

ENGLISH journalists state that the British Institute of Industry and Science, acting in cooperation with the British Empire Exhibition Association, is promoting on a wide scale an exhibition of the national resources of the empire, which will be opened at the beginning of next year in a handsome building to be erected on the Aldwych site, where the existing offices of the institute are situated. The purpose of the exhibition is to demonstrate to the public, as well as to manufacturers and industrialists, the potentialities of the empire as contained in its natural resources. The various dominions and colonies are cooperating in the scheme, and each colony will, with the advice of the central body, organize its own particular section of the exhibition. The cost of the project will be about £50,000, which has been provided for through the generosity of the directors of the institute. The exhibition will, it is expected, remain open during the whole of next year.

UNIVERSITY AND EDUCATIONAL NEWS

THE Medical College of the University of Cincinnati has received several large donations during the past month. Mrs. Mary M. Emery promised the university the sum of \$250,000 for a new Medical College Building, on the condition that an additional \$250,000 be raised by July 1 for its equipment and maintenance. At the appointed time, Dean C. R. Holmes, of the College of Medicine, announced that \$250,000 had been secured. The new structure will be located on grounds adjacent to those of the Cincinnati General Hospital, which occupies 24 buildings and covers 27 acres, and which offers unusual opportunities for clinical instruction. The sum of \$30,000 has just been raised by citizens of Cincinnati for the purpose of maintaining for three years a chair of medicine in the Medical College. The chair will be known as the Frederick Forchheimer chair of medicine, in honor of the late Dr. Frederick Forchheimer, who was for years professor of medicine at the Medical College. Dr. Robert S. Morris, lately of Clifton Springs, New York, and formerly of Ann Arbor and of Johns Hopkins University, has been appointed to the new position.

ON June 8, during the commencement week at De Pauw University, the corner stone of the new Bowman Memorial Gymnasium was laid with appropriate ceremonies. The building will cost over \$100,000.

THE new Honan Biological Institute at University College, Cork, has been completed, as we learn from the *British Medical Journal*, owing to the generosity of the trustees of the estate of the late Miss Honan, and forms a handsome group of buildings, situated near the plant houses which were the gift of the late William Crawford, of Lakelands. The biological laboratory was a small building, much too cramped for the teaching of the students, much less for the research work which has always been a feature of the college. In the new building ample room has been provided for the study of zoology, botany and geology. There are junior and senior zoological and botanical laboratories, as well as research rooms, geological and geographical laboratories, and a large semicircular lecture theater, lit from the roof, and capable of accommodating about 100 students.

THE summer session of the University of California for 1915 by June 30, nine days after the beginning of the six-weeks term, had enrolled 5,420 students, which was more than 2,000 more than on a corresponding date the year before and which was only 52 less than the largest total registration at any one time in the academic colleges and graduate school for the fall or spring sessions excluding students in the professional colleges.

AMONG instructors appointed at the Massachusetts Institute of Technology are: Barnum B. Libby and George Rutledge, mathematics; Walter A. Patrick, theoretical chemistry; Clark S. Robinson and Frederic H. Smyth, inorganic chemistry. Promotions include: Robert P. Bigelow, associate professor of zoology and parasitology; W. Felton Brown, associate professor of freehand drawing; Harold A. Everett, associate professor of naval architecture; Henry B. Phillips, assistant professor of mathematics; Kenneth C. Robinson and Geo. H. Clark, instructors in mechanical engineering; John E. Bird, instructor in mechanical

drawing and descriptive geometry; Leicester F. Hamilton, instructor in analytical chemistry, and Ruth M. Thomas, research associate in organic chemistry.

DR. WARD J. MACNEAL has been appointed director of laboratories of the New York Postgraduate Medical School and Hospital, succeeding Dr. Jonathan Wright, resigned. Dr. Morris Fine has been promoted to adjunct professor of pathologic chemistry; Dr. Richard M. Taylor, to adjunct professor of pathology and Paul A. Schule, to a lectureship of bacteriology.

MR. R. H. BOGUE, for three years instructor in chemistry in the Massachusetts Agricultural College, has accepted a position as assistant professor of agricultural chemistry at the Montana Agricultural College. His place in the Massachusetts College has been filled by the appointment of Paul Serex.

DR. F. D. FROMME, formerly of the botany department of the Indiana Agricultural Experiment Station, has been appointed to the professorship of plant pathology and bacteriology in the Virginia Polytechnic Institute.

GUY WEST WILSON, formerly agent, U. S. Laboratory of Forest Pathology, stationed at the Agricultural Experiment Station, New Brunswick, N. J., has been appointed assistant professor of mycology and plant pathology, State University of Iowa, Iowa City, Iowa.

DISCUSSION AND CORRESPONDENCE

NOTE ON THE MERIDIONAL DEVIATION OF A FALLING BODY

Introductory Remarks.—Various definitions have been given for the meridional deviation of a falling body and various potential functions have been assumed in the mathematical determination thereof. It is therefore perfectly natural that the results found by different writers on the subject do not agree. However, when once the equations of motion of the falling body, the definition of the deviation, and the potential function have been fixed, the solution of the problem is unique.

¹ *Transactions of the American Mathematical Society*, Vol. XII., pp. 335–63, *ibid.*, Vol. XIII., pp. 469–90.

In 1911¹ I published a general formula for the meridional deviation which included as special cases the apparently discordant formulae of several other writers. This was possible because my formula could be broken up into parts which corresponded to different kinds of meridional deviation, and also because it was expressed in terms of the symbol representing the potential function, which symbol, when replaced by particular forms of this function, made it yield the results of the writers who had used these particular forms. In 1913² Dr. R. S. Woodward treated the problem using the equations of motion, the definition of the deviation and one of the potential functions which I had used. Therefore he should have obtained the result which I did for that potential function provided my solution was correct. But he got a different result. This lack of agreement was the means of interesting Professor F. R. Moulton in the problem. In June, 1914, Professor Moulton published an article³ in which he solved the problem treated by Dr. Woodward and his result was the same as mine. Shortly after the appearance of Professor Moulton's article, I published a paper⁴ (which, however, was prepared at the same time as Professor Moulton's, and independently of it) showing that Dr. Woodward's methods, when applied to his initial assumptions, should lead to my results. In reply to Professor Moulton's article and my last paper, Dr. Woodward has just published a note⁵ in which he states that he did not solve the problem which Professor Moulton and I had solved. The present article is my reply to this note.

Granting that "two different problems have actually been solved," I will show that this is so because Dr. Woodward has not solved the

² *Astronomical Journal* (Nos. 651–52), August 4, 1913.

³ "The Deviations of Falling Bodies," *Annals of Mathematics* (Second Series), Vol. 15, pp. 184–94, June, 1914.

⁴ "Deviations of Falling Bodies," *Astronomical Journal*, Nos. 670–72, pp. 177–201, January 22, 1915.

⁵ "Note on the Orbits of Freely Falling Bodies," *SCIENCE*, New Series, Vol. XLI., No. 1057, pp. 492–95, April 2, 1915.