

the sculpture of the land by the various processes of erosion. The lectures will be illustrated by maps, models and lantern views. Mr. Bailey Willis will lecture twice a week during the months of March, April and May on Stratigraphic and Structural Geology. This course will consist of a description of the processes which result in the formation and upheaval of sedimentary rocks, and will lead to a discussion of the principles which should govern interpretation of the sedimentary record. In connection with these lectures Professor Cleveland Abbe will deliver four lectures on Climatology in its relations to Physiography. The lectures will given on January 6, 7, 8 and 9, 1896. The subjects are: 1. Sunshine and Temperature. 2. The Wind. 3. The Rain. 4. Snow and Ice.

THE Iceland Althing has requested the King of Denmark to communicate with other nations in regard to laying a cable from Iceland to the Continent. The resolution calls special attention to the importance of such a cable in the interests of meteorology.

ABOUT twelve of those who attended the Stirling County Ball on October 1st have since been seized with typhoid fever and three deaths have occurred. It is alleged that this resulted from eating contaminated oysters. At the opening meeting of the winter session of the Hull Scientific and Naturalists' Club, held on October 31st, Mr. Hollingworth, the President, delivered his presidential address on the artificial cultivation of edible molluscs. He said that in 1893 cholera broke out in 50 separate localities, attacking 287 persons, of whom 135 died; and out of these 50 localities, in 42 only single cases occurred, a circumstance hitherto unprecedented in the history of cholera, and pointing to special modes of infection. Of these cases 40 per cent. had eaten or handled shellfish within twenty-

four hours of being attacked, and in most cases the shellfish had come from the Grimsby and Cleethorpes beds. Cholera had been imported into Grimsby from abroad, and the position of the oyster, mussel and cockle beds of Grimsby and Cleethorpes was such that they might have been infected.

DR. PHILIPP BERTKAU, assistant professor of zoölogy at the University of Bonn, died on October 22d.

MACMILLAN & Co. announce for early publication 'The Child in Primitive Culture and Folk-Thought,' by Dr. Alexander F. Chamberlain, of Clark University. The subject will be treated under the following subdivisions: Names of the Child; Child and Mother; Child and Father; The Child in the Primitive Laboratory; The Bright Side of Child-Life; Childhood the Golden Age; Children's Food; Children's Souls; Children's Flowers and Plants; Children's Birds and Beasts; Child-Life in General; The Child as Factor in Society; The Child as Linguist; The Child as Actor and Inventor; The Child as Musician and Poet; The Child as Wiseacre, Oracle, Judge; The Child as Hero and Adventurer; The Child as Fetish, Divinity, God; The Christ-Child; Proverbs and Sayings about Children and Childhood. An extensive bibliography is appended.

It is stated in *Garden and Forest* that Dr. Chapman's herbarium of Southern plants, upon which is based his *Flora of the Southern States*, has been purchased by Mr. George W. Vanderbilt, and will serve as a nucleus of the scientific collections which he is establishing on his estate at Biltmore, in North Carolina, in connection with an arboretum and systematically managed forest.

UNIVERSITY AND EDUCATIONAL NEWS.

THE last Legislature appropriated a quarter of a million dollars to the Regents of

the University of California for the erection of a suitable building for the departments situated in San Francisco, the Colleges of Law, Medicine, Dentistry, Pharmacy and Veterinary Surgery. Adolph Sutro, Mayor of San Francisco, has given a tract of thirteen acres just south of and overlooking Golden Gate Park as a site for the building. On the adjoining thirteen acres Mr. Sutro proposes to erect a building for his magnificent library of about two hundred and fifty thousand volumes.

THE work in Physics at the University of California, formerly done by the late Prof. Harold Whiting, who lost his life by the foundering of the Colima, is now divided between Dr. E. P. Lewis, formerly assistant in physics at the Johns Hopkins University and associate professor of physics in the Columbian University, and Dr. A. C. Alexander, formerly assistant in physics at the Sheffield Scientific School.

MR. W. D. FROST, who has been assistant in the Laboratory of the Minnesota State Board of Health, has accepted a similar position in bacteriology in the University of Wisconsin.

DURING the summer an experimental laboratory in psychology has been fitted up at the University of Kansas. The work is in charge of Olin Templin, professor of philosophy.

THE University of Pennsylvania has received additional contributions to the dormitory fund amounting to \$40,000.

It is stated that Charles Broadway Rouss recently gave \$25,000 to the New York Association of the alumni of the University of Virginia, for the fund to replace 60,000 volumes of the university library recently destroyed by fire.

MR. HENRY LEWIS, A.R.S.M., has been appointed to the chair of mining in the Durham College of Science, which was recently vacated by Prof. Merivale.

LUMAN T. JEFTS, of Hudson, Mass., has given \$5,000 to Boston University to found a scholarship.

THE attendance in the Scottish universities for the year 1894-95 was: Edinburgh, 2,924; Glasgow, 1,903; Aberdeen, 812.

DR. JOHANNES GAD, professor of physiology in Berlin, has been called to the University of Prague, and Prof. Riedel, of Jena, has been called to the chair of surgery at Göttingen in succession to Professor König.

DURING the academic year 1894-95 the University of Leipzig granted the Ph. D. degree to 163 candidates.

THE Bavarian government has appropriated \$150,000 for the enlargement of the buildings of the University of Munich.

PROF. E. MACH, who has this year resigned a professorship of physics at Prague to accept the chair at Vienna vacated by the psychologist, Prof. Franz Brentano, gave an inaugural address on 'The Influence of Chance on the Development of Inventions and Discoveries.'

DISCUSSION AND CORRESPONDENCE.

THE INVERTED IMAGE ON THE RETINA.

TO THE EDITOR OF SCIENCE—The discussion in recent numbers of SCIENCE concerning the inversion of the retinal image has occasioned me surprise, because I had supposed that the interpretation which has been familiar to me for many years had been universally accepted.

The interpretation is simply that we learn to associate the image with the correct position of the external object. Is it not the accepted view of psychologists that the primary conceptions of space are acquired by the child through touch and through its own movements connected with touch sensations? May we not look upon the visual sensations of external space relations as mental translations? If these two questions be answered affirmatively, then seeing objects right side up, despite the inversion of their retinal images, is a purely psycho-