tiquities;' Mr. R. Lydekker, on 'Fur-Bearing Animals;' Mr. H. B. Walters, on 'Greek Art;' Mr. J. Pentland Smith, Mr. Botting Hemsley and other well-known writers, on 'Botany;' and Mr. G. F. Hill, on 'English and Italian Medals and Coins.'

UNIVERSITY AND EDUCATIONAL NEWS.

THE BUILDING FOR PHYSICS AT THE UNIVERSITY OF KANSAS.

FRIDAY, November 22d, a building was dedicated to the work in physics and electrical engineering. This department at the Kansas institution is in charge of Prof. L. I. Blake, who has been attracting attention in late years by his experiments in sea telephoning and fog signalling. That Kansas should devote a building to the study of the most modern and the most interesting of practical sciences is but a sign of the spread of greater interest in knowledge, and the appreciation of the good to be derived from the laboratory. The new building, which has been in process of construction for two years, has been erected at the expense of the State, costing $60,000. The walls are of Berea sandstone, and the inner furnishings of ash. As little iron as possible was used in the construction of the building, the water pipes being of brass and the plumbing fittings of copper. The heating is by the Sturtevant system, all conduit pipes being tiling. An elevator for freight runs the entire height of the building, four stories. At each landing is a room, which is the repair room and workshop for that floor. Leading directly from each of these workshops is a chemical kitchen. The basement floor contains a large general laboratory and four private research rooms. On this floor are the battery room and the room for testing instruments. On the first or main floor are the office of the assistant professor, a small lecture room, the department library and reading room, a general laboratory and two rooms for private research. The second floor includes the office of the head of the department, a small lecture room, two special research rooms, and a large department lecture room. The latter room has an inclined floor, and is fitted with a lecture table provided with all connections necessary for the demonstration of lecture experiments. Adjoining this lecture room and opening into it is the apparatus room, where are kept the various instruments used in the laboratories and for the illustration of lectures. Each room of the building is provided with wires, carrying currents from the dynamos located in the machine shops. All wires enter the building in the basement and are carried to a 'well' which runs from basement to roof, and this 'well' is provided with switchboards at each floor and all wires run in it.

The principal address at the dedication exercises was delivered by Professor Albert A. Michelson, of the department of Physics of the University of Chicago. The subject taken for the address was 'Some Objects and Methods of Physical Research.' After the formal ceremonies of handing the keys to the university authorities, the building was thrown open to the public for inspection.

THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE.

THE Laboratory of Clinical Medicine given to the University of Pennsylvania by Dr. William Pepper, as a memorial to his father was formally opened and presented to the university on December 4th. The presentation was made by Dr. John S. Billings, in the name of Dr. Pepper, who described the building and its purposes.

The building is 62 feet long, 42 feet wide, and four stories high, with a basement cellar; built of brick and terra cotta on a stone base to the first floor, with a green slate roof, and fitted up inside with tables, work benches and apparatus of various kinds. On the first floor above the basement are rooms for microscopical, for chemical and for bacteriological investigations of the secretions, excretions, outgrowths, discharges and other products from the bodies of the sick, with a balance room. On the second floor are rooms for anthropometrical work and research, the laboratory of the Director and his assistant, and a store-room. On the third floor is a large laboratory for post-graduate students, and a dark room for photographers' work. On the fourth floor are a research room for special workers, an assembly room, a library and a janitor's room.

The object of the laboratory is to advance clinical studies by original research, and the publication of results. Only graduate students of an approved medical school are admitted to the laboratory, which is said to be the only separate building devoted entirely to chemical, microscopical and bacteriological reserches and to the post-graduate teaching of clinical laboratory methods. Provost Harrison accepted the gift for the Trustees of the University, and Dr. W. H. Welch, of Johns Hopkins University, delivered an address on scientific and laboratory methods.

Dr. William Pepper will be the first director of the laboratory, and nine associates undertaking original research have already been appointed.

GENERAL.

THE corner stone of the new Library of Columbia College was informally laid on the afternoon of Dec. 7. In the presence of the Trustees and several officers of the College President Low made a few remarks and set the stone in place. The first courses of the white Indian limestone of which the building is to be constructed are now being laid, and the iron work of the interior is finished up to the main floor.

PROF. ARTHUR KENDRICK, assistant professor of physics, Worcester Polytechnic Institute, has resigned to accept an associate professorship in physics in the Rose Polytechnic Institute. Prof. Kendrick was graduated at Amherst College, and after a three years' graduate course in physics in Harvard University, was made assistant professor of the Worcester Polytechnic Institute about three years ago.

THE corner stone of the new building of the Brooklyn Institute of Arts and Sciences on Prospect Hill, opposite Prospect Park, will be laid December 14th, at three o'clock in the afternoon. The New York *Evening Post* states that Mayor Schieren will lay the corner stone, and A. Augustus Healy, President of the Institute, will preside. The principal address will be delivered by the Rev. Dr. Richard S. Storrs, President of the Long Island Historical Society and first Vice-President of the Institute. A poem for the occasion will be read by the Rev. John White Chadwick, and brief addresses will be delivered by St. Clair McKelway, representing the Board of Regents of the State of New York, and Seth Low, President of Columbia College, as representing the educational interest of New York city. The foundations of the building, which are of Milford granite, are already laid, and the walls, which are to be of light gray Indian limestone, are now rising above the ground.

ACCORDING to *The British Medical Journal* a new surgical polyclinic, in connection with the Berlin University, will be opened very shortly. Prof. König, the successor of Dr. Bardeleben, is to be its head, and his assistant, Prof. Hildebrand, who follows him to Berlin from Göttingen, its chief surgeon.

AT a meeting held at the University of London, on November the 21st, Sir James Paget in the chair, and attended by delegates from institutions named in the report of the Royal Commission on the Gresham University, by members of that Commission and of the earlier Commission on 'A Teaching University for London,' and by others interested in the establishment of a teaching University, the following resolution was unanimously passed: "That the Government be requested to introduce, at an early date, a bill, similar to Lord Playfair's London University Commission Bill, 1895, appointing a Statutory Commission to carry out the recommendations of Lord Cowper's Commission, but with an added clause giving to all institutions or persons directly affected by any statute or ordinance proposed by the Statutory Commission a right of appeal to the Privy Council for the disallowance or alteration thereof, previous to such ordinance being laid before Parliament for confirmation."

DAVID H. HOLMES, lately of Johns Hopkins University, and at one time professor of Latin in Allegheny College, has been elected to fill the chair of Latin at the University of Kansas. This position was made vacant by the death of D. H. Robinson, who had occupied it for thirty years.

THOMAS A. JENKINS, PH. D., of Johns Hopkins University, has been put in charge of Romance languages at Vanderbilt University

in place of C. A. Eggert, Ph. D., who resigned at the close of the last session. W. H. Kirk, Ph. D., of Johns Hopkins University, has been elected instructor in Latin in the place of Frank E. Bradshaw, M. A., who died last month.

A NEW school of technology is to be established at Hartford, as a department of Trinity College.

THE University of the State of New York has published a Bulletin on Extension of University Teaching in England and America, by Dr. James E. Russell. In July, 1893, on recommendation of some of the leading members of convocation, the regents appointed Prof. James E. Russell, then of New York but now professor of pedagogy in the University of Colorado, a special commissioner to visit European educational institutions and report on whatever he might find of most importance to educational institutions in New York, and the results of his investigations are embodied in the present report.

DR. B. E. FERNOW has been appointed special lecturer on forests and forestry in the school of economics, political science and history, in the University of Wisconsin. This course of lectures will probably be the first one of the kind to be given in a school of this character. The following may be mentioned among the topics of which Dr. Fernow will treat: The state of natural resources, the nature of the forest and of its products; an idea as to what forests are, how they grow, how their materials enter into human use, the forest influences on climate, water and soil conditions; history and statistics; methods and requirements of forest management; forest yield a financial calculation; principles of forest legislation, with special reference to the United States, including the history of the forestry reform movement.

CORRESPONDENCE.

THE PERCEPTION OF DIRECTION.

THE 'inverted image' discussion in SCIENCE suggests a number of questions that have a bearing on the pertinence and validity of purely physical solutions of the problem under consideration.

Have we a special sense of direction; and if so, to what extent can its indications be trusted without constant supervision and correction by the other senses? Can the range of the lines drawn from particular cones of the retina to the lens be determined by this hypothetical sense of direction to give any accurate notion of their real projections in space? Does the short base line from the cones to the lens remain constant in its indications under the conditions presented in the movements of the eye to secure the best adjustment for distinct vision? Would not any slight variations in this base line, resulting from movements of the eye, give a confused outline of distant objects if there were no other means of correcting the impressions received from them? Without further detail of specific inquiry the whole may be summarized in general terms, can a satisfactory solution of biological problems be obtained by an appeal to purely physical or chemical considerations?

From our present knowledge of physiological processes, it must be admitted that the physical conditions under which the impressions are made on the retina by external objects represent but a single factor in the series of complex biological activities involved in our final interpretation of visual sensations. The mutuality or reciprocity of the special senses in their relations to the cerebrum must be recognized as essential factors in the conclusions arrived at as to the real significance of the impressions received by the peripheral elements of the special sense organs.

The inverted images on the retina are evidently not directly concerned in the judgments we form in regard to the position and characteristics of the external objects that produce them. These peripheral images on the retina are telegraphed, as it were, to the central nerve organs of vision and brought into relation with cerebral activities, in connection with impressions transmitted in like manner from other sense organs to their appropriate nerve centers, and the resulting correlation of these complex interdependent processes are the basis of the judgments we habitually form in regard to the nature and position of objects in the field of vision.

That we have no specific physiological sense