scientific research. One is the Indian Research Fund Association and the other the Imperial Council of Agricultural Research.

Indian Research Fund Association: The Indian Research Fund Association was founded in 1911, is located in Delhi and Simla, and is in receipt of funds from the Central Government now enormously reduced as a measure of retrenchment. It is entrusted with the duty of organizing medical research at several research institutes throughout India and of deciding the allocation of available funds. In this the Association takes the advice of an 'Annual Research Workers' Conference, held in Calcutta.

Imperial Council of Agricultural Research: The Imperial Council of Agricultural Research was formed in 1929 as a result of the Report of the Royal Commission on Agriculture, and is in receipt of a substantial annual Government grant for purposes of research in agriculture including veterinary research. The funds are allocated to agricultural and veterinary research organizations throughout India, the Council holding periodic meetings in Delhi and Simla for the purpose of determining this allocation.

The Indian Science Congress Association: The isolation of certain scientific workers, to which I have already alluded, is partly the *geographical isolation* of those who live in places where there are but few scientists, and partly the *specialist isolation* of large numbers of scientists one from another due to their specialization. In order to counteract to some extent both forms of isolation Prof. J. L. Simonsen of Madras and Prof. P. S. MacMahon of Lucknow, both Professors of Chemistry, proposed in 1911 the formation of an Indian Association for the Advancement of Science, analogous to the British Association. As a result, the Indian Science Congress was born, the inaugural meeting being held in 1914 in the rooms of the Asiatic Society of Bengal under the patronage of Lord Carmichael and the Presidentship of Sir Ashutosh Mookerjee. This Congress, which has since become an Association, meets annually, moving from one important city to another on a plan analogous to that adopted by the British Association, so that during 22 years,

10 different centres of research have been visited. The great success of this organization is shown by the large numbers of scientists from all parts of India who now attend the annual sessions and the corresponding magnitude of the annual volume of published *Proceedings*. Although in its annual activities the Association is peripatetic, yet it requires a permanent office, and this, in fact, is provided in Calcutta by the Asiatic Society of Bengal, which acts as the managing body of the Congress. There can be little doubt that the Indian Science Congress has proved of very great benefit in promoting intercourse between the scientists of all parts of India and all sciences, thereby mitigating both forms of isolation. But this Association meets only once a year, and it is for one week only during 52 that scientists are afforded the opportunity for this fruitful intercourse. During the rest of the year, the centres of research tend to remain in geographical isolation one from another, and at those centres, particularly at the larger ones, the scientists return from the Congress to their specialist isolation, making use as far as possible of specialist societies.

The Academies: Their is no doubt that there is a great need for the existence, at the important centres of scientific research, of bodies in which workers in various branches gather not for the reading of specialized papers dealing with minor details and specialist problems, but for the reading and discussion of papers with broader outlines and for the interchange of views. This brings us to the Academy.

During the past year the word *Academy* has been much before us, and to many this term has appeared as a desirable fruit, so that some of the Foundation Fellows of our National Institute, and also some of those who have not yet become Fellows, have expressed their disappointment that we have selected the term *Institute* rather than the term Academy.

Meaning of the term Academy: It seems desirable, therefore, that we should first enquire what the word Academy means. It will surprise most of you to learn that the first Academy was a pleasure garden in Athens which is supposed to have belonged to an ancient Attic hero named Academus. The garden was walled in by Hipparchus, and eventually bequeathed as a public pleasure ground by Cimon to his fellow-citizens of Athens. In this garden the Greek philosopher Plato taught for nearly 50 years; and the Academy thus started lasted from the days of Plato to those of Cicero, that is, for over 300 years.

A philosopher's garden: We see thus that the original Academy dated from about 400 B.C. and was a garden utilized for philosophic teachings and discussions. It was essentially a place where any branch of knowledge could be discussed, and was completely different from our specialized societies of today. In this original Academy the old philosophers must have discussed arts and letters, mathematics and science, as well as philosophy strictly so called; so that a true Academy, without qualification, should be on as broad a basis. The Asiatick Society, now the Asiatic Society of Bengal, is one of the few institutions that complies with such a definition and it is essentially an Academy of arts, letters, philosophy and sciences. Another point is that an Academy was essentially a place where philosophers could meet and discuss problems, being essentially suited for personal and local utilization. From this aspect, therefore, an attempt to found an Academy to serve so large an area as the whole of India is probably misdirected effort, until rapid means of transport become very much cheaper than they are at present. From this consideration it seems also to follow that the promotion of the regular intercourse of the men of letters and science throughout India is only feasible in the first instance on a regional basis, so that each important region, in which there is any volume of research, should have its own Academy, preferably of both science and letters jointly, but otherwise Academies of science and letters separately. It is impossible to foresee at present what number of Academies of Science so large a country as India really needs. It will be for the scientists in different parts of India to settle this by deciding whether they prefer to walk and talk in their own gardens of philosophy, or to make use of distant gardens by means of the letter-box and the printed page.

While Academies, if we go to the original meaning, must, therefore, function locally or regionally in the most important portion of their activities, they can also legitimately make a wider appeal; for now-a-days Academies also undertake the publication for general information of the results of original researches carried out by their members, and for this reason Academies may legitimately expect to secure a wider membership than only local utility would encourage. The Asiatic Society of Bengal, originally founded as the *Asiatick Society*, with the intention of investigating within the geographical limits of Asia 'whatever is performed by man, or produced by nature', has as the result of its researches secured a membership that is not only all-India but international. Nevertheless the major benefits of its activities accrue to those who are within easy reach of its headquarters, and eventually the Society has had added to its name for purposes of identification a territorial or local designation, so that it is now called the Asiatic Society of Bengal, in the same way as *the* Royal Society is the Royal Society of London as distinct from the Royal Society of Edinburgh. In practice, however, the Asiatic Society cannot hope to cater for the frequently recurring (say monthly) needs of the whole of India and, therefore, can have no feeling of jealousy towards other bodies of Academy rank founded in other parts of India.

The United Provinces Academy of Sciences, founded at Allahabad in 1930, was, therefore, on this argument, a desirable creation to provide for the meeting of students of all branches of science in Northern India. This Academy has already secured numerous members outside the geographical limits of the United Provinces, so that its activities, like those of the Asiatic Society of Bengal, are partly local or regional and partly all-India.

When in 1933, the proposal was mooted to found an Indian Academy of Sciences, some of us overlooked the fact that there were already two such Academies in existence,—one called the Asiatic Society of Bengal and the other the United Provinces Academy of Sciences. The proposal, therefore, to found a third Indian Academy, which was entrusted to a Committee appointed by the Indian Science Congress, logically meant either the creation of a fresh garden in another part of India, or of a body to co-ordinate the already existing gardens. Our friends in Bangalore knew all the time that they needed a Society of Academy status with its headquarters in Bangalore. Had they boldly said so at the beginning, the confusion that has arisen in scientific circles during the past year would have

been avoided, because it is obviously correct that Southern India should have its own philosopher's garden. However, Bangalore did not do this, so that the general problem was entrusted to the Academy Committee appointed *ad hoc* by the Indian Science Congress. When this took place logic necessitated, though the position had then been analysed by no one, the formation of an Academy of Sciences in Southern India, and possibly of others in Western India, and the Punjab, and then the formation of a coordinating body for all the Academies, three, four or five in number.

Object as we may to the manner in which our Bangalore friends cut adrift and abruptly started a new Academy, their action has at least had the merit of revealing the logic of the situation, so that we can appropriately end by welcoming the Indian Academy of Sciences founded at Bangalore, and also agree that this Academy whilst providing a philosopher's garden for Southern India can legitimately have all-India aspirations and activities parallel to those already possessed by the Asiatic Society of Bengal and the United Provinces Academy of Sciences.

The formation of the National Institute of Sciences of India

The National Institute of Sciences—a co-ordinating body: But we still need a co-ordinating body and that is why it is necessary to found the National Institute. Obviously this co-ordinating body should not compete with the Academies in such a way as to harm them. The prime function of the Academies is to arrange for regular meetings for philosophic discussions on a suitable periodic basis, say monthly, and for the regular periodic publication of the results of these meetings and discussions, in so far as they are worthy of publication to the world at large. With these activities of the Academies our National Institute should not seriously compete. Instead, our National Institute should have as one of its major activities the co-ordination of the labours of the various Academies. This may prove to be a task of some importance and magnitude, for since India is as large as Europe without Russia, so eventually, as the progress of science so justifies, it may prove desirable to found Academies of Sciences for several of the larger units of territory in India. In France, which is equivalent in size only to one province of India, there are five Academies with a headquarters in Paris (besides Academies at smaller towns such as Montpellier and Toulouse). These five Academies are co-ordinated in the Institute of France which, as I have already mentioned, was, in a former stage of existence, called the National Institute of Sciences and Arts. On an analogous basis one of the prime duties of our National Institute should be to co-ordinate the activities of the various Academies of Sciences in India.

We can picture that one day there may be also a *National Institute of Letters*, the purpose of which would be to co-ordinate the activities of Academies of Letters in India, in the formation of which the Asiatic Society of Bengal might appropriately take the lead. We can also picture the eventual formation of a *National Institute of Arts* co-ordinating similarly the activities of Academies of Arts in India. Once this has happened, there will be a need for co-ordinating the three National Institutes into a National Institute of Arts, Letters and Sciences of India, which would be *the Institute of India* equivalent to the Institute of France in its comprehensive scope. For the present it is sufficient for us to found a National Institute of Sciences.

Liaison of National Institute with the Academies: Because of the historical fact that in India our Academies have been formed before our National Institute, it follows that there is at present no organic relationship between the co-ordinating Institute and the co-operating Academies. Each of the Academies is a completely independent body and the extent to which co-ordination of the labours can be effected through the National Institute depends upon the measure of concord that is established. We have arranged, however, for an effective liaison with the three existing Academies by providing on the Council of National Institute for an additional Vice-President and an additional Member of Council for each of the co-operating Academies to be nominated by the respective Academies. In addition also, partly because common sense requires it, and partly in acknowledgement of our debt of parentage, we are providing for an additional Vice-President and an additional Member of Council to be filled from the Executive Committee of the Indian Science Congress.

Fellowship of the National Institute: We may now, for the benefit of those who have not followed the course of the labours of the Academy, refer to the membership of our National Institute. After full discussion the Academy Committee decided that our new body should have a membership sufficiently restricted to make it a distinction to belong thereto, but at the same time not so limited as to prevent us, having at our disposal a useful volume of scientific experience and ability. We decided that it would be suitable to start with 125 Foundation Fellows and to elect 10 new Fellows annually thereafter. In selecting the Foundation Fellows the Academy Committee first assigned quotas on a percentage basis to the various sciences and then appointed small sub-committees to make nominations up to the quotas for the first 100. In order to provide for rectification of inequalities and omissions, should such have occurred, the Academy Committee placed the remaining 25 names for election before those of the first 100 who had accepted Foundation Fellowship. That our methods have met with approval is shown by the fact that out of the 125 scientists invited, 113 have already accepted Foundation Fellowship, 6 only have declined, whilst three unfortunately have died, namely Prof. P. Sampat Iyenger, late Director of the Mysore Geological Department, Prof. S. R. Kashyap of Lahore, who had been nominated to be one of the Vice-Presidents of the first Council, and Prof. V. Krishnamurti of Madras.

Steps have been taken to fill the definite vacancies amongst the Foundation Fellows. Such vacancies as still exist it is proposed to fill during the first year in addition to the annual allotment of ten.

Our Foundation Fellows are distributed throughout the length and breadth of India and include representatives of every branch of science. They include all the Fellows of the Royal Society resident in India, all the past-Presidents of the Indian Science Congress resident in India but one, almost all the heads of Government of India scientific departments and research institutes, and many distinguished occupants of University profes-

sorial chairs throughout India. Although a large proportion of our Fellows are engaged either in teaching or in the pursuit of pure science, yet we have the requisite number of practical men, men whose interests lie in applied science, engineering, and industrial research. The majority of our Fellows belong in addition to one or more of the co-operating Academies, and it may be hoped that as many as possible of our Fellows will think it desirable to belong to the Academy that they can most conveniently treat as their own philosopher's garden.

The Council of the National Institute: In framing our Council we found necessary the large number of 25 in order that after allotting to the headquarters station sufficient members to ensure the possibility of always being able to secure a quorum, we should also be able to have Members of Council in as many of the important centres of scientific research in India as possible. We hope in this way that our Fellows in all parts of India will be kept in touch with the doings of our Council, because it is our intention that the minutes of the Council Meetings shall be sent by post to all Members of Council wherever they are. In addition to these 25 Members of Council representing the National Institute, we have, as already mentioned, made provision for each of the three co-operating Academies, as well as the Indian Science Congress Association, to be represented by an additional Vice-President and an additional Member of Council, selected by the Academy from amongst our Fellows who are members of the respective organizations. Should any other Academies of requisite status be formed, we shall be prepared to allocate the same representation of an additional Vice-President and an additional Member of Council, provided, of course, that such Academies contain the requisite minimum number of our Fellows amongst their membership. In all cases the representatives appointed by co-operating bodies must be Fellows of our National Institute.

The functions of the National Institute of Sciences

You will now ask what the National Institute proposes to do. Before answering this question I wish to retrace my steps a little. I have mentioned that in Europe each important country has its own Academy of Sciences. These countries being, however, independent countries have no body that can be regarded as the equivalent to our National Institute directed towards co-ordinating the efforts of the Academies of different countries. This want has been long felt in Europe and eventually led to the formation in 1918–19 of the body called the International Research Council, which is a Council for science not only in Europe, but throughout the world, with its headquarters in Brussels. This International Research Council operates through National Research Councils, and every important country in Europe as well as in America has its National Research Council; and it is through the National Research Councils of Europe, co-operating with the International Research Council, that the efforts of scientists in different countries are co-ordinated. It is obvious from these remarks that one of the functions of our National Institute should be to act as the organizing body of a *National Research Council* in India.

In 1926, the Surveyor-General made a proposal to the Government of India that India should join the International Research Council and certain International Unions formed under the auspices of the Council. This led to a request from Government for further information on the proposal, and eventually in 1930 the Government of India announced that it had been decided that India should join the International Research Council and its Unions of (1) Geodesy and Geophysics, (2) Geography, (3) Astronomy, (4) Biological Sciences, and (5) Radio-Telegraphy. At the time, in the absence of any representative scientific organization in India that could itself join the Council and arrange for collaboration with the five Unions mentioned, the Government of India were compelled themselves to join this Council, but they were informed that if possible adherence to the Council and Unions should be entrusted to a national scientific organization, and that other countries had joined through existing scientific academies and institutions, or had set up special scientific bodies for that purpose. The general feeling of the Members of the International Research Council was that the Government of India should not be a member longer than was necessary, lest a political element might be introduced. The Government of India did not consider that any such result need be apprehended from their membership of these organizations, but they wished to assimilate India's position in relation to these bodies, should this be feasible. Accordingly, the Government of India asked the Surveyor-General for advice on this question and requested that he should submit his views after consulting the heads of other scientific departments. In the end, a Committee consisting of the Surveyor-General and the Directors of the Botanical, Geological, and Zoological Surveys considered the various problems in committee and submitted a joint report to Government. This Committee reported that there was in India no body comparable to the Royal Society of London, suitable to undertake the organization of such a National Research Council, and that, meanwhile, it was desirable to form a Council under Government aegis, with the expenditure connected therewith to be borne by Government. We made definite proposals for the constitution of the Council and of the National Committees for various subjects. Soon after the submission of our report the financial condition deteriorated and no action has been taken in the direction of forming a National Research Council (I may mention that the Government of India also consulted various non-official scientific bodies on this problem).

When in 1932 the Editorial Board of *Current Science* attempted to elicit the opinion of scientists in India concerning the desirability of forming an Academy of Sciences, I personally replied to the effect that I did not see the need of a new Society for the purpose of reading papers, but that there was a need for a body of scientists of position to render possible the formation of a National Research Council in India, and for this reason I supported the proposal. We had not then realized the full logic of the proposition. But now, in founding this National Institute of Sciences, we have gone a long way towards making it easy for India to form a National Research Council with, National Committees in various sciences co-operating with the International Research Council and the International Research Unions; and this we may regard as one of the justifications for the formation of our National Institute.

The co-ordination of labours of men of science: Coming now to the question of the aims and objects of our National Institute,

these have already been defined in a note, issued with the Academy Committee's report. These, as you know, are substantially the same as the aims and objects that were placed before the Academy Committee as a result of the series of resolutions passed by the General Committee of the Indian Science Congress in Bombay in 1934. In my opinion the most important of our objects are to be prepared to co-ordinate the labours of the scientists in India, to effect co-operation between the various bodies of Academy rank, and to render possible the formation of a National Research Council.

Meetings of the National Institute: In my view our Institute does not exist primarily for the purpose of reading papers, so that we shall not need to hold regular monthly meetings. We have suggested that to begin with two general meetings in the year for business purposes will suit our purposes. One of these will be held at the city where the Indian Science Congress meets, so as to render possible the largest attendance of Fellows. The other will be held at the city selected for the business headquarters of the Institute. As due notice will be given of each of these meetings, and as in consequence we shall expect to secure the attendance of a large number of the leading scientists of India, we shall, of course, utilise the opportunity to read and discuss papers of general interest and outstanding merit. We do propose, therefore, on these occasions to give an opportunity to scientists to read papers, and we have, as you know, several papers of high quality offered for reading at the first Ordinary General Meeting of this Institute to be held tomorrow.

An annual review of the progress of science in India: In addition, we propose to resuscitate in a different form the labours of the Board of Scientific Advice by publishing annually a review of the progress of science in India. Our reviews will, however, differ from those published by the Board of Scientific Advice, in that they will take account not only of the labours of scientists employed in Government services, but also of unofficial scientists throughout India.

Consolidated Comptes rendus or Proceedings of Academies: Another matter that is of serious concern to scientists is the increasing number of new scientific journals, so that it is becoming increasingly difficult for any worker in science to keep up with the progress in the branch of science in which he is more particularly interested. From the point of view of a scientist in a particular science, specialist journals are the most convenient, and to this extent those published by bodies of Academy status must be regarded as a source of inconvenience, in that they contain papers on all branches of science that might have been allocated to the respective specialist societies. We all agree, however, that such specialist distribution carried to completion is undesirable, and that in order to facilitate intercourse between men of different sciences, bodies of the Academy type are necessary. It is obvious, therefore, that we require some means by which the productions of all the Academies may be made conveniently accessible to all workers of science in India. For this reason it has been agreed that one of the duties of the National Institute will be to issue a consolidated *Comptes rendus* or *Proceedings* containing summaries of the papers read before all the three co-operating Academies. I can imagine that later it may be asked why we confine our activities to papers read before Academies only, and I can foresee as a development that eventually it may prove desirable to include also summaries of papers published in specialist scientific societies, and in this way to produce a consolidated *Comptes rendus* of all papers read before both Academies and specialist societies in India.

Symposia: Although normally scientific research is severely specialized, so that scientists tend to work in water-tight compartments, yet every science has its borders where it touches one or more other sciences, so that there are fruitful fields or, shall we say, gardens, of possible co-operation along these boundaries. It is, therefore, sometimes suitable and desirable to promote special meetings for the purpose of arranging discussions, by scientists of allied sciences, of problems of joint interest. These discussions are usually known as *symposia* (literally *drinkings together*) and it has been agreed that the arrangement of symposia may be regarded as one of the functions of the National Institute.

A reservoir of scientific knowledge and experience: Another aim of our Institute is to provide a reservoir of knowledge and experience in all branches of science available for application to the study of scientific problems connected with the general welfare of the country. We have not yet worked out our machinery for this: but one possibility is that we may group our Fellows into Committees according to their sciences and that to such Committees the Council will refer special problems for their advice. This means that should Government or any other organization require advice upon problems of scientific interest, they will be able to rely upon securing the best opinion available in India.

Liaison with Letters: You will remember that in accordance with the resolutions passed in Bombay last January one of our purposes should be 'to promote and maintain a liaison between men of science and men of letters'. The Academy Committee decided during the year that our first task must be to found an organization devised specifically to suit the needs of scientists and that the question of providing for this liaison with letters must be left for the future. You will, I hope, all agree with me on the great desirability of ultimately effecting such a liaison, which would be brought about ultimately if my visions of National Institutes of Arts and Letters co-operating with our National Institute of Sciences of India should come true. For the present we may consider that the desired liaison has been effected in an indirect way by the fact that one of the Academies co-operating with the National Institute, namely the Asiatic Society, is an Academy both of sciences and of letters.

Management of funds for scientific research: The fifth purpose for which a new organization was desirable was to 'secure and manage funds and endowments for scientific research'. Upon this point I now wish to speak. Since we have decided upon a limited Fellowship and have also made our subscriptions moderate, it follows that the income derived from Fellows' subscriptions alone will not be sufficient to enable the National Institute to carry out in full the purposes for which it has been founded. We hope, therefore, that the Government of

India, and perhaps the provincial Governments, will prove to be in sympathy with the aims and objects of our Institute and that they will realize that this organization has been founded for the general benefit of science in India, and that, consequently, they will be prepared to contribute towards our financial resources. Apart from the funds required for the continuously recurring needs of the National Institute, we shall also be prepared to administer funds presented by men of wealth and position either in aid of the general business of the National Institute, or for the endowment of specific items or branches of research; and the Treasurer will be very glad to receive any donation, however large or however small, either towards the general funds of the Institute, or specifically designated for particular purposes. It is desirable that, as far as possible, contributions should be to the general funds until the finances of the Institute have been placed on a secure footing.

Choice of headquarters of the National Institute: The next point to mention is the choice of the headquarters of our National Institute. This question has been the cause of much discussion and as long as the position of the new organization with reference to existing societies was not clearly defined or understood there was bound to be jealousy and anxiety on this point. Past history and present facts point obviously to Calcutta. But had our new society been another Academy in the sense used in this address, I should not have advocated the selection of Calcutta as its headquarters, for there is no room for two Academies of similar aims in one city. Another possibility, and one which was briefly considered, was that of establishing the headquarters of the new body at Delhi, the official capital of India. The total number of scientists resident at Delhi, however, seemed to render this undesirable. The third possibility was an amalgamation with the newly established Academy of Sciences at Bangalore; but this became clearly inadvisable once it was realized that there were already two other Academies of Sciences in India with claims prior to those of the Academy founded at Bangalore. The fourth possibility was for the National Institute to function as a peripatetic body with its headquarters moving every two years according to the change of President. This possibility was considered, but the Academy Committee decided that business requirements and the best interests of the Institute necessitated that the headquarters should be located definitely in one particular centre of research. Our provisional rules do not name any place as the headquarters and there is nothing in them to prevent a change of headquarters at any time should the interests of the National Institute render this desirable. Meanwhile, convenience and common sense appeared to require that we should, to begin with, locate the office of the Institute in Calcutta. Once concord had been established with Bangalore Sir C. V. Raman himself suggested that this was obviously the logical and correct course to follow. We have accordingly decided to start in Calcutta, but in accordance with the statement made to our Foundation Fellows in our note on the aims and objects of the National Institute, we propose during the first year to take the opinion of our Fellows on this point. If they confirm that the Academy Committee is correct in selecting Calcutta as headquarters they will make a decision in accordance with the course of scientific development in India, recognizing that although the Government of India has moved from Calcutta to Delhi, yet it has left behind in Calcutta the headquarters of several of its scientific services, and that on this account, and because of the size of Calcutta with its numerous other scientific institutions, Calcutta is by far the largest centre of scientific research in India. For the present, at least, it appears that it is in the best interest of science that the National Institute should commence work in Calcutta.

As we have decided to make a commencement in Calcutta the Asiatic Society of Bengal has generously offered to provide us with office accommodation; and also to permit us to meet in Council and to hold ordinary meetings of our National Institute as necessary in the rooms of the Asiatic Society of Bengal. In making this offer the Asiatic Society preserves its traditional position as the mother of the development of science in India. We hope also that the Government of India will assume towards our National Institute its traditional position as father by providing suitable funds. For I hope you have realized from my address that the Asiatic Society of Bengal and the Government of India between them are the mother and father of the development of scientific research in India.

Conclusion

It is now appropriate that I should, on behalf of the National Institute thank His Excellency Sir John Anderson, the Governor of Bengal, for honouring us with his presence here to-day and for inaugurating our National Institute. It is well known to many of you that Sir John Anderson had a scientific training, and it is clear that had he not devoted his great abilities to administration and had he instead embarked upon the normal career of a worker in science he must have attained to a position of high distinction in the scientific world. It is very appropriate, and we are very fortunate, that our National Institute has been inaugurated by an administrator of scientific training. The date selected for our Inaugural Meeting has proved too late to render possible the presence of members of the Government of India, but I have received personally friendly messages of good wishes for the success of our National Institute from Sir Fazl-i-Husain, Sir Frank Noyce, and Sir James Grigg. I have also received expressions of goodwill from three of our most senior Fellows, namely Sir J. C. Bose, Sir P. C. Ray and Sir Martin Forster.

In opening this address I expressed my appreciation of the great honour done to me in asking me to be the first President of the National Institute. In this address I have reviewed the development of science in India during the present century starting really with the formation of the Board of Scientific Advice in 1902. As I myself arrived in India in the same year my long service has coincided with the developments discussed in this address. My service is now rapidly approaching its completion, and I take, therefore, this opportunity to say how glad I am to have served in India long enough to take part in the foundation of this National Institute, an organization that appears to me the logical outcome of the attempts during this century to bring men of all sciences back to a common fold, in counteraction to the fissiparous tendencies caused by the general advancement of science in India, with the resultant formation of so many new bodies—services, societies, universities, and research institutes—devoted to the specialized study

of science. Indeed, I hope that in the future, sooner or later, you will succeed in bringing about an effective liaison between science and letters and if, as seems logical, your Fellows decide to confirm Calcutta as the headquarters of our National Institute, and to accept the friendly offer of the Asiatic Society of Bengal, I can picture that one day when National Institutes for Arts and Letters have also been founded, the historic and beautiful building, No. 1, Park Street, which will in any case eventually need rebuilding, will be replaced by a more commodious and comprehensive edifice designed to house not only the Asiatic Society of Bengal, but also the National Institute of Arts, Science and Letters, with accommodation also for All India Societies either of Arts, Letters or Science, the headquarters of which are in Calcutta, and forming thus a magnificent palace of learning in Calcutta equivalent to Burlington House in London. This, I know, is a vision; but because the vision is both logical and possible of fulfilment, it shows that the design of our National Institute of Sciences is on the right lines and that the position allocated to our Institute in the scheme of scientific things in India is the correct one.

Council for 1935

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L. L. Fermor

Vice-President
H J. Couchman
B. Sahni

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S. L. Hora

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M. N. Shaha

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S. K. Mitra
J. N. Mukherjee
C. W. B. Normand
C. V. Raman
J. Taylor
S. S. Sokhey
C. G. Trevor
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Foundation Fellows

S. P. Agharkar
Nazir Ahmed
S. L. Ajrekar
K. Ananda Rao
W. C. Ash
P. R. Awati
G. N. Ayyangar
K. D. Bagchee
K. N. Bahl
A. C. Banerji
S. K. Banerji
C. F. C. Beeson
O. A. R. Berkeley-Hill
T. P. Bhaskara Shastri
S. S. Bhatnagar
D. R. Bhattacharya
D. M. Bose
G. S. Bose
J. C. Bose
S. N. Bose
U. N. Brahmachari
W. Burridge
B. C. Burt
C. C. Calder
H. G. Champion
Haraprasad Chaudhuri
R. N. Chopra
S. D. Chowla
H. J. Couchman
Kedarnath Das
R. H. Dastur
B. B. Dey
N. R. Dhar
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T. Ekambaram
P. Evans
L. L. Fermor
M. O. Forster
J. Gilbert Fowler
C. S. Fox
S. L. Ghose
J. C. Ghosh
P. N. Ghosh
E. A. Glennie
F. H. Gravely
B. S. Guha
J. R. Haddow
C. V. Hanumantha Rao
A. M. Heron
S. L. Hora
M. Afzal Husain
J. H. Hutton
M. O. P. Iyengar
L. K. Ananthakrishna Iyer
S. N. Kapur
C. A. King
R. Knowles
P. K. Koshy
S. Krishna
K. S. Krishnan
K. V. A. Krishnan
G. S. Mahajani
P. C. Mahalanobis
K. K. Mathur
M. A. George Mathai
P. S. McMahon
H. R. Mehra
K. C. Mehta
E. P. Metcalfe
S. K. Mitra
P. C. Mitter
M. A. Wali Mohammad
R. N. Mookerjee
F. N. Mowdawalla
M. A. Syamadas Mukerji
J. N. Mukherjee
K. G. Naik
A. L. Narayan
C. W. B. Normand
A. Olver
R. P. Paranjpye
P. K. Parija
D. Penman
H. P. Philpot
E. S. Pinfold
M. A. Ganesh Prasad
Baini Prashad
H. S. Pruthi
Muzaffaruddin Qureshi
C. V. Raman
K. R. Ramanathan
C. R. Narayan Rao
B. Rama Rao
P. C. Ray
P. R. Ray
R. Row
S. C. Roy
T. Royds
M. N. Saha
B. Sahni
B. M. Sen
H. K. Sen
N. R. Sen
N. N. Sengupta
F. J. F. Shaw
B. K. Singh
J. A. Sinton
S. S. Sokhey
E. Spencer
A. D. Stewart
V. Subrahmanyan
J. Taylor
T. S. Tirumurti
C. G. Trevor
T. S. Venkataraman
B. Venkatesachar
T. Vijayaraghavacharya
T. Vijayaraghavan
B. Vishwanath
D. N. Wadia
F. Ware
W. D. West
T. S. Wheeler
E. A. Wraight

Indian National Science Academy (formerly the National Institute of Sciences of India)— Presidents and Years of office

L. L. Fermor
(1935–36)

M. Saha
(1937–38)

R. N. Chopra
(1939–40)

B. Prasad
(1941–42)

J. C. Ghosh
(1943–44)

D. N. Wadia
(1945–46)

S. S. Bhatnagar
(1947–48)

S. N. Bose
(1949–50)

S. L. Hora
(1951–52)

K. S. Krishnan
(1953–54)

A. C. Ukil
(1955–56)

P. C. Mahalanobis
(1957–58)

S. K. Mitra
(1959–60)

A. N. Khosla
(1961–62)

H. J. Bhabha
(1963–64)

V. R. Khanolkar
(1965–66)

T. R. Seshadri
(1967–68)

Atma Ram
(1969–70)

B. R. Seshachar
(1971–72)

D. S. Kothari
(1973–74)

B. P. Pal
(1975–76)

Raja Ramanna
(1977–78)

V. Ramalingaswami
(1979–80)

M. G. K. Menon
(1981–82)

A. K. Sharma
(1983–84)

C. N. R. Rao
(1985–86)

A. S. Paintal
(1987–88)

M. M. Sharma
(1989–90)

P. N. Tandon
(1991–92)

S. K. Joshi
(Present President)