been, since the beginning of the undertaking, acting as the regional bureau for the United States and is, through the aid of a small governmental grant, collecting, indexing and classifying the scientific works published in this country. At the present time about thirty thousand classified references are being sent by the Smithsonian Institution each year to the London Central Bureau, and as the small congressional allotment only justifies the employment of a limited force to carry on the work this number represents practically the limit of the output of the bureau as at present constituted. The literature of each year since 1901 is gradually being filled in and when done will constitute a complete and permanent record of scientific work. That no paper of any importance might be omitted a most systematic routine is carried on of which a complete and permanent record is kept. For the regularly appearing periodicals a list of titles is kept and as soon as a number or part is indexed records are made of the fact, first under the title of the publication, then in an author's record, together with a complete copy of all data abstracted. By regularly going over these records any omission in a volume or part of a volume is apparent and the omission made good. For collecting books, pamphlets and separately appearing publications a variety of methods are resorted to; all the principal bibliographical lists are consulted, the *Publishers' Weekly* is regularly checked up, as are the following works: The Catalogue of Public Documents, proof sheets of the Library of Congress catalogue cards, the Experiment Station Record and various list of publications, such as those of the Carnegie Institution, the various colleges, the bureaus of the United States government.

The Smithsonian Institution is supposed to receive all scientific periodicals published in this country and its daily mail furnishes a great part of the material indexed. By means of these methods every published paper, coming within the scope of the catalogue, is almost certain at some time to come to the notice of the indexers for the catalogue. As similar or equivalent systems are used in the other regional bureaus in dealing with foreign scientific literature, it would appear difficult for any paper worthy of notice to escape this international drag-net now so systematically used to provide for the needs of the modern scientific investigator.

Leonard C. Gunnell,
Smithsonian Institution,
Washington, D. C.,
June 11, 1908

The Indian Institute of Science[1]

After negotiations and preparations extending over several years, the Indian Institute of Science is about to come into existence. Intelligence received by the last Indian mail states that Lord Minto, as patron of the institute, has appointed a provisional committee to conduct its affairs until the properties with which the institute is endowed can be vested in the constituted authorities. The committee has already met, and the construction of the institute buildings is to be commenced at once.

The institute owes its inception to the munificence of the late Mr. Jamsetji Nusserwanji Tata, a Parsi merchant and mill-owner of Bombay, who did much for the development of various Indian industries and started the scheme for the great iron and steel works now in course of erection at Sini. He wished to encourage the pursuit of science among young Indians, with special reference to the utilization of the country's resources, and thought the best plan would be the establishment of a large and well-equipped institution for post-graduate work. To this end he decided to allot a considerable portion of his ample fortune, in the shape of property at first calculated to produce Rs.125,000 (about £8,333) annually, though it is believed to have since appreciated in value. Unexpected difficulties were, however, experienced at the outset. Institutions of the kind in various parts of the world were first studied by special representatives, and it was sought to adapt their principal features to Indian requirements. Then the selection of a suitable site was a matter that took years

[1] From the London *Times*.

to decide. The city of Bombay was anxious to have the institute in its midst, or on the adjacent heights of Trombay, but experts advised that the climate was not suitable for delicate scientific work. Sir William Ramsay visited India, on the invitation of Mr. Tata, to assist him in his decision, and to advise concerning the character of the scheme. Professor Masson, of Melbourne, and Colonel Clibborn, Principal of Rurki College, prepared tentative plans and estimates. Ultimately, owing largely to the generosity of his Highness the Maharajah of Mysore, it was decided to build the institute at Bangalore, which has an agreeable and temperate climate. The Maharajah, on the advice of his late enlightened Dewan, Sir Seshadri Iyer, not only offered free a valuable site half a mile square for the institute and its grounds, but agreed to make an annual grant of Rs.50,000 (about £3,333) towards its maintenance. The cooperation of the government of India was an essential feature of the scheme. It was always recognized that the liberal provision offered by Mr. Tata would not, even with the aid of the Mysore grant, suffice for the cost of upkeep. The government was therefore asked to make an annual contribution. So long has the scheme been under consideration that almost the first duty undertaken by Lord Curzon on his arrival in India as Viceroy was a discussion of the matter with an influential deputation. Eventually the annual grant of the government of India was fixed at Rs.87,500 (about £5,833). Before the transfer of the property was completed Mr. Tata died somewhat suddenly at Nauheim. His two sons, who were his heirs, immediately announced their decision to carry out their father's wishes. As the property was in real estate, there were interminable legal delays, but these are now at an end. The cost of the buildings and equipment had, however, still to be provided. Towards this purpose the government of India has contributed Rs.250,000 (about £16,666), and the Maharajah of Mysore Rs.500,000 (about £33,333). The building is expected to cost Rs.1,100,000 (about £73,333), and the balance will be obtained from the surplus income already accumulated. By the late Mr. Tata's express wish, his name will not be associated with the institute.

On the advice of Sir William Ramsay, Dr. Morris W. Travers, F.R.S., who was formerly on the staff of University College, Bristol, was appointed director of the institute, and arrived in India about eighteen months ago. He has since been busily engaged in work connected with the undertaking, which is now primarily under his control. Sir Herbert Risley, on behalf of the government of India, has been closely associated with the various stages of development. Some members of the staff have been already appointed and have taken up residence at Bangalore. The site of the institute is about three miles from the center of the station, and is 3,080 feet above sea-level. It commands a view of one of the most beautiful pieces of undulating country in southern India, and the Maharajah has ceded jurisdiction over the site to the imperial government. The architect selected is Mr. Charles F. Stevens, whose father designed the Victoria terminus at Bombay and many other famous buildings in India.

The chief work of the institute will be the establishment of departments of pure and applied science, and students who have passed through the Indian universities will be trained so that they may apply science to the Indian arts and industries. It will be in no sense a "trade school." Though there will be no undergraduate side at present, it is expected that this may ultimately become a necessity, as has been the case with some post-graduate institutions in America. Even as it is, most of the Indian students entering the institute will first have to go through a course of practical instruction before commencing research. Private workers requiring accommodation for the purpose of investigating new products or processes, or actuated by a desire to carry out scientific research, will be received. Six departments are to be established, each with a professor and assistant professors. The director will occupy the chair of pure chemistry, and a professor of applied chemistry has

already been selected. In view of the importance of vegetable products in India, there will also be a chair of organic chemistry. The nearness of the great Cauvery power works, from which a supply of electricity at high tension will be obtained, has led to the decision to open a department of electrical technology. There will also be a chair of bacteriology, and, though the sixth department has not yet been finally decided on, it may be a chair of metallurgy or electrometallurgy. A large sum is being allotted for the creation of a library. Probably sixty students will be admitted to the institute in the first two or three years, and a few students in chemistry may be at work by the end of the present year, when temporary laboratories will become available.

The question of suitable openings for students of the institute causes no anxiety among those responsible for its direction. It is believed that the supply of well-trained scientific men will create a demand. There is already a certain demand in India for chemists in sugar works and similar concerns, and also for analysts in metallurgical enterprises. The demand for electrical engineers is growing rapidly. Dr. Travers states, however, that "it is not so much in industries which are already flourishing, but in nascent industries."

THE ORDER OF THE CONTENTS OF "SCIENCE"

With the present issue of Science, which opens the twenty-eighth volume of the new series and the fifty-first volume of the journal, a change is made in the arrangement of the contents. It may be explained that this is done in order that the number may be paged more quickly and conveniently. To fill the pages exactly certain of the items under "Scientific Notes and News" must be adjusted to fit. When these notes are at the end of the number, it must be paged until they are reached. Placing them in the middle of the number permits making up the forms by starting at the same time from the beginning and the end. The proceedings of Scientific Societies and Academies, which will hereafter be placed at the close of the number, will be printed in smaller type, in order that this department may represent as completely as possible the increasing activity of the scientific societies of the country. Finally, this opportunity may be used to remind subscribers that those who wish to receive their copies of Science with the pages trimmed should write to the publishers to that effect.

SCIENTIFIC NOTES AND NEWS

Dr. Adolf Meyer, director of the Pathological Institute of the New York State Hospitals, has accepted a professorship of psychiatry in the medical department of the Johns Hopkins University, and the directorship of the Psychiatric Hospital and Clinic, recently founded by Mr. Henry Phipps.

Harvard University has conferred its doctorate of laws on Dr. Charles R. Van Hise, president of the University of Wisconsin, and its doctorate of science on Dr. W. C. Gorgas, member of the Isthmian Canal Commission and this year president of the American Medical Association.

The University of Wisconsin has conferred its doctorate of laws on Professor Calvin M. Woodward, dean of the School of Engineering of Washington University, St. Louis, and on Dr. Frederick Belding Power, director of the Wellcome Research Laboratory, London, and formerly professor of pharmacology in the University of Wisconsin.

Yale University has conferred its doctorate of science on Dr. Graham Lusk, professor of physiology in the University and Bellevue Hospital Medical School, New York, and formerly professor in Yale University.

Amherst College has conferred its doctorate of laws on William Bullock Clark, professor of geology in the Johns Hopkins University.

Trinity College has conferred its doctorate of laws on Dr. James Ewing Mears, professor in the Jefferson Medical College, Philadelphia, and its doctorate of science on Dr. Andrew Ellicott Douglass, professor of physics and astronomy in the University of Arizona, and on