

Hall, President of Clark University, gave an address on 'A Few Tendencies in College and University Education.'

THE New York *Evening Post* gives the following summary of the attendance at Yale University for the past four years:

	1894.	1895.	1896.	1897.
Graduate	138	176	227	260
Academic	1,150	1,199	1,237	1,242
Scientific	662	584	553	542
Art	41	46	53	77
Divinity	116	105	104	102
Medical	100	125	138	134
Law	195	224	213	194

The decrease in the scientific school is due to the loss of some eighty students who attended under the old land-grant fund régime. The freshmen academic class is the smallest of the five classes this year, whereas there is an increase in the scientific school of 16 students over last year's class.

A CONVENTION of American women propose to assemble in Washington on December 14th to decide on ways and means of arousing public sentiment in favor of a national university. They intend, it is said, to collect the \$250,000 necessary for the erection of an administration building, to form the nucleus of the university, and hope to be able to lay the corner stone on February 22, 1899.

THE vacant professorship of pathology at Cambridge University has been filled by the election of Mr. A. A. Kanthack, M.A., of St. John's College, who has acted as deputy for the late Professor Roy. Professor Kanthack, as we learn from the *London Times*, has had a distinguished career at the University of London, where he has taken with honors the degrees of B.A., Bachelor in Surgery, Bachelor in Medicine, was gold medalist, and proceeded to the degree of M.D. in 1892. He has pursued his studies at University College, Liverpool; St. Bartholomew's Hospital, at the Universities of Berlin and Cambridge. His introduction to Cambridge was in 1891, when he was elected to the John Lucas Walter studentship of the value of £200, open to all students for the purpose of conducting original research in pathology. Before that year he had been lecturer in pathology at St. Bartholomew's Hospital, medical

tutor at the Royal Infirmary, Liverpool, and senior demonstrator in pathology at University College, Liverpool. He has devoted many years to original research, and was a member of the Leprosy Commission in India. He is the author of a Manual of Practical Morbid Anatomy and of a Handbook of Practical Bacteriology, and also an extensive and frequent contributor to the journals of physiology and anatomy.

DR. THEODORE DES COUDRES has been promoted to an associate professorship of physics in the University at Göttingen and Dr. Otto Knopf to an associate professorship of astronomy in the University at Jena. Dr. Schmitz-Dumond, of Tarand, has been appointed Director of the Agricultural Experiment Station to be established in Pretoria and Dr. A. Ostroumoff to be professor of zoology in the University of Kasan. Professor Küster, of Göttingen, has been appointed head of the division for analytical, inorganic and physical chemistry in the Chemical Institute of the University at Breslau.

DISCUSSION AND CORRESPONDENCE.

THE MESA ENCANTADA.

TO THE EDITOR OF SCIENCE: I thought that I had said the last word as far as I was concerned upon the subject of the Mesa Encantada, but now that Mr. Hodge's pictures have appeared there is one more word to be said. I never dreamed that he or anybody else would have mistaken the manifestly modern and humanly constructed *cairn* which he figures, and about which so much noise has been made, for the *cairn-like* object of which I spoke. The latter is a very different object, and its location gave it some significance, while the former has none of any importance.

The *cairn* he figures was certainly built by a human being on the 23d of July, 1897, and not by ghosts.

WILLIAM LIBBEY.

PRINCETON, N. J., November 16, 1897.

OBSERVATIONS ON 'THE PRINCIPLE OF IDENTITY.'

THE principle that a thing or relation is identical with itself has given no end of trouble in

discussions respecting experience and knowledge. More than often it has been regarded as an abstract form of self-evident apprehension, whose chief, and perhaps sole, function is to mark the limits of reasoning. How it may have come into our experience has been humorously and seriously debated from Locke downward. It may not be an exact source of knowledge, but this negation does not exclude the peculiar significance attached to *experiencing* the relation in question. The two cases following indicate that there is some meaning to the 'principle' when found in conscious processes at an earlier time.

A bright child, Helen B., four years of age, whose development has been normal in all particulars, perplexed her mother and myself by adding to a conversation, in which she was taking no part and which had no apparent concern for her, these words: "Whatever is alike is the same. If you are good, you have to be good; if you are bad, you have to be bad. Whatever is alike is the same." Tactful questioning failed to bring out any evidence that the utterance was an echo from something the child may have heard. The meaning of the statement seemed to be clear to the child, though able to explain or expand it in no other way. She persisted in the assertion with considerable show of feeling, amounting almost to triumph.

Another and more recent instance is that of a boy in his sixteenth year. In a certain class the teacher was endeavoring to get another pupil to complete the sentence, "A dog is—," for purposes of illustration. After several examples and some hesitation on the part of the second pupil, the first jestingly ventured to supply 'a dog,' the sentence then reading: "A dog is a dog." The teacher accepted the suggestion as 'all right,' and showed how such statements could be made. The boy, however, was confused with astonishment upon learning that his suggestion had passed from jest to earnest, and required a rather long period of time to recover and adapt himself to this relation, which had apparently never occurred to him previously.

These rather opposite cases go to show that the 'principle' is not utterly void when it first arises in the conscious processes, however thor-

oughly one may claim it to have been operative in primitive mental activities.

EDWARD F. BUCHNER.

NEW YORK.

SCIENTIFIC LITERATURE.

A Popular Treatise on the Physiology of Plants for the Use of Gardeners, or for Students of Horticulture and Agriculture. By DR. PAUL SORAUER. Translated by F. E. WEISS. London and New York, Longmans, Green & Co. 1895.

One of the excellent features of this book is that there has been a consistent endeavor on the part of author and translator to make it a book clearly within the grasp of the persons for whom it is intended.

The author has succeeded in dealing with many of the problems of nutrition, diffusion, assimilation, etc., in a way that is not only attractive, but can be understood by one who has had little previous training in the study of plants.

After the introduction the author takes up first the structure of the root, and in connection with the structure discusses also the function of the root in the processes of absorption and conduction of nutrient materials. This is followed by a chapter on the nutrition of the root, dealing with the substances in the soil which act as plant food, the effect they have on the plant and the form in which they are taken up by the plant. Practical suggestions are made concerning the best treatment of the soil, the nutrition of pot plants, etc. The treatment of roots in transplanting, in repotting, is also considered.

The structure of the stem and leaf are treated in the same readable way in relation to the functions which they play in the general plant economy. The remaining chapters are devoted to plain directions for pruning, propagating, watering and the general nurture of the plant and seed, from the standpoint of the horticulturist and gardener, and this part of the book, at least to one who deals more with the principles of plant development than with horticultural practice, seems to be admirably done.

GEORGE F. ATKINSON.

Contributions to the Analysis of the Sensations.

By ERNST MACH. Translated by C. M. WILLIAMS. Chicago. 1897.