

application to medical science; and the Prize of Hungary, instituted to commemorate the sixteenth Congress of 3,000 crowns, will be given for a notable piece of work in medical science which has appeared in the interval since the last congress. Nominations of candidates for these prizes are invited before June 1, 1913, and should be sent, together with examples of the work on which the candidacy is based, to the Bureau de la Commission permanente des Congres internationaux de medicine, Hugo de Grootstraat 10, The Hague.

THE Southern Society for Philosophy and Psychology will hold its eighth annual meeting at the Johns Hopkins University, Baltimore, on April 8 and 9.

THE annual meeting of the American Breeders' Association was held at Columbia, South Carolina, in affiliation with the National Corn Exposition, January 24-27, 1913. As usual in recent meetings of this association, the work of the eugenics section was especially prominent. Dr. Charles B. Davenport's evening lecture to the citizens of Columbia on eugenics and the colored race was received with interest. He gave a general view of the difficulties brought about by the blending of the unit characters of two races so radically different. A feature of the work of the plant section was a visit to the state experiment station booths at the National Corn Exposition, which is really a national farm crops exposition. A plant-breeding expert in each of nearly a dozen states received the association at his booth and with samples at hand told of one or more varieties of corn, wheat, sugar cane, or other crop which had been materially improved by the state experiment station and had come into wide commercial use in the state. In each case the method of breeding used in producing the new variety, the percentage of increase it produced over the varieties it is displacing and the acreage covered throughout the state were given. For example, a variety of sugar cane in Louisiana was said to now occupy half the sugar cane area of that state with a yield of canes ten per cent. above the yields of varieties it displaced and with a percentage

of sugar in these canes ten per cent. above the old averages. Nearly similar increases were shown in varieties of wheat in Minnesota and Washington, varieties of corn in Indiana, Illinois and other states and varieties of cotton in South Carolina and other southern states.

UNIVERSITY AND EDUCATIONAL NEWS

By the death in Wallingford, Conn., of Joseph Lyman, Yale University will receive \$650,000. He held the life use of that sum which was willed to the college by his brother, Samuel Lyman, who died in 1910.

BOTH houses of the legislature of the state of Washington recently adopted the biennial budget submitted by the joint appropriations committees. The University of Washington will receive \$1,004,701. The matter of the replacement of the temporary university buildings by adequate modern structures has been submitted to the legislature separately.

THE recently adjourned legislature of West Virginia gave larger appropriations to the state university than in any previous year. Among others was a special appropriation for the medical work to make it possible to follow out the plans outlined by the committee from the Association of American Medical Colleges.

THE Indiana legislature has made an appropriation of \$65,000 for the medical school and hospital of the Indiana University School of Medicine for the first year, and an annual appropriation of \$75,000 thereafter.

FUNDS have been provided at Columbia University to build a laboratory for the study of cancer under the George Crocker research fund. This fund amounts to over one and one half million dollars, and it was provided that the income should be used solely for research work. The laboratory, which will be 100 by 40 feet and three stories high, will be on the block east of Amsterdam Avenue on 116th St.

THE clinical and laboratory building of the Stanford University Medical Department in San Francisco has recently been remodeled at an expense of about \$40,000. This large building was formerly used by Cooper Medical Col-

lege and had in it, besides the Lane Hall, a number of amphitheatres and lecture rooms, and the Lane Medical Library. With the removal of the Lane Medical Library to its new building across the street and with the shifting of laboratories and the rearrangement of the space formerly occupied by Lane Hall, considerable additional space has been gained for the outpatient clinics and laboratories. The lower floor of the building is devoted entirely to the surgical outpatient clinic, the surgical specialties and the history room and drugstore, the second floor to the medical outpatient clinic and the clinics of pediatrics, neurology and dermatology. The three upper floors are devoted to the pathological museum and the laboratories of experimental medicine, pathology, pharmacology and experimental surgery. Reading rooms have been provided for the students in close connection with the clinical laboratory. This laboratory and the outpatient department are separated by only a short corridor from the clinical wards of Lane Hospital so that both in- and outpatient material is equally available for purposes of teaching. The front part of Lane Hall has been converted into a modern amphitheater suitable for demonstrations. About 12,000 patients were received by the outpatient department during the past year with a total number of visits of over 60,000.

A BILL to establish a college of medicine and dentistry at the Ohio State University is now before the state legislature and has passed the senate. If it becomes a law, the Starling Ohio Medical College of Columbus will be transferred to the state and become the basis of the new college.

CAPTAIN C. E. MARSH, U. S. N., has made public the details of the plan for giving a number of college undergraduates an opportunity to take a summer cruise on some of the navy vessels and thus to familiarize themselves with life on board ship and fit themselves to become members of a sort of naval reserve. The college students will be assigned in squads of 20 to each ship, and as far as possible men from the same college will be kept together.

THE Prussian minister of education has announced that fees at Prussian universities for foreign students will be doubled. Russian students will hereafter be required to be graduates of gymnasia. There has been agitation in Germany recently in regard to foreign students, the University of Munich having limited the number to three per cent. There are at present 5,196 foreigners studying at the German universities, of whom 338 are Americans.

THE 126th anniversary of the granting of the first charter by the legislature of Pennsylvania was celebrated by the University of Pittsburgh on Friday, February 28, 1913. The addresses were given by Provost E. F. Smith, University of Pennsylvania, President E. E. Sparks, State College, and President W. H. Crawford, Allegheny College. The honorary degree of doctor of science was conferred upon John Price Jackson, dean of the School of Engineering, State College.

DEAN F. F. WESBROOK, of the medical school of the University of Minnesota, has resigned to accept the presidency of the University of British Columbia. Dr. Westbrook, who is a Canadian, has been largely responsible for the development of the medical school of the University of Minnesota and its recent reorganization.

PROFESSOR FREDERICK H. SYKES, director of the School of Practical Arts in Teachers College, has resigned in order to accept the presidency of the new Connecticut College for Women at New London.

DR. FREDERICK E. BOLTON has been elected dean of the new college of education at the University of Washington. Professor Bolton was called to the University of Washington last year from the University of Iowa, where he was director of the school of education.

THE fact that Professor E. B. Greene resigned his position as dean of the College of Literature and Arts of the University of Illinois when he took leave of absence last year, has been made public. The reason Professor Greene gives for resigning is that he did not desire the administrative work in connection with the office. At the time of the resigna-

tion, Dr. Arthur Hill Daniels, professor of philosophy, was appointed acting dean. Dean Daniels' appointment is to remain effective until something definite shall be done in regard to the proposed combination of the College of Literature and Arts, and the College of Science.

MR. C. SHEARER, M.A., Clare College, Cambridge, has been appointed university lecturer in zoology.

DR. CONSTANTIN CARATHÉODORY, of the Technical Institute at Breslau, has been appointed professor of mathematics at Göttingen as successor to Professor Felix Klein.

DISCUSSION AND CORRESPONDENCE

RELATIVITY IN ELECTROMAGNETIC INDUCTION

IN SCIENCE of January 17, 1913, S. J. Barnett adduces a certain experiment as constituting an *experimentum crucis* showing that complete relativity does not exist in electromagnetic induction. The experiment is certainly an interesting one, but on closer examination does not seem to be so definitely in contradiction to the principle of relativity as may appear at first sight.

For discussion let us consider the following simple form of experiment which illustrates the same principles. Take a cylindrical magnet magnetized longitudinally and symmetrically about its axis, and mount it in the axis of a somewhat larger cylindrical metal tube, with air or other dielectric between insulating one from the other, and forming a cylindrical condenser. Connect the two by a metal brush or cross-connection reaching radially across from the tube to the middle of the magnet. Now if the whole system considered as rigidly connected is spun around its axis of figure there will of course be induction and a difference of potential established between the magnet and the outer tube, and if the brush connection be broken while the system is in rotation, on bringing the whole to rest the condenser, consisting of tube and magnet, will be found charged.

So also when the tube alone is rotated while the magnet is kept at rest, a difference of

potential is established, provided the metal connecting brush rotates with the tube. Or if the magnet is rotated and the tube kept at rest experiment shows the inductive effect to be the same if only the cross-connection rotates with it. And finally if both magnet and tube are kept at rest while the cross-connection alone is rotated about the axis of the system the observed effect is the same.

On the other hand, no inductive action is observed when tube or magnet or both together are rotated so long as the connecting brush is at rest.

The motion of the cross-connection is thus the determining factor, but relative to *what*? Must not any effect *that we can observe* be due to motion *relative to the apparatus and connections by which the inductive action is tested*.

Of course the induction may be conceived as due to motion relative to coordinates fixed in the ether or in space, and the effect would then depend on the direction of the axis of the magnet relative to the earth's axis, and the rotational velocity of the earth, and on its translational velocity in space. But even in that case the inductive action which also takes place on the system by which the effect is tested, in consequence of its motion in space, may be expected to be such that no inductive action could be *observed* except in case of such relative motion as is specified above.

For so long as the cross-connection and the testing apparatus by which the effect is to be observed are at rest relative to each other no change in the magnetic flux through the circuit will be produced by any rotation of the whole system about the axis of the magnet.

It appears therefore that if the testing apparatus rotates about the axis of the magnetic field at the same rate as the cross-connection between magnet and tube, no charge will be found, while if it rotates with an equal angular velocity in the opposite direction the charge found will be twice as great as if it were at rest.

If these statements are in accordance with the experimental facts, as I believe them to be, then such an experiment can afford no infor-