We learn from *Nature* that arrangements are being made to commemorate the sixtieth year of the reign of Queen Victoria by an exhibition at the Crystal Palace, to be opened on May 24, 1897. It is proposed to illustrate by models and practical examples the famous inventions in arts and industries during the past sixty years, and also the progress of other sides of national development. As a sort of prologue to this exhibition, a series of popular lectures, dealing with the advancements in science made during Her Majesty's reign, will be delivered during March and April next.

UNIVERSITY AND EDUCATIONAL NEWS.

The Pope has appointed the Rev. Dr. Thomas J. Conaty, rector of the Church of the Sacred Heart, Worcester, Mass., to succeed Bishop John J. Keane as rector of the Catholic University at Washington. Dr. Conaty is a native of Ireland and is supposed to be more conservative than his predecessor.

Prof. William M. Sloane, of Princeton University, has been elected to the Seth Low professorship of American history in Columbia University.

Haverford College will soon come into possession of property valued at nearly $500,000, bequeathed by Jacob P. Jones in 1885, subject to a life estate for his wife, who died a few days ago.

Colonel C. S. Venable, for thirty-one years professor of mathematics in the University of Virginia, has retired.

According to the *Academische Rundschau*, the additional yearly appropriations granted to the French universities under the new laws, to take effect January 1, 1898, will be approximately as follows: Lyons, 130,000 fr.; Bordeaux, 100,000 fr.; Toulouse, 80,000 fr. The remaining universities will receive sums varying from 20,000 to 50,000 frs. The amount of the appropriation to the University of Paris has not yet been decided, but it is expected that the five Paris Faculties, with their large number of students, will receive four or five times the amount appropriated to the Faculty at Lyons.

The following foreign appointments are announced: Professor Lenard, director of the physical laboratory, Polytechnic Institute, at Aachen, has been called to the University of Heidelberg; Dr. Czapek, Privatdocent at the University at Vienna, has been made associate professor of botany in the Polytechnic Institute in Prague; Dr. Seeliger, Privatdocent in zoology at Berlin, and Dr. Karl Mez, Privatdocent in botany at Breslau, have been promoted to professorships.

DISCUSSION AND CORRESPONDENCE.

AN OPTICAL ILLUSION.

To the Editor of Science: I reproduce, in one of the accompanying diagrams (A), the arrangement used in a research published in the *Psychological Review* (II., May, 1895, p. 244), and reprinted in the *Princeton Contributions to Psychology* (No. 2, Sept., 1895), the result of which was to show that the judgment, *i. e.*, of the midpoint between two such squares as those of Fig. A, is subject to illusion. The actual midpoint, marked by the short line on the line of connection between the squares, is regularly judged to be too far toward the larger square, the real midpoint being judged farther toward the smaller. I should like to gather further results by the use of the Figures A and B, and your readers may be willing to assist as follows:

Ask people of both sexes, but recording the difference of sex, the following questions strictly in the order named, first of Fig. A. They should be entirely ignorant of the experiment and its results.

Question 1. Holding the figure before the eyes with *the bottom of the page down*, is the line connecting the squares bisected by the short line or not, and if not, is the real midpoint further to the right (R) or to the left (L)?

Question 2. Holding the page with *the bottom of it turned to the right hand*, ask whether the midpoint is marked by the line or whether it is farther up (U) or farther down (D).

Question 3. Holding the figure with *the bottom of the page upwards*, ask as in question 1.

Question 4. Holding the figure with *the bottom of the page toward the left hand*, ask as in question 2.

Then taking figure B., ask *the same questions in the same order*, being careful to have the person still altogether uninstructed as to the results of the first series and also to connect the

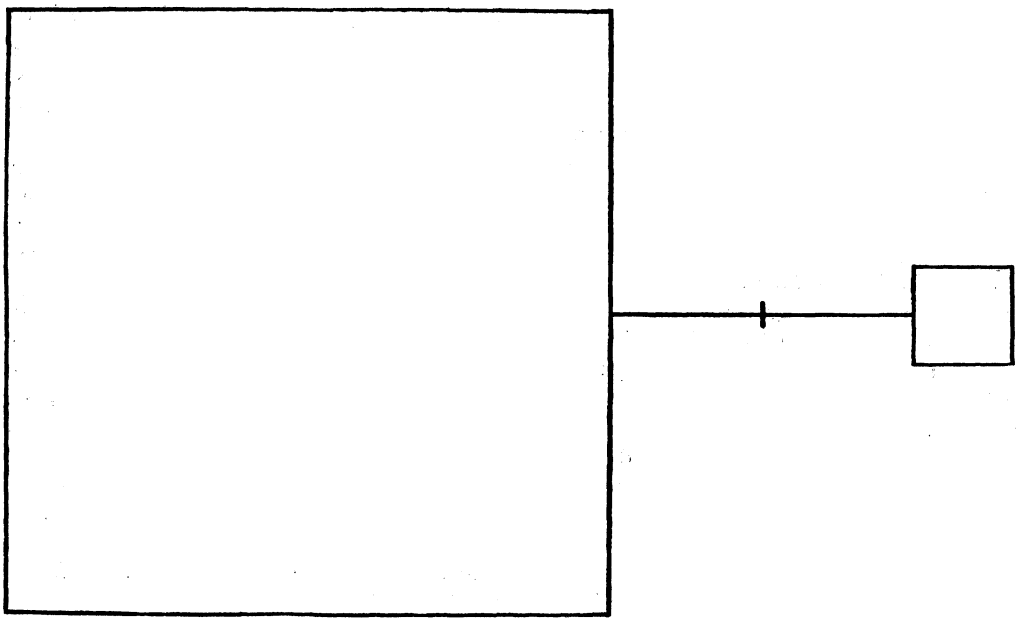

FIG. A.

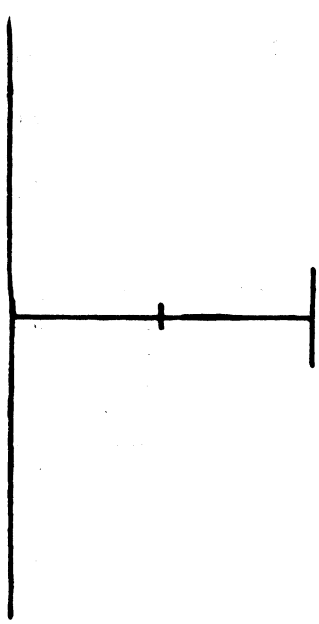

FIG. B.

two series, carefully distinguished, with the same person by name or initials.

When using one figure, *the other should be covered.*

The results, whether from one person or from many, may be sent to the undersigned, who will receive them with thanks. Results from those who know what the illusion is and what to expect need not be sent, *except in cases of persons who do not get the illusion at all, or who only get it for one of the figures.*

Any known defects of eye-sight should be reported; also indications of tastes or pursuits, as of architects, artists, etc., likely to modify the results.

I should also be glad to be referred to any literature which seems to touch upon this illusion.

J. Mark Baldwin.

Princeton, N. J., October 7, 1896.

Le Conte's Elements of Geology.

To the Editor of Science: I read with great interest Mr. Gilbert's review of Le Conte's Elements of Geology, in Science, No. 95. Having used the book in the classroom I can heartily approve every word of commendation in that review. It is therefore not in the spirit of captious criticism that I venture to point out two or three weaknesses in the book which experience brought to my attention. I do this because Le Conte's Elements is 'a Textbook,' and, if Prof. Simonds' calculations* be correct, only a portion of the teachers of geology are investigators who would detect from their own researches either the strong points or the weak ones of the book. It may be urged that geographical considerations have much weight in my case; yet no more weight with me than would naturally be felt with any other teacher of geology between Lake Huron and the Rocky Mountains north of the 40th parallel.

I desire to call attention only to the following points:

1. Artesian wells are discussed within the limits of a single page (p. 76). Several wells are named, bored in widely separated localities, and the depth reached in each is stated. As the examples given are among the deepest borings in the world the natural inference is that an abundant flow can be found if the contractor only bore deep enough. Such an inference is not only wholly wrong in its practical aspects, but it is not the result of good geological reasoning.

In many portions of the country, notably in the northern belt of states from Ohio to the Rocky Mountains, much attention is given to the subject of Artesian water supply for domestic uses, power and irrigation. Its geology is important. Qualifying conditions must always be weighed and understood. The character of the water is an important factor, since within certain limits its chemical composition determines its usefulness. Within this area the geological character of the formations penetrated have become pretty well known to the depth of half a mile. Yet with all this scientific and economic interest within so large a portion of the United States, there is no aid in Le Conte's Elements for the teacher in the presence of a class anxious to take away something practical, or for the general reader seeking information as to where and how he shall proceed to obtain artesian water, although he is told with much detail how to find the epicentrum and focus of an earthquake.

2. In the subject of historical geology two or three points command attention. The Archean era and system are first to be noted. As the classification on page 295 is compared with that of working geologists, the labors of the last 22 years within the field of Pre-Cambrian geology receive but little recognition. In 1874, in his 2d edition of the Manual, Dana recognizes the 'Primordial or Cambrian,' and places beneath it the Archean with its sub-divisions, Laurentian and Huronian. In 1896 LeConte does the same. Teachers and general readers in geology would receive much more help from the conclusions of the Geological Conference in Washington, January, 1889, in which conference Mr. Gilbert was himself a leading figure, had its results touching these basal formations been used by Professor LeConte.

The Lake Superior basin, with its southerly borders, has been for years the center of interest to students of petrographic and historical geology. The work of Irving, Van Hise and

* Geology in the Colleges and Universities of the United States. Frederic W. Simonds, Science, Oct. 2, 1896, p. 497.