newly aroused intellectual activity should have found expression in the so-called theosophical movement. The first impulse to this idealistic development did not come, however, from India itself, but from abroad. It came from the land which, as the writer cynically expresses it, is the most unfruitful soil for idealistic fruit, the United States of America. It was in New York, as long ago as 1875, that Colonel Olcott laid the corner-stone of the theosophical structure which was soon to exercise so wide-spread an influence. The principles of the cosmopolitan brotherhood of theosophists, which in certain particulars resemble those of the Freemasons or those of the Jewish sect of the Essenes, rapidly spread through other countries. The indefatigable apostle of the new society did his work so well, that the number of associate societies, which in 1879 was only two, increased in 1883 to ninety-three, and in 1886 to one hundred and thirty-two. Of this last number, 107 are in India, 8 in Europe, 15 in America, 1 in Africa, and 1 in Australia. The headquarters and administrative centre of all these societies is Adyar, a rural capital in Madras, where Colonel Olcott dwells, on the banks of a river in a paradise of palms and flowers. His villa also serves as the gathering-place where each year in Christmas week more or fewer of the delegates of the theosophical societies throughout India assemble in convention. Colonel Olcott has managed to imbue thousands of men of the higher circles of India with his ideas. He is greatly honored by his fellow-theosophists, and is loved as a father and benefactor. His occasional journeys through the country are like triumphal processions, and his influence over the cultured classes of the Hindus throughout India is extraordinary.

Some idea of the objects and aims of the Theosophical Society may be gathered from the following selection from the declaration of principles adopted at the annual assembly of the delegates in 1886. The objects of the society are there set forth as, (1) to lay the foundation for a universal brotherhood of man, without distinction of race, religion, or color; (2) to promote the study of the Aryan and other Oriental literatures, religions, and sciences; (3) to investigate hitherto unknown natural forces and the psychical powers of man (which is pursued by a part of the brotherhood only). The brotherhood invites to membership all those who love their fellow-men, and who believe the divisions following from differences of race, religion, and color, to be an evil; all students and scholars; all earnest seekers after truth; all philosophers in the East as well as in the West; all those who love India and desire the return of its former spiritual greatness; and, finally, all those who are striving after permanent good, and not mere passing pleasures and the interests of a wordly life, and who are ready to make personal sacrifices in order to attain to knowledge of the highest good. The society professes no special religion, and has in no wise the character of a sect, for it includes followers of all religions. It demands of all its members only such tolerance of other faiths as each man asks for his own. The society interferes in no way with the Indian laws of caste, nor with any other social customs and usages.

To exemplify these tolerant principles, the assembly hall at Adyar contains life-size portraits of the representatives and founders of all the great religions. One of the matters in which the society is busily engaged is the collecting of rare books of the old Indian literature, written often on palm-leaves. The value of this Sanscrit library increases daily, and it is hoped to make it in time the most complete in the world.

The illustration on p. 262 shows the delegates who assembled at Adyar in 1885. The beautiful Indian costumes, with their bright colors, and the high turbans often sewn with gold and silver threads, made the group peculiarly artistic and pleasing. Among the distinguished theosophists shown are President Olcott, Prince Harisingshee, the English general Morgan, the theosophist evangelist Leadbeater (formerly an Anglican clergyman), the Sanscrit scholar Bavanishangar, Mr. Cooper Oakley, an American and the editor of the *Theosophist*, and the Hindu philosopher Subba Rad. At these assemblies it is noticed by visitors that the delegates confine themselves to a vegetarian diet, and do not partake of any liquor whatsoever. The assembly closed with a brilliant garden-party, at which old Sanscrit songs were sung to Indian music, and the delegates were sprinkled with rose-water and bedecked with flowers.

BOOK-REVIEWS.

The Education of Man. By FREIDRICH FROEBEL. Tr. by W. N. HAILMANN. New York, Appleton. 12°.

Elementary Psychology and Education. By J. BALDWIN. New York, Appleton. 12°.

DR. HARRIS is issuing the volumes of his International Education Series with great promptness. Volume V. in the series is Froebel's classic work translated. Since this was written, now more than sixty years ago, its readers have increased in number year by year. Inaccessibility and bad translations have hindered its progress in this country, but both these obstacles are now overcome, and no teacher who is imbued with the spirit of his profession will fail to have the 'Education of Man' by him for careful study and constant reference. We believe that posterity will award to Froebel the highest place among modern educators. He was infinitely more practical than the authors of 'Emile' and 'Levana,' and infinitely more profound and philosophical than Pestalozzi. The spirit of the kindergarten is Froebel's greatest achievement: the kindergarten itself is a mere detail. The spirit runs through all sound education, and the great manual-training movement, now the distinguishing feature of our educational development, is but another manifestation of it. The present translation of Froebel is a very good one, and leaves little to be desired. We regret that the translator has disfigured the text and broken the continuity by interjecting observations of his own.

Volume VI. is Baldwin's 'Elementary Psychology and Education.' Of it we cannot conscientiously say any thing complimentary, and we confess our surprise at its finding a place in the series. We do not object to making psychology as elementary as one pleases, but we do object to making it pre-Kantian. The present author may have heard of the *Kritik der reinen Vernunft*, but he certainly has never read it. We agree most heartily with Dr. Harris, that a teacher should know something of psychology, and we would go considerably further than he does in emphasizing the fact. But we submit that to teach psychology that is positively wrong and unscientific under the pretence that it is elementary, is worse than to teach nothing of it at all. Illustrations of loose statement and positive error abound in this book. We read, for example, of "sense-perception, conscious perception, and noumenal perception." The 'enduring self,' matter, mind, space, causation, right, beauty, and the like, are included under 'noumena.' We are told also that "choice is uncaused cause," and the fact that "literature represents man as free and responsible" is cited as an argument for freedom of the will. It is not profitable to multiply the evidences of the author's incapacity to write the book. It is in no respect worthy of a place in this series.

NOTES AND NEWS.

ANOTHER important acquisition to our store of knowledge has recently been made, says *Nature*. Glucose, commonly called grape-sugar, has been artificially prepared by Drs. Emil Fischer and Julius Tafel in the chemical laboratory of the University of Würzburg. This happy achievement, which is announced in the number of the *Berichte* just received, is one which has long been looked forward to, and which cannot fail to give deep satisfaction in chemical circles all over the world. As is generally the case in syntheses of this description, not only has the sugar itself been actually prepared, but, what is at least quite as important, considerable light has been thrown upon that much-discussed question, the constitution of sugars. A most remarkable, and yet only to be expected, attribute of this artificial sugar is that it is found to be entirely incapable of rotating a beam of polarized light. As is well known, there are several naturally occurring varieties of glucose, all of which may be expressed by the same empirical constitution, and all possessing the power of rotating the plane of polarization: dextrose, or grape-sugar, the best-known of these varieties, as its name implies, deviates the plane of polarization to the right, as do several other less important varieties; while lævulose, or fruit-sugar, rotates the plane to the left. But in artificially preparing a glucose there is just as much tendency for one kind to be formed as another, and the probability is that both dextro and lævo are simultaneously formed, and thus neutralize each other, producing a totally inactive mixture. It may be that, as in the case of racemic acid,

the two kinds are formed side by side, and neutralize each other in the solution; or it may even be, that, as is the case with truly inactive tartaric acid, there is a true neutralization within the molecule itself. Which of these hypotheses is correct is a question for further work to decide.

— Gaillard's 'French for Young Folks' (New York, Werner) is constructed on a sound pedagogic plan, has numerous and good illustrations, and is nicely gotten up. It devotes special attention to the subject of French pronunciation, and gives some very practical directions on the subject. We only question whether the introductory chapters do not employ too many long words to be easily comprehended by the beginner.

— The Fish Commission steamer 'Albatross' left Washington last week on her extended cruise to the Pacific coast. The voyage was arranged by the late Professor Baird, and is now being carried out by his successor, Mr. G. Brown Goode, the new commissioner. The 'Albatross' has been engaged for several years in the deep-sea work of the Fish Commission in the Atlantic, the results obtained being of great economic and scientific value. There has come a demand from the Pacific coast for similar work there, where the fisheries have not been developed to any extent, little being known of the number or character of the food-fishes of that coast. To hunt out the food-fishes, locate their habitats, and to develop the resources of the great Pacific, is the task before the 'Albatross,' which is thoroughly equipped for the scientific work. The scientific party aboard will consist of Prof. Leslie A. Lee of Bowdoin, who goes as chief naturalist; Mr. Thomas Lee, who has been engaged on the deep-sea work of the commission for a long time; and Mr. C. H. Townsend, who has just returned from an expedition to Central America. The 'Albatross' is officered and manned by the navy, and is under the command of Lieut.-Com. Zera L. Tanner. The 'Albatross' will reach California next May. Stops will be made *en route*, which will delay the voyage somewhat, the time being occupied by the scientists in making shore-collections. The ship goes out without any definite period fixed as to its return, but it is not probable the vessel will be seen in the Atlantic again for three or four years. It is deemed important to carry on investigations not only in the latitude of California, but off the Alaska coast. The ship will touch frequently at ports on the Pacific coast, and be in constant communication with the Fish Commission. It is probable, too, that from time to time other scientists will join her for the purpose of doing special work. The scientific outfit of the vessel is declared by those who have examined it to be the best that was ever put aboard a vessel.

— Dr. Cohn, oculist at Breslau, has invented a new apparatus for testing the eyesight of children. This is a matter which is scarcely attended to at all in this country. Periodical tests have shown that there is much more small mischief in the eyes of young students than is generally supposed, which can easily be stopped if the necessary precautions are taken in time. Dr. Cohn's invention consists of a white board twenty-five centimetres square, to which are fastened six rows of hooks, shaped thus ⊏, one centimetre square. He who possesses a normal eyesight will be able to tell, at a distance of six metres in ordinary daylight, in which direction — upwards, downwards, to the right, or to the left — the hooks, which are painted of different colors, are turned. Pupils who cannot do this injure their eyes by constantly looking at the blackboard. The same board may be used to determine whether the ordinary daylight is sufficient for the rooms. As soon as the teacher cannot distinguish the direction of the hooks at a distance of six metres without straining his eyes, the gas ought to be lighted at once.

— In the December number of *Harper's* is an article by Mr. George F. Kunz, the gem expert of Messrs. Tiffany & Co., on the precious stones of America. Mr. Kunz makes it clear that the alleged recent discoveries of diamonds in Kentucky amounts to nothing; but sapphires, spinels, crystals of topaz, beryls, garnets the finest in the world, tourmalines, amethysts, and turquoises are obtained in several localities in considerable profusion. The striking feature of the article is the lithographed page of these gems, containing a diamond, Manchester, Va.; sapphire, Helena, Montana; sapphire, Franklin, N.C.; topaz, Crystal Peak, Col.; emerald, Stony Point, N.C.; aquamarine, Stoneham, Me.; beryl (golden-colored), Litchfield, Conn.; garnets (cut and natural), Gallup, N.M.; peridot, Gallup, N.M.; tourmaline, Mount Mica, Paris, Me.; tourmaline (green with red centre), Paris, Me.; lithia emerald (hiddenite), Stony Point, N.C.; amethyst, Stow, Me.; cairngorm stone, Pike's Peak, Col.; turquoise, Nevada; arrow-points of obsidian, carnelian, and agatized wood, Oregon; pearl, Paterson, N.J. To produce this plate, fully twenty impressions were required, and we believe this was the first colored plate ever published in *Harper's*.

— At a special meeting of the Board of Regents of the Smithsonian Institution held Nov. 18, Prof. S. P. Langley was elected secretary of the institution, to succeed the late Prof. S. F. Baird.

LETTERS TO THE EDITOR.

*** The attention of scientific men is called to the advantages of the correspondence columns of* SCIENCE *for placing promptly on record brief preliminary notices of their investigations. Twenty copies of the number containing his communication will be furnished free to any correspondent on request.*

The editor will be glad to publish any queries consonant with the character of the journal.

Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Cheyenne.

IN the note published in your issue of Nov. 11, I made an unaccountable mistake, and wish to correct it. The Cheyennes are the 'cut-arms,' and in the sign-language are designated by drawing the hand, in imitation of a knife, across the biceps of the arm. It is the Pawnees whose sign is wolf-ears made with thumb and forefinger.

Your types say *loo-yah* erroneously for *loo-hah*.

The French trappers told me a legend of the Sioux to the effect that once in holding a council they were disturbed by the noisy play of the children, and moved over to another creek to hold the council in quiet. In attempting to overtake their parents, the children took the back track on which the village had lately come in. They kept going, and the boys and girls grew up and intermarried, and became another tribe, the Cheyennes. The Sioux call themselves *Lah-ko-ta* (the *t* strongly dental), not Dakota, meaning 'cut-throats,' the sign being the open hand drawn edgewise across the throat.

GEO. WILSON.

Lexington, Mo., Nov. 15.

The 'Act of God' and the Railway-Company.

RETURNING from New York Nov. 12, the train was crowded with passengers. At the forward end of the car was a large stove full of red-hot coals. This stove had no guard, nor hardly any thing to prevent it from upsetting. A slight collision would have emptied the contents of the stove, and probably several people would have been burned to death. Would Mr. Appleton Morgan consider such an affair an 'Act of God'?

ASAPH HALL.

Washington, Nov. 19.

Changes in Indian Languages.

I OBSERVE a blunder I made in attributing the word *quisquis* ('a hog') to Schoolcraft instead of Zeisberger, in my communication on changes in Indian languages, in *Science* of Nov. 18. The Onondagas now pronounce it *kweaskweas*, almost in four syllables, and with a resemblance to a hog's melodious note. I may add that the Onondagas divide 'Hiawatha,' a name of their own, differently from many white people. It is pronounced by them 'Hi-a-wat-ha.' 'Onondaga' they sound like the whites in talking with them, but retain the old broad sound among themselves.

W. M. BEAUCHAMP.

Baldwinsville, N.Y., Nov. 19.

Natural History Notes on Alaska.

IN my 'Natural History Notes on Alaska,' forming Part III. of the 'Report of the Cruise of the Steamer "Corwin" in the Arctic Ocean in 1885,' which has recently been published as Ex. Doc. 153, Forty-ninth Congress, second session, I notice two plates of fishes, and one plate representing a plant. I desire to say that I never saw these plates before they appeared in this sketch, nor can I explain how they came to be inserted in it. I disclaim all responsibility for the plates, and I do not indorse them. They are inaccurate, and absurd pictures of what they purport to represent.

CHAS. H. TOWNSEND.

Washington, Nov. 20.